Note
Before using this information and the product it supports, be sure to read the general information under “Notices” at the end of this information.

This edition applies to IBM DataQuant for z/OS Version 2 Release 1, program number 5697-P46. It also applies to Version 2 Release 1 of IBM DataQuant for Multiplatforms, program number 5724-R90. The content in this edition applies to all subsequent releases and modifications associated with both of these program numbers until otherwise indicated in new editions.

This edition replaces GC19-4003-04.

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About this information

This information contains details about the DataQuant for Workstation and DataQuant for WebSphere® Administrator applications. The information includes instructions for:

- Installing DataQuant for Workstation applications
- Installing DataQuant for WebSphere applications
- Using DataQuant for Workstation Administrator to configure a repository
- Using DataQuant for WebSphere Administrator to configure a repository
- Setting up resource limits to control resource usage

Specific changes since the previous edition of this book are indicated by a vertical bar (|) to the left of a change. Editorial changes that have no technical significance are not noted.

Always check the DB2® and IMS™ Tools Library page for the most current version of this publication:

www.ibm.com/software/data/db2imstools/db2tools-library.html

Who should read this information

This information is intended for all DataQuant for Workstation or DataQuant for WebSphere users.

This information is intended for the person that is responsible for configuring and maintaining the DataQuant query and reporting tool set, which consists of the following applications:

- DataQuant for Workstation
- DataQuant for Workstation Administrator
- DataQuant for WebSphere
- DataQuant for WebSphere Administrator

This information is not intended for users.

Service updates and support information

To find service updates and support information, including software fix packs, PTFs, Frequently Asked Questions (FAQs), technical notes, troubleshooting information, and downloads, refer to the following web page:


Highlighting conventions

This information uses the following highlighting conventions:

1. Throughout this information, the IBM® DataQuant client for WebSphere Application Server is referred to as DataQuant for WebSphere and the IBM DataQuant client for the workstation environment is referred to as DataQuant for Workstation.
How to look up message explanations

You can use any of the following methods to search for messages and codes.

Searching an information center

In the search box that is in the upper left toolbar of any Eclipse help system, such as the [http://pic.dhe.ibm.com/infocenter/dzichelp/v2r2/index.jsp](http://pic.dhe.ibm.com/infocenter/dzichelp/v2r2/index.jsp), enter the number of the message that you want to locate. For example, you can enter DFS1065A in the search field.

Use the following tips to help you improve your message searches:

- You can search for information about codes by entering the code; for example, enter -327.
- Enter the complete or partial message number. You can use wildcards in the message number to broaden your search; use * to represent multiple characters and use ? to represent any single character. For example:
  - The search string DFS20?I returns any messages that begin with the string DFS20, followed by any single character, followed by I.
  - The search string DFS20??I returns any messages that begin with the string DFS20, followed by any two characters, followed by I.
  - The search string DFS20*I returns any messages that begin with the string DFS20, followed by any number and type of characters, followed by I.

The information center contains the latest message information for all of the information management products that are included in the information center.

Using a web search engine

You can use any of the popular search engines that are available on the web to search for message explanations. When you type the specific message number or code into the search engine, you are presented with links to the message information in IBM information centers.

How to send your comments

Your feedback is important in helping to provide the most accurate and high-quality information. If you have any comments about this book or any other documentation, use either of the following options:

- Use the online reader comment form, which is located at: [http://www.ibm.com/software/data/rcf](http://www.ibm.com/software/data/rcf)
- Send your comments by e-mail to comments@us.ibm.com. Be sure to include the name of the book, the part number of the book, the version of your product, and, if applicable, the specific location of the text you are commenting on (for example, a page number or table number).
Chapter 1. Planning to install

Before you install DataQuant, review the system requirements and understand the differences between DataQuant for Workstation and DataQuant for WebSphere.

Overview

DataQuant for Workstation Administrator and DataQuant for WebSphere Administrator are both part of the IBM DataQuant for z/OS® and IBM DataQuant for Multiplatforms query and reporting tool set for IBM's DB2 relational database management system.

These two administrative applications are used to configure and manage the query environment for the following applications:

- DataQuant for Workstation which is an Eclipse-based², rich client desktop application, that provides querying, reporting and Business Intelligence (BI) solution development and execution capabilities.
- DataQuant for WebSphere which is a Java-based Web application that delivers a substantial subset of the DataQuant for Workstation capabilities using a pure HTML, thin-client deployment model. DataQuant for WebSphere is capable of running on a variety of operating systems, delivering this thin-client, HTML-based experience to users via a variety of web browsers across a number of platforms.

Managing the query environment

The DataQuant for Workstation Administrator and the DataQuant for WebSphere Administrator applications are used to perform the administrative tasks that enable the users of the DataQuant for Workstation and DataQuant for WebSphere applications to access data.

The tasks the administrator might perform are as follows:

- Configuring JDBC drivers
- Creating repositories
- Connecting to repositories
- Configuring data source information
- Setting up resource limits to control resource consumption and user actions
- Monitoring the performance of your query environment

In most instances, a single user is responsible for performing the necessary administrative tasks for DataQuant for Workstation and DataQuant for WebSphere users. The DataQuant administrator can choose to perform the administrative tasks using DataQuant for Workstation Administrator or DataQuant for WebSphere Administrator.

² Eclipse is an open source community whose projects are focused on providing an extensible development platform and application frameworks for building software. Eclipse provides extensible tools and frameworks that span the software development lifecycle, including support for modeling, language development environments for Java™, C/C++, PHP and others, testing and performance, business intelligence, rich client applications and embedded development. A large, vibrant ecosystem of major technology vendors, innovative start-ups, universities and research institutions and individuals extend, complement and support the Eclipse Platform. The Eclipse Foundation is a not-for-profit, member supported corporation that hosts the Eclipse projects. Full details of Eclipse and the Eclipse Foundation are available at www.eclipse.org.
Administrators can configure every feature that is available in the application using DataQuant for Workstation Administrator. Administrators can configure the most widely used feature set using DataQuant for WebSphere Administrator. There are some features that cannot be configured using DataQuant for WebSphere Administrator.

**DataQuant for Workstation system requirements**

Before installing DataQuant for Workstation ensure that your environment meets the following minimum requirements.

**Hardware requirements**

Each workstation on which DataQuant for Workstation runs should accommodate the following minimum requirements:

- Network connectivity
- Approximately 1 GB of disk space (single language installation)
- Minimum of 1 GB of RAM

**Software requirements**

DataQuant for Workstation can run on any of the following operating systems:

- Microsoft Windows Server 2003
- Microsoft Windows Server 2008
- Microsoft Windows Server 2012
- Microsoft Windows Vista
- Microsoft Windows 7
- Microsoft Windows 8
- Microsoft Windows 8.1
- Red Hat Enterprise Linux WS 5 and 6
- SUSE Linux10, 11, and 12
- Mac OS X V10.5, V10.6, V10.7, and V10.8

**Note:** For Linux x64, 32-bit GUI libraries are required.

The following functions require additional support:

- Adobe Flash Player 10.1.51 or later on the client (required if deploying visual dashboards using the optional Flash output format)
- Database connectivity requires an appropriate JDBC driver for each type of RDBMS accessed.
- DataQuant for z/OS requires a QMF™ Enterprise Edition Version 8 (5625-DB2), Version 9 (5635-DB2) or Version 10 (5605-DB2) license in order to both access QMF objects and enable the QMF interoperability features described in this information.
- DB2 QMF Version 11
- For proper rendering of a visual project in the **HTML5** mode make sure that you have Microsoft Internet Explorer V9.0 or later installed on the workstation.
Database servers (subject to license restrictions)

DataQuant for Workstation supports the following database servers:
- DB2 V11.x for z/OS VUE
- DB2 V10.x for z/OS VUE
- DB2 V9.x for z/OS VUE
- DB2 V11.x for z/OS
- DB2 V10.x for z/OS
- DB2 V9.x for z/OS
- DB2 for iSeries V5.4, V6.1, and V7.1
- DB2 for Linux, UNIX, and Windows V9.x or higher
- Informix® Dynamic Server (IDS) Version 9.x, 10.x, and V11.x
- Model 204 V7R1 for z/OS
- Model 204 V7R1 for z/VM®

*z/OS, OS/390®, and VSE & VM support is limited to DataQuant for z/OS.

Prerequisites

The following DataQuant for Workstation functions have software dependencies:
- Database connectivity requires an appropriate JDBC driver for each type of RDBMS that is accessed.
- DataQuant for Workstation OLAP support requires InfoSphere® Warehouse V9.5.2 or later or other MDX-based OLAP servers with support for XMLA connectivity.
- DataQuant for z/OS requires a QMF Enterprise Edition Version 8 (5625-DB2), Version 9 (5635-DB2) or Version 10 (5605-DB2) license in order to both access QMF objects and enable the QMF interoperability features described in this information.
- Exporting result sets to Microsoft Excel requires a minimum level of Excel 2003. If you are running a pre-2003 version of Microsoft Excel, the Export to Excel feature is not supported.

DataQuant for WebSphere system requirements

Before installing DataQuant for WebSphere, ensure that your environment meets the following minimum requirements.

Hardware requirements

DataQuant for WebSphere requires 500 MB hard disk space and 1 GB of RAM.

50 MB RAM per user is the minimum requirement, accessing DataQuant for WebSphere.

Software requirements

DataQuant for WebSphere has the following software requirements:
- One of the following application servers:
- WebSphere Application Server Versions 6.1, WebSphere Application Server V7 or WebSphere Application Server V8 on any platform supported by WebSphere Application Server.
- Apache Tomcat V5.5 and later
- One of the following Web browsers (with JavaScript support enabled) on each client:
  - Microsoft Internet Explorer V7.0 or later
  - Mozilla Firefox V40.0 or later
  - Apple Safari browser V5.1 or later
  - Google Chrome browser V44.0 or later
- Java Runtime Environment (JRE) V1.6 or later
- Adobe Flash Player 10.1.51 or later on the client.
  Required if deploying dashboards that use the optional Flash output format.
- An appropriate JDBC driver for each type of database that you want to access
- DataQuant for z/OS requires a QMF Enterprise Edition Version 8 (5625-DB2) or Version 9 (5635-DB2) license in order to both access QMF objects and enable the QMF interoperability features described in this information.

The following Web browsers support the HTML5 renderer in visual projects:
- Microsoft Internet Explorer V9.0 or later
- Mozilla Firefox V18.0 or later
- Google Chrome browser V24.0 or later
- Apple Safari browser V6.1 or later

**Database servers (subject to license restrictions)**

DataQuant for WebSphere supports any database that provides a JDBC driver.

DataQuant for WebSphere supports the following database servers:
- DB2 V11 for z/OS VUE
- DB2 V10 for z/OS VUE
- DB2 V9 for z/OS VUE
- DB2 V11 for z/OS
- DB2 V10 for z/OS
- DB2 V9 for z/OS
- DB2 Server for VSE and VM V7.3 and V7.4
- DB2 for iSeries V5.4, V6.1, and V7.1
- DB2 for Linux, UNIX, and Windows V9.5 or higher
- Informix Dynamic Server (IDS) Version 9.x, 10, V11, and V12
- Model 204 V7R1 for z/OS
- Model 204 V7R1 for z/VM

*z/OS, OS/390, and VSE & VM support is limited to DataQuant for z/OS.

**Prerequisites**

The following DataQuant for WebSphere functions have software dependencies:
- Database connectivity requires an appropriate JDBC driver for each type of RDBMS that is accessed.
- DataQuant for WebSphere OLAP support requires InfoSphere Warehouse V9.5.2 or later, or other MDX-based OLAP servers with support for XMLA connectivity.
- IBM DataQuant for z/OS requires a QMF Enterprise Edition Version 8 license (5625-DB2), or Version 9 license (5635-DB2) in order to both access QMF objects and enable the QMF interoperability features described in this information.
- Exporting result sets to Excel requires a minimum level of Excel 2003. If you are running a pre-2003 version of Excel, the Export to Excel feature is not supported.

**iSeries terminology**

DataQuant for Workstation and DataQuant for WebSphere use SQL terminology, which, in some cases, is different than iSeries terminology.

The following table lists iSeries system terms and corresponding SQL relational database terms. For more information, refer to DB2 for iSeries Database Programming.

<table>
<thead>
<tr>
<th>iSeries term</th>
<th>SQL term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library: Groups related objects and allows you to find objects by name.</td>
<td>Collection: Consists of a library, journal, journal receiver, SQL catalog, and, optionally, a data dictionary. A collection groups related objects and allows you to find the objects by name.</td>
</tr>
<tr>
<td>Physical file: A set of records.</td>
<td>Table: A set of columns and rows.</td>
</tr>
<tr>
<td>Record: A set of fields.</td>
<td>Row: The horizontal part of a table containing a serial set of columns.</td>
</tr>
<tr>
<td>Field: One or more characters of related information of one data type.</td>
<td>Column: The vertical part of a table of one data type.</td>
</tr>
<tr>
<td>Logical file: A subset of fields and records of one or more physical files.</td>
<td>Package: An object type that is used to run SQL statements.</td>
</tr>
<tr>
<td>User profile</td>
<td>Authorization name or authorization ID</td>
</tr>
</tbody>
</table>
Chapter 2. Installing DataQuant

Installing DataQuant involves running the setup executable file to install the DataQuant for Workstation and, optionally, deploying DataQuant for WebSphere to an application server.

Note: To check the installation results, see the installation log file in the temporary folder of the user home directory.

Setup executable

DataQuant for Workstation is implemented as a high performance, Eclipse-based desktop application, combining the portability of Java with the performance of native applications.

The following table lists the DataQuant for Workstation setup executable file and supported operating systems:

A self-contained installation package is available for each of the following supported platforms:

| Table 2. Platforms, versions, and executable files supported by DataQuant for Workstation |
|---------------------------------|---------------------------------------------------------|
| Operating system | Version | Setup executable file |
| Windows | XP, 2003, 2008, Vista, 7 | setupwin32.exe |
| Macintosh | 10.5 and 10.6 | setupMac.zip |
| Note: The Mac OS X installer is packaged inside the archive. |
| Red Hat Linux | WS Versions 5 and 6 Enterprise | setupLinux.bin |
| SUSE Linux | Versions 10 and 11 | setupLinux.bin |

Installing DataQuant for Workstation

To install DataQuant for Workstation, run the appropriate setup executable on the target operating system and follow the installation prompts. Upon completion of the installation, it is recommended that you apply the latest available fix packs.

About this task

This topic describes how to run the setup process to install DataQuant. It assumes you have downloaded the DataQuant setup executable file to your computer. It provides information about the properties and values you can set during the installation process.

During installation you will specify license information and where to install the product. You will also select which the feature set (Administrator, User or both) to install.

You can stop the installation at time by clicking Cancel.
Procedure

1. Go to the directory where you have downloaded setup executable file.
2. Run the setup executable file to begin the installation. The installer program prepares the product for installation.
3. On the Introduction panel, read the recommendations and description of the installation process and click Next.
4. On the License Agreement panel, read the licensing terms and select I accept the terms of the License Agreement to proceed with the installation. Click Next.

   Note: If you select I do not accept the terms in the license agreement, the installation process stops.

5. If you are installing DataQuant for Workstation for z/OS and you want to grant users the ability to interoperate with existing QMF objects and infrastructure, you must specify the path to your QMF Enterprise Edition V8, V9 or V10 license. If you do not want to install this feature you will leave this field blank. The license files (host.lic for V8 or workstation-zSeries.lic for V9 and V10) can be found in the directory where QMF Enterprise Edition was installed.

6. On the Choose Install Folder panel, select Choose to specify the directory where DataQuant will be installed or accept the default destination. Click Next.
   - Select Typical if you want to install the workstation application, all of its components and features and download the DataQuant for WebSphere application files.
     For a description of the applications, components, and features, see DataQuant applications, components, and features.
   - If you want to install particular components, select Custom and choose from the applications, components, and features listed in the panel beneath the Install Set field.
     If you selected specific applications and components to install and you then want to revert to the options of typical installation, select Typical from the Install Set drop-down list.
<table>
<thead>
<tr>
<th>Application</th>
<th>Components and features</th>
<th>Description</th>
</tr>
</thead>
</table>
| **DataQuant for Workstation** |  • DataQuant for Workstation User.  
  • DataQuant for Workstation Administrator  
  • Support for OLAP and XMLA data sources  
  Select this feature to download the files that will allow users to create and edit multidimensional queries.  
  • Support for Virtual Data Sources  
  Select this feature to download the files that will allow administrators to create and edit virtual data sources.  
  • Support for Data Source Environments  
  Select this feature to download the files that will allow administrators to create and edit Data Source Environments.  
  • Translated Help Systems  
  Select the help systems that you want to install in addition to the English help system | DataQuant for Workstation includes a User component and an Administrator component. Select the component that suits your role and the manner in which you will use the application. For example,  
• Select the **DataQuant for Workstation** User component if your intention is use the application on your own personal workstation.  
• Select the **DataQuant for Workstation** Administrator component if your intention is to create product configuration that will be made available to multiple users across the enterprise and to administer that configuration on behalf of the enterprise users. Administrators use this component to grant user access to repositories and define resource limits. It should be installed only for those users who will be allowed to perform these tasks. |

<table>
<thead>
<tr>
<th>Application</th>
<th>Components and features</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DataQuant for WebSphere</strong></td>
<td>A Typical installation includes both DataQuant for Workstation and DataQuant for WebSphere. However, you can choose to install only DataQuant for WebSphere.</td>
<td>If you select this option, DataQuant for WebSphere (in a EAR file) DataQuant for WebSphere is downloaded to a folder labeled <strong>DataQuant for WebSphere</strong> in the directory where you have chosen to install <strong>DataQuant for Workstation</strong>.</td>
</tr>
</tbody>
</table>
### Application Components and features

<table>
<thead>
<tr>
<th>Application</th>
<th>Components and features</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Service</td>
<td>Select this component to install the files necessary to set up the web service interface for DataQuant for WebSphere.</td>
<td>Web-based connectivity permits users to access a shared repository without the need for direct database connectivity from the workstation. Connecting to repositories using a web-based connection allows for consolidation of data access at a central server and removes the need to distribute JDBC drivers across each desktop running DataQuant for Workstation. This is only needed if developing or running independent applications that will use the web service APIs.</td>
</tr>
</tbody>
</table>

7. Select where to create product icons and click **Next**.

8. On the Pre-Installation Summary panel, review the summary information.
   - If you want to make changes, click **Previous** until you reach the panel that contains values that you want to change.
   - If you are satisfied with your selections, click **Install** and complete the installation.

### Results

You have successfully installed DataQuant

If you selected DataQuant for WebSphere from the installation wizard, you can deploy DataQuant for WebSphere to the application server.

After completing the install successfully, you are ready to configure the product for use.

### Installing a fix pack

This topic describes how install a fix pack of the DataQuant for Workstation application.

**About this task**

You use the same steps to install a fix pack as you do to install the original application. The application must not be uninstalled before the new fix pack can be introduced. When the fix pack executable file is run, the existing installation of DataQuant for Workstation is automatically updated. For specific steps, see "Installing DataQuant for Workstation" on page 7.

**Note:** Depending on the fix pack, if you implement repository or QMF catalog protection using static SQL packages, it might be necessary to rebind them. When you download the fix pack executable, check the accompanying readme file for steps on how to rebind your existing static SQL packages.
Uninstalling DataQuant for Workstation

To uninstall DataQuant for Workstation use the add or remove program facility of your operating system.

If you do not plan on reinstalling DataQuant for Workstation, you must delete all repository storage before you uninstall the product. To delete repository storage using DataQuant for Workstation Administrator, right-click the repository storage in the Repositories view and select Delete Repository Storage from the pop-up menu.

Note: You should only delete repository storage if you no longer want to retain the DataQuant objects that are stored in the repository storage.

The following table lists ways to uninstall DataQuant for Workstation.

<table>
<thead>
<tr>
<th>Method</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Run the uninstaller manually</td>
<td>Go to the uninstaller and run it. The uninstaller is located in the _uninst folder of the directory in which you installed DataQuant for Workstation.</td>
</tr>
<tr>
<td>Uninstall from the Start menu</td>
<td>Available for Windows installation only. If you chose to add the program icon to the Start menu when you installed DataQuant for Workstation, you can run the uninstaller from the Start menu. For example, on a Windows operating system select Start &gt; DataQuant &gt; Uninstall.</td>
</tr>
<tr>
<td>Uninstall from the Control Panel</td>
<td>Available only for Windows installation only. Use the Control Panel function to uninstall DataQuant for Workstation.</td>
</tr>
</tbody>
</table>

Reverting to an earlier fix pack

This topic describes how to revert to a previous fix pack of the DataQuant for Workstation application.

About this task

If it is necessary to revert back to a previous fix pack, the same steps that you use to install a new fix pack apply. The existing installation does not have to be uninstalled. When the fix pack executable is run, the existing installation of DataQuant for Workstation is automatically updated. For specific steps, see "Installing DataQuant for Workstation" on page 7.

Note: As with installing a new fix pack, if you implement repository or QMF catalog protection using static SQL packages, it might be necessary to rebind them. When you download the fix pack executable, check the accompanying readme file for steps on how to rebind your existing static SQL packages.
Deploying DataQuant for WebSphere to the application server

The installation media includes an Enterprise Archive (EAR) file and a Web Archive (WAR) file that can be immediately deployed to your web application server using your server’s administration console.

Obtaining the DataQuant for WebSphere installation file

The DataQuant for Workstation installation media includes the files that are used to install DataQuant for WebSphere.

The files are the DataQuant for WebSphere Enterprise Archive (EAR) file and the DataQuant for WebSphere Web Archive (WAR) file. You must run the DataQuant for Workstation installation package to obtain access to these files. To download the files during installation, select the DataQuant for WebSphere feature. The files are placed in a folder labeled DataQuant for WebSphere in the directory where you have chosen to install DataQuant for Workstation. You can keep the files local or copy them to a WAS server machine.

Opening the WebSphere Administrative Console

Start the WebSphere Administrative Console by opening a web browser on a client machine, and entering the appropriate URL.

By default, the URL is http://host:port/ibm/console, where host is the host name of the WAS server and port is the port on which the Administrative Console is configured to listen (9060, by default).

Installing the new application

Follow this procedure to install the new application.

About this task

In the navigation tree on the left side of the Administrative Console window:

Procedure

1. Expand Applications.
2. Click Install New Application. The Preparing for the application installation page displays on the right side of the Administrative Console window.
3. On the first Preparing for the application installation page, specify the location of the DataQuant for WebSphere EAR file that you want to install.
   • If the DataQuant for WebSphere EAR file is on the local machine, click Local file system. Use the Browse button to search for and locate the file.
   • If the file is on the WAS server machine, click Remote file system. Use the Browse button to search for and locate the file.
4. When you install using the DataQuant for WebSphere EAR file, the default context root for the application is always DQWebSphere12. If for some reason you need to specify an alternate context root for the application, you must use the DataQuant for WebSphere WAR file for installation, enter the alternate context root in the Context root field, and follow the prompts to complete the installation.
5. Click Next. The second Preparing for the application installation page opens.
6. Click Generate Default Bindings.
7. Click Next. The Step 1: Select Installation options page opens.
8. Verify that the **Deploy Web Services** check box is clear and click **Next**. The Step 2: Map modules to servers page opens.

9. Accept the default values and click **Next**. The Step 3: Map virtual hosts for Web modules page opens.

10. Note the name of the application server listed for the DataQuant for WebSphere module and click **Next**. The Step 4: Map security roles to users/groups page opens.

11. Specify whether you will map a security role named dqadmin for the DataQuant for WebSphere application. If you have WebSphere security enabled, you must map at least one user ID to this role. The dqadmin role is used to authenticate a user before performing various administrative tasks in DataQuant for WebSphere, such as binding packages. Use this page to specify whether the role should be mapped to all users (effectively eliminating authentication for the role), to all authenticated users (allowing any authenticated user to perform DataQuant administration functions), or only to users or groups that you specify.

12. Click **Next**.

13. Review the summary page that lists the options that you have chosen and click **Finish**.

14. After WAS has finished installing the application, save the configuration. You will receive a message dialog informing you of the progress of the installation and that the installation of the application is complete. The Enterprise Applications page opens.

15. Click **Save to Master Configuration** and click **Save**.

**Configuring access to JDBC drivers**

The last element of configuration that you must perform using the WebSphere Administrative Console is to provide access to any JDBC drivers that will be used by DataQuant for WebSphere.

**About this task**

In the navigation tree on the left side of the Administrative Console window:

**Procedure**

1. Expand** Servers**.

2. Click** Application Servers**. The Application Servers page displays on the right side of the Administrative Console window.

3. In the displayed list of application servers, click the application server where you installed the DataQuant for WebSphere application. The properties of the application server are displayed.


5. For z/OS, in the **Process Type** list, click **Servant**. The Process Definition page displays.

6. In the **Additional Properties** list, click **Java Virtual Machine**. The Java Virtual Machine page displays.

7. In the **Classpath** list, add all of the *.zip or *.jar files that are required by the JDBC drivers that will be used by DataQuant for WebSphere. For example, for the DB2 Universal Database™ V8 Type 4 driver on Microsoft Windows, you might enter:
C:\Program Files\ibm\SQLLib\Java\db2jcc.jar
C:\Program Files\ibm\SQLLib\Java\db2java.zip
C:\Program Files\ibm\SQLLib\Java\sqlj.zip

For the Type 4 driver on z/OS you might enter:
/usr/lpp/db2810/jcc/classes/db2jcc.jar
/usr/lpp/db2810/jcc/classes/db2jcc_license_cisuz.jar
/usr/lpp/db2810/jcc/classes/db2jcc_javax.jar
/usr/lpp/db2810/jcc/classes/sqlj.zip

8. For non-z/OS platforms, you can skip to Step 11. For z/OS, you must specify a list of directories that contain the native code libraries used by the JDBC driver. Return to Servers and select Custom Properties from the Additional Properties list. The Custom Properties page displays.

9. Click the New button. The Configuration page opens.

10. In the General Properties list, specify the library path name in the Name field as LIBPATH and specify the directories list in the Value field. For example, in the Value field you might specify:
/usr/lpp/db2810/lib
/usr/lpp/db2810/jcc/lib

11. When you have finished adding the required files, click OK and save the configuration. After the configuration is saved, you must restart the server for the changes to take effect.

**Customizing Java Virtual Machine system properties and files**

You can specify Java Virtual Machine system properties and files for saving the DataQuant system properties and files, especially when you configure a cluster to share application settings and other folders among cluster nodes and to set a timeout for a user session.

**About this task**

By default, all DataQuant system properties and files are stored in the user home directory, the path to which is in the user.home Java Virtual Machine system property. But you can use dataquant.instance.area.global, dataquant.instance.area.shared, or dataquant.instance.area Java Virtual Machine system properties to customize the directories for storing files.

If you want to specify a timeout for a user session to close the session when a user do not work with application, use the dataquant.use.session.timeout parameter.

The following table describes the available parameters.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Stored files</th>
</tr>
</thead>
</table>
| dataquant.instance.area.global | This property is responsible for the folder that is distributed among several cluster nodes. It is used to store server configuration files, scheduled tasks, and personal repositories. If this parameter is not set, the settings from the dataquant.instance.area are applied. | • Repository connections data (repositories.xml)
• JDBC drivers properties (.bi.jdbc.drivers)
• License files
• Cache files |
Table 5. Java Virtual Machine parameters (continued)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Stored files</th>
</tr>
</thead>
<tbody>
<tr>
<td>dataquant.instance.area.shared</td>
<td>This property is responsible for the application folder that is shared among several cluster nodes. If this parameter is not set, the settings from the dataquant.instance.area are applied.</td>
<td>• Log files</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Session data:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– User settings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– User global variables</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Logins and passwords</td>
</tr>
<tr>
<td>dataquant.instance.area</td>
<td>This property is responsible for storing temporary files. If this parameter is not set, the settings from the java.io.tmpdir Java Virtual Machine system property are applied.</td>
<td>• Temporary files</td>
</tr>
<tr>
<td>dataquant.use.session.timeout</td>
<td>This property is responsible for the timeout of a user session. If it is set to true, the user session is closed after the HTTP session timeout that is specified on the server. If this parameter is set to false or not defined, the session is active until the user closes the application.</td>
<td>-</td>
</tr>
</tbody>
</table>

To specify particular paths for saving system properties and files:

**Procedure**

1. For DataQuant for Workstation
   a. In the application installation directory, open the eclipse.ini file.
   b. Add the parameters the value of that you want to customize with the -D prefix and specify the path for the new storage. For example, `-Ddataquant.instance.area=C:\work\`
   c. Save the eclipse.ini file.

2. For DataQuant for WebSphere:
   a. Start the WebSphere Administrative Console by opening a web browser on a client machine, and entering the appropriate URL.
   b. Navigate to the **Process definition** and, in the **Custom properties** for Java Virtual Machine, add the required properties dataquant.instance.area.global, dataquant.instance.area.shared, dataquant.instance.area, or dataquant.use.session.timeout depending on the parameters that you want to modify.
   c. Save the added parameters.

**Starting the application**

Follow this procedure to start the new application.

**About this task**

In the navigation tree on the left side of the Administrative Console window:

**Procedure**

1. Expand **Applications**.
2. Click **Enterprise Applications**. The Enterprise Applications page displays on the right side of the Administrative Console window.
3. In the displayed list of installed applications, select the check box next to DataQuant for WebSphere.

4. Click Start. The application is now available.

**Accessing the application**

Upon completion, you should be able to access DataQuant for WebSphere using one of the following URLs (assuming the use of the suggested context root of DQWebSphere12)

URL to launch DataQuant for WebSphere application:

http(s)://[server]:[port]/[ContextRoot]/user

For example: http://www.ibm.com:9080/DQWebSphere12/user

URL to launch DataQuant for WebSphere Administrator application:

http(s)://[server]:[port]/[ContextRoot]/admin

For example: http://www.ibm.com:9080/DQWebSphere12/admin

**Completing the installation**

The final steps to installing DataQuant for WebSphere are to set up JDBC driver library information, configure repositories, and set up repository connection information. In addition, if this instance of DataQuant for WebSphere is for z/OS and you want users to access QMF objects, you must specify where to find the QMF Enterprise Edition Version 8, Version 9 or Version 10 license.

**About this task**

The DataQuant for WebSphere administrator is virtually identical to the DataQuant for Workstation administrator. However, if you have installed DataQuant for WebSphere on the same system as DataQuant for Workstation, the two applications have different configuration files (located in the user's Application Data folder). You must take direct action to register JDBC drivers and define repositories for both DataQuant for Workstation and DataQuant for WebSphere.

You can configure your new installation of DataQuant for WebSphere in two ways:

**Procedure**

1. Use the DataQuant for WebSphere application to configure drivers and repositories. (See Chapter 3, “Configuring the environment,” on page 17 for more information).

2. Configure the drivers and repositories using DataQuant for Workstation and then copy the .bi.jdbc.drivers and repositories.xml files from the application data location on the workstation to the equivalent application data location on the web server.
Chapter 3. Configuring the environment

Configuring the environment for DataQuant for Workstation and DataQuant for WebSphere involves a number of administrative steps.

This chapter provides an overview of the administrative tasks. It is intended to provide you with an understanding of the broad concepts before you configure the environment. The administrative tasks include:

1. Setting up the connection data needed to access the relational data sources in your enterprise:
   - Providing the location of the JDBC driver files that will be used to access the relational data sources in your enterprise
   - Creating a direct connection using DRDA®
2. Creating a repository within which data source definitions and authored content will reside
3. Defining the means by which users will connect to your repository, thereby gaining access to your configured data sources and DataQuant content.

Configuring JDBC Drivers

DataQuant for Workstation and DataQuant for WebSphere use JDBC drivers to connect to relational data sources. The product is already preloaded with the configuration information for each of the popular JDBC drivers (DB2, Informix, Oracle, MySQL, SQL Server, Derby). However, the product does not include the actual JDBC driver files. Administrators must define the location of the JDBC driver files in order for DataQuant for Workstation and DataQuant for WebSphere to load and use the driver. You only need to define the location of the driver files for those database types that you intend to access using the DataQuant products.

Using DRDA to connect to relational data sources: Depending on your environment, you can use DRDA to connect directly to relational data sources.

Defining a repository

Prior versions of DataQuant for Workstation and DataQuant for WebSphere utilized a Server Definitions File (SDF) to store the location of data sources accessible within the DataQuant products. In recent releases, the SDF has been replaced by a content repository. The repository offers the following key improvements over the older SDF approach:

- The repository is not limited to storing data source (server) definitions. It is capable of storing all content created within the DataQuant products, including queries, forms, reports, dashboards, result sets and scheduled jobs. This is particularly useful when creating content that executes against non-DB2 data sources, where storage within a DataQuant catalog is not appropriate.
- The repository has the ability to tailor the environment of a given DataQuant user. For example, queries, reports and dashboards can be routed to use US-based data sources for North American users and European data sources for European users. This mapping of data sources is done dynamically, without the need to change the underlying DataQuant objects.
• Similarly, the repository has the ability to tailor the presentation of DataQuant objects on a per user or regional basis. Business users can be presented with a set of folders arranged in business terms whereas technical users may retain a database-centric tree of available objects.

Repositories are stored within a relational database of your choosing. Similar to a DataQuant catalog, they consist of a set of tables, accessible via stored procedures or static SQL packages. You may choose to place the repository tables in the same database as your production data or within a stand alone database created specifically for repository use. The repository is essentially a structured form of the SDF file, with additional capabilities. As such, it can be adequately served by a distributed database such as DB2 on LUW, Informix, Oracle, SQL Server or MySQL.

Repositories can also be given an optional security model. If you elect to use repository security, you have the additional ability to control the repository content on a per user and group basis. For example, users in group A may see data sources A, B and C whereas users in group B see data sources A, D and E. Permissions can be applied to all DataQuant objects, including queries, forms, procedures, dashboards and individual workspace folders.

If you elect to use repository security, you may use one of the following methods:
• LDAP/Active Directory: DataQuant uses an external Active Directory or LDAP-based service to authenticate the user and obtain the user and group listings.
• Database security: DataQuant uses the user’s database logon as the basis of the security model. This approach is equivalent to the DataQuant catalog security model.
• Internal security: Users and groups can be defined directly within DataQuant itself.

DataQuant also supports personal repositories. A personal repository is stored within the DataQuant built-in database engine. This type of repository is intended for individual use, providing a means of storing content on a local workstation without the need for a relational database.

**Defining the means by which users connect to your repository**

Once your repository has been created, your final step involves creating the connection information that DataQuant for Workstation and DataQuant for WebSphere will use to connect to the repository. Once this connection has been defined, you are ready to distribute the configuration information with the installation of DataQuant for Workstation. users that install the product will then be immediately connected to your repository when they open the software.

**Distributing your configuration settings with the installation program**

Once you have finished configuring your environment, you are ready to make it available to your users. Your final steps include:
1. Defining the data sources in the repository that will be accessible to DataQuant users.
2. Distributing the configuration information with the setup program.
3. Copying the configuration information to DataQuant for WebSphere.
If you are using JDBC to connect to the database repositories and data sources, you must specify where DataQuant will find the JDBC driver files for each type of database that will host a repository or be accessed as a data source.

You can use the Direct DRDA Connection to establish a connection to DB2 database repositories and data sources.

A shared repository storage is a set of database tables. You must create a shared repository storage for storing database connection and resource limit information, as well as the database objects that users will use for reporting and querying actions.

You can add repositories to the repository storage tables. Repositories serve as a centralized place in which an aggregation of data, such as queries, procedures, forms, dashboards, and reports are developed for a specific set of data sources. Each repository that you create can have its own independent objects, security models, and users.

As an administrator, you create a data source to provide DataQuant with the information it needs to connect to a database.

DataQuant needs to know how to access the application data (as grouped by the repository name) so that end-users will have access to this data. The way to provide this connection data to DataQuant is to create it using the DataQuant connection wizard.

DataQuant administrators are responsible for ensuring that a QMF interoperability license (if required), the application executable, the JDBC JAR files, a populated JDBC driver information file, and a populated repository connection information file are available to each machine that is running DataQuant for Workstation and to each server (or workstation) that is running DataQuant for WebSphere.

### Importing relational data source information from QMF for Windows

You can add relational data source information to a repository from an existing server definition file by using the Import QMF for Windows Configuration Settings wizard.

#### About this task

The Import QMF for Windows Configuration Settings wizard opens automatically the first time you launch DataQuant for Workstation. Also you can open the wizard by selecting **File > Import > QMF for Windows Configuration Settings**.

**Note:** Data sources in QMF for Windows Version 8.1 and QMF for WebSphere Version 8.1 and prior were referred to as servers in the SDF.

To import the related data source information from QMF for Windows:

**Procedure**

1. Select the settings and preferences that you want to import on the first page of the Import QMF for Windows Configuration Settings wizard.
2. Select Import the content of the last used server definition file, and then select whether to add the related data source information to a new personal repository or to the current repository. Click Next.

Note: If you are running DataQuant for Workstation for the first time, the current repository option is not available. If you select the new personal repository option, the repository created will have the same name as the server definition file from which you are importing content. If a repository with this name already exists or if the name contains restricted symbols, you are prompted to enter a unique and valid name.

3. To add user authentication information and search filter settings, select Import server-related information check box.

4. Specify the server definition file on the second page of the Import QMF for Windows Configuration Settings wizard. The default path to the server definition file is specified automatically. If the server definition file is not located in the default path, specify the correct path in the File path field.

5. Select encoding type from the Encoding list. If encoding is correct, you can view the contents of the specified file in the preview area.

6. If required, prepare configuration packages by selecting Bind Packages, and then click Next.

7. Select the server whose settings you want to edit from the Servers Found list. Each of the servers that are defined in the server definition file are displayed in the list.

8. To modify the connection parameters to the selected server, edit the Alias, URL and Driver fields. If you selected Bind Packages, click Next to proceed. Otherwise, click Finish to complete the import process.

9. Review the list of data sources for which you want to bind packages in the QMF Catalog table.

10. Specify the settings for package binding. Some settings are specified by default. The following table lists the default values:

<table>
<thead>
<tr>
<th>Preference</th>
<th>Default value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collection ID for Packages</td>
<td>QMFI1</td>
</tr>
<tr>
<td>Grant permission on packages</td>
<td>PUBLIC</td>
</tr>
<tr>
<td>Database username and Database password</td>
<td>Authorization parameters are imported from the selected server definition file. Note: Selecting several data sources with different authorization information can cause problems.</td>
</tr>
</tbody>
</table>

11. Click Finish and wait until the import process is complete.

**QMF for Windows settings**

QMF for Windows settings can be imported to DataQuant for Workstation.

The following table lists the QMF for Windows settings that you can import by using the Import QMF for Windows Configuration Settings wizard.
Table 7. The settings that you can import from QMF for Windows

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
<th>To view in QMF for Windows</th>
<th>To view in DataQuant for Workstation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Favorites</td>
<td>The contents of the <em>Favorites</em> folder</td>
<td>Open Database Explorer tree</td>
<td>Open Personal view</td>
</tr>
<tr>
<td>Recently used objects</td>
<td>The list of recently used objects</td>
<td>Open Database Explorer tree</td>
<td>Open Personal view and Repository Explorer view</td>
</tr>
<tr>
<td>Global variables</td>
<td>The list of global variables</td>
<td>Select View &gt; Global Variables</td>
<td>Select View &gt; Preferences &gt; Global variables</td>
</tr>
<tr>
<td>Saved join definitions</td>
<td>The list of joins that are added automatically on the basis of information about the tables that you have ever joined in <em>Prompted</em> or <em>Query Builder</em> editors.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Export preferences</td>
<td>The settings for exporting query result and export report type to a file or database.</td>
<td>Select Results &gt; Save to File or Results &gt; Save to Database</td>
<td>Select File &gt; Export</td>
</tr>
<tr>
<td>LOB options</td>
<td>LOB object settings</td>
<td>Select View &gt; Options &gt; LOBs</td>
<td>Select View &gt; Preferences &gt; LOBs</td>
</tr>
<tr>
<td>Grid options</td>
<td>The default font properties, formatting options, cell colors and other grid settings</td>
<td>Select Results &gt; Font and Results &gt; Format.</td>
<td>Select Results &gt; Font and Results &gt; Format.</td>
</tr>
<tr>
<td>Page setup settings</td>
<td>The page settings that are used for printing</td>
<td>Select File &gt; Page Setup</td>
<td>Select File &gt; Page Setup</td>
</tr>
<tr>
<td>User interface settings</td>
<td>The user interface settings such as language, default font and null values display options</td>
<td>Select View &gt; Options &gt; General and View &gt; Options &gt; Appearance</td>
<td>Select View &gt; Preferences &gt; General and View &gt; Preferences &gt; Appearance</td>
</tr>
<tr>
<td>Command bar history</td>
<td>The history of commands entered in command bar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Server - related settings</td>
<td>User authentication information and search filter settings</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Note: Availability depends on the Import the content of the last used server definition file option.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Considerations for configuring the product and environment

There are several things to consider before configuring the product.

This section provides an overview of the administrative tasks to help you understand of the broad concepts prior to starting the configuration process.

1. Setting up the connection data needed to access the relational data sources in your enterprise:
   - Providing the location of the JDBC driver files that will be used to access the relational data sources in your enterprise
   - Creating a direct connection using DRDA
2. Creating a repository within which data source definitions and authored content will reside.

3. Defining the means by which users will connect to your repository, thereby gaining access to your configured data sources and DataQuant content.

Connecting to relational data sources

Using JDBC to connect to relational data sources: You can use JDBC drivers to connect to relational data sources. The product is already preloaded with the configuration information for each of the popular JDBC drivers (DB2, Informix, Oracle, MySQL, SQL Server, Derby and so on). However, the product does not include the actual JDBC driver files. Administrators must define the location of the JDBC driver files in order for DataQuant for Workstation and DataQuant for WebSphere to load and use the driver. You must define the location of the driver files for those database types that you intend to access using the DataQuant products.

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Repositories can also be given an optional security model. If you elect to use repository security, you have the additional ability to control the repository content on a per user and group basis. For example, users in group A can see data sources A, B and C whereas users in group B see data sources A, D and E. Permissions can
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If you elect to use repository security, you can use one of the following methods:

- **LDAP/Active Directory**: DataQuant uses an external Active Directory or LDAP-based service to authenticate the user and obtain the user and group listings.
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**Defining the means by which users connect to your repository**

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**Distributing your configuration settings with the installation program**

Once you have completed the above administration steps, your DataQuant environment is ready for use. Your final steps include:

1. Defining the data sources in the repository that will be accessible to DataQuant users.
2. Distributing the configuration information with the setup program.
3. Copying the configuration information to DataQuant for WebSphere.

**Overview**

Administrators configure DataQuant so users can access the data sources needed to create queries, reports, and visual dashboards.

Generally, configuration tasks are performed by the Administrator from DataQuant Administrator component. The Administrator component consists of a variety of views, perspectives, and editors to facilitate the process. For description of the views, perspectives, and editors, see Perspectives, Views, and Editors in the Product overview help.

Configuring DataQuant can be divided into the following tasks:

- **Setting up repositories and connecting to the database**
  - This involves the following sub-tasks:
    - Defining the JDBC driver library
    - Configuring the repository storage
Creating the repository
Defining the connection to the database
- Populating repositories with the data sources, workspaces, and environments that define how users interact with data and determine what is exposed to the users in the DataQuant User component.
This involves the following sub-tasks:
- Creating virtual data sources
- Setting up workspaces
- Creating entity relationship (ER) diagrams
- Setting up environments
- Setting permissions for accessing data
This activity involves the following sub-task:
- Assigning users and groups permission to use repository objects
- Managing resources and usage
DataQuant provides administrators with the capability to optimize usage by setting up and managing resource limits.
Managing resources and usage involves the following tasks:
- Setting up data source resource limits
- Creating resource limits groups
- Setting up group schedules
- Assigning users to resource limits groups

After configuring DataQuant, the administrator creates a repository connection, which provides users with access to the data.

Using DataQuant for Workstation versus DataQuant for WebSphere to create the configuration

You can configure DataQuant for multiple users by using either the DataQuant for WebSphere Administrator component or the DataQuant for Workstation Administrator component.

The method you choose to configure DataQuant is a matter of preference. The following diagrams illustrate both methods.

Figure 1. Using DataQuant for WebSphere to configure DataQuant for multiple users

1. Start DataQuant for WebSphere in your web browser.
2. Using the Administrator component, complete the configuration steps for a shared configuration.
3. Provide users with URL.

![Diagram](image.png)

**Figure 2. Using DataQuant for Workstation to configure DataQuant for multiple users**

1. Using the Administrator component, configure DataQuant for Workstation on your workstation.
   The result of completing the configuration steps is an updated `repositories.xml` file and an updated `.bi.jdbc.drivers` file.
2. Put the installer executable (or silent installation options file) on a shared file server and use the DataQuant for Workstation File > Export feature to export a `settings.xml` file with the repository connection and JDBC driver information to the shared file server.
   For information about creating a response file for a silent installation, see [Creating a silent installation options file](#).
3. Users access the shared directory in the file server and install DataQuant for Workstation by running the installer GUI or the silent installation.
   When users run the installer, the configuration data in the `settings.xml` is applied to the installed application. As a result, when users start DataQuant, they are connected to a repository and have access to the data sources as determined by the Administrator’s configuration.

### Setting general preferences

You use the General page of the Preferences window to specify the language, orientation direction, locale settings, and object default actions.

### About this task

To specify the general user preferences for the current DataQuant application interface session:

### Procedure

1. Select **View > Preferences**. The Preferences window opens. Select **General** from the tree.
2. **Conditional**: If available as an option on the Preferences window, select from the **Language** drop-down list of supported languages the language that will be used for the current application interface session. Select the value **Auto** to use the local language of the current machine.
3. Select from the **Direction** drop-down list the orientation that will be used to display information in the current DataQuant application interface session. You can select **Left-to-Right** or **Right-to-Left**. You can select **Auto** to use the default orientation of the current machine.

4. Select from the **Locale setting for numbers, currencies, times, and dates** drop-down list the language that will be used to display numbers, currencies, times and dates in the current DataQuant application interface session. Select the value **Auto** to use the default language of the current machine.

5. Click one of the **Default Action for Objects** radio buttons to specify the action that DataQuant will perform when you double-click an object that is included in an explorer tree. Select **Run object** to run the object that is selected. Select **Display object** to display the SQL content of the object.

6. In the **Default Tab for the Query Editor** area, you can specify the tab on which the Query Editor is opened by default for a new query.

7. In the **Scheduler Type** area, select the scheduler that you want to use for the scheduled tasks:
   - Select the **DataQuant for Workstation scheduler** option to work with the application scheduler.
   - Select the **Native** option, to work with the operating system scheduler.

8. Click the **Line width** ellipsis (…) or enter the value of the maximum line width.
   The available values for line width are from 10 to 1000. The default value is 79.
   This value is used in the Query menu item **Reformat Text** for SQL text.
   Additionally, the value specified in the **Line width** field:
   - Controls the maximal line length in the DDL scripts, which are displayed when you create or update repository storage or QMF catalogs.
   - Controls the maximal line length in the DDL scripts that are produced when you run the Export Update Scripts wizard.

   **Note:** The Export Update Scripts wizard provides users with the capability to upload the DDL to a mainframe data set and run it in the z/OS environment. Using the **Line width** field you can ensure the data sets meet the limitation requirement of 72 characters per line.

9. Select the **Convert rollover time** check box if you want DataQuant to allow Java to convert and express 24 hour rollover time as the next day. For example, if you select the check box, Java converts 2012-01-01:24:00:00 to 2012-01-02:00:00:00. The converted format is displayed by DataQuant in the result sets and visual projects.
   Clear the **Convert rollover time** check box if you want DataQuant to preclude Java from converting and expressing the 24 hour rollover time as the next day. If you clear the check box, DataQuant uses the timestamp value saved in the database.

   **Note:** The **Convert rollover time** feature applies only if you are using a DRDA connection with a DB2 database.

10. Select the **Always run in background** check box to perform long running operations displayed in the Progress dialog in the background without blocking you from doing other work.

11. Click **Apply** to save your preferences choices.

12. Click **Restore Defaults** to restore the default preference values.
13. Click **OK** to close the Preferences window.

**Switching DataQuant to the FIPS-140 security standard**

You can switch DataQuant to the FIPS-140 computer security standard by configuring a security provider definition.

**About this task**

To switch to the FIPS-140 standard:

**Procedure**

1. In the DataQuant installation directory, open the `java.security` file in edit mode.
2. Find a list of security provider definitions by looking for the following: `security.provider.N=`, where N represents a number.
3. Insert the following line to the first position of this list: `security.provider.1=com.ibm.crypto.fips.provider.IBMJCEFIPS`
4. Modify the numbers for the other security provider definitions in the list. When you open DataQuant, the application will work in FIPS-140 mode.

**Configuring repositories and connecting to the database**

You need to configure the repositories and define the DataQuant connection to the database.

**About this task**

Repositories provide a logical grouping of DataQuant objects (queries, procedures, visual reports, and visual dashboards) and contain the database connection information and resource limits. Generally speaking, only administrators work with repositories.

The tasks required to configure repositories and connect to a database vary, depending on whether you are configuring DataQuant for yourself or for multiple users.

If you are configuring DataQuant for multiple users, you perform the following tasks:

1. Define the JDBC driver library
2. Configure the repository storage
3. Create a shared repository
4. Define the connection to the database
5. Create the repository connection
6. Export the configuration to the users

The tasks for configuring repositories and connecting to a database are described in the following table:
<table>
<thead>
<tr>
<th>Task</th>
<th>Purpose</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defining JDBC Driver Library</td>
<td>Define the location of the driver files for the database that you intend to access with DataQuant.</td>
<td>You can connect to database repositories and data sources by defining the JDBC driver library or by using DRDA. JDBC driver files are not included with DataQuant, but DataQuant does include the configuration data for the most commonly used JDBC drivers. You need to define the JDBC driver files so that DataQuant for Workstation and DataQuant for WebSphere can load and use the driver. See Defining the JDBC driver library for detailed steps. See Using DRDA to connect to database repositories and data sources for detailed steps.</td>
</tr>
<tr>
<td>Configuring repository storage</td>
<td>Configure the storage that is used to hold database connection and resource limit information, as well as the database objects to be used by developers.</td>
<td>Configuring shared repository storage involves the following tasks: • Specifying JDBC/JNDI connection and user login information • Creating and updating tables • Protecting repository storage tables and granting user permissions • Setting maximum number of simultaneous database connections</td>
</tr>
<tr>
<td>Creating a repository</td>
<td>Create repository into which users can save queries, reports, and other data objects.</td>
<td>See Creating repositories for detailed steps.</td>
</tr>
<tr>
<td>Defining a connection to the database</td>
<td>Add a relational data source or multidimensional data source to define the DataQuant connection to the database. The connection information is stored in the Repository.</td>
<td>See Defining a connection to the database for detailed steps.</td>
</tr>
<tr>
<td>Creating the repository connection</td>
<td>Provide DataQuant for Workstation and DataQuant for WebSphere with information needed to connect the repository</td>
<td>See Creating the repository connection for DataQuant for detailed steps.</td>
</tr>
<tr>
<td>Providing access to the configured product</td>
<td>Allow multiple users to install and access DataQuant for Workstation or access DataQuant for WebSphere configuration from their web browser.</td>
<td>See Exporting the configuration data to users for detailed steps.</td>
</tr>
</tbody>
</table>
Creating the JDBC driver configuration file

If you are using JDBC to connect to the database repositories and data sources, you must specify where DataQuant will find the JDBC driver files for each type of database that will host a repository or be accessed as a data source.

Before you begin

Open the Administrator perspective if you have not already done so. To open the Administrative perspective go to the menu pane and select Window > Open perspective > Other > Administrator.

The JDBC driver files that are required to connect to a specific database must be installed on or accessible to the machine that you are currently using to configure repositories and data sources. DataQuant does not ship with these drivers.

About this task

The procedure in this task describes how to add the required JDBC driver files to your DataQuant environment configuration.

Note: The multiplatform version of DataQuant for Workstation includes the JDBC driver that can be used to connect to DB2 UDB for Linux, UNIX and Windows data sources. If you are using the multiplatform version of DataQuant for Workstation, you do not have to perform the set up process for this driver.

To specify the JDBC driver information for each type of database that will host a repository or be accessed as a data source, perform the following procedure:

Procedure

1. Select Preferences from the View menu to open the Preferences window. Select JDBC Libraries. The JDBC Libraries page opens. DataQuant supplies pre-populated libraries named for specific databases. For example, you will see libraries named IBM solidDB®, DB2, Derby, Informix, MS SQL, Oracle, SUN ODBC, and Netezza. Expanding a database library reveals that each is pre-populated with one or more driver libraries. The driver libraries are named for the most commonly used drivers for each type of database. Expanding the driver libraries reveals the class name for each type of driver.

2. If a JDBC driver is not listed in the pre-populated libraries, you can add a user defined JDBC driver library and driver class name:
   a. Select Add Driver. The Add New Driver Library window opens.
   b. The JDBC driver information is organized by libraries. Enter a name for the driver library in the Enter new library name field. It is recommended that the name that you specify describes the JDBC driver that will be included in the library. For example, if you are adding information for a DB2 Type 2 UDB driver, you might call the library DB2 Type 2 UDB driver. However, this is a descriptive field and can include any text.
   c. Specify the actual name of the driver class that will be used in the Driver class name field. This can be found in your JDBC driver documentation. For example, for a DB2 Type 2 UDB driver you might specify: com.ibm.db2.jdbc.app.DB2Driver.
   d. Optionally, you can specify a generic example of a correctly formatted URL that could be used to connect to the database in the URL templates field. To add a URL template, select the Add URL template icon. The text New template displays in the Template field. Replace the text New template...
with a sample of how the URL should be formatted. For example, if you are adding JDBC driver information for DB2 Type 2 UDB driver, you might specify the following JDBC URL template: jdbc:db2://host:50000/database. The generic information as specified in the template is presented when you are adding data sources to the repository and when you are creating repository connections. You will replace the generic information with the specific database information.

e. Optionally, you can add additional JDBC driver properties to the URL template. Click **JDBC driver properties**. The Advanced JDBC Settings window opens. Select the properties that will be supported or can be used when connecting to a database using JDBC. They will be reflected in the URL template.

3. If you are using DataQuant for Workstation, for each driver class entry in a library, both pre-populated and user defined, you must specify where to find the associated JDBC driver JAR files. To specify where to find the associated JAR files:
   a. Expand the library that contains the JDBC driver class name to which you want to add JAR file location information.
   b. Select **Add JARS**. The Add JARS to [libraryname] window opens.
   c. Search for and select the JDBC driver files that you want to add.
   d. Select **Open**. The location of the JDBC driver JAR files is saved in the JDBC library that you have selected.

4. Select **Apply**. The JDBC library information that you have specified is saved in the $bi.jdbc.drivers$ file for the current machine. You must repeat the previous step for each pre-populated and user defined driver that will be used to access various database repositories or data sources.

5. You can make the following changes to the JDBC driver information:
   - To edit user defined JDBC driver library information, select an existing JDBC driver library from the list and click **Edit**. The Edit Driver Library window opens where you can make changes to the **Edit library name**, **Driver class name**, and **URL templates** fields.
   - If you are using DataQuant for Workstation, to edit the location of the JAR files, select a JAR file from the list of files that have been added to the JDBC library, and click **Edit**. The Edit JAR URL window opens. Specify the name and location in the **Edit JAR location** field.
   - To remove a JDBC driver library, select an existing JDBC driver library from the list and click **Remove**. The library, including all the JAR files that it contains, is removed. You can not remove any pre-populated libraries.
   - If you are using DataQuant for Workstation, to remove a JAR file from a JDBC driver library, select an existing JAR file from the list and click **Remove**. The JAR file is removed.

6. Click **OK**. The Preferences window closes.

**Results**

The JDBC driver information is saved and DataQuant can connect to your database.

**Note:** The information that you entered in the wizard is written to a file named $bi.jdbc.drivers$. This file is saved in the personal settings directory of the machine/server that you are using to configure DataQuant repositories.
What to do next

Now you are ready to create the shared repository storage tables on your database.

Note: For more information on configuring JDBC libraries, refer to the Creating and Connecting to a repository cheat sheet. This cheat sheet details how to configure JDBC libraries and describes how you can copy the JDBC settings file for distribution across multiple systems. The cheat sheet is accessible from the DataQuant for Workstation Help menu. To open the cheat sheet, select Help > Cheat Sheets. Select Creating and connecting to a repository from the Cheat Sheet window.

Using DRDA to connect to database repositories and data sources

You can use the Direct DRDA Connection to establish a connection to DB2 database repositories and data sources.

Before you begin

The Direct DRDA Connection is supported only for DB2 for z/OS Version 8, Version 9, and Version 10. Do not use it for DB2 LUW or DB2 for iSeries.

About this task

In contrast to JDBC driver libraries, the Direct DRDA Connection is included with DataQuant and does not require additional driver installation.

You can specify the Direct DRDA Connection when creating a relational data source, shared repository storage, or shared repository connection.

To specify the Direct DRDA Connection:

Procedure

1. From the JDBC Driver drop-down list of the connection parameters section, select Direct DRDA Connection. The connection will be used to access the database that hosts the repository storage.
2. In the JDBC URL list specify the URL that points to the database that hosts the repository storage.
   The templates for the URL can be displayed in the list:
   jdbc:rsbi:db2://{server}:{port}/{database}
   You must specify the server, port, and database information.
   
   Note: You can also use the Build URL by URL Template window to form the correct string. To do so, click Build URL to open the Build URL by URL Template window. From the JDBC URL drop-down list, select the template. In the table, specify the server, port, and database information and click OK. The result URL string is added to the JDBC URL list.
3. Click Advanced to specify Direct DRDA Connection string properties and their values to be used for the database that hosts the repository storage tables.
   See Direct DRDA Connection properties for more information.
4. To bind the direct DRDA package click Bind Packages. The Bind Packages dialog opens.
In order for Direct DRDA Connection to properly work you must bind Direct DRDA packages when you are connecting to a database for the first time. When the binding operation completes, users can connect to the database by using Direct DRDA Connection. They do not have to bind packages again.

a. In the Owner ID field you can enter a privileged SQLID with the necessary rights for the binding process, in case a user who establishes a server connection has no administrator privileges for the database. If the value of this field is not specified, the CURRENT SQLID, the user name set in the Set User Information dialog, will be used to perform the installation process.

b. Click Install to start the installation process.

5. Continue specifying the relational data source, shared repository storage, or shared repository connection parameters.

**Direct DRDA Connection properties**

Direct DRDA Connection properties define how the connection to a particular data source is established. You can specify Direct DRDA Connection properties in the Advanced JDBC Settings window.

The Direct DRDA Connection has the following property:

**Parameters**

**SECURITY_MECHANISM**

This property specifies the Direct DRDA Connection security mechanism. The data type of this property is integer. Possible values are:

- SECMEC.I_USRIPWD = 3
  - Neither user ID nor password is encrypted.
- SECMEC.I_EUSRIPWD = 9
  - Both user ID and password are encrypted.
- SECMEC.I_EUSRPPWDDTA = 13
  - The user ID, Password, and Data are encrypted.

If you do not specify a value for SECURITY_MECHANISM, the requester attempts to connect using the security mechanism without any encryption.

If the server accepts only encrypted login information, the requester attempts to switch to the corresponding security mechanism.

If a connection cannot be established because the server does not support that security mechanism, an exception is thrown.

---

**Creating a shared repository storage**

A shared repository storage is a set of database tables. You must create a shared repository storage for storing database connection and resource limit information, as well as the database objects that users will use for reporting and querying actions.

**Before you begin**

Before you begin this task, make sure you have:

- Installed and configured your database management system (DBMS).
- Installed the JDBC driver JAR files and license files so that DataQuant can connect to the database.
Open the **Administrator** perspective if you have not already done so. To open the **Administrative** perspective go to the menu pane and select **Window > Open perspective > Other > Administrator**.

Make sure the **Repository** view is open in the workbench. To open the Repository view select **Window > Show view > Repositories**. The **Repositories** tab opens in the workbench.

**About this task**

Creating the repository storage tables is a multistep process with multiple options presented in each step. The options you select in one step will determine the next step in the process.

The steps in this topic provide an *overview* of the process for creating the shared repository storage on your database, so that the data in the repositories can be obtained for further relocation or distribution in a network. See the subsequent topics in this section for detailed descriptions of the wizards employed.

The maximal line length of the DML scripts displayed when creating shared repository storage is determined by the value set in the **Line width** field on the General Preferences page. See *Setting general preferences* in the User help for more information.

To create the repository storage on your database:

**Procedure**

1. Right-click in the **Repositories** view. Select **New > Shared Repository Storage**. The Enter connection parameters for new shared repository storage page of the Create New Shared Repository Storage wizard opens.

2. On the Enter connection parameters for new shared repository storage page, specify the JDBC connection information and user login information that will be used to connect to the database that will host the repository storage.

3. Click **Next**. The Create or upgrade repository storage tables page of the wizard opens.

4. On the Create or upgrade repository storage tables page, specify that the database objects that are required by the DataQuant applications in order to access the repository storage will be created or upgraded.

5. Click **Next**. If necessary, the Upgrade repository storage tables page opens listing the SQL statements that will be used to create or update the required repository storage tables. If this page opens, click **Next**. The Protect repository storage tables page of the wizard opens.

6. On the Protect repository storage tables page of the wizard specify whether the database repository storage tables will be protected from unauthorized users.

7. Click **Finish**.

**Results**

You have created the shared repository storage on your database.

**What to do next**

The next step is to add repositories to the repository storage tables.
Specifying JDBC/JNDI connection and user login information

The first step to creating shared repository storage is to specify the connection and the user login information that will be used when accessing the database that hosts the repository storage. The connection can be either JDBC or JNDI.

About this task

To specify the connection and user login information for the database that hosts the repository storage:

Procedure

1. Open the Create New Shared Repository Storage wizard and navigate to the Enter connection parameters for new shared repository storage page.
2. In the Connection type radio group, select JDBC or JNDI. If you selected JNDI:
   a. In the Data Source name field, specify the JNDI data source name and location.
   b. Click Advanced to specify any driver-specific connection string keywords and their values that will be used for the database that is hosting the repository storage tables. For information on any keywords that are required by a selected database driver, consult the specific driver’s documentation.

   If you selected JDBC:
   a. In the JDBC Driver field specify the library for the JDBC driver that will be used to access the database that is hosting the repository storage. You can select from a drop down list of libraries that you defined when you set up the JDBC driver information. You can use the ellipsis (...) to the right of the field to open the JDBC Libraries dialog where you can create additional JDBC driver libraries.

      Note: If you work with a DB2 for z/OS database, you can use the Direct DRDA Connection. In contrast to JDBC libraries, the Direct DRDA Connection comes with DataQuant and does not require additional driver installation.

      Note: The Direct DRDA Connection is supported only for DB2 for z/OS Version 8, Version 9, and Version 10. Do not use it for DB2 LUW or DB2 for iSeries.

      See Using DRDA to connect to database repositories and data sources for more information.
   b. In the JDBC URL list, specify the URL that points to the database that hosts the repository storage within which the repository to which you want to connect resides.

      Note: You can also use the Build URL by URL Template dialog box to form the correct string.

      Click Build URL to open the Build URL by URL Template dialog box. From the JDBC URL drop-down list, select the template. In the table, specify the server, port, and database information and click OK. The result URL string is added to the JDBC URL list.
c. Click **Advanced** to specify any driver-specific connection string keywords and their values that will be used for the database that is hosting the repository storage tables. The list of available advanced properties will change depending on both the type of driver being used, and the version of the driver. For information on any keywords that are required by a selected database driver, consult the specific driver's documentation.

**Note:** For the DB2 Type 4 UDB driver and the DB2 Universal JDBC Driver, to receive extended SQL exception error messages, check the `retrieveMessagesFromServerOnGetMessage` option in the Advanced JDBC Settings window.

d. If you use the Direct DRDA Connection, bind packages by clicking the **Bind Packages** button.

3. Specify the user information. Click the **Set User Information** button to open User Information dialog.

4. In the User Information dialog, select **User ID and password are required** to require the use of a user ID and password when accessing the database that is hosting the repository storage. If the database that is hosting the repository storage allows access without a user ID and password, selecting this option will override that allowance, and a user ID and password will be required to access the repository storage tables.

5. Specify the user ID and password that will be used to access the database in the **User ID** and **Password** fields. The user ID and password that you specify when connecting to the host repository are used to authorize the user in that repository. The user ID and password that you specify must have administrative privileges on the host database in order to create the repository storage tables. This mode is only available on DB2.

6. To remember this password every time you use the specified user ID to connect to the database, select the **Remember password** check box.

7. Click **Test Connection** to test the connection to the database. If you have specified any information incorrectly you will not be able to connect.

8. Click **Next**. The Create or update the repository storage tables page of the wizard opens.

### Creating and updating tables

The second step to creating shared repository storage is to specify whether the database objects that are required by the DataQuant applications in order to access the repository storage will be created or updated.

**About this task**

Several database tables are required to support the shared repository storage that is being created on the database. You must specify whether DataQuant should check to see if the tables exist or need updating.

To create or update the repository storage tables:

**Procedure**

1. Open the Create New Shared Repository Storage wizard and navigate to the Create or update repository storage tables page.

2. Select one of the following options:
   - Click **Repository storage tables have already been created** to bypass this step. You might select this option if all the repository storage tables already
exist and you are certain that the tables have not changed. An example of this situation might be if you are editing the repository storage options and your intent is to re-bind packages or re-run stored procedures for the repository storage tables. Click Next. The Protect repository storage tables page of the wizard opens.

- Click Create or upgrade repository storage tables to check if the tables have been created or have to be updated.

3. Optionally you can type the owner name in the Owner ID field, if you work with DB2 databases. The Owner ID provides the administrator privileges to the user who operates under the login without SYSADM authority.

**Tip:** (for DB2 for z/OS databases)

When the user without administrator privileges creates or updates the shared repository storage tables and enters the owner name in the Owner ID field, the user login and Owner ID are automatically inserted to the RSBI.AUTHID_TABLE as the PRIMARY_ID and SECONDARY_ID correspondingly. This allows the user to create shared repositories with database-based security provider and automatically work with the repositories as an administrator.

4. If repository storage tables have not been created, you can select the Enable customization of database object names check box to open a window where you can customize how database objects are named.

5. Click Next. Depending on the status of the tables you will proceed as follows:

- If all the tables have been created and have not changed, a message is issued. Click OK in the message window. The Protect repository storage tables page of the wizard opens.

- If the tables have to be created or updated and you did not select the Enable customization of database object names check box, then the Update repository storage tables page of the wizard opens listing the SQL statements that will be used to create or update the required repository storage tables. You can make changes to the SQL statements as described on the page. Click Next. The Protect repository storage tables page opens.

- If the tables have to be created and you selected the Enable customization of database object names check box, then the Enter Substitution Variable Values window opens. Enter your customized database object names in the Value column and click OK.

**Note:** The Value column of the window displays the default name of each database object. This gives you an opportunity to review and/or rename the objects that will be created. For example, one could preface all index names with the prefix "IX". The Enter Substitution Variable Values window closes and the Protect repository storage tables page of the wizard opens.

### Protecting repository storage tables and granting user permissions

The last step to creating shared repository storage is to specify whether the shared repository storage tables will be protected from unauthorized users.

### About this task

Several tables in repository storage are used by DataQuant to store processing information. Some of these tables store sensitive information, for example the
permissions table. By default all users can access these repository storage tables and make changes to the tables. You can choose to protect the repository storage tables. In protection mode the repository storage tables are accessed using a collection of stored procedures or static SQL packages depending on what the database that is hosting the repository storage supports. Users of the repository storage must then be granted permission to run the stored procedures or static SQL packages.

To protect the repository storage tables:

**Procedure**

1. Open the New Shared Repository Storage wizard and navigate to the Protect repository storage tables page.

2. Specify whether the shared repository storage tables will be protected from unauthorized users. By default the Protection method check box is not selected. This means that all users will have access to the repository storage tables and can make changes to any of those tables. To specify that you will protect the repository storage tables, select the Protection method check box. The fields that you will use to specify the protection method become available.

3. Select one of the following protection methods:
   - Select Stored procedures to specify that you will use stored procedures to protect the repository storage tables. You can select this option if the repository storage tables are located on one of the following databases:
     - Informix
     - DB2 UDB LUW V9 and above
     - DB2 z/OS V9 and above in NFM
     - DB2 iSeries (when accessed with IBM Toolbox JDBC driver)
     - Microsoft SQL Server
   - Select Static SQL packages to specify that you will use static SQL packages to protect the repository storage tables. You can select this option if the repository storage tables are located on a DB2 database that you will connect to using the IBM DB2 Universal driver for JDBC or the Direct DRDA connectivity provided by the product (the latter option is available for DB2 for z/OS connectivity only).

4. Type, or select from the drop-down list, the name that you want to use to identify the collection of stored procedures or static SQL packages in the Collection ID field.

5. Optionally you can type the owner name in the Owner ID field, if you work with DB2 databases. The Owner ID provides the administrator privileges to the user who operates under the login without SYSADM authority.

6. Click Create. The stored procedures are created or the static SQL packages are bound. A message is issued that informs you of the success of the either process. You can also use the Delete button to remove a collection of stored procedures or packages.

7. Specify which users will have permission to run the stored procedures or static SQL packages for the repository storage tables on this database. To grant permission to all users, enter PUBLIC in the User IDs field and click Grant. To grant permission to specific users, type their user IDs in the field and click Grant. A message is issued that informs you that the selected user IDs have been granted permission to run the stored procedures or packages.

Optionally, you can revoke permission to run the stored procedures or static SQL packages from any user that is listed in the User IDs list box. To revoke
permission from one or more users, highlight one or more of the user IDs and click **Revoke**. A message is issued informing you that permission to run the stored procedures or static SQL packages has been revoked from the selected user IDs.

8. Click **Finish**. The repository storage tables are created. The location of the new repository storage tables is listed in the **Repositories** view. After you have created the shared repository storage in the database, you can add one or more repositories that will share the storage. Each repository that you create can have its own independent objects, security models, and users.

### Setting maximum number of simultaneous database connections

An advanced feature in creating repository storage tables allows you to specify the maximum number of simultaneous database connections.

**About this task**

This advanced feature exists in both Workstation and WebSphere, and contains the concurrent access to repository storage database limit.

To set the maximum number of simultaneous database connections:

**Procedure**

1. In the **Repositories** view right-click the repository storage to which you want to specify simultaneous database connections. Select **Edit** from the pop-up menu. The Edit Repository Storage window opens.
2. Click the Advanced tab.
3. Specify the number of database connections in the **Maximum number of simultaneous database connections** field. The default value is 10.
4. Click **OK**. The maximum number of simultaneous database connections is set in the repository storage tables.

### Creating repositories

In order to begin using DataQuant, you must create at least one repository. A repository is a centralized storage area. It is the place where objects such as queries, forms, and reports are saved. It is also where the application interface will look for the information necessary to connect to any data sources that your users want to access.

The **Administrator** perspective of the application interface provides the views, menus, and wizards that enable you to create, manage, and maintain repositories.

DataQuant supports **personal** and **shared** repositories.

**Personal repositories**

Personal repositories serve a single user and are stored in the personal settings directory of the machine that is running DataQuant. For example, in a windows operating system, the personal repository is saved under the following path (shown here on two lines):

C:\Documents and Settings\[UserName]\Application Data\IBM\DataQuant for Workstation\Personal Repositories
Note: The Application Data folder is a hidden folder and will not appear in Windows Explorer unless you configure Explorer to display hidden files and folders. For other operating systems, the file is similarly located in the workstation's personal settings directory. Each user can create their personal repository from the User perspective of the application interface that they are using. Personal repositories do not support any of the extended features of repositories such as security.

**Shared repositories**

Shared repositories are designed to support multiple users with a single user as the administrator. Shared repositories can reside in any JDBC-compliant database. They support the security and workspace features that allow the administrator to control the view of enterprise resources on a per-user or per-group basis. In addition they support the login mapping feature, and network or Web service access. In order to create a shared repository, the administrator must have the Administrator component installed and the privileges to bind packages or create stored procedures on the database where the repository will reside.

Note: In DataQuant for Workstation and DataQuant for WebSphere V1.2 Fix Pack 2 and later, the following changes have occurred:

- Database-based repositories are now referred to as shared repositories.
- Personal repositories have replaced file-based repositories. You can no longer create file-based repositories. However, you can still connect to any file-based repositories that were created prior to V1.2 Fix Pack 2

### Adding repositories to the repository storage tables

You can add repositories to the repository storage tables. Repositories serve as a centralized place in which an aggregation of data, such as queries, procedures, forms, dashboards, and, reports are developed for a specific set of data sources. Each repository that you create can have its own independent objects, security models, and users.

**Before you begin**

Make sure the Repository view is open in the workbench. To open the Repository view select Window > Show view > Repositories. The Repositories tab opens in the workbench.

**About this task**

The information in this topic describes how to add a repository within the repository storage tables on a database.

As part of the procedure for adding repositories, you define the permissions for accessing the repositories. These permissions determine which users or user groups have access to the repositories.

To add a repository to the repository storage table, perform the following steps:

**Procedure**

1. In the Repositories view right-click the repository storage to which you want to add a repository. Select New > Shared Repository from the pop-up menu. The Create New Shared Repository wizard opens.
2. Specify the name that will be used to identify the repository in the Name field.

3. Optionally, type a comment that describes the repository in the Comment field. This comment will display with the properties for the repository.

4. Select the type of security that will be applied to the repository. From the Security provider drop-down list select one of the following:
   - **None**: Specifies that no additional security beyond what is provided by the database that is hosting the repository will be applied. All users will have full access to the contents of the repository.
   - **Internal**: Specifies that a layer of security beyond what is provided at the database level will be applied. This level of security allows you to define users and groups, and then assign them permission to access the repository. This level of security also allows you to control which objects a user or group can access or view when they are connected to the repository. User and group definitions, and their assignments, are stored within the repository. Users will log on to DataQuant for Workstation or DataQuant for WebSphere using their defined user IDs and passwords. They will be granted access to a repository or to repository objects based on the permissions that they are assigned by the DataQuant administrator.
   - **LDAP**: Specifies that a layer of security beyond what is provided at the database level will be applied. This level of security allows you to control which objects a user or group can access or view when connected to the repository. If you choose the LDAP security option, the user identities and group affiliations are obtained from an existing LDAP server. Users will log on to DataQuant for Workstation or DataQuant for WebSphere using their LDAP user names and passwords. They will be granted access to a repository or to repository objects based on the permissions that they are assigned by the DataQuant administrator.
   - **Database-based**: Specifies that the security settings of the host database will be used to protect the shared repository.

5. If you selected either Internal or LDAP security, click Next. One of the following wizard pages opens:
   - If you selected Internal security, the Internal security provider options page opens. Specify the user name and password that will identify the DataQuant administrator account. The DataQuant administrator account is the account that is used to create additional administrative accounts, as well as apply security permission levels to different users and groups.
   - If you selected LDAP security, the LDAP security provider options page opens. Specify one or more values for the LDAP fields. These fields are used to obtain all LDAP users and groups. You will be asked to specify an existing LDAP group in your directory that represents the DataQuant administrator account. All LDAP accounts that belong to this group will have DataQuant administrator privileges and can create additional administrative accounts, as well as apply security permission levels to different users and groups.

6. Click Finish.

**Results**

You have created and added to the list of available repositories that are contained within the shared repository storage.
What to do next

The next step is to configure data source information in the repository.

If you have applied Internal security to the repository you can choose to create the users and groups that can access the repository at this point, or after you have configured data source information. If you assigned LDAP security to the repository, all the users and groups that were obtained from your LDAP server can access the repository. For both types of secured repositories, Internal and LDAP, you assign users and groups permission to access repository objects on an ongoing basis as the needs of your environment dictate or change.

If you are just creating the repository, you must populate the repository with data source information before you can specify the level of access a user or group will have to the objects that are in the repository.

Specifying internal security fields
For repositories with Internal security, you must specify the user name and password that will identify the DataQuant administrator account.

Administrator login
Use this field to specify a user name that will identify the DataQuant administrator. The DataQuant administrator account is the account that is used to create additional administrative accounts as well as create new user and group accounts. In addition, only administrator accounts can be used to apply security permissions to user and groups.

Administrator password
Use this field to specify the password that will be used in conjunction with the user ID that is specified in the Administrator login field.

Confirm Administrator password
Use this field to confirm the password that you specified in the Administrator password field.

Days for password expiration (0 - without limit)
Use this field to specify the number of days until the password will expire. A value of zero (0) indicates that the password will not expire.

Warning before password expiration date (days)
Use this field to specify the number of days prior to the expiration day that a warning to change the password will be issued.

Specifying users and groups for Internal security option
The Internal security option requires that you identify the users and groups that will be able to access the repository.

About this task

Each repository that you create can have a different set of users and groups that are allowed access. After you identify the users and groups that are allowed to access the repository, you can then assign them permission to access specific objects within the repository.

To set up the users and groups that can access a repository that has Internal security:
Procedure
1. Open the Users and Groups view by selecting Window > Show View > Users Groups.
2. To add a new user that will be able to access this repository, right-click the
   Users node and select New > User from the pop-up menu. The New
   Repository User window opens. Specify the new user information.
3. To add a new group that will be able to access this repository, right-click the
   Groups node and select New > Group from the pop-up menu. The New
   Repository Group window opens. Specify the new group information.
4. To edit a user's password, right-click the user name in the tree and select Set
   Password from the context menu. The Set Password For User window opens.
   Specify the new password in the Password field.
5. To delete a user or group, right-click a user or group name in the tree and
   select Delete from the pop-up menu. The selected user or group is deleted.
6. To refresh the list of user and groups names, right-click anywhere in the view
   or on any element in the tree and select Refresh from the pop-up menu. The
   list is refreshed.
7. To edit a user's or group's properties, right-click a user or group name in the
   tree and select Properties from the pop-up menu. The Properties for [User]
   window opens if you have selected a user or the Properties for [Group]
   window opens if you have selected a group. Edit the fields that you want to
   change and click OK.
8. You can choose to either leave the Users and Groups view open or close the
   view by clicking the close icon. The next step to setting up users and groups
   for repositories with Internal security is to assign permission to use repository
   objects.

Creating a user:

You must define each user that will be allowed to access a repository that has been
assigned the Internal security option.

About this task

To create a new user that will be allowed to access a repository with Internal
security:

Procedure
1. Open the New Repository User window, by expanding the repository tree to
   the Users and Groups branch, then right-click Users, select New > User
2. Specify the ID that the user will use to connect to the repository in the User
   name field.
3. Specify the user's full name in the Full name field.
4. Specify the password for the user name in the Password field.
5. Retype the password for the user name in the Confirm password field.
6. Optionally, you can type a description of the user in the Description field. This
   description is displayed with the user's properties.
7. To automatically create a default home workspace for the user, select the Has a
   home workspace check box.
8. Add the new user to a group by using the Group Membership check boxes.
   Each group that you have created is listed. You can select one or more group
check boxes. The user will be added to each group whose check box is selected. If the group that you want to add the user to is not listed, you must define the group.

9. Click Finish. The user identity is created and will be allowed to access the repository. You will repeat this process for each new user that will have access to the repository. After specifying the users and groups that can access the repository, the next step is to assign them permission to use repository objects.

Creating new group:

You must define each group that will be allowed to access a repository that has been assigned the Internal security option.

About this task

To create a new group that will be allowed to access a repository with Internal security:

Procedure

1. Open the New Repository Group window, by expanding the repository tree to the Users and Groups branch, then right-click Groups, select New > Group
2. Specify the name of the group in the Group Name field.
3. Add users to the new group by using the Members check boxes. Each user that you have created is listed. You can select one or more user's check boxes.
4. Specify the parent folder for the new group by using the Parent field. The current group hierarchy is displayed. From the tree, select the group that will be the parent for the new group.
5. Optionally, you can type a description of the group in the Description field. This description is displayed with the group's properties.
6. Click Finish to create the new group.

Editing user properties:

You can edit the properties that you have specified for each user that will be allowed to access a repository that has been assigned the Internal security option.

About this task

To edit a user's properties:

Procedure

1. Open the Users and Groups view by selecting Window > Show View > Users & Groups > Other. Expand the DataQuant Workbench and select Users and Groups. Right-click a user name in the tree and select Properties from the pop-up menu. The Properties for [User] window opens.
2. On the User General page of the Properties for [User] window, the User name field displays the name of the selected user. You can edit the following user fields on this page:
   - Type any changes to the user's user name in the User name field.
   - Type any changes to the user's full name in the Full Name field.
   - Type any changes to the description in the Description field.
• Specify a new password for the user by clicking the **Set Password** button. The Set Password for [User] window opens where you can specify the new password.

3. On the User Membership page of the Properties for [User] window, you can add and remove the user to and from groups. All of the groups that have been created for the repository are listed in the **Member of** list box. Each group has a corresponding check box. The check box is selected if the user belongs to that group and cleared if the user does not belong to the group. To add the user to a group, select the group’s corresponding check box. To remove the user from a group, clear the group’s corresponding check box.

4. Click OK. The changes that you have made to the user’s properties are saved.

**Editing group properties:**

You can edit the properties for each group that can access an internally secured repository.

**About this task**

To edit a group’s properties:

**Procedure**

1. Open the **Users and Groups** view by selecting **Window > Show View > Users & Groups > Other**. Expand the DataQuant Workbench and select **Users and Groups**. Right-click a group name in the tree and select **Properties** from the pop-up menu. The Properties for [Group] window opens.

2. The **Group name** field in the Group General page of the Properties window displays the name of the selected group. You can make changes to the name of the group in this field.

3. The parent group for the selected group displays in the **Parent group** field. To change the parent group of the selected group, click **Change**. The Edit Parent Group window opens. Expand the branches of the **Groups** tree until you expose the group to which you want to add the selected group. Click **Set As Parent**. The selected group will be moved to the new parent group.

4. The description for the group is displayed in the **Description** field. You can edit the description text by typing new text directly in the field.

5. Click **Apply** to apply the **Group General** properties that you have changed.

6. You can add and remove users to and from the selected group using the Group Membership page of the Properties for [Group] window. All of the users that have been defined for the repository are listed in the **Members** list box. The corresponding check box for each user is selected if the user belongs to the group and clear if the user does not belong to the group. To add the user to a group, select the group’s corresponding check box. To remove the user from a group, clear the group’s corresponding check box.

7. Click **Apply** to apply the **Group Membership** properties that you have changed.

8. Click OK. The changes that you have made to the group’s properties are saved.

**Specifying LDAP security fields**

If you specified the LDAP security option for a repository, you must specify the LDAP security parameters in order to obtain the user identities and group affiliations from your LDAP server.
About this task

Note: All users and groups that are defined in your LDAP server are obtained and granted permission to access the repository. To specify what type of access the users and groups can have to the repository, you edit the repository’s security properties assigning permission levels to each user or group.

Specifying LDAP Main fields:

You must specify the LDAP Main fields if you have selected LDAP security for the database repository.

Host  Use this field to specify the IP address of the LDAP server.

Port  Use this field to specify the contact port that is used by your LDAP server. For example, the LDAP protocol specifies the use of TCP/IP port number 389 for LDAP. However, this value can vary based on what has been specified in your environment.

To use the Secure Sockets Layer (SSL) protocol to communicate with the LDAP server, select the Use SSL check box and specify the appropriate SSL port number in the Port field.

Note: The LDAP server that you use must be configured to use SSL.

Auth type
Use this field to specify what type of LDAP authentication should occur for this repository. Select None to allow a user to authenticate to an LDAP server as an anonymous user. Select Simple to require that a user authenticates to the LDAP server with a distinguished name (DN) and a password.

User DN
Use this field to specify the user-distinguished name that can be used to access your LDAP directory. This field is available only if your LDAP directory requires authentication in order to access, and you specified Simple in the Auth Type field.

Password
Use this field to specify the password that is associated with the user's distinguished name that you specified in the User DN field.

Base DN
Use this field to specify (or select from the drop-down list) the distinguished name or names that will lead to the entry in the LDAP directory under which all users and groups will be retrieved. A distinguished name is a unique name for an entry in your LDAP directory. For example: ou=people, o=eastcoast.

Account required
Select this check box to specify that a master account can be used to edit the LDAP repository settings.

Login  Specifies the login that will be used as the master account.

Password
Specifies the password that will be used for the master account.
Specifying LDAP Group fields:

You must specify the LDAP Group fields if you have selected LDAP security for the database repository.

**Base RDN**

Use this field to specify the relative distinguished name for a group. For example: o=Sales.

**Search scope**

Specifies the possible scopes for the directory search. You can specify:
- **One level**: To search the one level below the Base RDN level, excluding the base object.
- **Subtree**: To search the whole subtree rooted at the Base RDN level, including the base object and all its child objects.

**Object class**

Specify the object class to which the group belongs. For example: objectclass:posixGroup indicates that all entries under Base RDN belong to the posixGroup class.

**Name attribute**

Specify the name of an attribute whose value specifies the group name.

**Description attribute**

Specify the name of an attribute whose value specifies the description of the group.

**Name filter**

This field specifies the standard search string that will be used to search groups by name. This field is generated based on the values that you specify in the **Name attribute** and **Object class** fields.

**All groups filter**

This field specifies the standard search string that will return all the groups under the Base RDN. This field is generated based on the values that you specify in the **Name attribute** and **Object class** fields.

**User's group**

Use this field to specify the group to which the member belongs.

**Administrator's group**

Use this field to specify the group whose members will be granted administrator permissions within the content of the DataQuant products.

**Member attribute**

Specifies the name of a groups entry’s attribute whose value specifies membership in the group. You can specify an RDN that will refer to a user entry or a user's name.

**Member type**

Specifies the member type based on what was specified in the **Member attribute** field. If you specified an RDN in the **Member attribute** field, the member type is DN. If you specified a user name in the **Member attribute** field, the member type is Value.

Specifying LDAP User fields:

You must specify the LDAP User fields if you have selected LDAP security for the database repository.
Base RDN
Use this field to specify the relative distinguished name for a user. For example: uid=Mike.

Search Scope
Specifies the possible scopes for the directory search. You can specify:
- **Onelevel**: To search the one level below the Base RDN level, excluding the base object.
- **Subtree**: To search the whole subtree rooted at the Base RDN level, including the base object and all its child objects.

Object class
Specify the object class to which the user belongs. For example: `objectclass:sales` indicates that all entries under Base RDN belong to the sales class.

Name attribute
Specify the name of an attribute whose value specifies the user name.

Description attribute
Specify the name of an attribute whose value specifies the description of the user.

Name filter
This field specifies the standard search string that will be used to search users by name. This field is generated based on the values that you specify in the Name attribute and Object class fields.

All users filter
This field specifies the standard search string that will return all the users under the Base RDN. This field is generated based on the values that you specify in the Name attribute and Object class fields.

Full name attribute
Use this field to specify the name of the attribute that contains a user's full name.

Login attribute
Specify the name of an attribute whose value specifies the login of the user.

Specifying LDAP Authenticator fields:

You must specify the LDAP Authentication fields if you have selected LDAP security for the database repository.

Authenticator type
Use this field to specify the type of authentication that will occur. You can choose:
- **Bind**: to use an LDAP bind operation.
- **Compare**: to use a string compare with the value of the Password attribute and that of a user's entry.

User's password attribute
Use this field to specify the attribute that will be retrieved in a user's entry as a password. This field is used only if you specified Compare in the Authenticator type field.

Append base DN
Select this check box to specify that when authenticating a user, the base
DN will be appended to a user's RDN. This field is used only if you specified Bind in the Authenticator type field.

Allow empty password
Select this check box to allow an empty password.

Defining a connection to the database

As an administrator, you create a data source to provide DataQuant with the information it needs to connect to a database.

The data source you add depends on the type of database that DataQuant is connecting to.

Table 9. Databases and data source types

<table>
<thead>
<tr>
<th>If DataQuant is connecting to a</th>
<th>Create a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relational database</td>
<td>Relational data source</td>
</tr>
<tr>
<td>Multidimensional database</td>
<td>Multidimensional data source</td>
</tr>
<tr>
<td>Cloudant database</td>
<td>Cloudant data source</td>
</tr>
</tbody>
</table>

Enabling QMF catalog functionality

You can configure a relational data source in the repository so that it can use a QMF catalog. By enabling access to the QMF catalog users can access any objects that are saved in the QMF catalog and, if they choose, they can save any new objects to the QMF catalog.

About this task

The QMF catalog is a set of database tables that contain saved objects (queries, procedures and forms); user resource limits and profiles; reports; and other miscellaneous settings and information. QMF catalogs reside on database servers that host a DB2 database.

Note: QMF catalogs have been superseded by repositories in DataQuant Version 1 and later but have been retained for those who want to share QMF objects with QMF for TSO/CICS or earlier versions of the QMF distributed products. DataQuant Version 1 repositories offer more flexibility and enable users to take advantage of all the powerful DataQuant Version 1 features.

The maximal line length of the DDL scripts displayed when creating or updating QMF catalogs is determined by the value set in the Line width field on the General Preferences page. See Setting general preferences in the User help for more information.

By configuring a data source to access a QMF catalog, you can retrieve any QMF objects that have been saved in an existing QMF catalog. You can also save any QMF objects that you might create to a QMF catalog. This allows you to share and use objects regardless of the application version or platform that was used to create the QMF object.

In addition, if you configure a data source to access a QMF catalog, you can control resource usage with the resource limits that have been set for the data source and the user and saved in the QMF catalog.
To configure a data source so that it can access a QMF catalog:

**Procedure**

1. Open the QMF catalog wizard.
2. Specify what type of catalog objects you will create using the Create or update catalog objects page of the QMF catalog wizard.
3. Click Next.
4. If it was decided that a set of QMF catalog tables has never been created on the data source, the Create Objects page of the wizard opens. The SQL to create the catalog tables is displayed. You can make changes to the SQL. If it was decided that a set of QMF catalog tables has already been created for this data source and there are no required updates, than this step is bypassed.
5. Click Next.
6. The Protect QMF catalog tables page of the wizard opens. From the Protect QMF catalog tables page you will specify whether the QMF catalog tables will be protected from unauthorized users. You will also specify user permission to use those stored procedures or SQL packages.
7. Click Next.
8. The Select QMF Catalog page of the wizard opens. From the Select QMF Catalog page you will select the QMF catalog that the data source will use.

**Creating or updating QMF catalog objects**

The first step to enabling QMF catalog functionality is to choose whether the QMF catalog objects will be created or updated on the current data source.

**About this task**

To create or update QMF catalog database objects:

**Procedure**

1. On the Enable data source plug-ins page of the New Relational Data Source wizard, select **QMF Catalog Plug-in Enable plug-in** check box. The Create or update catalog objects page of the QMF catalog wizard opens.
2. On the Create or update catalog objects page, you will specify whether a set of QMF catalog tables has ever been created on the data source and what kind of object names (long or short) are or will be supported by the QMF catalog that exists or will be created. Select one of the following:
   - Select **Catalog tables have already been created** if the QMF catalog tables already exist on this data source. A set of catalog tables would have been created for the data source when it was originally configured in either a repository or by a prior version of the application. You would select this option if you know the tables have already been created and you only want to rerun stored procedures or rebind the catalog packages.
   - Select **Create or update catalog tables to support short names** if you are configuring a new data source that has never had the QMF catalog tables installed and you will only use short names for objects, or you are upgrading from a previous version of the application and the existing QMF catalog tables will continue to support only short names for objects. If no QMF catalog tables exist on the data source, then they will be created. If you are upgrading to a new version, and a set of tables exist on the data source, they will be checked and updated or added as necessary. You are given the...
opportunity to confirm and modify the SQL statements used to create the tables. Any data that is in the existing catalog tables is maintained.

- Select **Create or update catalog tables to support long names** if you are configuring a data source for the first time and want to create a set of QMF catalog tables that use long names; you are upgrading from a previous version of the application and the existing QMF catalog tables will continue to support only long names for objects; or you want to convert the existing catalog tables that support short names to catalog tables that support long names. To select this option, the data source that you are configuring must support long names. If you choose to create the QMF catalog tables so that they support long names, QMF applications prior to Version 8.1 will not be able to use the long names QMF catalog tables.

If no QMF catalog tables exist on the data source, then they will be created and they will support long names. If a set of QMF catalog tables that support long names are detected on the data source, they will be updated or added to as necessary. If an existing set of QMF catalog tables that use short names are detected on the data source, they will be converted to support long names. The data source will be checked to ensure that the support for long names is available. There is no requirement to use long names in the QMF catalog tables. If the data source uses long names, the QMF catalog tables can still use short names. Once converted, only 8.1 or later of QMF applications can use these QMF catalog tables.

You are given the opportunity to confirm and modify the SQL statements used to create or update the tables. Any data that is in the existing catalog tables is maintained.

- If you do not want to create a set of QMF catalog tables for this data source, select **Do not create catalog tables**. You would select this option if the data source you are configuring will not host a QMF catalog; will use a set of QMF catalog tables that reside on a different data source; or a set of QMF catalog tables has already been created for this data source and you are just selecting a different QMF catalog.

3. If catalog tables have not been created, you can select the **Enable customization of database object names** check box to open a window where you can customize how database objects are named.

4. Click **Next** to open the next page of the wizard. If you selected:

   - **Catalog tables have already been created** option, the Protect QMF Catalog tables page of the wizard opens.
   
   - **Create or update catalog tables to support short names** or **Create or update catalog tables to support long names** option and you did not check the **Enable customization of database object names** check box, the Choose object listing option page of the wizard opens.
   
   - **Create or update catalog tables to support short names** or **Create or update catalog tables to support long names** option and you did check the **Enable customization of database object names** check box, the **Enter Substitution Variable Values** window opens. Enter your customized database object names in the **Value** column and click **OK**.

   **Note:** The **Value** column of the dialog displays the default name of each database object. This gives you an opportunity to review and/or rename the objects that will be created. For example, one could preface all index names with the IX .

The Choose object listing option page of the wizard opens.
• **Do not create catalog tables** option, the Select QMF Catalog page of the wizard opens.

**Creating database objects for the QMF catalog**
The second step to enabling QMF catalog functionality is to review and run the SQL that will be used to create the database objects for the QMF catalog.

**About this task**
This step of the process is necessary only if catalog objects have never been created on the data source or the existing catalog objects need to be updated.

To modify the SQL statements that will be used to create or update the required database objects:

**Procedure**
1. If you chose to create or update catalog tables, the Choose object listing option page of the QMF catalog wizard opens.
2. Select an object listing option from the radio group:
   • **Include all objects** - This option includes all objects that are saved in the data source, regardless of a user's ability to access them.
   • **Include only objects accessible by either the user's primary or current authorization ID**
   • **Include only objects accessible by any of the user's primary or current authorization ID**
3. Click Next. The Create objects page of the QMF Catalog wizard opens.
4. The SQL that will be used to create or update the tables is displayed in the field. Type any changes that you want to make to the SQL statements directly in the field. You can modify any of the SQL statements to customize any parameters. You cannot change the name of any of the objects. You must use a semi-colon(;) to separate multiple statements. Unless absolutely necessary, it is recommended that you run the SQL as it is displayed.
5. Click Next. A QMF catalog named **Default** will be created when this step is run. The Protect QMF Catalog tables page of the wizard opens.

**Protecting catalog tables and granting user permissions**
The third step to configuring a relational data source to use a QMF catalog is to specify whether the QMF catalog tables will be protected from unauthorized users and to specify the users that will have permission to access the tables.

**About this task**
Several tables in the QMF catalog store sensitive information that should not be available to the public. You can choose to protect the QMF catalog tables. In protection mode, the QMF catalog tables are accessed using a collection of stored procedures or SQL packages depending on what the database that is hosting the QMF catalog supports. Users of the QMF catalog must then be granted permission to run the stored procedures or static SQL packages.

To protect the QMF catalog tables:

**Procedure**
1. Open the Protect QMF Catalog tables page of the wizard.
2. To specify the type of protection that will be applied to the QMF catalog tables, select one of the following from the **Connect using Protected Mode** radio group:

- **Never**: You select this option to specify that no protection will be placed on the QMF catalog tables. This method will expose the QMF catalog tables to unauthorized use. With no protection the QMF catalog tables can be accessed by any user using dynamic queries. When the database administrator grants permissions to a user to access the QMF catalog that resides on the database, that permission will extend to the whole QMF catalog including the tables in the QMF catalog that store sensitive information.

- **If possible**: You select this option to specify that the QMF catalog tables will be protected using either stored procedures or static SQL packages if they are available on the data source. You will specify the users that can run the stored procedures or static SQL packages. If a set of stored procedures or static SQL packages is not available, access to the QMF catalog tables will be as if they are unprotected.

- **Always**: You select this option to specify that the QMF catalog tables will always be protected using either stored procedures or static SQL packages. You will specify the users that can run the stored procedures or static SQL packages. If a set of stored procedures or static SQL packages is not available, the query to access the QMF catalog tables will fail.

3. If you selected **If possible** or **Always** from the **Connect using Protected Mode** radio group, the **Protect** check box becomes available.

4. Select the **Protect** check box. The protection method options become available.

5. Select one of the following protection methods:

   - **Select Stored procedures** to specify that you will use stored procedures to protect the QMF catalog tables. You can select this option if the repository storage tables are located on one of the following databases:
     - DB2 UDB LUW V9 and above
     - DB2 z/OS V9 and above
     - DB2 iSeries (when accessed with IBM Toolbox JDBC driver)

   - **Select Static SQL packages** to specify that you will use static SQL packages to protect the QMF catalog tables. You can select this option if the repository storage tables are located on a DB2 database that you will connect to using the IBM DB2 Universal driver for JDBC or the Direct DRDA connectivity provided by the product (the latter option is available for DB2 for z/OS connectivity only).

6. Type, or select from the drop-down list, the name that you want to use to identify the collection of stored procedures or static SQL packages in the **Collection ID** field.

7. Optionally you can type the owner name in the **Owner ID** field, if you work with DB2 databases. The Owner ID provides the administrator privileges to the user who operates under the login without SYSADM authority.

8. Click **Create**. The stored procedures are created or the static SQL packages are bound. A message is issued that informs you of the success of either process. You can also use **Delete** to remove a collection of stored procedures or static packages.

9. You must specify which users will have permission to run the stored procedures or static SQL packages for the QMF catalog tables on this database. To grant permission to all users, highlight PUBLIC in the User IDs list and click **Grant**. To grant permission to specific users, type their user IDs.
in the field, highlight one or more of the user ID(s) and click **Grant**. A message is issued that informs you that the selected user IDs have been granted permission to run the stored procedures or static SQL packages. Optionally, you can revoke permission to run the stored procedures or SQL packages from any user that is listed in the **User IDs** list box. To revoke permission from one or more users, highlight one or more of the user IDs and click **Revoke**. A message is issued informing you that permission to run the stored procedures or static SQL packages has been revoked from the selected user IDs.

10. Click **Next**. The Select QMF Catalog page of the QMF Catalog wizard opens.

**Selecting the QMF catalog**
The last step to configuring a data source so that it can access a QMF catalog is to select a QMF catalog.

**About this task**
To select the QMF catalog for the data source:

**Procedure**
1. Open the Select QMF Catalog page of the QMF Catalog wizard.
2. From the **Data source name** list, select the data source that hosts the QMF catalog that you want the data source that you are configuring to use. This could be the same data source as the one you are currently configuring or a different data source that has already been configured in your repository.
3. From the **Catalog** list, select the catalog that you want the current data source that you are configuring to use. You can choose one of the following types of catalogs:
   - **Default**: This is the main QMF catalog. It is created automatically as a result of running the SQL statements to create objects on the data source. All objects saved to a default catalog are saved together. The Default catalog is the only catalog that can be used by QMF for TSO/CICS and versions of QMF prior to 7.2.
   - **Extended**: Extended catalogs are extensions of the default catalog. While a data source can only host a single default QMF catalog, it can host multiple extended catalogs. Extended catalogs are useful when several data sources share one QMF catalog. Without extended catalogs, all objects would be saved into the default QMF catalog. With extended catalogs, each data source can isolate their saved objects in a particular catalog extension.
4. Optional: To create a new extended catalog that will reside on the current data source, select the **Add catalog** icon. The Add Catalog window opens.
5. Optional: To edit the name or the CCSID of an existing extended QMF catalog, select the **Edit catalog** icon. The Edit Catalog window opens. You can also use this window to edit the CCSID for the Default QMF catalog.
6. Optional: To delete an existing extended catalog from the current data source select the **Remove catalog** icon. You should use caution when deleting extended catalogs as DataQuant for Workstation removes the extended catalog and all of its contents regardless of whether other data sources might be configured to use the extended catalog.
7. Optional: Select **Refresh List** to refresh the list of available extended catalogs in the list box.
8. Click **Finish**. The QMF Catalog wizard closes. This is the last step to configuring a data source to use a QMF catalog. Control returns to the **Enable data source plug-ins** page of the New Relational Data Source wizard.

**Creating an extended catalog**

You can create extended QMF catalogs to organize user access to objects within the overall default QMF catalog.

**About this task**

Instead of all objects being in the main default catalog, they can be isolated in smaller extended catalogs. There are many reasons to use extended catalogs. You can use them to control a user's view of objects. You can use them to isolate objects from one data source that is sharing a QMF catalog on another data source. An extended catalog can contain only the selected objects from a specific data source. You can also set up extended catalogs that have different CCSID settings from the main **Default** catalog.

**Note:** Performance, a user’s views of objects, and the overall maintenance of your query environment can be adversely impacted when a data source uses an extended catalog (or a **Default** catalog) that resides on a different data source.

To create an extended catalog:

**Procedure**

1. Open the Add catalog window.
2. Specify a unique name for the extended catalog in the **Name** field.
3. Select a CCSID code page for the extended catalog from the **CCSID** list.
4. Click **OK**. The new extended catalog is created.

**Editing an extended catalog’s properties**

You can change the name or CCSID properties of an extended QMF catalog. You can also change the CCSID property of the default QMF catalog.

**About this task**

To edit the properties of an extended or default QMF catalog:

**Procedure**

1. Open the Edit catalog window.
2. Specify a new name for the extended catalog in the **Name** field. You cannot change the name of the **Default** QMF catalog.
3. Select a new CCSID code page for the extended catalog from the **CCSID** list. You can change the CCSID of the **Default** QMF catalog.
4. Click **OK**. The changes to the QMF catalog: property values are saved.

**Creating a new multidimensional data source**

You must add configuration information to your repositories for all multidimensional data sources.
About this task

Multidimensional data sources are accessed using XMLA. Multidimensional data is organized by one or more dimensions. Multidimensional data structures are often referred to as cubes. Queries for multidimensional data sources accessed using XMLA are written in MDX.

To configure multidimensional data source information in a repository:

Procedure

1. Open the New Multidimensional Data Source wizard in one of the following ways:
   - Right-click the Multidimensional Data Sources node in the Repositories view. Select New. Select Multidimensional Data Source from the pop-up menu. The New Multidimensional Data Source wizard opens.
   - From the File menu, select New. Select Other from the pop-up menu. The New window opens. Expand the Repository folder. Select Multidimensional Data Source. The New Multidimensional Data Source wizard opens.

2. In the Data Source Name field, type a name that will be used to identify the data source in the repository. This can be any name.

3. DataQuant will use XML for Analysis (XMLA) via HTTP protocol to connect to a multidimensional data source. You specify the URL that will point to the data source in the HTTP URL field.

4. Select User ID and password are required to require the use of a user ID and password when accessing this multidimensional data source. If the data source allows access without a user ID and password, selecting this option will override that allowance, and a user ID and password will be required to access the data source.

5. Specify the user ID and password that will be used to access the data source in the User name and Password fields. To test the connection, click the Test Connection button.

6. Select the multidimensional data source that you want to add to the repository from the Data Source list box. All the data sources that are located at the specified URL address are listed in the Data Source list box. You can refresh the list using the refresh button.

7. Optional: Type a comment that describes the data source in the Description field. This comment will display with the properties for the data source.

8. Click Finish. The multidimensional data source is listed in the Repositories view under the Multidimensional Data Sources node. You would repeat this process for all multidimensional data sources that you want to be accessible from the repository.

Results

Note: Support for resource limits or login mapping is not available for multidimensional data sources.

Creating a new relational data source

You must add configuration information to your repositories for all relational data sources.
About this task

Relational data sources are accessed using JDBC. A relational data source stores data in database tables. Each database table comprises a number of columns, and one or more rows. Queries for relational data sources are written in SQL.

To create a new relational data source:

Procedure

1. From the Repositories view, right-click the repository to which you want to add the relational data source configuration information. Select New > Relational Data Source. The Add new relational data source name and connection parameters page of the Create New Relational Data Source wizard opens.

2. In the Connection type radio group, select JDBC or JNDI. If you selected JNDI:
   a. In the Data Source name field, specify the JNDI data source name and location.
   b. Click Advanced to specify any driver-specific connection string keywords and their values that will be used for the database that is hosting the repository storage tables. For information on any keywords that are required by a selected database driver, consult the specific driver’s documentation.

   if you selected JDBC
   • In the JDBC Driver field specify the library for the JDBC driver that will be used to access the database that hosts repository storage.
     You can select from a drop-down list of libraries that you defined when you set up the JDBC driver information. You can click the ellipsis (...) to open the JDBC Libraries window where you can create additional JDBC driver libraries.

     Note: If you work with a DB2 for z/OS database, you can use the Direct DRDA Connection. In contrast to JDBC libraries, the Direct DRDA Connection comes with DataQuant and does not require additional driver installation.

     Note: The Direct DRDA Connection is supported only for DB2 for z/OS Version 8, Version 9, and Version 10. Do not use it for DB2 LUW or DB2 for iSeries.

     See Using DRDA to connect to database repositories and data sources for more information.
   • In the JDBC URL list, specify the URL that points to the database that hosts the repository storage within which the repository to which you want to connect resides.
     The format for the URL can be displayed in the list.

     Note: You can also use the Build URL by URL Template dialog to form the correct string. To do so, click Build URL to open the Build URL by URL Template window. From the JDBC URL drop-down list, select the template. In the table, specify the server, port, and database information and click OK. The result URL string is added to the JDBC URL list.
   • Click Advanced to specify any driver-specific connection string keywords and their values that will be used when connecting to this shared repository.
For information on any keywords that are required by a selected driver, consult the specific driver’s documentation.

**Note:** For the DB2® Type 4 UDB driver, to receive extended SQL exception error messages, check the `retrieveMessagesFromServerOnGetMessage` option in the Advanced JDBC Settings window.

- If you use the Direct DRDA Connection, bind packages by clicking **Bind Packages**.

3. Click **Set User Information**. The User Information window opens.

4. Select the **User ID and password are required** check box to specify that user information will be requested each time this data source is accessed. This check box can be left clear if the data source does not require logon information, or if the logon information is obtained using some other means, such as Kerberos or Windows authentication.

5. Select the **Try to use repository login and password to connect to this data source** check box to specify that before requesting logon information from the user, the current repository login and password will be used to try and connect to the data source (such as the case in Kerberos security).

6. Specify the user ID and password that will be used to access the data source in the **User name** and **Password** fields. Click **OK**. The User Information window closes and control returns to the Create New Relational Data Source wizard.

7. To test the connection, click **Test Connection**.

8. Click **Next**. The second page of the Create New Relational Data Source wizard opens where you will enable the Database, QMF catalog, ER diagram, and OLAP plug-ins for the data source.

### Enabling data source plug-ins

The second step in configuring a relational data source is to enable one or more of the available plug-ins that provide additional functionality for the data source.

**About this task**

For each relational data source that you configure in the repository you can enable additional functionality that applies specifically to that data source. The available plug-in(s) that you can enable include the following:

- **QMF Catalog Plug-in:** When you enable the QMF Catalog plug-in for a relational data source, users can access the QMF catalog that you specify whenever they are connected to the data source. They will be able to view and access any objects that are saved in the QMF catalog and, if they choose, they can save any new objects to the QMF catalog.

- **OLAP:** You would enable this plug-in if you are connecting to a legacy DB2 OLAP server that uses a SQL interface.

To enable plug-ins for a relational data source:

**Procedure**

1. Open the Enable data source plug-ins page of the Create New Relational Data Source wizard.

2. To configure this data source to use a QMF catalog, select the **QMF Catalog Plug-in Enable Plugin** check box. The QMF Catalog Wizard opens. Upon completion of the wizard’s processing, control returns to the Enable data source plug-ins page of the Create New Relational Data Source wizard.
3. The QMF catalog will be available to this relational data source. By default, the node label for the QMF catalog as it will appear in the repository will be QMF Catalog. You can specify a unique name. Type the name that you want to use to identify this QMF catalog in the Catalog Label field. Optionally, you can type a comment that describes the QMF catalog in the Comment field.

4. To change any of the QMF catalog plug-in parameters, click Parameters. The QMF Catalog Plug-in Parameters window opens. Upon completion of modifying the parameters, control returns to the Enable data source plug-ins page of the Create New Relational Data Source wizard. You can also open the QMF Catalog Plug-in Parameters window from the Repository Explorer view by right-clicking a data source, selecting Properties from the pop-up menu, and selecting Plug-ins from the Properties list.

5. By default, the node label for all of the native database objects for this relational data source as it appears in the repository will be Database. You can specify a unique name. Type the name that you want to use to identify these database objects in the Label field. You can also choose to type a comment that describes the native database objects in the Comment field.

6. Select the OLAP check box in the Additional Plug-ins list box if you are connecting to a legacy DB2 OLAP server that uses a SQL interface and you want to run OLAP queries against the data source. Optionally you can type a comment in the field to the right of the OLAP check box.

7. Click Next. The third page of the Create New Relational Data Source wizard opens where you will select the resource limits provider for the data source.

Selecting the resource limits provider
The third step in configuring a relational data source is to specify whether the resource limits that will govern access to the data source will be provided from the repository or from the QMF catalog.

About this task
To specify the resource limits provider for a relational data source:

Procedure
1. Open the Select resource limits provider page of the Create New Relational Data Source wizard.

2. From the Resource limits provider drop-down list, select where the resource limits for this data source are defined. Your choices are:
   - Repository if the resource limits are defined in the repository.
   - QMF Catalog if the resource limits are defined in a QMF catalog. This option is only available if you have enabled the QMF Catalog plug-in for the data source.

3. To add, edit, or delete resource limits, right-click the data source in the Repository Explorer view (after it has been created) and click Properties from the pop-up menu. Select Resource Limits from the Properties tree. You can add, edit, and delete resource limits groups, schedules and user assignments.

4. Click Finish. The Repositories view lists the data source configuration information under a folder named Relational Data Sources. The objects for each data source will be organized in three folders that will include database objects, QMF catalog objects if the QMF catalog was enabled, and OLAP objects if the OLAP plug-in was enabled. You have completed the process of configuring a relational data source in the repository. You would now customize the feature set of the data source.
Note: From the Repositories view of the data source, you can view and move the listed objects. However, if you want to run any objects you must be connected to the repository. To connect to the repository you must set up repository connection information if it has not been created. Click the repository connection information for the repository that is listed in the Repository Connections view. When you are connected to the repository select the object to run from the Repository Explorer view.

5. You can selectively perform any of the following to customize the feature set of the data source:
   • Set up login mapping for the data source.
   • Add data source information to a workspace.
   • Set up customized workspaces and assign the users and groups that will be allowed to use them.
   • Assign the users and groups permission to access any repository object.
   • Create, edit, or delete resource limits groups, schedules, and resource limit values.
   • Set up repository connections.

Specifying additional parameters
You can specify additional data source parameters on the Information page of the data source Properties window.

About this task
You must specify the settings for additional data source parameters that determine how the data source retrieves data. To specify these additional parameters:

Procedure
1. From the Repository Explorer view, right-click the data source that you want to edit and select Properties from the pop-up menu. The Properties window opens.
2. Select Information. The Information page opens.
3. Specify the settings in the Additional parameters table. Valid additional parameters include:
   Emulate Host QMF Column Naming (DB2 Only)
   Specifies whether the data source emulates the column naming conventions of the host QMF catalog. This option is only valid for DB2 data sources.
   Enable Spatial Extensions
   Specifies whether extensions are enabled for spatial data that is stored in the data source.
   Schema Retrieval Method
   Specifies how schemas are retrieved from the database. If you select getTables, the schemas are organized by their table names. If you select getSchemas, the schemas are organized by their owners.
   Do Not Access Database to Retrieve Query Metadata
   Specifies whether query metadata is retrieved from the host database. Use this parameter to reduce the time of running the query and display the result set faster. It is FALSE by default. When this parameter is set to TRUE, the application does not refer to database and does not retrieve the metadata. So the result set is displayed faster, but the
amount of R/W (read and write) queries is smaller than when the metadata are retrieved and this parameter is set to FALSE.

4. When you finished specifying the additional parameters, click **Apply**. The changes are saved to the data source.

5. Click **OK**. The Properties window closes.

**Creating a Hive data source**

You can create Hive data sources to work with Apache Hadoop, which is the open source software framework, used to reliably managing large volumes of structured and unstructured data.

**Before you begin**

Make sure you have defined the Hive driver library JAR files so that DataQuant can connect to Hive data sources.

**About this task**

Hive data source is a data warehouse infrastructure that provides data summarization and ad hoc querying. Hive data sources are accessed using special drivers for JDBC. The current JDBC interface for Hive only supports running queries and fetching results.

To create a Hive data source:

**Procedure**

1. Select **File > New > Other > Repository > Hive Data Source**. The Create New Hive Data Source wizard opens.
2. Type the data source name in the **Data Source Name** field.
3. Specify the necessary parameters in the **Connection Parameters** area. You must set the **Host name**, **Port** number, and **Database** name.
4. Click **Set User Information** button to specify the necessary user parameters.
5. Click **Advanced** button to select the advanced parameters supported by the installed Hive driver.
6. In the **Description** field, you can enter the description of the created data source.
7. Click **Finish** to create the Hive data source and close the Create New Hive Data Source wizard.

**Creating Cloudant data sources**

You create a Cloudant data source to define a connection to a Cloudant database from DataQuant for Workstation and DataQuant for WebSphere.

**About this task**

Cloudant is a NoSQL database as a service that stores data as a collection of JSON documents.

To create a Cloudant data source:
Procedure
1. From the main menu, select **File > New > Other** to open the "Select a wizard" page of the New wizard.
2. Expand the **Repository** folder, select **Cloudant Data Source**, and click **Next** to open the Create Cloudant Data Source wizard.
3. In the **Data Source Name** field, enter the name that you want to use for the data source.
4. In the **URL** field, enter a Cloudant database URL.
5. Click **Set User Information** and in the User Information dialog, specify the user authentication settings for accessing the data source.
   - Select the **User ID and password are required** check box to always request the user information when users access the data source.
   - Select the **Try to use repository login and password to connect to this data source** check box to request the logon information from the user, if the repository login and password are not available for accessing the data source.
   
   **Note:** This option is available only for secure repositories.
   - Select the **Allow users to save password** check box to enable users to save the password for the data source.
6. In the **User name** and **Password** fields, specify the credentials that you want to use for accessing the data source and click **OK** to close the User Information dialog.
7. To test the connection to the data source, click **Test Connection**.
8. In the **Comment** field, you can enter the description to the data source. This description is displayed with the data source properties.
9. Click **Finish** to close the Create Cloudant Data Source wizard and add a new Cloudant data source.

Results

The created Cloudant data source is added under the **Cloudant Data Sources** node.

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**Populating the repository**

After configuring the repository storage and creating the shared repository, you need to populate the repository.

**About this task**

By populating the repository you are setting up the workspace for your users, determining what will be exposed to them when they start DataQuant for Workstation or DataQuant for WebSphere.

**Creating a virtual data source**

Create a virtual data source to tailor the way users view enterprise data. Virtual data sources introduce a database metadata layer that allows you to optionally hide the complexities of your underlying database structures.

**About this task**

This feature provides two fundamental advantages:
1. Users are shielded from the complexities of your underlying data model. Obscure column names and table names can be replaced with user-friendly variants and complex table joins can be represented by a single virtual table, much like a database view.

2. Users are insulated from database schema changes. Database administrators can readily make changes to the underlying database schemas without affecting DataQuant dashboards, queries, and reports, provided that the same database metadata model remains the same.

Virtual data sources offer the following key facilities:

- Ability to create a virtual table, derived from one or more physical database tables, with the ability to rename any or all of the underlying columns. Administrators can also omit one or more underlying table columns from the virtual table variant. For example, one can represent table XYZ123, which contains columns N1312, N0983 and N2903, with a virtual table called CustomerData, with columns CustomerName and OrderDate (renaming the first two columns and omitting the third column).

- Ability to add virtual tables to a single virtual database, each of which draws data from an independent data source. For example, you can create a database that contains tables from both DB2 and SQL Server databases. Users can run queries that join these disparate tables from two or more databases.

To create a new virtual data source:

**Procedure**

1. Open the New Virtual Source wizard in one of the following ways:
   - Right-click the Virtual Data Sources node in the Repositories view. Select New > New Virtual Data Source from the pop-up menu. The New Virtual Source wizard opens.

2. Enter a name for the new virtual data source in the Data Source Name field.

3. Specify the virtual data source parameters in the Parameters area:
   - Select In-memory check box to create an inner in-memory database for the work of the virtual data source.
   - If you want to save the inner database in to the file system, select Back up server on shutdown check box. Then when you shut down the application in normal mode the database will be saved to the file system and retrieved at the next launch of the application.

4. Click Finish. The new virtual data source is listed under the Virtual Data Sources node.

**Results**

You have added a new virtual data source.

The new virtual data source is displayed under the Virtual Data Sources node.

**What to do next**

You can now add tables to the virtual data source.
**Adding tables to virtual data sources**
You can add tables to your virtual data sources.

**About this task**

To add tables to a virtual data source:

**Procedure**
1. From the Repositories view, expand the virtual data source until you expose the **Tables** node.
2. Populate virtual data sources with tables.
   Virtual tables can be based on physical tables or queries. You can create the queries that will be the source of the virtual table. When creating these queries you will specify their associated virtual data source. You will save the query. Tables can be selected directly from any relational data source. You add a table or query to the **Tables** node in one of two ways:
   - From the **Repositories** or **Repository Explorer** view, select the table or query that you want to add to the virtual data source. With the mouse button pressed, drag the table to the virtual data source you created.
   - From the **Repositories** or **Repository Explorer** view, right-click the table or query that you want to add to the virtual data source and select **Copy** from the pop-up menu. Right-click the **Tables** node and select **Paste** from the pop-up menu.

**Results**

Virtual data source tables are displayed to users in their workspaces just as if they were regular relational database tables. They can write queries that use the tables.

**Virtual data source editor**
Use the virtual data source editor to manage data source content and structure and to administer user and user group authorization to a data source.

To open a virtual data source in the virtual data source editor:
1. From the **Repository Explorer** view, locate the virtual data source you want to work with and double-click it.
2. The virtual data source opens in the virtual data source editor.

The virtual data source editor is organized by tabs into two sections:
- A **Structure** section, from which you can modify the structure of a virtual data source
- A **Security** section, from which you can administer user and user groups authorization to the data source repository.

**Overview of the Structure section of the virtual data source editor**

The Structure section contains two panes: **Repository Explorer** and **Tables**.

In the **Repository Explorer** pane you can select the tables to add to the virtual data source.

To add a table, select it and use the command button. The newly added table displays in the **Tables** pane.
From the Tables pane, you can modify the table in the following ways:

- Add new columns to the table by using Add Column.
- Change the position of the row column by using the Move Up and Move Down buttons.
- Edit table SQL by using the pop-up menu.
- Delete a table or column from the table by using Delete.
- Edit a column with expression by selecting it and using Edit.
- Specify cache expiration schedules for tables by using Assign Expiration Schedules.

When you select a table from the Table pane, Add column is activated and the Add column window opens.

Two user actions that can be completed from the Add column window:

- Select available columns of the table [table name].
  
  This option is available when there are columns in the original table that were deleted from the virtual one.

- Or, enter an expression here.
  
  You can form a conditional expression to be applied to a new column.

Overview of the Security section of the virtual data source editor

The virtual data source editor is divided into four sections:

- A Tables pane showing the tree of the virtual tables.
  
  From the tree of virtual tables, select the objects to which you want to apply authorization rights.

- A Permissions pane listing the owners and the permissions currently authorized for them.
  
  For more information about permissions, see Assigning users and groups permission to use repository objects.

- A Groups or users names pane showing the list of the users and user groups to which access permissions can be granted.
  
  You can filter the list by selecting or clearing the Show users and Show groups check boxes.

- A Row level security conditions pane for entering the titles of specific rows to be displayed to a particular user.

  **Note:** These titles must be entered according to the SQL syntax rules.

Security section is available only when you work with a secure repository.

To grant user-specific permissions, select the user in the Groups or users names pane and use the command bar to insert the Group or users names in the Permissions pane. In the Permissions pane you can select or clear the check boxes that apply to each permission.

Scheduling cache expiration for virtual data sources

You can schedule caching for virtual data sources and tables that they store.
About this task

When you schedule caching for a virtual data source, records from the tables that are stored in this virtual data source are updated with the specified frequency. If you open one of these tables, its records will be retrieved from cache rather than from the virtual data source. You can also schedule caching for individual tables within a virtual data source.

To create a cache schedule for a virtual data source:

Procedure

1. Open the Create New Expiration Schedule wizard in one of the following ways:
   a. Select File > New > Other > Virtual Data Source Schedule.
   b. In the Repositories or Repository Explorer view, right-click the required virtual data source and select New > Virtual Data Source Schedule.
2. From the Data source list, select the data source to which you want to specify the cache expiration scheduler.
3. In the Schedule name field, enter the name you want to use for this schedule.
4. In the Data Expires area, specify the period of the cache expiration. The available options are:
   a. Hourly: Select this option to specify that the same cache data will be used for one hour period.
   b. Daily: Select this option to specify that the same cache data will be used for a 24 hour period.
   c. Weekly: Select this option to specify that the same cache data will be used for a period of 7 days.
   d. Monthly: Select this option to specify that the same cache data will be used for a month.
   e. At specific date: Select this option to specify that the same cache data will be used until a specific date is reached. If you select this option, the cache will be updated on the specific date.
   f. Never expires: Select this option to specify that the same cache data will always be used. If you select this option, the cache will never be updated.
   g. Always expired: Select this option to specify that the data will always be updated every time a query is run against this virtual data source.
5. If you selected Hourly, Daily, Weekly, Monthly, or At specific date, click Next.
6. Depending on the type of schedule that you are creating one of the following variations of the Set schedule properties page of the wizard opens:
   a. If you selected Hourly, specify the date and time that the hour period will start in the Begin date and the Begin time fields. In the Expiration Interval area, specify expiration interval in Hours and Minutes fields.
   b. If you selected Daily, specify the date and time that the 24 hour period will start in the Begin date and the Begin time fields. You specify when the 24 hour period will occur in the Data Expires area:
      • Select Daily to specify that the 24 period will occur every day.
      • Select Each to specify that the 24 hour period will occur every number of days and select the number from the list.
      • Select Days of week to specify that the 24 hour period will occur on one or more specific days. You must select the check boxes for the proper days.
c. If you selected Weekly, specify the date and time that the week will start in the **Begin date** and the **Begin time** fields. You can select a number from the **Each week** list to specify that the 7 day period will occur every number of weeks. In the **Days of Week** area, specify particular days on which the cache will be updated.

d. If you selected Monthly, specify the date and time that the month will start in the **Begin date** and the **Begin time** fields. You can enter a specific day in the **Day** field or to specify that data retrieval will occur on a specific day of the week in the month in the **Or** field. In the **Select Months** area, specify the required months.

e. If you selected **At specific date**, specify the date and time that will trigger data retrieval in the **Date and time** list. Click the cell, the ellipsis (...) appears. Then click the ellipsis (...) to open a calendar where you will select the date and time.

7. Click Finish. The schedule is created and listed in the **Schedules** node of the particular virtual data source in the Repository Explorer view.

### Specifying settings of cache expiration schedules in virtual data sources

You can use expiration schedules for virtual data sources and tables that they store on the **Cache Settings** page of virtual data source Properties window.

#### About this task

When the **Use expiration schedules** check box is clear the caching expiration mode equals **Always Expired** for a virtual data source. Records from the tables stored in this virtual data source are updated each time on-demand.

To specify particular cache schedule for virtual data sources or their tables:

#### Procedure

1. From the Repositories or Repository Explorer view, right-click a virtual data source and select **Properties**.
2. In the Properties for [data source] window, select **Cache Settings**.
3. On the **Cache Settings** page, select the **Use expiration schedules** check box. The schedule expiration settings become available.
4. From the **Default expiration schedule** list, select the schedule that you want to use as the default one for the whole virtual data source.

   **Note:** A created virtual data source has **Always Expired** default settings. To add more schedules create them in Create New Virtual Data Source Schedule wizard.

5. To assign a particular cache expiration schedule to a particular table click the **Schedule name** column of the table the settings of which you want to modify and select the required scheduler from the list of available ones.

   **Note:** If tables contain any substitutional variables, only **Always Expired** expiration schedule is applied to such tables.

6. If you have any tables that require authorization for accessing them, you must specify the authorization settings for the virtual data source. Click the **Manage Authorization** button. The Manage Authorization dialog opens.

7. All the data sources that require authorization are listed there. This authorization data will be used for updating the cache. Click **Login** column for the required data source. The Edit Data Source Login dialog opens.
8. Enter the proper values in the **Login** and **Password** fields and click **OK**.

9. When you finish specifying authorization data for all required data sources, click **OK** in the Manage Authorization dialog.

10. Click **Apply** and then click **OK** to close the Properties for [data source] window.

**Setting up workspaces**

Use the workbench to create workspaces for DataQuant for Workstation users.

In Eclipse, workspaces are used to organize a collection of projects. In DataQuant for Workstation, users can create a workspace to house projects that hold the artifacts (data sources and repository objects) needed to build interactive visual tools, such as visual dashboards and reports.

As the administrator you can choose to have your DataQuant for Workstation users work with repository objects from a workspace, or directly from the repository. Every repository that you create has one default workspace that is created automatically. Initially, all users have access to the default workspace.

The first step to setting up a workspace is to specify the contents of the workspace. You can then assign users and groups permission to use the workspace and the workspace objects.

**Advantages of using workspaces**

There are advantages to having your users access repository objects from a workspace. If you have chosen the **Internal** or **LDAP** security option for the repository, you can create one or more workspaces and assign specific users and groups varying levels of access to the entire workspace or to specific objects within the workspace. If you have chosen no additional security for the repository, then one or more workspaces can help organize repository objects.

If you choose not to use workspaces and have your DataQuant for Workstation users access repository objects directly from the repository, you should recommend they alter the views that are opened by default with the **User** perspective. Instead of opening the **Workspaces** view by default, change the perspective so that the **Repository Explorer** view opens by default.

**Adding content to the workspace**

You can populated the workspaces you create by adding data source and repository objects that will be available to the users of the workspace.

**About this task**

Initially, every workspace, including the default workspace created automatically when you created the repository, is empty.

This task describes how to add content to a workspace.

To add content to a workspace, perform the following procedure:
Procedure
1. From the Repositories or Repository Explorer view select an object (such as a data source, folder, query, dashboard, report) that you want to add to the workspace. The object that you select must be available to you in the repository to which you are currently connected.

2. With the mouse button pressed drag the object to the workspace folder. Release the mouse button. You can also right-click the object and select Copy from the pop-up menu, then right-click the workspace folder to which you want to add the object.

3. Depending on the type of object that you selected a pop-up menu opens. One or more of the following options become available:
   - **Copy Here** to make a copy of the object in the workspace.
   - **Move here** to move the object from the repository to the workspace.
   - **Create link here** to create a link to the object. Each time a user or group accesses the object they will actually link to the resource.
   - **Create offline entry** to create an offline entry to the object. The Create Offline entries window opens. Check each of the entries that you want to copy (in their entirety). Offline entries allow you to work with an object from a data source without actually accessing the data source. Users are responsible for keeping offline entries in the workspace synchronized with the actual contents of the repository.
   - **Paste as Offline** is the same as **Create offline entry** except the object was copied to the clipboard rather than dragged to the workspace.

Adding a workspace as a user
You can optionally choose to set up additional workspaces for your users and groups.

About this task
To add a workspace as a user, perform the following procedure:

Procedure

2. Specify the name for the new workspace in the **Name** field.

3. Specify a comment that describes the workspace in the **Comment** field.

4. Click **Finish**. After you have created a workspace, you specify what data source information and objects will be available in the workspace, and specify the user and groups that will have permission to use the workspace.

Working with ER diagrams
Use ER diagrams to specify relationships among columns of related tables and store these relations.

For example, a table stores the staff data for everyone in a company. This table includes a column that is named **DEPT** that stores the identifier of the department in which an employee works. Another table stores the organization data of each department in the company. This table includes a column that is named **DEPTNAME** that stores the name of each department in the company. These two tables are related, as they have columns that can be easily joined. But when a user opens either one of these tables, this relationship is not readily apparent. By creating an ER diagram that includes these two tables and all of their possible joins, you can
make this relationship much easier to see. Now when users open these tables, the ER Diagrams editor displays all of the relationships that you saved, and users can make more effective and dynamic reports.

**Creating ER diagrams**
Use ER diagrams to create abstract and conceptual representations of relational databases that can be used for building conceptual connections among table columns.

**About this task**
To create an ER diagram:

**Procedure**
1. From the main menu, select, select **File > New > Other**. The New window opens.
2. Expand the **DataQuant Objects** folder, select **ER Diagram**, and click **Next**. The Create New ER Diagram wizard opens.
3. Enter a name for the ER diagram in the **Name** field.
4. Enter the data source that you want to associate with the ER diagram in the **Data source** list. The **Data source** list is populated with all data sources in the repository.
5. Click **Finish**. The new ER diagram is added to the data source and the ER Diagram editor with this diagram opens.

**Editing ER diagrams:**
When you created an ER diagram manually, you must specify the tables and column joins that you want to include in the entity relationship.

**About this task**
When you include tables that have possible column connections in your ER diagram, you make the process of building queries and reports much easier for your users.

To edit an ER diagram:

**Procedure**
1. Double-click the ER diagram that you want to edit. The ER Diagram editor opens. The associated data source is displayed in the left pane of the editor.
2. Expand the **Tables** node of the **Database** folder.
3. Drag each of the tables that you want to include in the diagram to the right pane of the editor. A visual representation of each table that you add is displayed.
4. To set up join conditions between tables, select a column from one table and drag it to a column in another table. A connecting line is drawn between the joined columns. You can set up multiple join conditions.
5. To edit a join condition, right-click a connection line and select **Edit**. The Join Tables window opens.
6. Select the type of join for linking two tables. The available join types are:
   - **Inner join** includes only those rows with matching values in both tables in the query results.
- **Left outer join** includes all the rows from the left table and only the rows from the right table that match with rows from the left table in the query results.
- **Right outer join** includes all the rows from the right table and only the rows from the left table that match with rows from the right table in the query results.
- **Full outer join** includes all rows from both tables in the query result.

7. Click **Change**. The new join conditions are saved.
8. To delete a join condition, right-click a connection line and select **Delete**.

**Note:** All the join modifications (adding, editing, and deleting) that you specify for two tables in an ER diagram are automatically applied to these tables in other ER diagrams in this data source. If you add only one of the joined tables to an ER diagram, you can add the other table automatically by right-clicking the ER diagram and selecting **Add Linked Tables**.

9. To add a textual note to the ER diagram, right-click in the ER diagram editor and select **Add Text**. A text box is displayed. You can add text, resize the text box, and move the text box from one point in the diagram to another. Use text notes to convey additional information about the tables and joins in the ER diagram to your users.
10. To delete a text box, right-click it and select **Delete**.
11. To show or hide a column of a table, right-click the column name in the table diagram and select **Hide/Show** columns. The Hide/Show Columns window opens and contains all of the available table columns.
12. Select a column’s associated check box to show the column, clear it to hide the column, and click **OK**. The Hide/Show Columns window closes and the changes to the table diagram are displayed.
13. When you are finished adding tables and configuring join conditions, click the **Save** icon. The edited ER diagram is saved to the **ER Diagrams** folder of the data source. Now, when a user builds a query that includes one or more of these tables, the join conditions that you configured are automatically added to the query and displayed in the **Query Builder** editor.

**Creating ER diagram folders**

You can create entity relationship diagram folders to add a folder for ER diagrams to the data source.

**About this task**

To create an ER diagram folder:

**Procedure**

1. From the main menu, select, select **File > New > Other**. The New window opens.
2. Expand the **DataQuant Objects** folder, select **ER Diagrams folder**, and click **Next**. The Create New ER Diagrams Folder wizard opens.
3. Specify attributes for an ER Diagrams Folder:
   a. Enter a name for the ER diagram folder in the **Name** field.
   b. Enter a parent folder for the new ER diagram folder in the **Parent folder** field.
c. Optional: If you want to add a comment to describe the new folder with ER Diagrams, type it in the Comment field. This comment is displayed in the properties of the created ER diagram folder.

4. Click Finish. The Create New ER Diagrams Folder wizard closes and the new ER diagram folder is displayed under the parent folder in the data source.

Results

You can create new ER diagrams, copy the existing ones, or move them to ER diagram folders for grouping. You can also populate ER diagram folders with ER diagrams automatically.

Populating ER diagrams automatically
You can specify the tables to which you want to create joins automatically and QMF populates existing ER diagram folders with ER diagrams for these tables.

Before you begin

You must have an ER diagram folder to populate it.

About this task

To populate ER diagrams:

Procedure

1. In the Repository Explorer view, right-click the ER diagram folder that you want to populate and select Populate.

2. In the Set Name Filter window, you can specify the following criteria:
   a. In the Object owner field, specify the identifier that owns the tables that you want to join in ER diagrams. You must specify the owner in the correct format for identifiers. You can use a pattern with a wildcard character in this field to match multiple owners.
   b. In the Object name field, specify the identifier that names the tables join in ER diagrams. You must specify the name in the correct format for identifiers. You can specify a matching pattern with a wildcard character to match multiple names.

3. Click OK to close the Set Name Filter window and start the populating process.

Results

When the ER diagram is built, it is displayed in the ER Diagram editor. For detailed information about editing the created ER diagrams, see the Editing ER diagrams topic.

Setting up environments

An environment is a collection of data source definitions.

Environments allow you to point a repository object to a different data source without making any changes to the objects themselves. This can be useful for testing purposes when it is not recommended to test objects against production data. You can define a test environment that points to a test data source and use it for development. End-users can use a production environment once all objects have been tested.
One default environment always exists and cannot be deleted.

When you create a new environment, it reads data source definitions from the default environment. You can then change those definitions so they point to different locations.

If you have more than one environment available, you can switch between them.

**Creating a new environment**
You can create a new environment using the Create New Environment wizard.

**About this task**

To create a new environment:

**Procedure**

1. From the Administrator perspective, select **File > New > Other**. The New window opens.
2. Expand the **Environments** folder, select **Environment** and click **Next**. The Create New Environment wizard opens.
3. Specify a name for the environment in the **Environment Name** field and click **Next**.
4. Use the check box to select the data sources that you want to include in the environment from the **Environments Contents** table. Unchecked items use original data source definitions (as defined in the default environment).
5. Select the connection string you want to specify and click **Test Connection**. The Log on to Data Source window opens. The Connection Settings wizard opens.
6. Specify a user name in the **User name** field and a password in the **Password** field and click **OK**. The system displays The connection to the data source was established.
7. To change the connection string of the data source, select the connection string that you want to edit and click the ellipsis (...). The Connection Settings wizard opens.
8. Either specify a new JDBC URL in the **JDBC URL** field or use the **Build JDBC URL** field to build the JDBC URL.
9. Click **Advanced** to specify additional JDBC settings. The Advanced JDBC Settings wizard opens.
10. Enter any required driver-specific connection string keywords for this data source and click **OK**.

**Note:** For more information on any keywords that might be required or supported by the selected driver, consult the driver's documentation.
11. Click **OK**. The Connection Settings window closes and control returns to the Create New Environment wizard.
12. Click **Finish**. The Create New Environment wizard closes and the new environment is listed under the **Environments** node.

**Editing environment connection settings**
You can edit connection settings and add data sources to an environment by using the Edit Environment dialog.
About this task

To edit the connection settings from an existing environment:

Procedure

1. From the Repositories view, expand the Environments folder, right-click the environment that you want to edit and select Edit. The Edit Environment window opens.
2. Use the check box to select the data sources that you want to include in the environment from the Environments Contents table. Clear items use original data source definitions (as defined in the default environment).
3. Select the connection string you want to specify and click Test Connection. The Log on to Data Source window opens. The Connection Settings wizard opens.
4. Specify a user name in the User name field and a password in the Password field and click OK. The system displays The connection to the data source was established.
5. To change the connection string of the data source, select the connection string that you want to edit and click the ellipsis (...). The Connection Settings wizard opens.
6. Either specify a new JDBC URL in the JDBC URL field or use the Build JDBC URL field to build the JDBC URL.
7. Click Advanced to specify additional JDBC settings. The Advanced JDBC Settings wizard opens.
8. Enter any required driver-specific connection string keywords for this data source and click OK.

Note: For more information on any keywords that can be required or supported by the selected driver, consult the driver’s documentation.
9. Click OK. The Connection Settings window closes and control returns to the Edit Environment window.
10. Click OK. The Edit Environment window closes and the changes to the environment are saved.

Setting permissions

The administrator can manage user and user group permissions to access data. Permissions are applied to the repository.

Assigning users and groups permission to use repository objects

You can assign security permission levels for users and groups and control their access to repositories and any object in the repository.

About this task

Security permission levels for users and groups can only be assigned for secured repositories (those created with Internal or LDAP security). You can apply permission levels to any object that is listed in the repository including for example, directories, folders, workspaces and individual query and reporting objects.
Only users who have been identified as DataQuant administrators can assign security permission levels to users and groups. In addition, users that have been granted full permission privileges can modify permissions that have been applied to objects.

To assign users and groups different levels of permission to use repository objects:

**Procedure**

1. Right-click any repository object that is listed in the Repositories, Repository Explorer or Workspaces views. Select Properties from the pop-up menu. The Properties window opens. Select Security from the sidebar. The Security page of the window opens.

2. Each user or group that has been granted permission to use this repository is listed in the Group or user names list. To add additional users and groups, click the Add button. The Select Users or Groups window opens.

3. Each user and group can be assigned different levels of permissions for the selected repository object. The levels of permission that are available are listed in the Permissions for list. To assign a level of permission, select a group or user and check the corresponding check box for the level of permissions that you want to assign. Your choices are:
   - **Full**: grants the user or group permission to perform all functions (edit, view, browse and delete) on the repository object. In addition, full permission allows users to modify permissions that have been assigned to the repository object.
   - **Edit**: grants the user or group permission to make changes to, as well as view and browse, the repository object.
   - **Browse**: grants the user or group permission to see the contents of the repository object. For example, browse privileges on a directory in the repository allows a user to see what is inside that directory. Browse privileges on a query object allows a user to open and run the query object.
   - **View**: grants the user or group permission to see the repository object listed in the repository. For example, view privileges on a directory in the repository allows the user only to see the directory. The user cannot open the directory or see the contents of the directory. View privileges on a query object allow a user only to see the object. They cannot open or run the object.
   - **None**: denies the user or group permission to see that the repository object is included in the repository.

4. Click Apply permissions to child folders and objects to apply the selected level of permission to all of the folders and objects that are under the object to which the permission is being applied.

5. To remove permission from a user or group, select the user or group from the Group or user names list. Click Remove. The user or group will be removed from the list.

6. Click Apply.

7. Click OK.

**Selecting the users and groups that are allowed repository object access**

You must select the users and groups that will be allowed to access a repository object.
To select the users and groups that will be allowed access to a repository object:

Procedure

1. Right-click any repository object that is listed in the Repositories, Repository Explorer or Workspace views. Select Properties from the pop-up menu. The Properties window opens. Select Security from the tree. The Security page of the window opens. Click Add. The Select Users or Groups window opens.

2. The users and groups that are available for assignment are listed in the Group or user names list box. These are the users and groups that you either specified using the Users and Groups view if you selected Internal repository security, or obtained from your LDAP server if you selected LDAP repository security.

3. To filter the users and groups that are listed you can:
   - Use the Name filter field.
   - Clear the Show users check box. Only Groups will be listed.
   - Clear the Show groups check box. Only Users will be listed.

4. To select a user or group and grant them permission to use this repository object, select the user or group from the Group or user names list box and click the move right (>>) icon. The user or group is now listed in the Selected objects list box.

5. To remove a user or group from the Selected objects list box, click the move left (<<) icon.

6. Click OK. The Select Users or Groups window closes. The users or groups that you have moved to the Selected objects list box are added as users and groups that can access the repository object. They are listed in the Group or user names list box of the Properties dialog.

Assigning users and groups administrative permission for database-based security

Database-based security takes the security settings of the host database and uses these settings to protect the shared repository.

Before you begin

Make sure you are operating on the RSBI objects.

About this task

To determine if a user has administrator authorization, DataQuant calls for the contents of RSBI.ADMIN_VIEW and runs the following SQL statement:

```sql
SELECT COUNT(*) FROM RSBI.ADMIN_VIEW WHERE AUTHID=:OWNER
```

Where OWNER is the user login. If this statement returns the value that is greater than zero, the user is the repository administrator.

The database-based security for shared repositories requires SYSADM authority on DB2 and DBA authority on Oracle. Without this authority users cannot administer the repository.

For DB2 databases you can populate the RSBI.AUTHID_TABLE with PRIMARY_IDs and SECONDARY_IDs pairs of users and groups, where the group does have SYSADM authority.
Results

The ADMIN_VIEW will have the list from SYSIBM.SYSUSERAUTH with the addition of the PRIMARY_IDs from the AUTHID_TABLE, whose SECONDARY_IDs are also in the list from SYSIBM.SYSUSERAUTH.

Example

The following examples illustrate the QMF authorization processes on different server types:

**DB2 for z/OS**

```sql
CREATE VIEW "RSBI"."ADMIN_VIEW" ("AUTHID")
AS
SELECT A."GRANTEE" AS "AUTHID"
FROM "SYSIBM"."SYSUSERAUTH" A
WHERE A."SYSADMAUTH" IN ('G', 'Y')
UNION
SELECT A."PRIMARY_ID" AS "AUTHID"
FROM "RSBI"."AUTHID_TABLE" A
INNER JOIN
"SYSIBM"."SYSUSERAUTH" B ON
B."GRANTEE" = A."SECONDARY_ID"
```

**DB2 for iSeries**

```sql
CREATE VIEW "RSBI"."ADMIN_VIEW" ("AUTHID")
AS
SELECT "AUTHID"
FROM "RSBI"."ADMIN_TABLE"
```

**DB2 LUW**

```sql
CREATE VIEW "RSBI"."ADMIN_VIEW" ("AUTHID")
AS
SELECT A."GRANTEE" AS "AUTHID"
FROM "SYSIBM"."SYSDBAUTH" A
WHERE A."DBADMAUTH" = 'Y'
UNION
SELECT A."PRIMARY_ID" AS "AUTHID"
FROM "RSBI"."AUTHID_TABLE" A
INNER JOIN
"SYSIBM"."SYSDBAUTH" B ON
B."GRANTEE" = A."SECONDARY_ID"
```

**DB2 for z/VM**

```sql
CREATE VIEW "RSBI"."ADMIN_VIEW" ("AUTHID")
AS
SELECT A."NAME" AS "AUTHID"
FROM "SQLDBA"."SYSUSERLIST" A
WHERE A."AUTHOR" = ''
AND A."DBAAUTH" = 'Y'
UNION
SELECT A."PRIMARY_ID" AS "AUTHID"
FROM "RSBI"."AUTHID_TABLE" A
INNER JOIN
"SQLDBA"."SYSUSERLIST" B ON
B."NAME" = A."SECONDARY_ID"
```
Oracle

CREATE VIEW "RSBI"."ADMIN_VIEW" ("AUTHID")
AS
SELECT A."GRANTEE" AS "AUTHID"
FROM "SYS"."DBA_ROLE_PRIVS" A
WHERE A."GRANTED_ROLE" = 'DBA'

Setting up login mapping for a data source

Login mapping enables a user to login to a repository and gain access to one or more of the database data sources that have been configured in that repository using a single user ID and password.

About this task

With login mapping, administrators can set up users so that they can login to a repository and access any data source without specifying another user ID and password that is specific to the database data source. By setting up login mapping, users do not have to continually reenter login information every time they access a database data source, and they do not have to know the login information for each database data source.

You set up login mapping for each data source that you include in the repository. Login mapping can only be set up for data sources that reside in protected repositories. Protected repositories are those that were created with the security option Internal or LDAP.

To set up login mapping for a data source:

Procedure

1. Right-click a data source in the Repositories or the Repository Explorer view. Select Properties from the pop-up menu. The Properties window opens. Select Login Mapping from the tree. The Login Mapping page of the window opens. All users and groups that have been defined for the repository are listed in the Data source login list list box. This list is empty if you have not defined any users or groups.

2. To set up mapping for a user or group, highlight a user or group and click the Edit data source login icon above the list box. The Edit Data Source Login window opens.

3. Specify the user ID that will be used to login to the database data source in the Login field.

4. Specify the password that will be used to login to the database data source in the Password field.

5. Verify the password by retyping it in the Verify password field.

6. Specify the priority that will be placed on this login information in the Priority field. You can enter any numerical value in this field with the value of 1 having the lowest priority. The Priority value is used to determine what login mapping ID and password will be invoked for a user that is a member of multiple groups. Consider the following:

   - User X is a member of two groups, Group A and Group B. You have assigned a login mapping ID and password for Group A that gives all users assigned to Group A a certain level of access to the database source. You have assigned a login mapping ID and password for Group B that gives all users assigned group B a lesser level of access to the database data source. As a member of both groups, when User X accesses the data source, it is unclear
what login information that should be used. Should it be the based on the user as a member of Group A or Group B. The Priority field resolves this issue. You would assign a priority value to the login information. For example, Group A is assigned a priority of 10 and Group B is assigned a priority of 5. When a user that is a member of both groups accesses the data source, access is granted based on the login information of the group, to which the user is a member, with the highest priority. In this example that would be Group A. It is important to note that in this scenario, you can not assign the same priority value to more than one group.

- User X is a member of two groups, Group A and Group B. However, User X must have a distinct level of access to a data source that is different than any other member of either group. You will use the Priority field to resolve this issue. You will assign a login mapping user ID and password to Group B and assign a priority value of 5 to the mapping information. You will assign a login mapping user ID and password to Group A and assign a priority value of 10 to the mapping information. You will assign a login mapping user ID and password for User X and assign a priority value of 25 to mapping information. When User X accesses the data source, the mapping information with the highest priority value will be used. It is important to note that in this scenario, you can not assign the same priority value to a group and individual user that is a member of the group.

7. Click OK. The data source login information for the selected user or group is listed in the Data source login list as follows:

- Login mapping owner lists the name of the user or group that will use this login to access the data source. This is the same name that appears in the Users and groups list box.
- Login specifies the login user ID that will be used to access the data source for the user or group.
- Priority specifies the priority that is assigned to the login information. This priority value determines which login information will be invoked for users that are members of multiple groups.

You will repeat this process for each user or group for which you want to set up login mapping information.

8. To edit existing data source login information, select the data source login information from the Data source login list and click the Edit data source login icon located above the list box. The Edit data source login window opens. You can make changes to any of the fields. Click OK to close the Edit data source login window.

9. To delete existing data source login information, select the data source login from the Data source login list and click the Remove data source login icon located above the list box.

10. Click OK. The login mapping parameters that you have specified for each user or group are in effect for the data source. You must set up login mapping information individually for each data source in the repository.

Creating the repository connection for DataQuant

DataQuant needs to know how to access the application data (as grouped by the repository name) so that end-users will have access to this data. The way to provide this connection data to DataQuant is to create it using the DataQuant connection wizard.
About this task

You must create connection information for each repository. The repository connection information specifies how a shared repository will be accessed. You decide the type of connection to create depending on how you want to set up your environment.

The repository connection information is saved in a file called `settings.xml`. This file is saved in the personal settings directory of the machine that is running the application interface. You can use this file to streamline the process of setting up the environment for all users of DataQuant.

To create repository connection information:

Procedure

1. Open the Create New Repository Connection wizard by right-clicking anywhere in the Repository Connections view and selecting New > Repository Connection.

2. Select the type of connection that you will create from one of the following radio buttons:
   - **Shared repository** to create a repository connection to a shared repository using a client/server JDBC connection. With client/server access, the user’s workstation establishes a direct connection to the repository database using its locally installed JDBC driver. For this type of connection each workstation that runs DataQuant for Workstation and the server (workstation) that runs DataQuant for WebSphere must have JDBC drivers installed.
   - **File-based repository** to create a repository connection to a file-based repository stored at a given location. (DataQuant for Workstation only)
   - **Network repository** to create a repository connection to a shared repository using direct network access. Network connectivity permits users to access a shared repository without the need for direct database connectivity from the workstation. Connecting to repositories using a network connection allows for consolidation of data access at a central server and removes the need to distribute JDBC drivers across each desktop running DataQuant for Workstation.
   - **Web service repository** to create a repository connection to a shared repository through the DataQuant for WebSphere web services API using a HTTP or HTTPS connection. Web service connectivity permits users to access a shared repository without the need for direct database connectivity from the workstation. Connecting to repositories using a web service connection allows for consolidation of data access at a central server and removes the need to distribute JDBC drivers across each desktop running DataQuant for Workstation.

3. Click Next. The second page of the Create New Repository Connection wizard opens. The second page of the wizard differs depending on the type of the repository connection that you are defining.

Creating shared repository connections

You create a shared repository connection to set up the information that will enable you to connect to a shared repository that resides in a database using a client/server JDBC connection.
About this task

The steps in this task describe how to create a shared repository connection.

**Note:** The connection mode for the shared repository connection is determined by settings on the Protection tab of the Edit Repository Storage window.

To complete the process of creating a shared repository connection:

**Procedure**

1. Open the second page of the Create New Repository Connection wizard.
2. Specify a name for the repository connection in the Connection name field. This name will be used to identify the connection as it appears in the Repository Connections view. You can enter any name but it is recommended that the name identifies the repository for which this connection information applies.
3. Select the Connect immediately check box to connect to the shared repository immediately. If this check box is clear, the connection information will be created, saved and displayed in the Repository Connections view, but you will not be immediately connected to the repository.
4. In the Connection type radio group, select JDBC or JNDI.

   **If you select JNDI:**
   - In the Data Source name field, specify the JNDI data source name and location.
   - Click Advanced to specify any driver-specific connection string keywords and their values that will be used for the database that is hosting the repository storage tables.
     For information on any keywords that are required by a selected database driver, consult the specific driver's documentation.

   **If you select JDBC:**
   - In the JDBC Driver field specify the library for the JDBC driver that will be used to access the database that hosts the repository storage.
     You can select from a drop-down list of libraries that you defined when you set up the JDBC driver information. You can click the ellipsis (...) to open the JDBC Libraries window where you can create additional JDBC driver libraries.

   **Note:** If you work with a DB2 for z/OS database, you can use the Direct DRDA Connection. In contrast to JDBC libraries, the Direct DRDA Connection comes with the product and does not require additional driver installation.

   **Note:** The Direct DRDA Connection is supported only for DB2 for z/OS Version 8, Version 9, and Version 10. Do not use it for DB2 LUW or DB2 for iSeries.

   See the Installing and Managing PDF for information about using DRDA to connect to database repositories and data sources.

   - In the JDBC URL list, specify the URL that points to the database that hosts the repository storage within which the repository to which you want to connect resides.
     The format for the URL can be displayed in the list.
Note: You can also use the Build URL by URL Template window to form the correct string. To do so, click Build URL to open the Build URL by URL Template window. From the JDBC URL drop-down list, select the template. In the table, specify the server, port, and database information and click OK. The result URL string is added to the JDBC URL list.

- Click Advanced to specify any driver-specific connection string keywords and their values that will be used when connecting to this shared repository.

  For information on any keywords that are required by a selected driver, consult the specific driver’s documentation.

- If you use the Direct DRDA Connection, bind packages by clicking Bind Packages.

5. In the JDBC Driver field specify the library for the JDBC driver that will be used to access the database that hosts the repository. Select from a drop-down list of libraries that you defined when you set up the JDBC driver information. Click the ellipsis (...) to open the JDBC Libraries window where you can create additional JDBC driver libraries.

6. In the JDBC URL field specify the URL that points to the database that hosts the repository storage within which the repository to which you want to connect resides. The format for the URL can be displayed in the field if you specified an example when setting up the JDBC libraries.

7. Click Set User Information to specify the user information that will be used to connect to the repository. The Set User Information window opens.

   a. Select the User ID and password are required check box to specify that user information will be requested each time a connection is made to this shared repository. In some cases, leaving this check box clear will enable users to access the repository without overtly specifying their user information.

   b. Enter the user ID and password that will be used to access the specified repository database in the User name and Password fields.

   c. To remember the password, select the Remember password check box.

   d. To enable the Single-Use Password Mode, click Advanced and select Enabled.

      In the Repository storage connections timeout field, enter the time in minutes that the Single-Use Password Mode feature will remain enabled (while not being used) without being closed by application.

Note: A value of zero 0 sets unlimited idle state for the connection timeout, meaning that connection will close only when the session ends.

Enabling the Single-Use Password Mode feature provides users with the ability to log into the repository for the entire session without having to reenter his or her user ID and password.

Using this feature assumes that you selected User ID and password are required and that you have selected Remember password check box.

If you do not select the Remember password check box, the system will prompt you for a user ID and password whenever you open the Edit Repository Connection wizard.

8. Click OK to close the User Information window.

9. Select Hide from web service clients to exclude this connection from the list of available connections in the Repository connection name field in DataQuant for WebSphere.
This check box is displayed in DataQuant for WebSphere user interface only. If you are working in the DataQuant for Workstation user interface, **Hide from web service clients** is not an option.

If you select this check box, the user cannot establish a web service connection to this repository connection.

10. In the **Repository name** field, select the repository to connect to. If no repositories are listed, click **Refresh**.

11. Click **Finish**. The repository connection is listed in the **Repository Connections** view. If you selected **Connect immediately**, you are connected to the repository that you selected. This repository connection information is entered in the connections settings file. The next step to creating repository connection information is to distribute this information to each user that will be running DataQuant for Workstation or to the server (workstation) that is running DataQuant for WebSphere.

### Creating file-based repository connections

If you are using DataQuant for Workstation, you can create a file repository connection to set up the information that will enable you to connect to a file-based repository that is stored on a local or network drive.

#### About this task

File connections can only be created for legacy, file-based repositories. The later versions of DataQuant for Workstation and DataQuant for WebSphere have replaced file-based repositories with personal repositories.

To complete the creation of a file-based repository connection:

#### Procedure

1. Open the second page of the Create New Repository Connection wizard.

2. Specify a name for the repository connection in the **Connection name** field. This name will be used to identify the connection as it appears in the **Repository Connections** view. You can enter any name but it is recommended that the name identifies the repository for which this connection information applies.

3. Select the **Connect immediately** check box to connect to the file-based repository immediately. If this box is clear, the connection information will be created, saved and displayed in the **Repository Connections** view, but you will not be immediately connected to the repository.

4. Click **Finish**. The repository connection is listed in the **Repository Connections** view. If you selected the **Connect immediately**, you are connected to the repository that you selected. This repository connection information is entered in the connections settings file.

### Configuring repository caching

You can configure a caching functionality on your repositories. When caching is enabled on a repository, the system saves the content of the repository (dashboards, queries, visual reports, and other objects) to the memory on the workstation client or on on the web server if you are using DataQuant for WebSphere.
**About this task**

This task describes how to configure repository caching.

**Considerations:**

- Caching happens in local memory on your machine if you are using DataQuant for Workstation and in memory on the web server if you are using DataQuant for WebSphere.

  Subsequently, the next time you access the repository objects, information is retrieved from memory (without sending a request to the repository), hence retrieval time is reduced.

  The following content is cached:
  - Content of objects
  - Path to objects
  - Metadata to tables

- When you make changes to cached repository objects, the cache is refreshed to reflect the changes.

- For DataQuant for Workstation, the repository cache is cleared whenever you shut down your machine or close the application.

- For DataQuant for Workstation, end-users can set repository caching parameters for the version of the application running on their machine.

- For DataQuant for WebSphere, repository caching is shared between all connections made with the same Repository Connection login.

- For DataQuant for WebSphere, you must have administrator authorization in order to change repository connection settings.

To configure repository caching:

**Procedure**

1. Open the second page of the Creating New Repository Connection wizard or of the Edit Repository Connection wizard.

2. In the **Repository cache** area, select the **Enable** check box to activate cache configuration options.

   The radio buttons for predefined cache validation are enabled in the **Predefined modes** section.

   To implement a predefined cache validation mode, select the associated radio button. The cache validation processing for each predefined mode are as follows:

   - **Low relevance-High performance**
     
     If selected, cache validation is not performed.

   - **Balanced relevance/performance**
     
     If selected cache validation is performed every 5 minutes. This is the default setting for cache validation.

   - **High relevance-Low performance**
     
     If selected cache validation is performed every 60 seconds (1 minute).

3. To implement custom cache validation, select the **Use custom cache settings** check box.

   When you select the **Use custom cache settings** check box, the options for predefined cache validation modes are disabled.

   Click **Custom**... to launch the Repository Cache Settings wizard.
Use this wizard to specify cache size information and to set validation intervals.

The wizard consists of two panes:

- The Repository Caches pane on the left
  This pane lists the specific types of repository-related data to cache.
- The Repository Caches Settings pane on the right
  This pane is where you set the caching parameters.

You can set parameter values for general caching, which are applied to each type of repository-related data.

You can also set parameter values for the different types of repository-related data. These types include:

- **Content Cache**
- **Server Metadata Cache**
- **Structure Cache**
- **Table Metadata Cache**

**a.** To set general cache settings, click **Repository Caches** in the list pane and set a value in the **Cache validation time (minutes)** field.

The value you enter represents how often (in minutes) that cache validation occurs.

The value you enter determines how often the cache validates that the objects in it haven't changed. The system checks the last updated date for every cached object stored in the repository.

The default value is 5 minutes.

Any object that has been changed gets removed from the cache.

Any object that has not been accessed within the time specified, are not removed from the cache.

Enter 0 (zero) if you never want to refresh the cache. This is useful for repositories with static content.

**b.** To set parameter values for the different types of repository-related data, expand **Repository Caches** and select the type of data to configure. The types of repository-related data and their configuration parameters are as follows:

- **Content Cache**
  Includes the following parameter:
  
  - **Content size (megabytes)** specifies the maximum size allowed (in megabytes) for cached content.

  The value entered represents the total combined size of all objects stored in the cache and saved to memory on your machine if you are using DataQuant for Workstation and on the web server if you are using DataQuant for WebSphere.

  When a new object is added to the cache whose size has reached the maximum allowed size, the system removes objects until it has enough space to accommodate the new object.

  Those objects that have not been accessed for the longest period of time are removed first.

- **Server Metadata Cache**
  Includes the following parameters:
  
  - **Lifetime limit (minutes)**
Parameter sets maximum time (in minutes) for records to be kept in cache. Lifetime is calculated for each record starting from the moment of its creation. Upon expiration of specified lifetime record is forced out of cache.

- **Inactivity (minutes)**
  Parameter sets maximum time (in minutes) for records to be kept in cache without being referenced. Inactivity period is calculated for each record starting from the moment of its last use. Upon expiration of specified inactivity period record is forced out of cache.

• **Structure Cache**
  Includes the following parameters:
  - **Lifetime limit (minutes)**
    Parameter sets maximum time (in minutes) for records to be kept in cache. Lifetime is calculated for each record starting from the moment of its creation. Upon expiration of specified lifetime record is forced out of cache.
  - **Inactivity (minutes)**
    Parameter sets maximum time (in minutes) for records to be kept in cache without being referenced. Inactivity period is calculated for each record starting from the moment of its last use. Upon expiration of specified inactivity period record is forced out of cache.

• **Table Metadata Cache**
  Includes the following parameters:
  - **Lifetime limit (minutes)**
    Parameter sets maximum time (in minutes) for records to be kept in cache. Lifetime is calculated for each record starting from the moment of its creation. Upon expiration of specified lifetime record is forced out of cache.
  - **Inactivity (minutes)**
    Parameter sets maximum time (in minutes) for records to be kept in cache without being referenced. Inactivity period is calculated for each record starting from the moment of its last use. Upon expiration of specified inactivity period record is forced out of cache.

4. Click **Finish** to exit the wizard.

**Results**

You have enabled repository caching and have set the parameters by which caching occurs. The settings are saved to the product configuration.

The system allows you to read and write (save) file Cache settings and uses it to set the current settings directly to the Caches. All settings are grouped by services in the set of configuration records.

**Creating network repository connections**

You create a network repository connection to set up the information that will enable you to connect to a shared repository using direct network access.

**About this task**

Network connectivity permits users to access a shared repository without the need for direct database connectivity from the workstation. Connecting to repositories
using a network connection allows for consolidation of data access at a central server and removes the need to distribute JDBC drivers across each desktop running DataQuant for Workstation.

DataQuant for Workstation users can connect to repositories via a centralized machine running the DataQuant network repository service. Network connectivity provides similar capabilities to the web-based approach but does not require a web application server in order to operate. In order to use network connectivity you must set up and start the network repository service.

**Note:** When you create a network repository connection in DataQuant for Workstation (client) the version of network repository service (server) must be at the same release levels. If the release levels (between the client and server) do not match, network repository connections will not work.

To complete the creation of a network repository connection:

**Procedure**

1. Set up and start network repository service.
2. Open the second page of the Create New Repository Connection wizard.
3. Specify a name for the repository connection in the **Connection name** field. This name will be used to identify the connection as it appears in the **Repository Connections** view. You can enter any name but it is recommended that the name identifies the repository for which this connection information applies.
4. Select the **Connect immediately** check box to connect to the repository immediately. If this check box is clear, the connection information will be created, saved and displayed in the **Repository Connections** view, but you will not be immediately connected to the repository.
5. Specify the name or the IP address of the server (or workstation) that is running your network service in the **Server host** field.
6. Specify the contact port for the network server in the **Port** field.
7. Click **Refresh**. The available repository connections for the specified network repository service are retrieved. Select the repository connection that you want to use from the list of available repository connections.
8. Click **Finish**. The repository connection is listed in the **Repository Connections** view. If you selected **Connect immediately**, you are connected to the repository that you selected. This repository connection information is entered in the connections settings file.

**Setting up network repository services**

DataQuant for Workstation users can connect to shared repositories by using a centralized machine that runs the DataQuant network repository service.

**About this task**

To set up the DataQuant network repository service:
Procedure

1. During the installation of DataQuant for Workstation, all *.jar files are placed in the API installation directory. Copy them to a required directory on the server machine.

2. Copy the product license files to the directory on the server machine referred to in 1. The product license files are located under WEB-INF/config in DataQuant for WebSphere or in the DataQuant for Workstation installation directory.

3. Copy the repositories.xml and .bi.jdbc.drivers files to the directory on the server machine referred to in 1. These files are created at installation and populated when you configure repositories with repository connection information and set up JDBC drivers. If you use the DataQuant for Workstation administrator component, you find the files in the DataQuant for Workstation installation directory. If you use the DataQuant for WebSphere Administrator application you find the files in the DataQuant for WebSphere installation WEB-INF/config directory.

4. To start the network repository service, run the following lines as one command:

   ```
   java -cp CLASSPATH com.ibm.bi.qmf.core.repository.RepositoryService PORT_NUMBER PATH_TO_REPOSITORIES.XML
   ```

   Where:
   - CLASSPATH: Contains the location of the files that were copied to the directory on the server in step one.
   - PORT_NUMBER: The port on which the network repository service must operate. It can be any free TCP/IP port of your choosing.
   - PATH_TO_REPOSITORIES.XML: Provides the path containing the repositories.xml and .bi.jdbc.drivers files. If omitted, the files are assumed to be in the current directory.

   Sample command line (issue the following lines as one command):

   ```
   java -cp "$qmf_jar_file_name.jar" com.ibm.bi.qmf.core.repository.RepositoryService 8889
   ```

5. DataQuant for Workstation users connect to the network repository service by using the machine name and designated port as defined in the Network Repository connection information.

Creating web service repository connections

You create a Web service repository connection to set up the information that will enable you to connect to a shared repository through the DataQuant for WebSphere web services API using a HTTP or HTTPS connection.

About this task

You can used web-based connectivity to access a shared repository without the need for direct database connectivity from the workstation. By using this method to connect to repositories you consolidate data access at a central server, thus removing the need to distribute JDBC drivers across each desktop running DataQuant for Workstation.

Web-based connectivity is provided by the DataQuant for WebSphere built-in repository web service. To enable this facility, you must have DataQuant for WebSphere deployed to a WebSphere Application Server (WAS) instance. In addition, you must have repository connection information available to this version...
of DataQuant for WebSphere. DataQuant for Workstation users connect to the repository using the URL and port to the DataQuant for WebSphere server.

**Note:** When you create a network repository connection in DataQuant for Workstation (client) the version of network repository service (server) must be at the same release levels. If the release levels (between the client and server) do not match, network repository connections will not work.

To complete the creation of a web service repository connection:

**Procedure**

1. Deploy DataQuant for WebSphere to a WebSphere Application Server (WAS) instance; configure one or more shared repositories, and set up shared repository connection information for each repository.
2. Open the second page of the Create New repository Connection wizard.
3. Specify a name for the repository connection in the **Connection name** field. This name will be used to identify the connection as it appears in the **Repository Connections** view. You can enter any name but it is recommended that the name identifies the repository for which this connection information applies.
4. Select the **Connect immediately** check box to connect to the web service repository immediately. If this box is clear, the connection information will be created, saved and displayed in the **Repository Connections** view, but you will not be immediately connected to the repository.
5. In the **Web Server URL** field, specify the URL to launch the instance of DataQuant for WebSphere whose web services API will be used for this connection. This is the URL address that was created when the instance of DataQuant for WebSphere was deployed.
6. Click **Refresh**. The available repository connections that have been defined for the instance of DataQuant for WebSphere that you specified in the **Web Server URL** field are retrieved. Select the repository connection that you want to use from the list of available connections.
7. Click **Finish**.
   The repository connection is listed in the **Repository Connections** view.
   If you selected **Connect immediately**, you are connected to the repository that you selected. This repository connection information is entered in the connections settings file. The next step to creating repository connection information is to distribute this information to each user that will be running DataQuant for Workstation.

**Results**

Currently, when the DataQuant for WebSphere client opens, it connects to the last accessed repository. An additional **connection** URL parameter has been added to control which repository connection should be used when the DataQuant for WebSphere client opens.

For example:

**http://host:port/DataQuant/user?repository=MyConnection**

If the **connection** parameter points to an invalid connection, then the system opens the **Switch Repository** window. You can pass logon information for secured repository connections using the **user** and **password** parameters.
For example:

```
http://host:port/DataQuant/
user?repository=MyConnection&user=userLogin&password=userPassword
```

Setting up login mapping for a data source

Login mapping enables a user to login to a repository and gain access to one or more of the database data sources that have been configured in that repository using a single user ID and password.

About this task

With login mapping, administrators can set up users so that they can login to a repository and access any data source without specifying another user ID and password that is specific to the database data source. By setting up login mapping, users do not have to continually reenter login information every time they access a database data source, and they do not have to know the login information for each database data source.

You set up login mapping for each data source that you include in the repository. Login mapping can only be set up for data sources that reside in protected repositories. Protected repositories are those that were created with the security option Internal or LDAP.

To set up login mapping for a data source:

Procedure

1. Right-click a data source in the Repositories or the Repository Explorer view. Select Properties from the pop-up menu. The Properties window opens. Select Login Mapping from the tree. The Login Mapping page of the window opens. All users and groups that have been defined for the repository are listed in the Data source login list list box. This list is empty if you have not defined any users or groups.
2. To set up mapping for a user or group, highlight a user or group and click the Edit data source login icon above the list box. The Edit Data Source Login window opens.
3. Specify the user ID that will be used to login to the database data source in the Login field.
4. Specify the password that will be used to login to the database data source in the Password field.
5. Verify the password by retyping it in the Verify password field.
6. Specify the priority that will be placed on this login information in the Priority field. You can enter any numerical value in this field with the value of 1 having the lowest priority. The Priority value is used to determine what login mapping ID and password will be invoked for a user that is a member of multiple groups. Consider the following:
   - User X is a member of two groups, Group A and Group B. You have assigned a login mapping ID and password for Group A that gives all users assigned to Group A a certain level of access to the data source. You have assigned a login mapping ID and password for Group B that gives all users assigned group B a lesser level of access to the database data source. As a member of both groups, when User X accesses the data source, it is unclear what login information that should be used. Should it be the based on the
user as a member of Group A or Group B. The **Priority** field resolves this issue. You would assign a priority value to the login information. For example, Group A is assigned a priority of 10 and Group B is assigned a priority of 5. When a user that is a member of both groups accesses the data source, access is granted based on the login information of the group, to which the user is a member, with the highest priority. In this example that would be Group A. It is important to note that in this scenario, you can not assign the same priority value to more than one group.

- User X is a member of two groups, Group A and Group B. However, User X must have a distinct level of access to a data source that is different than any other member of either group. You will use the **Priority** field to resolve this issue. You will assign a login mapping user ID and password to Group B and assign a priority value of 5 to the mapping information. You will assign a login mapping user ID and password to Group A and assign a priority value of 10 to the mapping information. You will assign a login mapping user ID and password for User X and assign a priority value of 25 to mapping information. When User X accesses the data source, the mapping information with the highest priority value will be used. It is important to note that in this scenario, you can not assign the same priority value to a group and individual user that is a member of the group.

7. Click **OK**. The data source login information for the selected user or group is listed in the **Data source login** list as follows:

   - **Login mapping owner** lists the name of the user or group that will use this login to access the data source. This is the same name that appears in the **Users and groups** list box.
   - **Login** specifies the login user ID that will be used to access the data source for the user or group.
   - **Priority** specifies the priority that is assigned to the login information. This priority value determines which login information will be invoked for users that are members of multiple groups.

   You will repeat this process for each user or group for which you want to set up login mapping information.

8. To edit existing data source login information, select the data source login information from the **Data source login** list and click the **Edit data source login** icon located above the list box. The Edit data source login window opens. You can make changes to any of the fields. Click **OK** to close the Edit data source login window.

9. To delete existing data source login information, select the data source login from the **Data source login** list and click the **Remove data source login** icon located above the list box.

10. Click **OK**. The login mapping parameters that you have specified for each user or group are in effect for the data source. You must set up login mapping information individually for each data source in the repository.

**Creating web links to data objects**

Use the Web Link wizard to create web links to DataQuant objects. You can use these links to open the objects directly in web browsers.

**Before you begin**

If you are using DataQuant for Workstation, the Web Link wizard is available only when you have an available web service repository connection.
About this task

To create a web link to data objects:

Procedure

1. From the main menu, select **File > New > Other > Web Link** to open the Web Link wizard.

   **Note:** You can also access this wizard from the repository tree pop-up menu option **Create Web Link**. If you access the wizard by using this method, the *Repository object* field and *User-Defined Parameters* are pre-filled automatically.

2. From the *Repository object* field, select the object to which you want to create a web link.

3. Specify settings for the following *Predefined Parameters*:
   - The **Toolbar** check box indicates whether to show or hide the toolbar.
   - The **Run** check box indicates whether to run the object when it is opened.
   - The **Environment** check box indicates whether to use the default environment to run the object.
     - If you want to use an environment other than the default one, select the check box and choose from the list of environments.
   - The **Renderer mode** check box is available for ad hoc reports, compiled visual projects, and visual dashboards. It determines the mode in which visual object is rendered.

4. Specify **User-Defined Parameters** to represent the selected parameters of repository objects.
   - You can add parameters into the generated URL by selecting **Include in URL** check box.

   When the **Toolbar** check box is selected, the URL formula is:
   
   ```
   http://{host}:{port}/{app_context}/g?object_name&param1=value1
   ```

   When the **Toolbar** check box is clear, for visual dashboards the URL formula is:
   
   ```
   http://{host}:{port}/{app_context}/go?object_name&param1=value1
   ```

5. Click **Next** to display the second page of the Web Link wizard.

   On the page, you can add data sources. Use the **Add Data Source** and **Remove Data Source** buttons to edit the list of data sources. In the **Login** and **Password** fields, you can enter logins and passwords for added data sources.

   In the **Web link name** field, enter the name of the current object, which you want to use in the URL. For example, if you want to convert **OBJECT_NAME** to **object_name**, the value with the selected **Toolbar**:
   
   ```
   http://{host}:{port}/{app_context}/g?OBJECT_NAME
   ```

   becomes:
   
   ```
   http://{host}:{port}/{app_context}/g?object_name
   ```

   When the **Toolbar** check box is clear, for visual dashboards the URL is:
   
   ```
   http://{host}:{port}/{app_context}/go?object_name
   ```

   You can change the link name by using the **Web link name** field.

   If you leave the **Web link name** field empty, a new name is created automatically. To override the name in the database, you must have the administrator permission.

6. Click **Create** to generate a web link.
If the specified link name exists, you must either rename it, or leave the Web link name field empty to create the name automatically.

7. Click **Open Web Link** to open the created web link in the browser.

8. Click **Finish** to close the Web Link wizard.

---

**Distributing the configured application**

The administrator is responsible for distributing a fully configured and operational application to the users.

To do this, the administrator needs to ensure that the application executable, the JDBC JAR files, a populated JDBC driver information file, and a populated repository connection information file are available to each machine that is running DataQuant for Workstation and to each server (or workstation) that is running DataQuant for WebSphere.

**Exporting the configuration data to users**

DataQuant administrators are responsible for ensuring that a QMF interoperability license (if required), the application executable, the JDBC JAR files, a populated JDBC driver information file, and a populated repository connection information file are available to each machine that is running DataQuant for Workstation and to each server (or workstation) that is running DataQuant for WebSphere.

**About this task**

The following steps describe the most streamlined process for making the DataQuant configuration available to your users.

**Procedure**

1. Ensure that the JDBC JAR files are available (assuming that the location of the JDBC driver files is identical for each machine) as follows:
   - to each machine running DataQuant for Workstation that will connect directly to repositories and data sources using direct database connections.
   - to each server (workstation) running DataQuant for WebSphere that will connect directly to repositories and data sources using direct database connections.

2. Place the DataQuant for Workstation installation executable in a directory that is available to all users.

3. Using DataQuant for Workstation administrative perspective, specify the JDBC driver location information for each type of JDBC driver that will be used to connect to shared repositories and database data sources. The .bi.jdbc.drivers file is automatically updated. Place the JDBC driver information file (.bi.jdbc.drivers) alongside the DataQuant for Workstation installation executable.

4. Using DataQuant for Workstation administrative perspective, specify the information required to connect to one or more shared repositories. The repositories.xml file is automatically updated. Place the connection settings file (repositories.xml) alongside the DataQuant for Workstation installation executable.

5. In order for DataQuant for z/OS users to access QMF objects, a QMF Enterprise Edition V8, V9 or V10 license must be available. If you want your users to access QMF objects, place the license file (host.lic for V8 or workstation-zSeries.lic for V9 and V10) alongside the DataQuant for
Workstation installation executable. The license file is found in the directory where the V8, V9 or V10 QMF application was installed.

6. You can set up a silent installation of DataQuant for Workstation. A silent installation runs on its own without user intervention. There is no need for users to monitor the installation and provide input via dialog boxes. Using a silent installation, you as the administrator can control what features are installed on the users machine. To set up a silent installation, create the silent installation options file, modify the executable name to include the silent installation parameters, and place the file alongside the DataQuant for Workstation installation executable.

7. DataQuant for Workstation users can now install the application by running the executable. The repository connection information and JDBC driver information will automatically be set up on their machine. If a QMF Enterprise Edition V8, V9 or V10 license is available, the z/OS user will have access to QMF objects. If the application executable has the silent installation parameter specified, the user will not have to respond to any dialog messages. In lieu of users running the executable, administrators can also use distribution software to complete the installation of DataQuant for Workstation on each user machine.

8. To update each instance of DataQuant for WebSphere with the latest repository connection and JDBC driver information, you can do one of the following:

   • Drop the repository connections file (repositories.xml) and the JDBC driver information file (.bi.jdbc.drivers) in the home directory of the workstation or server that is running DataQuant for WebSphere. This makes the repository connection and JDBC driver information available to each user of that DataQuant for WebSphere application.

   • Using DataQuant for Workstation export the repository connections settings file (repositories.xml) and the JDBC driver information file (.bi.jdbc.drivers) to a general location. The exported file is called settings.xml. Using DataQuant for WebSphere Administrator import the settings.xml file. The repository connection and JDBC driver information is updated on the server (or workstation) that is running DataQuant for WebSphere.

Results

You have exported the DataQuant configuration data to your users. Users can now begin using the product.

What to do next

Each time the repository connections or JDBC information files are updated, they must be distributed again to all the users of DataQuant for Workstation and to all the servers (or workstations) that are running DataQuant for WebSphere

Installing the product silently

A silent installation runs on its own without user intervention. Users must not monitor the installation and provide input via dialog boxes. Using a silent installation, you as the administrator can control what features are installed on the user machine. To set up a silent installation, you must create a silent installation options file and place the file in the same directory as the DataQuant for Workstation installation executable.

About this task

To install the product silently, see the following topics:
Creating a response file:

To run a silent installation of DataQuant for Workstation, you must create a response file that specifies all installation options. This file must specify all the features that you want to install and installation paths.

About this task

To create a response file:

Procedure
1. In the command line, run the installation command.
   • See the example for a Windows installation to the current directory:
     `setupwin32.exe -r installer.properties`
     where: ‘-r’ specifies that the installation software runs in record mode.
   • See the example for a Windows installation to the custom directory:
     `setupwin32.exe -r C:\drive_path\response_file.properties`
     where:
     – ‘-r’ specifies that the installation software runs in record mode.
     – ‘C:\drive_path\response_file.properties’ specifies the path to the response file that you want to create.
2. As the installation proceeds, you select the features that each user that runs this executable installed on their machine.
3. Upon completion of the installation, the application is installed in the directory that you specified during the installation.

Results

The response file is created and saved in the current directory or the directory that you specified in the path.

What to do next

Distribute the files to the user machines to that you want to install the software and run the silent installation.

Running the silent installation:

To run a silent installation of DataQuant for Workstation, you distribute the response file among the user machines to that you want to install the application.

Before you begin

You must have the response file.

About this task

To run the silent installation:

Procedure
1. Optional: If you want the JDBC, repository storage, repository connection, and license information to be included in the user installation, copy the repositories connections file (repositories.xml), the JDBC driver file (.bi.jdbc.drivers),
license file (*.lic), and storage file (.storage) from the application home
directory to the directory where the installation executable is stored.

2. To prepare for the silent mode, rename the response file to
installer.properties and place it in the same directory with setupwin32.exe.
Use the command line to pass the following arguments for the Windows OS:
setupwin32.exe -i silent
where:
* -i silent: specifies that the installation software runs in silent mode.

Note: If you want to use the response file that is stored in the directory that is
different from the one where the installation executable is stored, specify the
absolute path to the response file in the argument:

setupwin32.exe -i silent -f C:\drive_path\response_file.properties

Results

The installation is silent; the product directories are created without notification to
the user.

Exporting and importing the JDBC driver and connection
information

DataQuant administrators can distribute repository connection and JDBC driver
information by exporting the repositories.xml file and the .bi.jdbc.drivers file;
and importing the settings.xml file.

About this task

To export and then import the repository connection and JDBC driver information:

Procedure

1. Populate the repository connection repositories.xml and the JDBC driver
information .bi.jdbc.drivers files.
2. Open the Export window by selecting File > Export. Select Connection and
JDBC library settings from the list of available export destinations.
3. Click Next. The Export Connection and JDBC Library Settings page of the
wizard opens.
4. A single file called settings.xml will be exported. If you are using DataQuant
for Workstation, specify where to save the settings.xml file in the Settings
file field. You can use Browse to locate a directory that is accessible to all
users.
5. Select the connection information that you want to include in the exported
settings file. All of the repository connections that are currently defined are
listed in the Repository connections list box. Select the check box for each
connection that you want to include in the settings.xml file.
6. All of the JDBC driver libraries that you have defined are listed in the JDBC
libraries list box. Select the check box for each JDBC driver library that you
want to include in the settings.xml file.
7. Click Finish. If you are using DataQuant for WebSphere, the Save file window
opens which lists the settings.xml file. Click the Link to file hyperlink to
download the file to your local workstation and click OK. If you are using
DataQuant for Workstation, the Export Connection and JDBC Library Settings
page of the wizard closes. The files are exported to the location that you
specified in the Settings file field.
8. For each instance of DataQuant that is installed on another machine or server, import the repository connections and JDBC driver information settings.xml file by selecting File > Import. Select Connection and JDBC library settings from the Import window. The Import Connection and JDBC Library Settings page of the wizard opens.

9. Specify where to find the settings.xml file in the Settings file field. You can use Browse to locate the file.

10. Select the Repository connections check box to import the repository connections that have been included in the settings.xml file.

11. Select the JDBC library settings check box to import the JDBC driver information that has been included in the settings.xml file.

12. Specify how you want conflicts with previous settings files to be resolved using the Conflict resolving radio buttons. Select Override existing settings to replace all conflicting information with new information. Select Keep existing settings to not update any existing information with new information. Select Manually resolve conflicts to open the Conflicts window where you will manually resolve conflicts between existing and new setting information.

13. Click Finish. The Import Connections and JDBC Library Settings window closes. The repository connection settings and JDBC driver information files are updated for the current machine running DataQuant for Workstation and the current server (or workstation) running DataQuant for WebSphere. You can repeat this process each time the JDBC driver information or repository connection information is updated.

Exporting update scripts
Use the Export Update Script feature to apply product updates to all your repository storages and QMF catalogs when you installed a product update.

About this task
The scripts that are generated by the Export Update Script feature automate the process for updating table structures, re-binding packages, and re-creating stored procedures.

The maximal line length of the DDL scripts that are generated by this feature is determined by the value set in the Line width field on the General Preferences page. For more information, see Setting general preferences in the user help.

To generate the update scripts in the newly installed product version, perform the following procedure:

Procedure
1. From the main menu, select File > Export, select Export Update Script, and click Next.
   The Export Storage Update Scripts wizard opens.
2. In the Repository Storages table, select the repository storages that you want to update. Use Select All and Deselect All buttons for more convenient selection.
3. In the Settings pane, specify the following settings for the repository storages:
   (Use the same settings for all selected storages.)
   · Protect using: Stored procedures or Static SQL Packages to set the protection method for the newly installed version of the product.

Installing and Managing DataQuant
• **Collection ID for packages** to set the collection ID for the packages to update.

• **Owner ID for packages** to set the owner ID for the packages to update if it is necessary to change a default.

• **Grant permission on packages to** to specify particular users and groups for which you are granting permissions. Users and groups must be separated by commas.

• **Database username** to set the username that is used to access the databases.

• **Database password** to set the password that is used to access the databases.

4. Click Next

5. In the **QMF Catalogs** table, select the QMF catalogs to update. Use **Select All** and **Deselect All** buttons for more convenient selection.

   All settings on the Repository Storages wizard page by default are duplicated on the QMF Catalogs page.

   • **Protect using: Stored procedures or Static SQL Packages** to set the protection method for the newly installed version of the product.

   • **Collection ID for packages** to set the collection ID for the packages to update.

   • **Owner ID for packages** to set the owner ID for the packages to update if it is necessary to change a default.

   • **Grant permission on packages to** to specify particular users and groups for which you are granting permissions. Users and groups must be separated by commas.

   • **Database username** to set the username that is used to access the databases.

   • **Database password** to set the password that is used to access the databases.

6. Click **Finish** to generate the files to update repository storages and QMF catalogs.

   The following files are generated and stored in a directory of your choosing:

   • Database update SQL (.ddl files)

   • Package installation properties (.bndtask) files

   • Package installation scripts (bind.bat and bind.sh)

   • Repository connections configuration file (repositories.xml)

   This file updates configuration of existing and updated installations of the product.

   **Note:** The .ddl scripts must be run first to avoid errors. The names of the .ddl and .bndtask files are generated in the following format:

   • `<host>_<port>_<database>_repository.ddl`

   • `<host>_<port>_<database>_repository.bndtask`
Chapter 4. Managing resource limits

Resource limits help you manage resource consumption on a database data source. By specifying resource limits you can control the actions a user can perform and implement limits on the resources a user can consume when they access the data source using DataQuant.

Resource limits can be applied globally to data sources or they can be applied to individual queries that access any data source. Data source and query resource limits allow you to control resource consumption on a per user, group, day of the week, or time of day basis.

Setting up data source resource limits

You can set up one or more unique sets of resource limits that can be applied to individual users or to groups of users when they access a data source.

About this task

For every data source that you add to a repository, the Add New Data Source wizard creates a default set of resource limits. Based on your resource limits provider selection, the default resource limits for the data source are stored in the repository or the QMF catalog. The resource consumption at the data source for every user of DataQuant for Workstation and DataQuant for WebSphere is automatically controlled by that default set of resource limits. The default resource limits are non-restrictive and are always active.

To modify the default resource limits or set up new, unique resource limits for a data source:

Procedure


2. All resource limits groups that exist for a data source are listed in the Resource limits groups list box. Every data source has a resource limits group called Default. The Default resource limits group includes all users and has no resource limitations. Use the Show resource limits groups whose names match field and the Refresh List button to search for specific resource limits groups that exist on the data source. Use a percent (%) sign in the Show resource limits groups whose names match field to list all resource limits groups that exist on the data source.

3. Create a new resource limits group for the data source by clicking the Add icon. The New Resource Limits Group window opens. Specify field values and click OK.

4. Create a schedule and specify resource limit values for the resource limits group by selecting the resource limits group from Resource limits groups list box and clicking the Edit icon. The Edit Resource Limits Group window opens. Specify field values and click OK.

5. Assign users to a resource limits group by selecting the resource limits group from the Resource limits groups list box and clicking Assign. If you are using
a repository as your resource limits provider, the Assignment for [resource limits group name] window opens. If you are using a QMF catalog as your resource limits provider, the Assign User Profiles to [resource limits group name] window opens. Specify field values and click OK.

6. To delete a resource limits group, select the group from Resource limits groups list box and click the Delete icon. The resource limits group is removed from Resource limits groups list box.

7. Click OK to close the Resource Limits page of the Properties window.

**Note:** If a resource limit has been set at the query level and the data source level, DataQuant will apply the most restrictive limit of the two. For example, if the Maximum Rows to Fetch limit is set to 150,000 rows at the query level, but set to 100,000 rows at the data source level, then DataQuant will apply the data source limit of 100,000 rows when the query is run, since the lower number constitutes a more restrictive limit. This selection process is repeated for every resource limit that is set at both the query and data source levels.

---

### Setting up query resource limits

You can set up one or more unique sets of resource limits that can be applied to an individual query.

**About this task**

Each time a user runs the query at any data source, the resource limits assigned to the user will control their resource consumption at that data source. Each set of resource limits can place specific restrictions that can be implemented based on the time of day or day of week that the query is run. You can apply resource limits to any query that has been saved in a repository. The resource limits that you can apply to a query are the **Timeouts**, **LOBs**, and **Cache** resource limits.

To set up resource limits for a query:

**Procedure**

1. From the Repository Explorer or Repositories view, right-click a query that has been saved in the repository. Select Properties from the pop-up menu. The Properties for [query name] window opens. Click the Resource Limits folder. The Resource Limits window opens.

2. All resource limits groups that exist for a query are listed in the Resource limits groups list box. Every data source has a resource limits group called Default. The Default resource limits group includes all users and has no resource limitations. Use the Show resource limits groups whose names match field and the Refresh List button to search for specific resource limits groups that exist on the data source. Use a percent (%) sign in the Show resource limits groups whose names match field to list all resource limits groups that exist on the data source.

3. Create a new resource limits group for the data source by clicking the Add icon. The New Resource Limits Group window opens. Specify field values and click OK.

4. Create a schedule and specify resource limit values for the resource limits group by selecting the resource limits group from Resource limits groups list box and clicking the Edit icon. The Edit Resource Limits Group Schedule window opens. Specify field values and click OK.
5. Assign users to a resource limits group by selecting the resource limits group from the **Resource limits groups** list box and clicking **Assign**. If you are using a repository as your resource limits provider, the Assignment for [resource limits group name] window opens. If you are using a QMF catalog as your resource limits provider, the Assign User Profiles to [resource limits group name] window opens. Specify field values and click **OK**.

6. To delete a resource limits group, select the group from **Resource limits groups** list box and click the **Delete** icon. The resource limits group is removed from **Resource limits groups** list box.

7. Click **OK** to close the Resource Limits page of the Properties window.

**Note:** If a resource limit has been set at the query level and the data source level, DataQuant will apply the most restrictive limit of the two. For example, if the **Maximum Rows to Fetch** limit is set to 150,000 rows at the query level, but set to 100,000 rows at the data source level, then DataQuant will apply the data source limit of 100,000 rows when the query is run, since the lower number constitutes a more restrictive limit. This selection process is repeated for every resource limit that is set at both the query and data source levels.

---

**Definition of a resource limits group**

A resource limits group is a set of resource limits that are implemented collectively, for each user that is assigned to the group, according to a specified schedule. You can create as many resource limits groups as you want, with each group having a different set of resource limits implemented according to different schedules.

There are many permutations available to you for setting up resource limits groups. The most common ways to set up resource limits groups and control resource usage are by:

- data source
- user
- day of the week
- time of day

For example, a resource limits group can contain one set of limits that is in effect weekdays between 8 AM and 6 PM and another that is in effect on weekends and off-hours. In addition, each resource limits group can have different users assigned allowing them to perform only certain functions on specific database data sources or when running specific queries.

**Default resource limits group**

Initially, all users are assigned to the default resource limits group. Users who are not assigned to any other resource limits group are governed by the limits defined in the default resource limits group.

The default resource limits group is assigned a set of default resource limits and a default schedule. The default resource limits are not restrictive and the default schedule implements the resource limits 24 hours a day, every day of the week. You can edit the default resource limits group and change the resource limits and the schedule.

**Note:** Resource limits are always active. Governing based on default resource limits is performed even if you do not set up resource limits groups. You should review the limits specified for the default resource limits group to ensure that
unassigned users that are governed by the default group are not granted limits that are more extensive or restrictive than you intend.

**Ensuring resource limits groups security**

In order to protect the limits that have been specified for each user, QMF catalog-based resource limits groups are securely stored in the table RDBI RESOURCE TABLE that is part of the QMF catalog and resides on a database server.

You must have the authorization to execute the DataQuant application package on the database server in order to make any changes to a resource limits group. This prevents unauthorized users from changing the resource limits.

A view named RDBI RESOURCE VIEW is defined for the resource limits table. DataQuant applications access the resource limits information using the view so the table remains intact.

**Note:** The Default resource limits group resource limit information is stored in the repository and not in the RDBI RESOURCE TABLE on the database server. That means any user who can access the repository can make changes to the resource limits of the default resource limits group.

**Creating resource limits groups**

A resource limits group is a set of resource limits that are implemented collectively, for each user that is assigned to the group.

**About this task**

You can create one or more resource limits groups for each data source that you add to the repository.

To create a resource limits groups:

**Procedure**

2. Type a name for the group in the Group name field. There are no restrictions on the name.
3. **Optional:** In the Comments field you can specify up to 80 characters of comments describing the resource limits group.
4. You can select the Create this group using schedules from the Default group check box to create the resource limits group with the same schedules as the default group. If this check box is cleared, the new resource limits group has no schedules. You create or modify a resource limits group’s schedule using the Edit Resource Limits Group Schedule window.
5. Click OK. The New Resource Limits Group window closes. The new resource limits group is created. Control returns to the Resource Limits window. The next step to setting up resource limits is to create or edit the resource limits group schedules.
Setting up resource limits group schedules

The resource limits group schedule determines when the resource limits specified for the group are in effect. You can create as many schedules for a resource limits group as you need. Each schedule can be set up to implement a unique set of resource limits.

Specifying multiple schedules for one resource limits group

Specify resource limits during different time periods using multiple schedules for one resource limits groups.

When a user accesses a data source the resource limits groups to which the user has been assigned are identified. The schedules of the identified groups are verified to determine which resource limits are currently in effect. Because users can be assigned to multiple resource limits groups, each with multiple schedules, there can easily be overlapping spans of time when technically multiple sets of resource limits could be in effect.

In the cases of overlapping schedules, a unique schedule number is used to determine which schedule is in effect. The schedule with the lowest number takes precedence.

For example, suppose that a resource limits group has the following four schedules:

<table>
<thead>
<tr>
<th>Schedule #</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>From Day</td>
<td>Wednesday</td>
<td>Monday</td>
<td>Monday</td>
<td>Sunday</td>
</tr>
<tr>
<td>To Day</td>
<td>Wednesday</td>
<td>Friday</td>
<td>Friday</td>
<td>Saturday</td>
</tr>
<tr>
<td>From Time</td>
<td>10:30</td>
<td>9:00</td>
<td>17:00</td>
<td>00:00</td>
</tr>
<tr>
<td>To Time</td>
<td>11:30</td>
<td>17:00</td>
<td>9:00</td>
<td>24:00</td>
</tr>
</tbody>
</table>

You will notice that schedule #1 is embedded in schedule #2 and schedules #1, #2, and #3 are embedded in schedule #4. If a user accessed this data source on Wednesday at 11:00, schedules #1, #2, and #4 could be in effect. The schedule with the lowest number is used.

When you create your resource limits group schedules, it is recommended that you stagger your numbering so additional schedules can be inserted where appropriate or deleted without impact. Keep in mind that schedules do not have to be numbered sequentially but once a schedule is assigned a number it cannot be changed.

All time and day ranges of the schedules are inclusive. That means if the From time is 08:00, the schedule is in effect exactly at 08:00. If the To time is 17:00 the schedule is in effect until 16:59:59. The from and to times can wrap around midnight, and the from and to days can wrap around weekends.

When users are accessing data sources in different time zones, the clock used to determine time resides on the data source being accessed. For example, an user in New York is accessing a data source in California and it is 9:00 AM Monday in New York. Based on the example schedules, schedule 3 is in effect because according to the data source it is 6:00 California time.
Determining the resource limits schedule in effect

Each resource limits group schedule has a unique number that specifies the priority of the schedule.

The resource limits group schedule specifies the limits that have been set up for a group of users. For each resource limits group, there can be more than one schedule. Usually each schedule has different limits specified and is effective at different times. However, some schedules can have different limits but overlapping times where they are effective. In the cases of overlapping times, DataQuant uses the unique schedule number to determine which schedule is in effect. The schedule with the lowest number takes precedence.

For example; if a resource group has following four schedules:

<table>
<thead>
<tr>
<th>Schedule #</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>From Day</td>
<td>Sunday</td>
<td>Monday</td>
<td>Wednesday</td>
<td>Monday</td>
</tr>
<tr>
<td>To Day</td>
<td>Saturday</td>
<td>Friday</td>
<td>Wednesday</td>
<td>Friday</td>
</tr>
<tr>
<td>From Time</td>
<td>00:00</td>
<td>09:00</td>
<td>10:30</td>
<td>17:00</td>
</tr>
<tr>
<td>To Time</td>
<td>24:00</td>
<td>17:00</td>
<td>11:30</td>
<td>09:00</td>
</tr>
</tbody>
</table>

Schedule 1, because it has the lowest number, is always in effect. The numbering of these schedules as presented above does not make sense. As defined, schedule 3 will never be in effect because the time frame it spans always falls within schedule 1, and schedule 1 will always take precedence. This is a major consideration when assigning numbers to the schedules.

When you create a schedule, you as the administrator can choose to assign any number from 1 to 99 to that schedule. It is recommended that for the schedule with the most selective time constraints, you assign the lowest number, and for the schedule with the broadest time expanse, you assign the higher number.

Following this logic, the more appropriate way of numbering the above schedules would be:

<table>
<thead>
<tr>
<th>Schedule #</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>From Day</td>
<td>Wednesday</td>
<td>Monday</td>
<td>Monday</td>
<td>Sunday</td>
</tr>
<tr>
<td>To Day</td>
<td>Wednesday</td>
<td>Friday</td>
<td>Friday</td>
<td>Saturday</td>
</tr>
<tr>
<td>From Time</td>
<td>10:30</td>
<td>09:00</td>
<td>17:00</td>
<td>00:00</td>
</tr>
<tr>
<td>To Time</td>
<td>11:30</td>
<td>17:00</td>
<td>09:00</td>
<td>24:00</td>
</tr>
</tbody>
</table>

Now, on Wednesday at 10:30 AM, schedule 1 is in effect. On Monday at 10:30 AM, schedule 2 is in effect, all other times on Monday through Friday from 9:00 AM to 5:00 PM schedule 2 is in effect, and from 5:00 PM to 9:00 AM schedule 3 is in effect. On Friday evening schedule 3 is in effect until midnight. At midnight Saturday morning, schedule 4 takes over. On Sunday at 10:30 AM schedule 4 is in effect.

Additional considerations when creating schedules:
• Schedules do not have to be numbered sequentially. Once a schedule is assigned a number it cannot be changed, so it is recommended that you stagger your numbering so additional schedules can be inserted where appropriate or deleted without impact.
• All time and day ranges of the schedules are inclusive. That means if the From time is 08:00, the schedule is in effect exactly at 08:00:00. If the To time is 17:00, the schedule is in effect until 16:59:59.
• The from and to times can wrap around midnight, and the from and to days can wrap around weeks.
• When users are accessing servers in different time zones, the clock used to determine time resides on the server being accessed. For example, an user in New York is accessing a server in California and it is 9:00 am Monday in New York. Based on the example schedules, schedule 3 is in effect because according to the server it is 6:00 California time.

Creating a resource limits group schedule

A resource limits group can have one or more schedules, each with a different set of resource limits. The schedule defines when the associated set of resource limits is in effect.

About this task

The set of resource limits specify what actions and resource usage is allowed while the schedule is in effect.

To create or edit a resource limits group schedule:

Procedure

2. The Resource limits group that you selected is identified in the Group name field.
3. Comments that were specified when the group was created are displayed in the Comments field. You can make changes to the comment text by typing new text directly in the field.
4. All of the schedules that have been defined for this resource limits group are listed in the Schedule List list box.
5. The Status radio buttons indicate whether all of the schedules that are listed in the Schedule List are collectively active or inactive. To activate all the schedules listed in the Schedule List, select Active. All of the schedules are active. To deactivate all the schedules listed in the Schedule List, click the Inactive. None of the schedules are in effect except the default schedule. The schedules are saved and can be activated at any time.
6. To create a new resource limits group schedule, click Add. The Main page of the Edit Resource Limits Group Schedule window opens. Use the pages of the Edit Resource Limits Group Schedule window to specify the individual resource limits for the schedule.
7. To edit a resource limits group schedule, select the schedule from the Schedule List and click Edit. The Timeouts page of the Edit Resource Limits Group
Schedule window opens. Use the pages of the Edit Resource Limits Group Schedule window to specify the individual resource limits for the schedule.

8. To delete a resource limits group schedule, select the schedule from the Schedule List and click Delete. The selected resource limits group schedule is deleted.

9. Click OK. The Edit Resource Limits Group window closes. The new resource limits group schedule is created and any changes that you have made to the resource limits parameters are saved. Control returns to the Resource Limits window. The next step to setting up resource limits is to assign users to the resource limits groups.

---

**Specifying values for the resource limits**

From the Edit Resource Limits Group Schedule window you enter the resource limits that you want to be in effect for the schedule.

**About this task**

To specify the individual resource limits:

**Procedure**


2. Using the following pages of the Edit Resource Limits Group Schedule window specify the parameters that will set up the resource limits for the selected resource limits group schedule:
   - Select the Main page to assign the schedule a priority and specify the time of day and day of the week the schedule is in effect. You must specify these parameters when you are creating a new schedule.
   - Select the Timeouts page to specify warning and cancellation limits for idle queries, idle connections, and server response time.
   - Select the Limits page to specify warning and cancellation limits for the maximum number of rows and bytes of data that can be retrieved. In addition, select this page to specify the maximum number of simultaneous connections that can be established to the database server.
   - Select the SQL Verbs page to limit the SQL verbs that users assigned to this resource limits group are allowed to use when this schedule is in effect.
   - Select the Options page to specify access options including: database data source access using either the DataQuant for Workstation or DataQuant for WebSphere user interface and programming interface; database update confirmation; isolation levels for user queries; mandatory account information; and the ability to fetch all rows automatically, export data, edit tables, and only run saved queries.
   - Select the Save Data page to allow users assigned to this resource limits group and using this schedule to save data at the database server.
   - Select the Binding page to allow users assigned to this resource limits group and using this schedule to bind or drop static packages for their queries.
• Select the **Object Tracking** page to turn on DataQuant for Workstation or DataQuant for WebSphere object tracking. You must turn on object tracking in order to have meaningful object tracking reports.

• Select the **LOB Options** page to allow users, assigned to this resource limits group and using this schedule, to access tables containing large object data (LOB).

• Select the **Cache** page to control caching options for each user.

• Select the **Object List** page to define the default owner name that will be used to filter data source objects and specify a specific list of owner names that can be used to filter data source objects aside from the default name.

3. Click **OK**. The Edit Resource Limits Group Schedule window closes. All the changes that you have made to the resource limits parameters are saved. The Edit Resource Limits Group window stays open. From the Resource Limits Group window, the next step to setting up resource limits is to assign users to the resource limits groups.

**Specifying Main resource limits**

On the Main page of the Edit Resource Limits Group Schedule window you specify the priority schedule number, and the day and time when the schedule will be in effect.

The **Main** resource limits are as follows:

**Number**

Populate this text field with a number from 1 to 99. This number is used to identify the schedule and represent the schedule's priority. A number is assigned to the schedule only when it is created. The schedule number must be unique. Once assigned, you cannot change the schedule number and its assigned priority.

The schedule’s priority number is used to decide which schedule is in effect when schedules overlap. If two schedules for the resource limits group cover the same time period, the schedule with the lower number takes precedence.

**Day Range**

Select from the drop down lists a day of the week that will be the starting day and a day of the week that will be the ending day for the schedule. The schedule is in effect from the starting day to the ending day, inclusive. You can specify a day range that wraps around the end of the week. For example, selecting Friday through Monday activates the schedule Friday, Saturday, Sunday, and Monday. In reverse, selecting Monday through Friday activates the schedule Monday, Tuesday, Wednesday, Thursday, and Friday.

**Time Range**

Select from the drop down lists a time to start and a time to end the schedule. The schedule is in effect from the start time to the end time, inclusive. Time is specified using a 24 hour clock. You can specify a time range that wraps around midnight. For example, selecting 23:00 through 7:00 will activate the schedule from 11:00 at night until 7:00 in the morning. In reverse, selecting 7:00 through 23:00 will activate the schedule from 7:00 in the morning till 11:00 at night.

**Status**

Use these radio buttons to set the status of the individual schedule. The status of the whole Resource Limits group, set using **Status** on the Edit
Resource Limits Group window, takes precedence over the individual schedule status. There are two choices of status:

- **Active** to activate this schedule.
- **Inactive** to deactivate this schedule. An inactive schedule remains as it was defined until you activate it or delete the schedule from the resource limits group. You can activate the schedule at any time.

### Specifying Timeouts resource limits

On the Timeouts page of the Edit Resource Limits Group Schedule window you set the timeout warning and cancellation limits for idle queries, idle connections, and data source response time.

**Idle Query Timeouts** and **Server Response Timeouts** resource limits can be set for both data sources and for individual queries. The **Idle Connection Timeouts** resource limit can only be set for data sources and not for individual queries. The **Timeouts** resource limits are as follows:

**Idle Query Timeouts**

These fields specify the amount of time that a query can remain idle. The **Warning limit** field displays the number of seconds that a query can remain idle before the user is informed and asked if the query should be canceled. The **Cancel limit** field displays the number of seconds that a query can remain idle before the query is automatically canceled.

**Server Response Timeouts**

These fields specify the amount of time that can be spent waiting for a response from the database. The **Warning limit** field specifies the number of seconds that can elapse before the user is informed and asked if the database request should be canceled. The **Cancel limit** field specifies the number of seconds that can elapse before the database request is automatically canceled.

**Note:** A lower timeout limit prevents long running, runaway queries. A higher timeout limit allows database requests to complete when the database server is slow due to resource contention or other reasons.

**Idle Connection Timeouts**

This field specifies the amount of time that an idle connection to a database data source is retained. The **Cancel limit** field specifies the number of seconds that an idle connection is retained before it is automatically closed.

**Note:** A lower timeout limit minimizes the resources consumed at the database by idle connections. A higher timeout limit minimizes the overhead of establishing connections.

### Specifying Limits resource limits

On the Limits page of the Edit Resource Limits Group Schedule window you set the warning and cancellation limits for the maximum number of rows and bytes of data that can be retrieved from the database data source. In addition, you can specify the maximum number of simultaneous connections that can be established to the data source.

**Limits** resource limits can be set for data sources. The **Limits** resource limits are as follows:
Maximum Rows to Fetch
These fields specify the limits for the number of rows of data that can be retrieved from a database data source when running a query. The Warning limit field specifies the number of rows that can be retrieved from the data source before you are notified that a row limit has been reached. The user is prompted to select whether more data should be fetched or should the query be canceled. The Cancel limit field displays the number of rows that can be retrieved from the data source before the row limit is reached. The query is then automatically cancelled.

Maximum Bytes to Fetch
These fields specify the limits for the number of bytes of data that can be retrieved from a database data source when running a query. The Warning limit specifies the number of bytes that can be retrieved from the data source before the user is notified that the byte limit has been reached. The user is then prompted to specify whether more data should be fetched or should the query be canceled. The Cancel limit displays the number of bytes that can be retrieved from the data source before the byte limit is reached. The query is then automatically cancelled.

Maximum Connections
This field specifies the limit for the number of simultaneous connections that can be established to a database data source. The Cancel limit specifies the number of simultaneous connections that can be established to a data source before the query requesting the next connection is automatically canceled. Setting the limit to zero (0) indicates that there is no limit to the number of connections.

Generally, connections to database data sources are reused. If you run one query at a data source, then run another query at the same data source, only one connection is required. However, if you run those two queries simultaneously, then two connections are required. If another connection to a data source is required and this limit is reached, an error is returned and the operation is not performed.

Note: To enable table editing, you must specify that two or more simultaneous connections are allowed.

Specifying SQL Verbs resource limits
On the SQL Verbs page of the Edit Resource Limits Group Schedule window you specify the SQL verbs that users assigned to this resource limits group are allowed to use when this schedule is in effect.

If a user tries to run a query that contains a disallowed verb, the query is canceled without sending the SQL to the data source. SQL Verbs resource limits can be set for data sources.

The use of the following SQL verbs can be controlled:
- ACQUIRE
- ALTER
- CALL
- COMMENT
- CREATE
- DELETE
- DROP
Specifying Options resource limits

On the Options page of the Edit Resource Limits Group Schedule window you specify the levels of access users have to a data source and the data source objects.

Options resource limits can be set for data sources. The Options resource limits are as follows:

Allow access to data source from user interface
This field specifies whether you have permission to access a data source from the DataQuant for Workstation user interface when the current resource limits group schedule is in effect.

Allow access to data source from programming interface
This field specifies whether you have permission to access a data source from the DataQuant for Workstation application programming interface (API) when the current resource limits group schedule is in effect.

Fetch all rows automatically
This field specifies how the data source will send query results data to the application. By default, data is requested from the data source only as required to display query results. For example, if 20 rows fill up the query results window, only 20 rows are requested from the data source. When you scroll down to make the 21st row visible, more data is requested. If you run a query and then wait before scrolling down, the query remains active for that wait time, consuming resources at the data source. If this parameter is enabled, data is requested repeatedly until all data is received, independent of your scrolling requests.

Confirm database updates
This field specifies whether or not you must confirm all data source changes resulting from the queries that you run or the actions that you perform when editing tables. If this check box is selected, you will be prompted for confirmation before any data source changes can occur. If this check box is cleared, data source changes can occur without confirmation.

You can override this resource limit setting using the Confirm parameter in a Procedure command. The following table shows the correlation of the parameters, depending on the specified values:

<table>
<thead>
<tr>
<th>Confirm database updates value</th>
<th>Procedure parameter value</th>
<th>The confirmation dialog behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selected</td>
<td>confirm=yes</td>
<td>appears</td>
</tr>
<tr>
<td>Confirm database updates value</td>
<td>Procedure parameter value</td>
<td>The confirmation dialog behavior</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Selected</td>
<td>confirm=no</td>
<td>does not appear</td>
</tr>
<tr>
<td>Selected</td>
<td>not specified</td>
<td>appears</td>
</tr>
<tr>
<td>Cleared</td>
<td>confirm=yes</td>
<td>appears</td>
</tr>
<tr>
<td>Cleared</td>
<td>confirm=no</td>
<td>does not appear</td>
</tr>
<tr>
<td>Cleared</td>
<td>not specified</td>
<td>does not appear</td>
</tr>
</tbody>
</table>

### Enable exporting of data
This field specifies whether a user can export query result data to a file using the Export command from the File menu or the EXPORT DATA procedure command.

### Enable table editing
This field specifies whether or not you can edit a table using the table editor feature.

### Allow running saved queries only
This field specifies whether or not you can create and save new queries at the database data source. If checked, you can only run queries that are saved at the database data source. If clear, you can run queries, as well as create and save new queries at the database data source.

### Isolation level for queries
The Isolation level for queries parameter only applies to databases that support transactions.

This field specifies the level of transaction isolation to be applied to a user's queries. There are varying levels of isolation, each with a differing degree of impact on transaction processing in the database.

Consult with your database administrator or the database server documentation to determine if the database server being used is configured to support transaction processing.

Valid values include:

- **Default** specifies that the isolation level for a query will be the default specified for all applications.
- **Repeatable Read** specifies that the isolation level for a query will be Repeatable Read (RR). The RR isolation level provides the most protection from other applications.
- **All (RS)** specifies that the isolation level for a query will be Read Stability (RS).
- **Cursor Stability (CS)** specifies that the isolation level for your query will be Cursor Stability (CS). The CS isolation level provides the maximum concurrency with data integrity.
- **Change (UR)** specifies that the isolation level for your query will be Uncommitted Read (RS) which allows an application to read uncommitted data.
- **No Commit (NC)** specifies that the isolation level for your query will be No Commit (NC). An application running with an isolation level of NC can not make permanent database changes.
Account
This field specifies the default account information that will be sent to a
data source when you connect to that data source.

Account can be overridden
This field specifies whether you are allowed to override the default
accounting information specified in the Account field when connecting to a
data source. If selected, you can enter a new accounting string using the
Set User Information window. If clear, you cannot enter new accounting
information and you are prevented in some cases from accessing data
source objects that are not owned by your resource limits group.

Require account information
This field specifies whether you must specify a valid accounting string in
the Set User Information window before connecting to a database when
this schedule is in effect.

Allow printing
This check box must be selected in order for you to print objects that are
stored on the data source.

Specifying Save Data resource limits
On the Save Data page of the Edit Resource Limits Group Schedule window you
specify whether users assigned to this resource limits group and using this
schedule can save data at the database data source.

Save Data resource limits can be set for data sources. The Save Data resource
limits are as follows:

Allow save data command
This field specifies whether you can save data at the database data source.
Saving data can be extremely resource-intensive. As a result it can have a
significant impact on your database and network.

Default table space
This field specifies the default table space name that will be used for tables
created with the save data command. This field is only available if the
Allow save data command has been selected. The syntax of the table space
name that you specify must conform to the database rules for table space
names. Any value that you specify is used as part of the CREATE TABLE
SQL statement that runs when you save data to a new table. Entering an
asterisk (*) specifies that the default table space will be taken from a user's
profile in the RDBI.PROFILE_VIEW.

You can switch the RDBI.PROFILE_VIEW to use RDBI.PROFILES or Q.PROFILES
tables by specifying them during the QMF Catalog creation.

Default table space can be overridden
This field specifies whether you can override the default table space. If
selected, you can specify any table space name subject to database security
authorizations. If this check box is not selected, you must use the table
space name specified in the Default table space field.

Allow to replace any existing data
This field specifies whether a user can override the existing data when the
objects are exported or imported to the database. If this option is selected,
a user can replace the existing data with the new one in the database. If
this check box is clear, a user can only append new data to the existing
one.
Specifying Binding resource limits

On the Binding page of the Edit Resource Limits Group Schedule window you specify whether users assigned to this resource limits group and using this schedule can bind or drop static packages for their queries to or from the data source.

Binding resource limits can only be set for data sources. The Binding resource limits are as follows:

Allow binding of packages
This field specifies whether or not you can bind static packages for your queries on the database data source.

Allow dropping of packages
This field specifies whether or not you can drop static packages from the database data source.

Default collection ID
This field specifies the default collection ID for the static packages that you bind.

Default collection ID can be overridden
This field specifies whether you must use the default collection ID. If this check box is selected, you can specify any collection ID subject to database security authorizations. If this check box is clear, you must use the default collection ID that is specified in the Default collection ID field.

Default isolation level
This field specifies the default isolation level for the static packages that you bind. You can select one of the isolation levels:

- Repeatable Read specifies that the default isolation level for the static packages will be Repeatable Read (RR). The RR isolation level isolates the SQL statements in the static package from the actions of concurrent users for rows the requester reads and changes, including phantom rows. RR isolation provides the most protection.

- All (RS) specifies that the default isolation level for the static packages will be Read Stability (RS). The RS isolation level isolates the SQL statements in the static package from the actions of concurrent users for rows the requester reads and changes

- Cursor Stability (CS) specifies that the default isolation level for the static packages will be Cursor Stability (CS). The CS isolation level isolates the SQL statements in the static package and the current row to which the database cursor is positioned from the actions of concurrent users for changes the requester makes.

- Change (UR) specifies that the default isolation level for the static packages will be Uncommitted Read (UR). The UR isolation level isolates the SQL statements in the static package from the actions of concurrent users for changes the requester makes.

- No Commit (NC) specifies that the default isolation level for the static packages will be No Commit (NC). The NC isolation level does not isolate the SQL statements in the static package from the actions of concurrent users for changes the requester makes.

Default isolation level can be overridden
This field specifies whether you can override the isolation level specified in the Default isolation level field. If this check box is selected, you can specify any isolation level when binding packages. If this check is not
selected, you must use the default isolation level specified in the Default Isolation Level field to bind static packages.

Specifying Object Tracking resource limits

On the Object Tracking page of the Edit Resource Limits Group Schedule window you activate object tracking.

Object tracking must be enabled in order to collect the tracking data that is used to populate object tracking reports. Object tracking reports can help you locate unused objects, locate frequently accessed data sources such as tables or columns and spot potential problem areas. Object Tracking resource limits can be set for data sources.

The Object Tracking resource limits are as follows:

Enable summary object tracking
This field specifies whether summary object tracking is activated for your resource limits group. Summary tracking records the number of times an object is run, and the most recent times it was run and modified.

Enable detailed object tracking
This field specifies whether detailed object tracking is activated for your resource limits group. Detailed tracking records each time the object is run, who ran it, and the results. A large amount of data can be collected if this option is selected.

Note: This option must be enabled to use ad hoc object tracking or SQL text tracking.

Enable ad-hoc object tracking
This field specifies whether a record of each ad-hoc query is kept in the summary or detail object tracking tables. An ad-hoc query is a query that has not been named or saved at the database data source.

Note: The Enable detailed object tracking option must be enabled in order to enable this option.

Enable SQL text tracking
This field specifies whether a record of the SQL text of each query is kept in the detail tracking table.

Note: The Enable detailed object tracking option must be enabled in order to enable this option.

Last Used timestamp option
This field specifies when and by which commands data objects are updated.

Note: In cases when the object is saved to the QMF Catalog, the data is kept in the column LAST_USED of the table Q.OBJECT_DIRECTORY. If the object is saved to the repository, then the data is kept in the column LAST_USED of the RSBI.OBJECTS table.

The following options are available:

- **Update when object is accessed (legacy mode)**
  Data is updated when you run any of the following commands against the object:
  - CONVERT
- DISPLAY
- EXPORT
- IMPORT
- PRINT
- RUN
- SAVE

- Update when object is run, saved or imported
  Data is updated after performing RUN, SAVE or IMPORT commands.

- Update only when object is run
  Data is updated only after performing RUN command.

**Last Used timestamp options can be overridden**
Indicates whether the DSQEC_LAST_RUN variable value is ignored.
This check box is cleared by default.
Select this check box to change the variable value and override the resource limit.

### Specifying LOB Options resource limits

On the LOB Options page of the Edit Resource Limits Group Schedule window you control a users ability to access, retrieve, and save data to and from tables containing large objects (LOBs).

A Large Object (LOB) is a DB2 for z/OS and DB2 for Linux, UNIX, and Windows data type that houses non-traditional data such as text, multimedia, image, video, photograph, sound, or any very large data file inside a database table. Retrieving or saving LOB data can consume a substantial amount of resources. Even just accessing a table that contains LOB data can be resource consumptive. Using the LOB Options resource limits, you can control access to tables on the database data source that include LOB data. LOB Options resource limits can be applied to both data sources and individual queries.

The LOB Options resource limits are as follows:

**LOB Retrieval Option**
This field specifies whether a user can retrieve large object (LOB) data when this schedule is in effect. You can select one of the following:

- **Disable LOB columns** specifies that users can not retrieve LOB data and can not query or access any table that contains LOB data.

- **Disable LOB data retrieval** specifies that users can not retrieve LOB data but can query tables that contain LOB data. Query result data will be returned for all columns in the table except those that contain LOB data.

- **Retrieve LOB data on demand** specifies that users can query tables that contain LOB data and result data will be returned for all columns including those columns that contain LOB objects. However, the results data for the LOB columns will not actually be displayed in the column. A pointer is displayed. When the user selects the pointer, the LOB data will be displayed in the query results.

  You can also pull the data from the database by double-clicking on the pointer.
• **Retrieve LOB data automatically** specifies that users can query tables that contain LOB data and the result data will be returned for all columns, including those columns that contain LOB objects.
  
  This option pulls ALL of the LOB data for ALL of the LOB columns from the database to the local computer.
  
  This option can potentially consume a large amount of resources and time. The actual LOB data is not displayed in grids and reports. Instead, pointers to the LOB data are displayed.

**Enable saving LOB data**
This field specifies whether users can save LOB data on the database data source.

**Maximum LOB column size**
This field specifies the maximum size of a LOB column, in kilobytes, up to 2G (the maximum LOB size). The default is 0, no maximum. If a user queries a table with LOB data that is larger than the maximum, the LOB data will not be returned for display.

**LOB options can be overridden**
This field specifies whether a user can override the default LOB Options resource limits that have been specified for their group.

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**Specifying Report Center resource limits**
You can control the level of QMF Report Center functionality allowed for members of a resource limits group.

With QMF Report Center you can generate custom reports using shared queries, forms, procedures and tables that are stored on the database server. The custom reports can then be viewed and manipulated in a variety of applications.

To control which Report Center functions are authorized for a resource limit group, you specify settings on the **Report Center** page of the Edit Resource Limits Group window.

The **Report Center** resource limits are as follows:

**Allow display of all object types**
Select this check box to allow members of this resource limits group to access the objects that are used for their QMF Report Center reports.

Users do not need special permission to use the QMF Report Center application or run reports. However, in order to create new reports they need access to the stored objects. Some users might not have permission to access these objects. By selecting this check box you are authorizing members of this resource limits group to access the objects that are stored on the database server and create new reports.

**Note:** The **Allow display of all object types** check box is selected by default.

**Allow administration of root node**
Select this check box to allow the members of this resource limits group to add folders to the root folder, **Public Favorites**, used by the QMF Report Center application. The Public Favorites folder is stored on the database server.
QMF Report Center uses two top-level folders, *Personal Favorites* and *Public Favorites*, to store user’s reports. Each folder contains reports that point to objects that reside on the database server. The objects are not contained within the folders.

The *Personal Favorites* folder resides locally on the user’s machine. This folder and the reports contained in it can only be accessed by the user who created it.

The *Public Favorites* folder resides on the database server. It can be accessed (potentially) by all QMF Report Center users. However, in order to add a first-level sub folder to the *Public Favorites* folder, users must have permission. This option gives the members of this resource limits group that permission.

If granted permission to create a first-level sub folder, the member of the resource limit group is authorized to use the QMF Report Center security options to control who can run or amend the reports residing in the folder. The *Public Favorites* folder can have up to 50 first-level sub folders.

**Note:** The *Allow administration of root node* check box is cleared by default.

**Allow taking ownership of node**
Select this check box to allow all members of this resource limits group authorization to take ownership of a folder or a report in the *Public Favorites* folder.

If this check box is selected, users can access any report or folder in the *Public Favorites* folder regardless of whether they have been granted that access by QMF Report Center security.

**Note:** The *Allow taking ownership of node* check box is cleared by default.

**Specifying Cache resource limits**

On the Cache page of the Edit Resource Limits Group Schedule window you activate caching for query results.

With this resource limit enabled, when a query is run, the results will be cached. If the query is run again, and nothing has changed, the results will be taken from the cached results rather than run again at the data source. *Cache* resource limits can be applied to both data sources and individual queries.

The *Cache* resource limits are as follows:

**Cache is enabled**
This field specifies whether the caching of result set data is enabled. Caching is disabled by default. If caching is enabled, result data from a query is cached (stored) and is available for use by other users that have the same privileges to access this data on the data source. Caching result set data can significantly decrease resource consumption and improve performance. The cached result set data is not automatically refreshed.

**Auto data fetching enabled**
This field specifies how the cached rows of data will be retrieved. This resource limit becomes available if *Cache is enabled* is selected. When selected, this option specifies that if the query result set is taken from the
cache, the entire result set will be presented. When this option is not selected, 100 rows (the default) of the query result set is presented.

**Data expiration interval**
This field specifies the time period the query result set data will remain in cache. You can set the time period by specifying the number of days, hours, and minutes. After this period, the cached query result set data will be updated.

**Cache options can be overridden**
This field specifies whether the cache options can be overridden.

### Specifying Object List resource limits

On the Object List page of the Edit Resource Limits Group Schedule window you specify default and allowed owner names for data sources.

With **Object List** resource limits, you can define the default owner name that will be used to filter data source objects. You can also specify a specific list of owner names that can be used to filter data source objects aside from the default name.

The **Object List** resource limits are as follows:

**Default Owner Name**
This field specifies the default owner name that will be used to filter the data source object list.

**Default Owner Name can be overridden**
This check box allows the user to override the current default owner name.

**Allowed Owner Names**
This field specifies the list of additional owner names that can be used to filter the data source object list. Owner names should be separated by a comma.

**Allow <USERNAME>**
This check box allows the current user's owner name to be used to filter the data source object list.

**Allow <SQLID>**
This check box allows the current user's SQLID to be used to filter the data source object list.

### Assigning users to resource limits groups

You must specifically assign users to a resource limits group.

**About this task**

Once assigned, what each user can do using DataQuant for Workstation and DataQuant for WebSphere is dictated by the resource limits group schedule. All users who are not assigned to a resource limits group are automatically included in the default resource limits group Default. The Default resource limits group schedule has no restrictions.

In order to assign a user to a resource limits group, you must first specify information that defines the user to DataQuant for Workstation and DataQuant for WebSphere. The process of defining users to the applications and then assigning them to a resource limits group varies slightly depending on the resource limits provider that was selected for the data source.
Assigning users to repository resource limits groups

To assign a user to a repository-based resource limits group, you select directly from the list of available users and groups that were given access to the secured repository when it was created.

About this task

The users and groups that are available for selection were defined based on the type of security that was selected for the repository. If LDAP security was selected, the users and groups were obtained from the LDAP server. If Internal security was selected, you define the user and group information using the Users and Groups view. If no security has been specified for the repository, and resource limits are repository based, you do not have the ability to create resource limits groups and make assignments.

The order in which you create user information or resource limits groups does not matter. You can create user information first, then create resource limits groups. You can create resource limits groups first, then user information. This flexibility is intended as creating and editing user information and resource limits group assignments is an ongoing process as the needs of your organizations change.

To assign a user to a repository-based resource limits group:

Procedure


2. The users that have been defined for the data source and are available for assignment, but have not been assigned to the selected resource limits group, are listed in the Not assigned list box. The users that have been assigned to the selected resource limits group are listed in the Assigned list box. To filter the users that are listed in the Not assigned list specify the user ID of a specific user or a wildcard character in the Name filter field. A percent (%) sign will generate a list of all users that have been defined for the data source. If not listed, the user or group has not been defined. You can define a new user or group, and then refilter the list.

3. Select the user that you want to assign to the resource limits group from the Not assigned list. Click Assign. The user is moved to the Assigned list.

4. To remove a user from the resource limits group, select the user from the Assigned list. Click Unassign. The user is moved to the Not assigned list. To remove all the users from the Assigned list and move them to the Not assigned list, click Unassign All.

5. Click OK. Your additions or changes to the resource limits group user assignments are saved.

Results

Note: You can also make user assignments to resource limits groups on the Assignment page of the Resource Limits window.
About collection IDs

Collection IDs identify a group of static SQL packages or stored procedures that serve a particular purpose or function.

DataQuant includes a set of embedded SQL statements for working with databases. These statements are installed as queries on the database server during the DataQuant configuration, through a process commonly referred to as binding.

The database type determines whether the queries are bound as packages of static SQL statements (for DB2 UDB and DB2 for z/OS databases) or as a set of stored procedures (for all supported databases, but this option is not recommended for DB2 UDB and DB2 for z/OS). This group of installed packages or stored procedures is called a collection.

Each version of DataQuant has its own collection. When DataQuant connects to database server, it automatically detects proper installed collection and uses it. However, it is useful practice to incorporate the application version in the collection ID name to help users differentiate collections from one version of DataQuant to another.

Depending on the database type, the length of the collection ID can have some restrictions.

In the case of stored procedures, the notion of a collection is usually synonymous with owner ID or schema. The maximum length for collection ID field is determined by database restriction on the maximum schema length. For more details on schema length limits see the database documentation.

The collections of packages are supported by DB2 databases only. DB2 databases can function in either short names or long names mode, depending on their configuration. In short names mode the maximum number of characters allowed in collection ID field is 8.

The following DB2 databases can be set up to support long names:
- iSeries V5R1 or later
- DB2 for z/OS V8 or later
- DB2 UDB V8 or later

For these DB2 databases the maximum length of the collection ID is 128 characters.

Servers that support long names

Long names apply to the names of objects that reside in the QMF catalog.

The following servers support long names:
- iSeries V5R1 or later
- zOS V8 or later

Long names for objects

Long names apply to the names of objects that reside in the QMF catalog.
Long names for QMF objects that can be saved in the QMF catalog tables that support long names can be up to 128 characters for the owner and name fields.

**Short names for objects**

Long names apply to the names of objects that reside in the QMF catalog.

Short names for QMF objects that can be saved in the QMF catalog tables can be up to eight (8) characters for the owner and up to eighteen (18) characters for the name.

**Managing user assignments for all repository resource limits groups**

Each user and group that is defined for a data source can be assigned to one or more repository resource limits groups.

**About this task**

The Assignment page of the Resource Limits window lists each user or group that is defined for a data source and each resource limits group that is defined for the data source. From this window, you can assign a user to one or more resource limits groups from a single dialog.

To make user assignments for all resource limits groups from one dialog:

**Procedure**

1. From the Repository Explorer view, right-click a data source. Select Properties from the pop-up menu. The Properties for [data source] window opens. Click the Resource Limits folder. The Resource Limits window opens. There are two pages. Click the Assignment tab.
2. The users and groups that have been defined for the data source are listed in the Users and Groups field. Expand the Groups folder to see all groups. Expand the Users folder to see all users.
3. Each Users and Groups cell has a corresponding Resource groups drop-down list box. The Resource groups list displays all the resource limits groups that have been defined for the data source. To select a resource limits group, click the Resource groups cell for the user or group, click the downward arrow, and select a new resource limits group from the list of available resource limits groups.
4. Click Save or OK. The new assignment is made.

**Assigning users to QMF catalog-based resource limits groups**

To assign a user to a QMF catalog-based resource limits group you must first define a user profile for the user, and then you assign the user profile to the resource limits group.

The order in which you create user profiles or resource limits groups does not matter. You can create user information first, then create resource limits groups. You can create resource limits groups first, then user information. This flexibility is intended as creating and editing user information and resource limits group assignments is an ongoing process as the needs of your organizations change.
Granting QMF catalog user profile enrollment

When a user connects to a data source the correct user profile for their user ID is located and their enrollment status is verified to determine which resource limits group to use.

Access to a data source will be granted to a user based on the following types of user ID enrollment:

- **Restricted enrollment**, where each user ID must have a matching user profile to gain access to the data source.
- **Open enrollment**, where each user ID can either have a matching user profile to gain access to a data source or automatically fall into a default user profile called SYSTEM.

With open enrollment, every user has access to the SYSTEM user profile, giving every user potential access to the data source. You can create unique profiles for some users and allow other users to use the SYSTEM default profile.

With restricted enrollment, every user must have a unique user profile in order to access the data source. When setting up restricted enrollment, you delete the SYSTEM profile, which prevents users without unique profiles from accessing the data source.

Determining which QMF catalog user profile to use

When DataQuant for Workstation or DataQuant for WebSphere connects to a data source on behalf of a user, the user ID and password they provide are validated first by the data source. If the user information is valid, then the user ID is looked up in the user profile table, RDBI.PROFILE_TABLE.

The RDBI.PROFILE_TABLE is created at installation. All user IDs that are included in the Q.PROFILES table at the time of installation are included in the RDBI.PROFILE_TABLE.

**Note:** After the initial copy of Q.PROFILES, any user ID added directly to Q.PROFILES is not automatically added to the RDBI.PROFILE_TABLE. You must add those new user IDs using a DataQuant Administrator product (Workstation or WebSphere).

The RDBI.PROFILE_TABLE includes the following columns:

<table>
<thead>
<tr>
<th>CREATOR</th>
<th>ENVIRONMENT</th>
<th>TRANSLATION</th>
<th>RESOURCE GROUP</th>
</tr>
</thead>
<tbody>
<tr>
<td>userID</td>
<td>WINDOWS</td>
<td>English</td>
<td>TECH</td>
</tr>
<tr>
<td>userID</td>
<td>NULL</td>
<td>English</td>
<td>SALES</td>
</tr>
<tr>
<td>SYSTEM</td>
<td>WINDOWS</td>
<td>English</td>
<td>BASIC</td>
</tr>
<tr>
<td>SYSTEM</td>
<td>NULL</td>
<td>English</td>
<td>SYSTEM</td>
</tr>
</tbody>
</table>

When you create a new user profile, an entry is made in the table for the user ID that you enter. The Creator column is the user ID that you enter, the Environment and Translation columns are filled for you based on the environment and language of the host system. The Resource Group column contains the resource limits group to which this user is assigned.
Determining database access with QMF catalog user profiles

DataQuant for Workstation and DataQuant for WebSphere determine which resource limits group to use by locating the user's profile from the RDBI.PROFILE_TABLE, finding the resource limits group name in the Resource Group column of the table, then finding that resource limits group in the RDBI RESOURCE_TABLE, where the resource limits and schedule are retrieved.

When you are setting up your user profiles for your environment, there are many permutations that can be used to control data source access. The following summarizes some of the different combinations that you might use:

For restricted enrollment:
- User ID matches a user profile. User profile names a resource limits group. Resource limits group exists. Access to data source is based on the resource limits and schedule for the group.
- User ID does not match a user profile. There is no default user profile called SYSTEM. User is denied access to the data source.

For open enrollment:
- User ID matches a user profile. User profile names a resource limits group. Resource limits group exists. Access to data source is based on the resource limits and schedule for the group.
- User ID does not match a user profile. There is a default user profile called SYSTEM. The default user profile SYSTEM names a resource limits group. The resource limits group exists. Access to data source is based on the resource limits and schedule for the group.
- User ID matches a user profile. No resource limits group is assigned. Access to the data source is based on the limits set for the default resource limits group.
- User ID does not match a user profile. There is a default user profile called SYSTEM. There is no resource limits group that has been defined for the SYSTEM user profile. User has access to the data source based on the limits set for the default resource limits group.

Assigning users to QMF catalog resource limits groups

To assign a user to a QMF catalog-based resource limits group you must first define a user profile for the user, and then you assign the user profile to the resource limits group.

About this task

The order in which you create user profiles or resource limits groups does not matter. You can create user information first, then create resource limits groups. You can create resource limits groups first, then user information. This flexibility is intended as creating and editing user information and resource limits group assignments is an ongoing process as the needs of your organizations change.

To assign users to a QMF catalog resource limits group:

**Procedure**

1. From the Repository Explorer view, right-click a data source. Select Properties from the pop-up menu. The Properties for [data source] window opens. Click the Resource Limits folder. The Resource Limits window opens. There are two pages. Click the Resource Limits tab. Select a resource limits group from the
list of available resource groups. Click Assign. The Assign User Profiles to [resource limits group name] window opens.

2. The user profiles that have been created for the data source and are available for assignment are listed in the User Profiles Not Assigned list box including the SYSTEM user profile. You can modify the user profiles that are listed using the Show User Profiles with creator matching field. In this field you can specify the user ID of a specific user profile or a wildcard character. A percent (%) sign will generate a list of all user profiles that have been created for the data source. Click the Refresh List button to initiate the search. All the user profiles stored in the table, RDBIPROFILE_VIEW that match the value you entered are retrieved. The users that have been assigned to the selected resource limits group are listed in the Assigned list box.

3. If the user ID that you want to assign to a resource limits group is not listed in the Not Assigned list, click Create New to create a new user profile. The New Profile window opens. In the Creator field, specify a valid user ID for a user. Click OK. The New Profile window closes. The new user profile is created and assigned to the resource limits group. Control returns to the Assign User Profiles to [resource limits group name] window.

4. Select the user that you want to assign to the resource limits group from the Not Assigned list. Click Assign. The user is moved to the Assigned list. To move all the users from the Not Assigned list to the Assign list, click Assign All.

5. To remove a user from the resource limits group, select the user from the Assigned list. Click Unassign. The user is moved to the Not Assigned list. To remove all the users from the Assigned list and move them to the Not Assigned list, click Unassign All.

6. Click OK. Your additions or changes to the resource limits group user assignments are saved.

Results

Note: You can also make user assignments to resource limits groups, and create, edit and delete user profiles, from the User Profiles page of the Resource Limits window.

Managing user profiles

All users that will be assigned to a QMF catalog based resource limits group must have a user profile.

About this task

You can use the User Profiles page of the Resource Limits window to create, edit or delete user profiles, and assign new user profiles that you create to QMF catalog resource limits groups.

To create, edit or delete user profiles:

Procedure

1. From the Repository Explorer view, right-click a data source. Select Properties from the pop-up menu. The Properties for [data source] window opens. Click the Resource Limits folder. The Resource Limits window opens. There are two pages. Click the User Profiles tab.

2. The user profiles that have been created for the data source and meet the most recent search criteria are listed in the User Profiles list box including the
SYSTEM user profile. You can modify the user profiles that are listed using the Show User Profiles whose names match field. In this field you can specify the user ID of a specific user profile or a wildcard character. A percent (%) sign will generate a list of all user profiles that have been created for the data source. Click the Refresh List button to initiate the search.

3. To add a new user profile, click Add. The User Profile window opens. Specify the field values and click OK. The user profile is created and assigned to a resource group that you specify. Control returns to the User Profiles page.

4. To edit a user profile, select the user profile that you want to change from the User Profiles list. Click Edit. The User Profile window opens. Make the changes to the field values and click OK. The changes are saved and control returns to the User Profiles page.

5. To delete a user profile, select the user profile that you want to delete from the User Profiles list. Click Delete. The user profile is deleted from the profile table.

   Note: If you are choosing to use restricted enrollment, you must delete the SYSTEM user profile.

6. Click Apply or OK. The changes that you have made to the user profiles are saved.

Creating user profiles

You can create a new user profile or edit an existing user profile using the User Profile dialog.

About this task

If you are creating a new user profile, you can assign the new user profile to a resource limits group from the same window. If you are editing a user profile you can change the resource limits group assignment to a different group. In either case, the resource limits group you select must already have been created.

To create a new or edit an existing user profile:

Procedure

1. From the Repository Explorer view, using DataQuant for Workstation, right-click a data source. Select Properties from the pop-up menu. The Properties for [data source] dialog opens. Click the Resource Limits folder. The Resource Limits window opens. There are two pages. Click the User Profiles tab. Click Add. The User Profile window opens.

2. Specify a valid user ID for the user profile in the Creator field.

3. Specify a resource limits group to which the user profile will become a member in the Resource Group field. Unless otherwise specified all new user profiles are automatically assigned to the default resource limits group SYSTEM. To see a list of the resource limits groups defined for this data source, click the button with three dots to the right of the field. The Resource Limits Groups at [data source] window opens. From the Resource Limits Groups at [data source] window, select a resource limits group for the user profile. Click OK. The user profile is assigned to the selected resource limits group. Control returns to the User Profile window.

4. Specify a table space name that will be used when this user saves data using the SAVE DATA command in the Space field. This field is only applicable if the Default table space can be overridden resource limit setting in the Save Data
tab has been checked, allowing users to override the default table space name with a unique name. Click **OK**. The user profile is created.

### Selecting a resource limits group for a user profile

Use the Resource Limits Group at window to view a list of the resource limits groups that have been defined for the data source.

**About this task**

You can select from the list of available groups, the resource limits group to which you will assign the user profile that you are creating or editing.

To select a resource limits group for a user profile:

**Procedure**

1. From the **Repository Explorer** view, using DataQuant for Workstation, right-click a data source. Select **Properties** from the pop-up menu. The Properties for [data source] window opens. Click the **Resource Limits** folder. The Resource Limits window opens. There are two pages. Click the **User Profiles** tab. Click **Add**. The User Profile window opens. Click the button with three dots. The Resource Limits Group at window opens.

2. From the **Resource limits group** list, select the resource limits group to which you want to assign the user profile.

3. Click **OK**. The user profile is assigned to the resource limits group that you selected. The Resource Limits Groups at window closes. Control returns to the User Profile window.
Chapter 5. Managing repositories

Administrators are responsible for the ongoing maintenance of shared repositories, and the query and reporting environment.

The following tasks describe maintaining repositories:

Deleting a repository

You can delete a repository from shared repository storage.

About this task

To delete a repository:

Procedure

1. The Repositories view is usually open and docked to the left, next to the Repository Explorer view. If closed, you can open the Repositories view by selecting Repositories from the View menu.
2. From the Repositories view, right-click the repository that you want to delete.
3. From the pop-up menu, select Delete Repository. A confirmation message is issued. If you are sure that you want to delete the repository, click OK.

Editing shared repository storage properties

You can edit the properties of shared repository storage.

About this task

To edit shared repository storage properties:

Procedure

1. The Repositories view is usually open and docked to the left, next to the Repository Explorer view. If closed, you can open the Repositories view by selecting Repositories from the View menu.
2. From the Repositories view, right-click the shared repository storage whose properties you want to modify. From the pop-up menu, select Edit. A multiple page Edit Repository Storage window opens displaying the properties that you can change.
3. Select Connection to change the JDBC connection or user login information. The Connection page opens. You can make any of the JDBC connection or user login information changes from this page.
4. Select Objects to update the repository storage database objects. The Objects page opens. You can update the repository storage database objects from this page.
5. Select Protection to change the protection status of the repository storage tables. The Protection page opens. You can make any changes to the protection status of the repository storage tables and grant or revoke users access to the tables from this page.
- **Unprotected**: Specifies that you will connect to the repository in unprotected mode. In this mode, dynamic query access to the repository storage tables, within which the repository resides, will be allowed. If the repository storage tables are restricted to the connecting user ID, the connection will fail. If the repository storage tables are unrestricted to the connecting user ID, the connection will be made and the dynamic query will process.

- **Auto**: Specifies that the protection mode will be selected automatically depending on whether a collection of stored procedures or static SQL packages are available. If available, the repository storage tables within which the repository resides will be accessed using the specified stored procedures or static SQL packages. If the stored procedures or static SQL packages are unavailable, dynamic query access (unprotected mode) will be used.

- **Protected**: Specifies that you will connect to the repository in protected mode using the specified stored procedures or static SQL packages to access the repository storage tables within which the repository resides. If the specified set of stored procedures or static SQL packages are not available, the connection will fail.

6. Click OK. The Edit Repository Storage window closes. The changes that you have made are applied.

### Editing JDBC connection and user login information

You use the Connection page of the Edit Repository Storage window to edit the JDBC connection information and the user login information that will be used to connect to the shared repository storage.

#### About this task

To edit the JDBC connection and login user information for shared repository storage:

#### Procedure

1. Open the Connection page of the Edit Shared Repository Storage window.
2. In the **Connection type** radio group, select JDBC or JNDI. If you selected JNDI:
   a. In the **Data Source name** field, specify the JNDI data source name and location.
   b. Click **Advanced** to specify any driver-specific connection string keywords and their values that will be used for the database that is hosting the repository storage tables. For information on any keywords that are required by a selected database driver, consult the specific driver's documentation.

   If you selected JDBC:
   a. In the **JDBC Driver** field specify the library for the JDBC driver that will be used to access the database that is hosting the repository storage. You can select from a drop down list of libraries that you defined when you set up the JDBC driver information. You can use the ellipsis (...) to the right of the field to open the JDBC Libraries dialog where you can create additional JDBC driver libraries.
Note: If you work with a DB2 for z/OS database, you can use the Direct DRDA Connection. In contrast to JDBC libraries, the Direct DRDA Connection comes with DataQuant and does not require additional driver installation.

Note: The Direct DRDA Connection is supported only for DB2 for z/OS Version 8, Version 9, and Version 10. Do not use it for DB2 LUW or DB2 for iSeries. See Using DRDA to connect to database repositories and data sources for more information.

b. In the JDBC URL list, specify the URL that points to the database that hosts the repository storage within which the repository to which you want to connect resides. The format for the URL can be displayed in the list.

Note: You can also use the Build URL by URL Template dialog box to form the correct string.

Click Build URL to open the Build URL by URL Template dialog box. From the JDBC URL drop-down list, select the template. In the table, specify the server, port, and database information and click OK. The result URL string is added to the JDBC URL list.

c. Click Advanced to specify any driver-specific connection string keywords and their values that will be used for the database that is hosting the repository storage tables. The list of available advanced properties will change depending on both the type of driver being used, and the version of the driver. For information on any keywords that are required by a selected database driver, consult the specific driver's documentation.

Note: For the DB2 Type 4 UDB driver and the DB2 Universal JDBC Driver, to receive extended SQL exception error messages, check the retrieveMessagesFromServerOnGetMessage option in the Advanced JDBC Settings window.

d. If you use the Direct DRDA Connection, bind packages by clicking the Bind Packages button.

3. In the User Information dialog, select User ID and password are required to require the use of a user ID and password when accessing the database that is hosting the repository storage. If the database that is hosting the repository storage allows access without a user ID and password, selecting this option will override that allowance, and a user ID and password will be required to access the repository storage tables.

4. To remember this password every time you use the specified user ID to connect to the database, select the Remember password check box.

5. Click Test Connection to test the connection to the database. If you have specified any information incorrectly you will not be able to connect.

6. If you have completed making changes to the repository storage properties, click OK. If you will be making additional changes, click the Objects or Protection tab, depending on the changes that you are making.

**Updating database objects**

You use the Objects page of the Edit Shared Repository Storage dialog to update the database objects that are required for the repository storage.
About this task

To update the repository storage objects that reside on the database:

Procedure

1. Open the Objects page of the Edit Repository Storage window.
2. Optionally you can type the owner name in the Owner ID field, if you work with DB2 databases. The Owner ID provides the administrator privileges to the user who operates under the login without SYSADM authority.

   Tip: (for DB2 for z/OS databases)

   When the user without administrator privileges creates or updates the shared repository storage tables and enters the owner name in the Owner ID field, the user login and Owner ID are automatically inserted to the RSBI.AUTHID_TABLE as the PRIMARY_ID and SECONDARY_ID correspondingly. This allows the user to create shared repositories with database-based security provider and automatically work with the repositories as an administrator.

3. Click Update to check if the repository storage objects have been created or have to be updated. Depending on the status of the objects you will proceed as follows:
   • If all the objects have not changed, a message is issued. Click OK in the message window.
   • If the objects have to be updated, then the Update repository storage tables page opens listing the SQL statements that will be used to update the required repository storage tables. You can make changes to the SQL statements as described on the page.

4. If you have completed making changes to the repository storage properties, click OK. If you will be making additional changes, click the Connection or Protection tab, depending on the changes that you are making.

Editing protection options

You use the Protection page of the Edit Shared Repository Storage window to update the protection options for the repository storage tables.

About this task

To update the protection options for the repository storage tables:

Procedure

1. Open the Protection page of the Edit Shared repository Storage window.
2. Depending on the current status of the Protection method check box, you can change the protection status of the repository storage table in one of the following ways:
   • Clear the Protection method check box to remove the protected status of the repository storage tables. This means that all users will have access to the repository storage tables and can make changes to any of those tables.
   • Select the Protection method check box to specify that you will protect the repository storage tables. The fields that you will use to specify the protection method become available.

3. Select one of the following protection methods:
• Select **Stored procedures** to specify that you will use stored procedures to protect the repository storage tables. You can select this option if the repository storage tables are located on one of the following databases:
  - Informix
  - DB2 UDB LUW V9 and above
  - DB2 z/OS V9 and above in NFM
  - DB2 iSeries (when accessed with IBM Toolbox JDBC driver)
  - Microsoft SQL Server

• Select **Static SQL packages** to specify that you will use static SQL packages to protect the repository storage tables. You can select this option if the repository storage tables are located on a DB2 database that you will connect to using the IBM DB2 Universal driver for JDBC or the Direct DRDA connectivity provided by the product (the latter option is available for DB2 for z/OS connectivity only).

4. Type, or select from the drop-down list, the name that you want to use to identify the collection of stored procedures or static SQL packages in the **Collection ID** field.

5. Optionally you can type the owner name in the **Owner ID** field, if you work with DB2 databases. The Owner ID provides the administrator privileges to the user who operates under the login without SYSADM authority.

6. Click **Create**. The stored procedures are created or the static SQL packages are bound. A message is issued that informs you of the success of the either process. You can also use the **Delete** button to remove a collection of stored procedures or packages.

7. Specify which users will have permission to run the stored procedures or static SQL packages for the repository storage tables on this database. To grant permission to all users, enter PUBLIC in the **User IDs** field and click **Grant**. To grant permission to specific users, type their user IDs in the field and click **Grant**. A message is issued that informs you that the selected user IDs have been granted permission to run the stored procedures or packages.

   Optionally, you can revoke permission to run the stored procedures or static SQL packages from any user that is listed in the **User IDs** list box. To revoke permission from one or more users, highlight one or more of the user IDs and click **Revoke**. A message is issued informing you that permission to run the stored procedures or static SQL packages has been revoked from the selected user IDs.

8. If you have completed making changes to the repository storage properties, click **OK**. If you will be making additional changes, click the **Objects** or **Connection** tab, depending on the changes that you are making.

## Editing QMF catalog plug-in properties

You use the QMF Catalog Plug-in Parameters dialog to change or update the QMF catalog plug-in parameters for a data source.

### About this task

To edit the QMF catalog plug-in properties:

**Procedure**

1. The **Repositories** view is usually open and docked to the left, next to the **Repository Explorer** view. If closed, you can open the **Repositories** view by selecting **Repositories** from the **View** menu.
2. From the **Repositories** view, right-click the data source whose QMF catalog plug-in properties you want to modify. From the pop-up menu, select **Properties**. The Properties window opens. Select **Plug-ins**. The Plug-ins window opens. If the QMF Catalog Plug-in has been enabled for this data source (the **Enable plug-in** check box is selected), the **Parameters** button is available. Click **Parameters**. The QMF Catalog Plug-in Parameters window opens.

3. Select **Catalog Tables** to update the QMF catalog tables. The Catalog Tables page opens. You can update the QMF catalog tables from this page.

4. Select **Protection** to change the protection status of the QMF catalog tables. The Protection page opens. You can make any changes to the protection status of the QMF catalog tables and grant or revoke users access to the tables from this page.

5. Select **Catalog** to change the QMF catalog that the current data source will use. The Catalog page opens. You can make any changes to the QMF catalog selected for this data source.

6. Select **Sample Tables** to create a set of sample tables for the current data source. The Sample Tables page opens. You can create the sample tables from this page.

7. Click **OK**. The Edit QMF Catalog Plug-in Parameters window closes. The changes that you have made are applied.

### Updating QMF catalog tables

Use the Catalog Tables page of the QMF Catalog Plug-in Parameters window to update the QMF Catalog tables for a data source.

#### About this task

You would update the QMF Catalog tables if a new version of DataQuant has been installed or if you want to change from a QMF catalog that supports short names to one that supports long names.

#### Procedure

1. Open the Catalog Tables page of the QMF Catalog Plug-in Parameters window.

2. To update a set of QMF catalog tables that supports short names for objects, select **Update catalog tables to support short names**. DataQuant will check the existing QMF catalog tables on the data source, and update or add to the existing tables as necessary. You are given the opportunity to confirm and modify the SQL statements used to create the tables. Any data that is in the existing catalog tables is maintained.

   Select this option if you are upgrading from a previous version of DataQuant and the existing QMF catalog tables will continue to support only short names for objects.

3. To update a set of QMF catalog tables that supports long names for objects, select **Update catalog tables to support long names**. DataQuant will check the existing QMF catalog tables on the data source, and update or add to the existing tables as necessary. You are given the opportunity to confirm and modify the SQL statements used to create the tables. Any data that is in the existing catalog tables is maintained.

   Select this option if you are upgrading from a previous version of DataQuant and the existing QMF catalog tables will continue to support long names for objects. You would also select this option if you want to update the QMF catalog tables from supporting short names to supporting long names. If an
existing set of QMF catalog tables that use short names is detected on the data source, those tables will be converted to support long names.

**Note:** In order to select this option, the data source must support long names. DataQuant will check to ensure that the data source supports long names.

**Tip:** When the QMF Catalog tables are updated, QMF checks whether the required QMF objects exist and restores the objects that are dropped to the appropriate locations in a database.

The names of the QMF objects that are generated in a database when you create the QMF Catalog and their property values are stored in the RDBI.SERVER_INFO table. If a database administrator renames some objects in a database, the information in the RDBI.SERVER_INFO becomes invalid. During the update process, QMF detects the QMF objects that were renamed and saves their actual names to the RDBI.SERVER_INFO table. The changes that are made to the RDBI.SERVER_INFO table during the update process are displayed in a log file.

4. Click OK to close the QMF Catalog Plug-in Parameters window. Any changes that you have made to the QMF Catalog Plug-in parameters are saved.

**Updating the protection status of QMF catalog tables**

Use the Protection page of the QMF Catalog Plug-in Parameters window to update the QMF catalog tables protection options.

**About this task**

You would update the QMF catalog table protection if you are updating your version of DataQuant; changing the type of protection that has been specified for the tables; or changing the stored procedures or static SQL packages that you originally specified. You can also change user permissions to use the QMF catalog packages at any time.

**Procedure**

1. Open the Protection page of the QMF Catalog Plug-in Parameters window.
2. To change the type of protection that will be applied to the QMF catalog tables, select one of the following from the Connect using Protected Mode radio group:
   - **Never**: You select this option to specify that no protection will be placed on the QMF catalog tables. This method will expose the QMF catalog tables to unauthorized use. With no protection the QMF catalog tables can be accessed by any user using dynamic queries. When the database administrator grants permissions to a user to access the QMF catalog that resides on the database, that permission will extend to the whole QMF catalog including the tables in the QMF catalog that store sensitive information.
   - **If possible**: You select this option to specify that the QMF catalog tables will be protected using either stored procedures or static SQL packages if they are available on the data source. You will specify the users that can run the stored procedures or static SQL packages. If a set of stored procedures or static SQL packages is not available, access to the QMF catalog tables will be as if they are unprotected.
   - **Always**: You select this option to specify that the QMF catalog tables will always be protected using either stored procedures or static SQL packages. You will specify the users that can run the stored procedures or static SQL packages.
packages. If a set of stored procedures or static SQL packages is not available, the query to access the QMF catalog tables will fail.

3. If you selected If possible or Always from the Connect using Protected Mode radio group, the Protect check box becomes available.

4. Select one of the following protection methods:
   - Select Stored procedures to specify that you will use stored procedures to protect the QMF catalog tables. You can select this option if the repository storage tables are located on one of the following databases:
     - DB2 UDB LUW V9 and above
     - DB2 z/OS V9 and above
     - DB2 iSeries (when accessed with IBM Toolbox JDBC driver)
   - Select Static SQL packages to specify that you will use static SQL packages to protect the QMF catalog tables. You can select this option if the repository storage tables are located on a DB2 database that you will connect to using the IBM DB2 Universal driver for JDBC or the Direct DRDA connectivity provided by the product (the latter option is available for DB2 for z/OS connectivity only).

5. Type, or select from the drop-down list, the name that you want to use to identify the collection of stored procedures or static SQL packages in the Collection ID field.

6. Optionally you can type the owner name in the Owner ID field, if you work with DB2 databases. The Owner ID provides the administrator privileges to the user who operates under the login without SYSADM authority.

7. Click Create. The stored procedures are created or the static SQL packages are bound. A message is issued that informs you of the success of either process. You can also use Delete to remove a collection of stored procedures or static packages.

8. You must specify which users will have permission to run the stored procedures or static SQL packages for the QMF catalog tables on this database. To grant permission to all users, highlight PUBLIC in the User IDs list and click Grant. To grant permission to specific users, type their user IDs in the field, highlight one or more of the user ID(s) and click Grant. A message is issued informing you that the selected user IDs have been granted permission to run the stored procedures or static SQL packages. Optionally, you can revoke permission to run the stored procedures or SQL packages from any user that is listed in the User IDs list box. To revoke permission from one or more users, highlight one or more of the user IDs and click Revoke. A message is issued informing you that permission to run the stored procedures or static SQL packages has been revoked from the selected user IDs.

9. Click OK to close the QMF Catalog Plug-in Parameters window. Any changes that you have made to the QMF Catalog Plug-in parameters are saved.

**Selecting a different QMF catalog for the data source**

Use the Catalog page of the QMF Catalog Plug-in Parameters dialog to select a different QMF catalog for the data source.

**About this task**

To select a different catalog for the data source:

**Procedure**

1. Open the Catalog page of the QMF Catalog Plug-in Parameters window.
2. From the **Data source name** drop-down list of available data sources in the currently connected to repository, select the data source that hosts the QMF catalog that you want to use.

3. From the list of available QMF catalogs available on the data source that you selected in **Data source name**, select the QMF catalog that you want the data source to use. If the QMF catalog is not listed, you can add a new extended QMF catalog using the **Add** icon. You can also edit an existing extended QMF catalog's properties using the **Edit** icon or delete an existing extended QMF catalog using the **Delete** icon.

4. Click **OK** to close the QMF Catalog Plug-in Parameters window. Any changes that you have made to the QMF Catalog Plug-in parameters are saved.
Chapter 6. Using sample tables

Nine sample tables are supplied with the DataQuant for Workstation and DataQuant for WebSphere applications.

These tables contain information about a fictitious electrical parts manufacturing company. They can be useful while you are learning how to use DataQuant for Workstation or DataQuant for WebSphere. Sample tables are only available if you have enabled a QMF catalog for a data source.

Activating sample tables

You must activate the sample tables.

About this task

To activate the sample tables:

Procedure

1. From the Repository Explorer view, right-click a data source that has been configured to access a QMF catalog. Select Properties from the pop-up menu. The Properties for [data source] dialog opens. Click the Plug-ins folder. The Plug-ins dialog box opens. Select Plug-ins from the properties tree. Verify that the Enable plug-in check box is selected. Click the Parameters button. The QMF Catalog Plug-in Parameters dialog box opens. Click the Sample Tables tab. The Sample Tables dialog box opens.
2. From the Sample Tables dialog box, click Create.
3. If you are prompted with the message that says existing sample tables will be overwritten if new tables are created, respond to the confirmation message by clicking Yes.
4. The status bar at the bottom of the dialog window lists the sample tables that are being created.
5. Click OK to close the QMF Catalog Plug-in Parameters dialog box.

Sample table names and descriptions

This list includes the name of each sample table that is included with the DataQuant application.

The following sample tables are available:

Q.APPLICANT
   The company’s prospective employees

Q.INTERVIEW
   The interview schedule for the company’s prospective employees

Q.ORG
   Organization of the company by department, within division

Q.PARTS
   Materials supplied by the company
Q.PRODUCTS
  Products produced by the company

Q.PROJECT
  The company’s projects

Q.STAFF
  The company’s employees

Q.SALES
  Sales information for the company

Q.SUPPLIER
  Vendors that supply materials to the company
Chapter 7. Using object tracking reports

Object tracking reports show you detailed and summary information on object usage by DataQuant for Workstation or DataQuant for WebSphere users.

With this information, you can spot potential problem areas and see where changes to resource limits group schedules are needed. Object tracking reporting is available for data sources with repository based or QMF catalog based resource limits. In order to report on object usage you must activate object tracking for a data source.

Activating object tracking

To track a user's object usage on a data source, you must activate object tracking for their resource limits group.

About this task

You can activate object tracking for a resource limits group on a data source when you define or update the schedules for the resource limits group.

Note: If your user ID has the required authority, you can query the detail and summary tracking tables directly using DataQuant for Workstation or DataQuant for WebSphere and see any tracking information contained within those tables.

To activate object tracking for a data source:

Procedure
1. Right-click a data source from either the Repositories or Repository Explorer views. Select Properties from the pop-up menu. The Properties for [data source] window opens. Click the Resource Limits folder. The Resource Limits window opens. There are two pages. Click the Resource Limits tab.
2. Select a resource limits group from the list of available resource limits groups. Click Edit. The Edit Resource Limits Group window opens.
3. All of the schedules that have been defined for this resource limits group are listed in the Schedule List list box. To edit the resource limits group schedule, select the schedule from the Schedule List list box and click Edit. The Edit Resource Limits Group Schedule window opens.
4. Select the Object Tracking tab.
5. Check the type of object tracking that you want to activate. Your choices are:
   • Enable summary object tracking: Select this check box to activate summary object tracking. Summary object checking tracks an object and keeps a summarized record of actions that pertain to the record.
   • Enable detailed object tracking: Select this check box to activate detailed object tracking. Detailed object checking keeps a detailed record of each action taken using an object.
   • Enable ad hoc object tracking: Select this check box to keep a record of each ad hoc SQL query and the SQL text of that query. Detailed object tracking must be activated in order to use ad hoc object tracking.
• Enable SQL text tracking: Select this check box to specify that a record of the SQL text of each SQL query is kept. Detailed object tracking must be activated in order to use SQL text tracking.

6. Click OK.

Running the object tracking reports

After activating object tracking you can run any of the existing reports or you can create your own report.

About this task

To run an object tracking report:

Procedure

1. Right-click a data source from either the Repositories or Repository Explorer views. Select Object Tracking Reports from the pop-up menu. The Object Tracking Reports window opens.

2. Select a report from the list of available reports and click Run. The list of available report includes both standard object tracking reports that come with the application and customized object tracking reports that you might have added. The following standard object tracking reports are available:

   • Cancellation Summary By User: This report shows which users most frequently have their queries cancelled. High rates of cancellation can indicate that the user needs more training or greater resource privileges.

   • Cancellation Details For Single User: This report provides details about the queries that were cancelled for a specific user, including the query name, SQL text, and reason for cancellation.

   • Performance Summary (Maximum) by Query: This report shows performance data for queries, including their maximum elapsed time and number of times run. The report is sorted in descending order to highlight the queries with the most resource consumption.

   • Performance Summary (Average) By Query: This report shows performance data for queries, including their average elapsed time and number of times run. It is sorted in descending order to highlight the queries with the most resource consumption.

   • Performance Summary (Cumulative) For Single Query: This report shows which users most often run a specific query and the elapsed time of the query. Use this report once a problem query is identified to determine the users who run the query most frequently.

   • Performance Details For Single Query: This report shows detail statistics for each run of a query. It provides performance information, such as elapsed time and bytes fetched for each run.

   • Performance Profile For Single User: This report shows which queries have been run by a user and the resources consumed by the queries. The report is sorted in descending order to highlight the queries with the most resource consumption.

   • Performance Summary (Cumulative) By User: This report shows which users are most actively using DataQuant and consuming the most resources.

   • Time Period Performance Summary (Cumulative) By User: This report shows, within a time period, which users most actively used DataQuant and consumed the most resources.
• **Cancellation Summary By Repository User**: This report shows which users most frequently have their queries that are stored in the repository cancelled. High rates of cancellation can indicate that the user needs more training or greater resource privileges.

• **Performance Summary (Maximum) by Repository Query**: This report shows performance data for queries that are stored in a repository, including their maximum elapsed time and number of times run. The report is sorted in descending order to highlight the queries with the most resource consumption.

• **Performance Summary (Average) by Repository Query**: This report shows performance data for queries that are stored in a repository, including their average elapsed time and number of times run. It is sorted in descending order to highlight the queries with the most resource consumption.

• **Performance Summary (Cumulative) by Repository User**: This report shows which users are most actively using a repository and consuming the most resources.

• **Time Period Performance Summary (Cumulative) By Repository User**: This report shows, within a time period, which users most actively used a repository and consumed the most resources.

3. A customized object tracking report is a visual report that you have created and saved to a file. After you create the report, you can add the customized report to the list of available object tracking reports, by clicking the **Add** button in the Object Tracking Reports window. The Add Object Tracking Report window opens. Specify the name of the report as it will appear in the list of available object tracking reports in the **Report title** field. Optionally, you can enter a description of the report in the **Report description** field. Specify the name of the file where the visual report was saved in the **Report file name** field. Specify where the query that was used for the visual report resides in the **Query for report** field. If the visual report includes a query that runs against an extended QMF catalog, specify the name and where the query resides in the **Extended query for the report** field. Click **OK**. The report is added to the list.

---

**Maintaining object tracking tables**

Detail and summary object tracking tables should be maintained on a regular basis.

Detailed object tracking data about repository based objects is stored in the **RSBLOBJ_ACTIVITY_DTL** table and detailed object tracking data about QMF catalog based objects is stored in the **Q.OBJ_ACTIVITY_DTL** table. Summarized object tracking data about repository based objects is stored in the **RSBLOBJ_ACTIVITY_SUMM** table and summarized object tracking data about QMF catalog based objects is stored in the **Q.OBJ_ACTIVITY_SUMM** table.

A row is added to the **Q.OBJ_ACTIVITY_DTL** table and the **RSBLOBJ_ACTIVITY_DTL** for each use of an object. For example, if a user executes a query (object) 20 times, 20 rows are added to the table.

Only one row is added to the summary tables **Q.OBJ_ACTIVITY_SUMM** and **RSBLOBJ_ACTIVITY_SUMM** for each object regardless of the amount of times the object is used. So in this example, the object usage count, a field in the table, would increase by 20, but no new rows are added. Rows are added to the summary table only when a new object is created and rows are automatically deleted when an object is deleted.
Since the summary tables will not grow without boundaries and the detail tables will, it is more important to perform maintenance on the detail tables with greater frequency than the summary tables. The following are recommendations for optimum performance of the Q.OBJ_ACTIVITY_DTL table and RSBI.OBJ_ACTIVITY_DTL detail tables:

- Run RUNSTATS for the table space and index.
- Delete old data periodically.

For example, for a DB2 database, you can run this query to delete all rows older than 30 days from the QMF catalog object detail table (if your user ID has permission to access the summary and detail tables):

```
DELETE FROM Q.OBJ_ACTIVITY_DTL WHERE "DATE" (CURRENT DATE - 30 DAYS)
```

For a DB2 database, you can run the following query to delete all rows older than 30 days from the repository object detail table (if your user ID has permission to access the summary and detail tables).

If you are using DB2 for LUW:

```
DELETE FROM RSBI.OBJ_ACTIVITY_DTL WHERE
( DAYS ( CURRENT DATE ) - DAYS ( DATE ('1970001'))) - ETIME/3600/24/1000 >30
```

If you are using DB2 for z/OS:

```
DELETE FROM RSBI.OBJ_ACTIVITY_DTL WHERE
CAST((DAYS ( CURRENT DATE ) - DAYS ( DATE ('1970001'))) AS BIGINT )
*86400000 - ETIME > 2592000000
```

- For DB2 for z/OS, perform maintenance on the repository object detail table and its associated auxiliary table (RSBI.ACTIVITY_LOB_DATA) and index (RSBI.ACTIVITY_LOB_DATA). For DB2 for z/OS, perform maintenance on the QMF catalog object detail table and its associated table space (RAADB.RAAIX2 ) and index (Q.RAAIX2). Q.RAAIX2 is a default name that can be changed by the database administrator when the QMF catalog is created.

Note: The first-used, last-used and last-modified summary statistics stored in the summary table are not affected when you delete detailed data.
Appendix A. Accessibility

Software accessibility features help those with physical disabilities, such as restricted mobility or limited vision, use their computers.

Note: The DataQuant for Workstation application provides the best accessibility functionality. Users with physical disabilities who must make use of the DataQuant accessibility features should install and run DataQuant for Workstation, as opposed to DataQuant for WebSphere.

Standard keyboard equivalents in DataQuant for Workstation

Keyboard equivalents use keyboard keys to perform mouse actions instead of using a mouse.

The keyboard is the most frequently used alternative for performing mouse functions. DataQuant supports the standard keyboard equivalents that include:

- Shortcut, or accelerator keys, to perform the most frequently used functions in pull-down menus without going to the menu. For example:
  - Ctrl+S to save
  - Ctrl+P to print
  - Ctrl+R to run a query

  Shortcuts display in the pull-down menu next to its function.

- Mnemonics, or access keys, are available to perform each function on a menu or window. A mnemonic for a function is the underlined character in the function name. For example:
  - Press F to open the File menu
  - Press O to open the Open window

  Use ALT to activate the mnemonic and move the keyboard focus.

For more information, refer to the documentation for your operating system for a complete list of standard keyboard equivalents.

Standard keyboard navigation

Keyboard navigation refers to using keys instead of a mouse to move from item to item on your screen.

The movement is usually in the order specified by the operating system or your application. DataQuant applications follow the standards with regard to the typical keys used for keyboard navigation such as using TAB and SHIFT+TAB to move between controls, and arrow keys to move up, down, and sideways between items.

Operating system accessibility

Most operating systems have a set of accessibility options that enable individuals with disabilities to customize system-wide settings.

DataQuant applications:
- Inherit their settings from the operating system
• Do not interfere with keyboard accessibility features built into the operating system

Assistive technology products

DataQuant applications support assistive technology products, such as screen readers and voice synthesizers.

Each DataQuant application interface requires special navigation when using a screen reader with query results. See “Navigation in DataQuant for Workstation” or “Navigation in DataQuant for WebSphere” on page 146 for more information.

Navigation in DataQuant for Workstation

The following table shows how to accomplish various tasks using keystrokes.

<table>
<thead>
<tr>
<th>To:</th>
<th>Process:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activate mnemonics in menus</td>
<td>Press the Alt key. Mnemonics in each menu are activated.</td>
</tr>
<tr>
<td>Obtain online help</td>
<td>Press F1 to open a specific help task or Alt+H to open the Help menu. Use the arrow keys to move through the menu selections. Press Enter to open a menu command.</td>
</tr>
<tr>
<td>Display keyboard shortcuts</td>
<td>Press Ctrl+Shift+L.</td>
</tr>
<tr>
<td>Display the Draw Query wizard</td>
<td>Press Ctrl+D.</td>
</tr>
<tr>
<td>Display the switch list of the editors of the opened DataQuant objects and switch between the editors</td>
<td>Press Ctrl+F6 to move forward in the switch list and Ctrl+Shift+F6 to move in the opposite direction.</td>
</tr>
<tr>
<td>Left to right switch between the tabs of the opened DataQuant objects</td>
<td>Press Ctrl+Page Up</td>
</tr>
<tr>
<td>Right to left switch between the tabs of the opened DataQuant objects</td>
<td>Press Ctrl+Page Down</td>
</tr>
<tr>
<td>Move focus through each element</td>
<td>Press TAB to move forward or SHIFT+TAB to move in the opposite direction.</td>
</tr>
<tr>
<td>Emulate clicks on a link</td>
<td>Use the TAB key to jump from link to link, then press the Enter key to open the link.</td>
</tr>
<tr>
<td>Emulate clicks on a button</td>
<td>Use the TAB key to jump from button to button, then press Space key to activate the button.</td>
</tr>
<tr>
<td>Within a window, activate the default action</td>
<td>Press the Enter key.</td>
</tr>
<tr>
<td>Within a window, cancel the action</td>
<td>Press the ESC key.</td>
</tr>
<tr>
<td>Left to right switch between views</td>
<td>Press Ctrl+F7</td>
</tr>
<tr>
<td>To:</td>
<td>Process:</td>
</tr>
<tr>
<td>-------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Right to left switch between views</td>
<td>Press <strong>Ctrl+Shift+F7</strong></td>
</tr>
<tr>
<td>Left to right switch between perspectives</td>
<td>Press <strong>Ctrl+F8</strong></td>
</tr>
<tr>
<td>Right to left switch between perspectives</td>
<td>Press <strong>Ctrl+Shift+F8</strong></td>
</tr>
<tr>
<td>Left to right switch between tabs in the active editor</td>
<td>Press <strong>Alt+Page Up</strong></td>
</tr>
<tr>
<td>Right to left switch between tabs in the active editor</td>
<td>Press <strong>Alt+Page Down</strong></td>
</tr>
<tr>
<td>Activate command bar</td>
<td>Press <strong>Ctrl+Shift+C</strong></td>
</tr>
<tr>
<td>Use screen reader for query results</td>
<td><strong>1. Run the query.</strong></td>
</tr>
<tr>
<td>or</td>
<td><strong>2. Press Alt+R to open the <strong>Results</strong> menu.</strong></td>
</tr>
<tr>
<td>Use browser to display query results in high contrast mode for the visually impaired</td>
<td><strong>3. Select Export to open the Export Query Results wizard.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>4. Use the TAB key to move through controls. Use arrow keys to move through selection items in the control. Select HTML from the Export Type list. Specify where to save the file in the File name field.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>5. Press Finish.</strong></td>
</tr>
<tr>
<td></td>
<td>*<em>6. Open the <em>.htm file in a browser.</em></em></td>
</tr>
<tr>
<td></td>
<td><strong>or</strong></td>
</tr>
<tr>
<td></td>
<td><strong>1. Run the query.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>2. Press Alt+R to open the <strong>Results</strong> menu.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>3. Select Export to open the Export Query Results wizard.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>4. Use the TAB key to move through controls. Use arrow keys to move through selection items in the control. Select CSV from the Export Type list. Specify where to save the file in the File name field.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>5. Press Finish.</strong></td>
</tr>
<tr>
<td></td>
<td>*<em>6. Open the <em>.csv file in supportive software such as Microsoft Excel.</em></em></td>
</tr>
<tr>
<td>Add object or condition</td>
<td>Use <strong>TAB</strong> to switch between different sections of the <strong>Query Builder</strong> editor, and then press <strong>Spacebar</strong> to expand the sections.</td>
</tr>
<tr>
<td>Select multiple objects</td>
<td><strong>1. Tab to the list box.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>2. Press Shift+Arrow to select additional, consecutive rows.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>3. Press Shift+Enter to add the objects.</strong></td>
</tr>
<tr>
<td>Edit rows in list boxes (only for rows that can be edited)</td>
<td><strong>1. <strong>TAB</strong> to the list box, such as the Global Variables window.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>2. Press the spacebar or use the up and down arrow keys to select the row.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>3. Press F2 to activate edit mode.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>4. Use <strong>TAB</strong> to move between columns and rows.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>5. Press Enter to accept edits.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>6. Press <strong>TAB</strong> to exit the list box and move to the next control in the dialog.</strong></td>
</tr>
</tbody>
</table>
### Navigation in DataQuant for WebSphere

The following table shows how to accomplish various tasks using keystrokes.

<table>
<thead>
<tr>
<th>To:</th>
<th>Process:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Edit query results</strong></td>
<td>1. Press <strong>CTL+F7</strong> or <strong>CTL+SHIFT+F7</strong> until either the <strong>Workspaces</strong> or <strong>Repository Explorer</strong> view is highlighted.</td>
</tr>
<tr>
<td></td>
<td>2. Use the down or up arrow keys to select the folder that contains a table.</td>
</tr>
<tr>
<td></td>
<td>3. Use the right arrow key to expand folders and the left arrow key to collapse folders.</td>
</tr>
<tr>
<td></td>
<td>4. Use the arrow keys to expose and select the table that you want to edit.</td>
</tr>
<tr>
<td></td>
<td>5. Press the <strong>Menu</strong> key (the key to the left of the right-side of the <strong>CTRL</strong> key).</td>
</tr>
<tr>
<td></td>
<td>6. Press the mnemonic key for Open With (the <strong>h</strong> key).</td>
</tr>
<tr>
<td></td>
<td>7. Use the down arrow key to highlight <strong>Table Editor</strong>.</td>
</tr>
<tr>
<td></td>
<td>8. Press the <strong>ENTER</strong> key. The table opens in Table Editor.</td>
</tr>
<tr>
<td><strong>Change font for query results</strong></td>
<td>1. Run the query.</td>
</tr>
<tr>
<td></td>
<td>2. Press <strong>Alt+A</strong> to select all.</td>
</tr>
<tr>
<td></td>
<td>3. Press <strong>Alt+R</strong> to open the <strong>Results</strong> menu.</td>
</tr>
<tr>
<td></td>
<td>4. Press <strong>F</strong> to open the Font window.</td>
</tr>
</tbody>
</table>

---

*Table: To: Process:*

<table>
<thead>
<tr>
<th>Move focus through each element</th>
<th>Press <strong>TAB</strong> to move forward or <strong>SHIFT+TAB</strong> to move in the opposite direction.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emulate clicks on a link</td>
<td>Use the <strong>TAB</strong> key to jump from link to link, then press the <strong>Enter</strong> key to open the link.</td>
</tr>
<tr>
<td>Emulate clicks on a button</td>
<td>Use the <strong>TAB</strong> key to jump from button to button, then press <strong>Space</strong> key to activate the button.</td>
</tr>
<tr>
<td>Within a dialog, activate the default action</td>
<td>Press the <strong>Enter</strong> key.</td>
</tr>
<tr>
<td>Within a dialog, cancel the action</td>
<td>Press the <strong>ESC</strong> key.</td>
</tr>
<tr>
<td>Move focus to the command line</td>
<td>Press <strong>ALT+C</strong>.</td>
</tr>
<tr>
<td>Move focus to the main menu</td>
<td>Press the left <strong>ALT</strong> key. Navigate through the menu commands using the arrow keys.</td>
</tr>
<tr>
<td>Open pop-up menus</td>
<td>Press the <strong>Menu</strong> key if you have an extended keyboard. Press the right <strong>Ctrl</strong> key. Navigate through the menu commands using the arrow keys.</td>
</tr>
<tr>
<td>Activate top-level menu</td>
<td>Press <strong>Shift+Ctrl+1</strong> (<strong>Shift+Ctrl+2</strong>, <strong>Shift+Ctrl+3</strong>, and so on)</td>
</tr>
<tr>
<td>Switch between open editors</td>
<td>Press <strong>Shift+Ctrl+F6</strong></td>
</tr>
<tr>
<td>Switch between open views</td>
<td>Press <strong>Shift+Ctrl+F7</strong></td>
</tr>
</tbody>
</table>
Appendix B. Customizing DataQuant objects

This topic gives examples of the SQL that is used to create the DataQuant objects. It also describes some modifications that you might make to the SQL.

Sample generated SQL

This example shows the SQL that can be generated to create required database objects; this SQL is proposed and it can be modified.

You can edit the SQL. For example:

```sql
CREATE NODEGROUP RDBING1 ON NODE (0);
CREATE NODEGROUP RDBING2 ON NODE (0);
CREATE REGULAR TABLESPACE RDBITSSC
   IN NODEGROUP RDBING1
   MANAGED BY SYSTEM USING('RDBITSSC');
CREATE TABLE RDBI.AUTHID_TABLE
   ( PRIMARY_ID CHAR(8) NOT NULL,
     SECONDARY_ID CHAR(8) NOT NULL
   )
   IN RDBITSSC
   PARTITIONING KEY (SECONDARY_ID) USING HASHING ;
COMMENT ON TABLE RDBI.AUTHID_TABLE
   IS 'Secondary authorization ID table FOR RDBI';
```

Listing physical and logical files for iSeries

You can list physical and logical files for iSeries from the Create Objects.

Follow these steps to list iSeries physical and logical files:
1. On the Create Objects page, scroll down to the following statement:
   ```sql
   CREATE VIEW RDBI.TABLE_VIEW2
   ```
2. In the 'CREATE' statement, modify the 'WHERE' clause by adding a 'P' for physical files and an 'L' for logical files. For example:
   ```sql
   WHERE A.TABLE_TYPE IN ('T','V','P','L')
   ```
3. Click OK to create the object.

Granting EXECUTE privilege for iSeries

You can use the built-in stored procedure `QSYS.QCMDEXC()` to grant the EXECUTE privilege for iSeries libraries.

If the built-in stored procedure `QSYS.QCMDEXC()` is registered on the target server, DataQuant finds it at runtime and invokes it either explicitly when DataQuant generates SQL DDL scripts during installation, or implicitly when binding static packages or creating stored procedures depending upon the selected protection method, stored procedures or static SQL packages.
If the built-in stored procedure `QSYS.QCMDEXC()` is not registered on the target server, then DataQuant does not invoke it at all. However, the libraries RSBI, Q, RDBI, and the library where DataQuant stored procedures or static SQL packages are created may not be granted the proper privileges. In this case, the database administrator must perform the following grant privilege operations for iSeries libraries:

- `GRTOBJAUT OBJ(RSBI) OBJTYPE(*LIB) USER(*PUBLIC) AUT(*EXECUTE);`
- `GRTOBJAUT OBJ(Q) OBJTYPE(*LIB) USER(*PUBLIC) AUT(*EXECUTE);`
- `GRTOBJAUT OBJ(RDBI) OBJTYPE(*LIB) USER(*PUBLIC) AUT(*EXECUTE);`
- `GRTOBJAUT OBJ(QFWPKG) OBJTYPE(*LIB) USER(*PUBLIC) AUT(*EXECUTE);`

where QFWPKG is the library of DataQuant stored procedures or static SQL packages.

### Object views

Object views determine how lists are built.

The following views are created when objects are created:

- `RDBI.TABLE_VIEW`
- `Q.RAA_OBJECT_VIEW`

You can alter these views when you install DataQuant to tailor the list building. These views differ based on the DB2 platform.

Lists for the extended catalog are built by the views that are created when you select the Create Objects option. For queries, forms, and procedures, the view `Q.RAA_OBJECT_VIEW_X` is the key and it interacts with other views and tables.

#### Q.RAA_OBJ_DIR_X

Look at the catalog_ids and owner names in Q.RAA_OBJ_DIR_X and display or fail to display each object based on the conditions below:

"Yes" to any of the following questions causes the query, procedure or form to be displayed in the list:

1. Does the object owner match the current user ID?
2. Does the object owner match the current SQLID?
3. Does the object owner match the secondary authorization ID of the current user ID having the same catalog ID?
4. Is the object SHARED? (Restricted = N)
5. Is the user a SYSADM having the same catalog _ID?

#### RDBI.USER_ADMIN_VIEW_X

This view determines whether the user or a secondary authorization ID of the user is a SYSADM.

It checks RDBI.ADMIN_VIEW and RDBI.CATALOG_DIR_X for:

- The current user ID or SQLID
- Secondary authorization ID of the current user having the same catalog_ID in RDBI.CATALOG_DIR_X
RDBLUER.USER_AUTHID_VIEW_X
This view retrieves all rows from the base table RDBI.AUTHID_VIEW_X, where the primary ID is that of the current user. It will list all secondary authorization IDs for the current user.

RDBLADMIN_VIEW
This view obtains a list of GRANTEEs from the base table SYSIBM.SYSUSERAUTH. It takes GRANTEEs who have been granted G or Y for SYSADMAUTH.

RDBI.CATALOG_DIR_X
This table contains all rows of internal identifier of the distinct catalog and name of the distinct catalog.

RDBI_AUTHID_VIEW_X
This table copies all rows from the base table RDBI.AUTHID_TABLE_X.

SYSIBM.SYSUSERAUTH
This table contains the SYSUSERAUTH information.

RDBI_AUTH_TABLE_X
A base table listing primary and secondary authorization IDs. This table must be populated by the system or database administrator. DataQuant for Workstation does not have access to the preexisting RACF/DB2 relationships during or after installation, unless they are stored in a custom DB2 table of the administrator's design.

Q.RAA_OBJECT_VIEW_X
For queries, forms, and procedures, the view Q.RAA_OBJECT_VIEW_X is the key and it interacts with the other views and tables, as shown below.

Note: This view is for the Object Listing Option:
"Include only those objects that any of the user's primary or secondary authorization IDs are authorized to access. This option requires the most database resources when producing lists."

The following SQL statements create this view:
CREATE VIEW Q.RAA_OBJECT_VIEW_X
(
   CATALOG_ID,
   OWNER, NAME, TYPE, SUBTYPE, OBJECTLEVEL, RESTRICTED, MODEL,
   REMARKS
)
AS
SELECT A.CATALOG_ID,
   A.OWNER, A.NAME, A.TYPE, A.SUBTYPE,
   A.OBJECTLEVEL, A.RESTRICTED, A.MODEL,
   B.REMARKS
FROM Q.RAA_OBJ_DIR_X A, Q.RAA_OBJ_REM_X B
WHERE (A.CATALOG_ID = B.CATALOG_ID AND
   A.OWNER = B.OWNER AND
   A.NAME = B.NAME AND
   A.DELETED_TIMESTAMP IS NULL AND B.DELETED_TIMESTAMP IS NULL)
AND (A.RESTRICTED = 'N'
    OR A.OWNER IN (USER, CURRENT SQLID)
    OR A.OWNER IN (SELECT C.SECONDARY_ID
                    FROM RDBI_USER_AUTHID_VIEW_X C
                    WHERE C.CATALOG_ID = A.CATALOG_ID)
    OR EXISTS (SELECT D.AUTHID
                FROM RDBI.USER_ADMIN_VIEW_X D
                WHERE D.CATALOG_ID = A.CATALOG_ID))

RDBI.USER_ADMIN_VIEW_X
These SQL statements create the RDBI.USER_ADMIN_VIEW_X table.
CREATE VIEW RDBI.USER_ADMIN_VIEW_X
(
    CATALOG_ID,
    "AUTHID"
) AS
SELECT B.ID, A."AUTHID"
FROM RDBI.ADMIN_VIEW A, RDBI.CATALOG_DIR_X B
WHERE A."AUTHID" IN (USER, CURRENT SQLID)
    OR A."AUTHID" IN (SELECT C.SECONDARY_ID
                       FROM RDBI.USER_AUTHID_VIEW_X C
                       WHERE B.ID = C.CATALOG_ID)

RDBI.USER_AUTHID_VIEW_X
These SQL statements create the RDBI.USER_AUTHID_VIEW_X table.
CREATE VIEW RDBI.USER_AUTHID_VIEW_X
(
    CATALOG_ID,
    PRIMARY_ID,
    SECONDARY_ID
) AS
SELECT A.CATALOG_ID, A.PRIMARY_ID, A.SECONDARY_ID
FROM RDBI.AUTHID_VIEW_X A
WHERE A.PRIMARY_ID = USER

RDBI.ADMIN_VIEW
These SQL statements create the RDBI.ADMIN_VIEW table.
CREATE VIEW RDBI.ADMIN_VIEW
(
   "AUTHID"
) AS
SELECT A.GRANTEE
FROM SYSIBM.SYSUSERAUTH A
WHERE A.SYSADMAUTH IN ('Y', 'G')

RDBI.CATALOG_DIR_X
These SQL statements create the RDBI.CATALOG_DIR_X table.
CREATE TABLE RDBI.CATALOG_DIR_X
(
    ID SMALLINT NOT NULL,
    NAME VARCHAR (128) NOT NULL
) IN RDBIDBX.RDBITSX1
  CCSID EBCDIC

RDBI.AUTHID_VIEW_X
These SQL statements create the RDBI.AUTHID_VIEW_X table.
CREATE VIEW RDBI.AUTHID_VIEW_X
(
    CATALOG_ID,
    PRIMARY_ID,
    SECONDARY_ID
)
AS
SELECT A.CATALOG_ID, A.PRIMARY_ID, A.SECONDARY_ID
FROM RDBI.AUTHID_TABLE_X A

RDBI.AUTHID_TABLE_X

These SQL statements create the RDBI.AUTHID_TABLE_X table.

CREATE TABLE RDBI.AUTHID_TABLE_X
(
    CATALOG_ID SMALL INIT NOT NULL,
    PRIMARY_ID CHAR (8) NOT NULL,
    SECONDARY_ID CHAR (8) NOT NULL
)
IN RDBIDBX.RDBITSX
CCSID EBCDIC

Note: This table must be populated by the system or database administrator. DataQuant for Workstation does not have access to the pre-existing RACF/DB2 relationships during or after installation.

For other tables, the view RDBI.TABLE_VIEW2_X is the key and interacts with the other views and tables, as shown below.

RDBI.TABLE_VIEW2_X

RDBI.TABLE_VIEW2_X constructs a list of tables. First, it checks for tables listed in the base table SYSIBM.SYSTABAUTH. All tables in SYSIBM.SYSTABAUTH have, by definition, already had some type of authority granted to at least one user.

SYSIBM.SYSTABAUTH must answer "Yes" to one of the following questions:
1. Is the GRANTEE = the current user?
2. Is the GRANTEE = the current SQLID?
3. Is the GRANTEE = PUBLIC?
4. Is the GRANTEE = PUBLIC*?
5. Is the GRANTEE = a secondary authorization ID of the current USER having the same catalog_ID?
6. Is the user a SYSADM having the same catalog_ID?

The table must have one of the following GRANTEE types:
- '
- U
- G

The GRANTEE of the table must have Y or G authority on one of the following four categories:
- DELETEAUTH
- INSERTAUTH
- SELECTAUTH
- UPDATEAUTH
RDBI.USER_ADMIN_VIEW_X
This view determines whether the user or a secondary user ID of the user is a SYSADM.

It checks the RDBI.ADMIN_VIEW and RDBI.CATALOG_DIR_X for:
• The current user ID
• Secondary user ID of the current user having the same catalog ID

RDBI.USER_AUTHID_VIEW_X
This view retrieves all rows from the base table RDBI.AUTHID_VIEW_X where the primary ID is that of the current user. It will list all secondary authorization IDs for the current user.

RDBI.ADMIN_VIEW
This view retrieves a list of GRANTEEs from the base table SYSIBM.SYSUSERAUTH. It takes GRANTEEs who have been granted G or Y for SYSADMAUTH.

Note: If you are setting up under an iSeries database, the RDBI.ADMIN_VIEW refers to the RDBI.ADMIN_TABLE.

RDBI.AUTHID_VIEW_X
This view copies all rows from the base table RDBI.AUTHID_TABLE_X.

RDBI.AUTHID_TABLE_X
A base table listing catalogued, and primary and secondary authorization IDs.

Note: This table must be populated by the system or database administrator. DataQuant for Workstation does not have access to the pre-existing RACF/DB2 relationships during or after installation, unless they are stored in a custom DB2 table of the administrator’s design.

Also, for tables, the view RDBI.TABLE_VIEW2_X is the key and interacts with the other views and tables, as shown below.

RDBI.ADMIN_TABLE
A base table used exclusively by iSeries databases that lists user IDs with administrative privileges.

Note: This table must be populated by the system or database administrator. This table takes the place of the base RDBI.AUTHID_TABLE for DB2 databases.

Also, for tables, the view RDBI.USER_ADMIN_VIEW and RDBI.USER_ADMIN_VIEW_X are the keys and interact with the other views and tables, as shown below.

RDBI.USER_ADMIN_VIEW_X
The following SQL statements create the RDBI.USER_ADMIN_VIEW_X table.

CREATE VIEW RDBI.USER_ADMIN_VIEW_X
(  CATALOG_ID,
  "AUTHID"
)
AS
SELECT B.ID, A."AUTHID"
FROM RDBI.ADMIN_VIEW A, RDBI.CATALOG_DIR_X B
WHERE A."AUTHID" IN (USER, CURRENT SQLID)
   OR A."AUTHID" IN (SELECT C.SECONDARY_ID
                      FROM RDBI.USER_AUTHID_VIEW_X C
                      WHERE B.ID = C.CATALOG_ID)

**RDBI.USER_AUTHID_VIEW_X**
These SQL statements create the RDBI.USER_AUTHID_VIEW_X table.
CREATE VIEW RDBI.USER_AUTHID_VIEW_X
(
    CATALOG_ID,
    PRIMARY_ID,
    SECONDARY_ID
)
AS
SELECT A.CATALOG_ID, A.PRIMARY_ID, A.SECONDARY_ID
FROM RDBI.AUTHID_VIEW_X A
WHERE A.PRIMARY_ID = USER

**RDBL.ADMIN_VIEW**
These SQL statements create the RDBL.ADMIN_VIEW table.
CREATE VIEW RDBL.ADMIN_VIEW
(
    "AUTHID"
)
AS
SELECT A.GRANTEE
FROM SYSIBM.SYSUSERAUTH A
WHERE A.SYSADMAUTH IN('Y', 'G')

**RDBI.AUTHID_VIEW_X**
These SQL statements create the RDBI.AUTHID_VIEW_X table.
CREATE VIEW RDBI.AUTHID_VIEW_X
(
    CATALOG_ID,
    PRIMARY_ID,
    SECONDARY_ID
)
AS
SELECT A.CATALOG_ID, A.PRIMARY_ID, A.SECONDARY_ID
FROM RDBI.AUTHID_TABLE_X A

**RDBI.AUTHID_TABLE_X**
These SQL statements create the RDBI.AUTHID_TABLE_X table.
CREATE TABLE RDBI.AUTHID_TABLE_X
(
    CATALOG_ID SMALLINT NOT NULL,
    PRIMARY_ID CHAR (8) NOT NULL,
    SECONDARY_ID CHAR (8) NOT NULL
)
IN RDBIDBX.RDBITSX2
CCSID EBCDIC

*Note:* This table must be populated by the system or the database administrator. DataQuant for Workstation does not have access to the pre-existing RACF/DB2 relationships during or after installation.
RDBI.ADMIN_TABLE

These SQL statements create the RDBI.ADMIN_TABLE table for iSeries support.

QMF long name catalog support:
CREATE TABLE "RDBI"."ADMIN_TABLE"
(
  "AUTHID" VARCHAR(128) NOT NULL
)
,
COMMENT ON TABLE "RDBI"."ADMIN_TABLE"
  IS 'Administrator authorization ID table for RDBI';
COMMENT ON COLUMN "RDBI"."ADMIN_TABLE"."AUTHID"
  IS 'Authorization ID (user ID)';

QMF short name catalog support: The only difference is that VARCHAR(128) changes to VARCHAR(8):
CREATE TABLE "RDBI"."ADMIN_TABLE"
(
  "AUTHID" VARCHAR(8) NOT NULL
)
,
COMMENT ON TABLE "RDBI"."ADMIN_TABLE"
  IS 'Administrator authorization ID table for RDBI';
COMMENT ON COLUMN "RDBI"."ADMIN_TABLE"."AUTHID"
  IS 'Authorization ID (user ID)';

Note: This table must be populated by the iSeries system or database administrator.
Appendix C. Troubleshooting

Use these topics to diagnose and correct problems that you experience with DataQuant.

Problem displaying images in DataQuant for WebSphere using Internet Explorer 8

**Symptoms**
Visual report and visual dashboard images do not display properly in DataQuant for WebSphere when using Internet Explorer version 8.

**Environment**
DataQuant for WebSphere

**Resolving the problem**
Delete files from the Temporary Internet files folder in the Internet Explorer browser:
1. Select Tools > Delete Browsing History from the menu bar. The Delete Browsing History dialog opens.
2. Check the Temporary Internet files check box.
3. Click Delete. The Delete Browsing History dialog closes and the files are deleted.
4. Reopen the visual report or visual dashboard.

DataQuant for Workstation Win32 API reverts to previous version of QMF for Windows

**Symptoms**
If an earlier version of QMF for Windows that is installed alongside DataQuant for Workstation Version 1 is opened, API instances automatically revert to QMF for Windows, even after Version 1 has been reopened.

**Causes**
When DataQuant for Workstation Version 1 is installed, the application version number is updated in the system registry. When a preexisting version of QMF for Windows is opened, it automatically reverts the application's version number in the system registry. When Version 1 is opened, this automatic rename does not take place.

**Resolving the problem**
Any time that the QMF for Windows application is opened, you must manually reset the version number in the system registry if you want API instances to point to DataQuant for Workstation Version 1.

**User response:** To reset the application version number in the system registry:
1. Go to the following location in your workstation directory: `"C:\Program Files\IBM\IBM DataQuant\API`
2. Double-click the file named qmfwin.exe
Note: Win32 API uses active repository connections. If there is not an active repository connection, the system opens up a dialog box that lists all available connections where you must select the connection you want to use.
Appendix D. Messages

This topic lists and describes the messages and return codes issued by the program components of DataQuant for Workstation and DataQuant for WebSphere.

DataQuant for Workstation and DataQuant for WebSphere messages are numbered as follows:

CPTprefixMESSnumber

**CPTprefix**
The abbreviation of the component of the application that threw the error. This can be an indication of the first place to look in order to resolve the error.

**MESSnumber**
The specific number of the error message.

For example: ABC0001

All of the error messages of each component are listed in alphabetical order. To look up more information about a specific error message and how to resolve it, search for the component prefix and number of the message in this publication.

**Note:** Since DataQuant supports DB2 databases, DB2 error messages are included in the application. DB2 error messages have a component prefix of DB2. (for example, DB20001) If you encounter a message with this component prefix, refer to the DB2 online documentation at [www.ibm.com](http://www.ibm.com). If you are using the DB2 Type 4 UDB driver or the DB2 Universal JDBC Driver, to receive extended SQL exception error messages, check the `retrieveMessagesFromServerOnGetMessage` option in the Advanced JDBC Settings window of the Edit Repository Connection wizard.

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**API1001** (0)

**Explanation:** This is a container for other messages.

**User response:** No action is required.

**API1002** The API has not been initialized.

**Explanation:** The API instance has not been initialized. This could mean that the QMFwin API was not initialized, or a repository connection was not established.

**User response:** Check the QMFwin API logs to determine the error that caused the API instance to fail, or establish a repository connection.

**API1003** No data found.

**Explanation:** There was an attempt to obtain a row that does not exist in a result set.

**User response:** No action required.

**API1006** The specified source (0) is not valid.

**Explanation:** An invalid value was specified for the SourceType parameter of the initializeProc() or initializeQuery() function.

**User response:** Specify a valid value for the SourceType parameter of any initializeProc() or initializeQuery() function.

**API1007** The specified source name is not valid.

**Explanation:** An invalid value was specified for the Source, CollectionName, PackageName, or ConsistencyToken parameter of an initializeProc(), initializeQuery(), or initializeStaticQuery() function.

**User response:** Specify a valid value for the Source, CollectionName, PackageName, or ConsistencyToken parameter of any initializeProc(), initializeQuery(), or initializeStaticQuery() function.

**API1008** The specified database server (0) is not valid.
API1009 • API1030

Explanation: An unknown data source alias was specified in a getServerAttributes(), getType() or initializeServer() function.

User response: Specify a valid data source alias for any getServerAttributes(), getType() or initializeServer() function.

API1009  No database server has been specified.
Explanation: The initializeServer() function was not invoked before other functions were invoked that require an initialized data source.

User response: Ensure that the initializeServer() function is invoked before other data source dependent functions are called.

API1010  The specified row limit {0} is not valid.
Explanation: An invalid value was specified for the RowLimit parameter of an open() function.

User response: Specify a positive value for the RowLimit parameter of any open() function.

API1011  The specified query ID {0} is not valid.
Explanation: An invalid value was specified for the QueryID parameter of an API function.

User response: Specify a valid value for the QueryID parameter of all relevant functions.

API1012  The SQL verb {0} cannot be used with open().
Explanation: An open() function was called for a query that does not contain the SELECT, VALUES, WITH, or CALL SQL verbs.

User response: Ensure that any open() function calls a query that contains one of the SQL verbs listed in the error message text.

API1013  The SQL verb {0} cannot be used with execute().
Explanation: An execute() function was called for a query that contains the SELECT, VALUES, WITH, or CALL SQL verbs.

User response: Ensure that any execute() function does not call a query that contains one of the SQL verbs listed in the error message text.

API1015  A new procedure could not be created. There may be too many documents already open, or there may be insufficient memory.
Explanation: An unexpected error occurred while creating a procedure using the initializeProc() function.

User response: Check the QMFwin API logs to find the root error.

API1016  A new query could not be created. There may be too many documents already open, or there may be insufficient memory.
Explanation: An unexpected error occurred while creating a query using the initializeQuery() function.

User response: Check the QMFwin API logs to find the root error.

API1024  The specified column delimiter (0) is not valid.
Explanation: An invalid value was specified for the ColumnDelimiter parameter of an export() function.

User response: Specify a valid value for the ColumnDelimiter parameter of any export() function.

API1026  The specified file name is not valid.
Explanation: An invalid or empty value was specified for the FileName parameter of an export() function.

User response: Specify a valid value for the FileName parameter of any export() function.

API1027  The specified format (0) is not valid.
Explanation: An invalid format was specified for the Format parameter in an export() function.

User response: Specify a valid value for the Format parameter of any export() function.

API1028  The specified form name is not valid.
Explanation: An invalid or empty value was specified for the Form parameter of a report related function.

User response: Specify a valid value for the Form parameter of any report related functions.

API1029  The specified form source (0) is not valid.
Explanation: An invalid value was specified for the SourceType parameter of a report related function.

User response: Specify a valid value for the SourceType parameter of any report related function.

API1030  The global variable name is invalid.
Explanation: An invalid value was specified for the GlobalVariableName parameter of a global variables related function.

User response: Specify a valid value for the
GlobalVariableName parameter of any global variables related function.

API1031 The specified host variable is not valid.
Explanation: An invalid value was specified for the Value parameter of a setHostVariable() function.
User response: Specify a valid value for the Value parameter of any setHostVariable() function.

API1033 The specified owner and name ([0]) are not valid.
Explanation: An invalid value was specified for the OwnerAndName parameter of an API function.
User response: Specify a valid value for the OwnerAndName parameter of any relevant API function.

API1034 The specified page length ([0]) is not valid.
Explanation: An invalid value was specified for the PageLength parameter of an exportReport() or exportVisualReport() function.

API1035 The specified page width ([0]) is not valid.
Explanation: An invalid value was specified for the PageWidth parameter of an exportReport() or exportVisualReport() function.

API1037 The specified procedure ID ([0]) is not valid.
Explanation: An invalid value was specified for the ProcID parameter or a procedure related function.
User response: Specify a valid value for the ProcID parameter of any procedure related functions.

API1038 The specified resource ([0]) is not valid.
Explanation: An invalid value was specified for the Resource parameter of a getResourceLimit() function.

API1039 The specified range of rows and columns is not valid.
Explanation: Invalid values were specified for the FirstRow, FirstCol, LastRow, and LastCol parameters of an exporting result set function.
User response: Specify valid values for the FirstRow, FirstCol, LastRow, and LastCol parameters of any exporting result set function.

API1040 The specified string delimiter ([0]) is not valid.
Explanation: An invalid value was specified for the StringDelimeter parameter of an export() function.
User response: Specify a valid value for the StringDelimeter parameter of any export() function.

API1041 The specified table name is not valid.
Explanation: An invalid value was specified for the TableName parameter of an export() function.
User response: Specify a valid value for the TableName parameter of any export() function.

API1042 The specified target server is invalid.
Explanation: An invalid value was specified for the Server parameter of a saveData() or copyQMFObject() function.
User response: Specify a valid value for the Server parameter of any saveData() or copyQMFObject() function.

API1044 The specified time ([0]) is not valid.
Explanation: An invalid value was specified for the Time parameter of a getQMFObjectInfo() function.
User response: Specify a valid value for the Time parameter of any getQMFObjectInfo() function.

API1045 The specified type ([0]) is not valid.
Explanation: An invalid value was specified for the Type parameter of a getQMFObjectInfo() function.
User response: Specify a valid value for the Type parameter of any getQMFObjectInfo() function.

API1046 The specified variable ([0]) is not valid.
Explanation: An invalid value was specified for the VariableName parameter of a setVariable() function.
User response: Specify a valid value for the VariableName parameter of any setVariable() function.
API1053  The SQL verb {0} cannot be used with ExecuteStoredProcedure().

Explanation: A query that does not contain the CALL SQL verb was specified for an executeStoredProcedureEx() function.

User response: Specify a CALL query for any executeStoredProcedureEx() function.

API1054  Can't prepare a static section.

Explanation: A static query was specified for a prepare() function; only dynamic queries can be specified.

User response: Specify a dynamic query for any prepare() function.

API10004  The values specified for ForceDialog and SuppressDialog are mutually exclusive.

Explanation: The initializeServer() function was called and the values that were specified for ForceDialog and SuppressDialog parameters were mutually exclusive.

User response: Check the code that invokes the initializeServer() function.

API10005  The specified value is not valid.

Explanation: The value that was specified for the parameter of a function is incorrect.

User response: Check to ensure that all of the specified parameter values for all of the functions that were called in the API instance are valid.

BIC00000  Internal Error

Explanation: There was an internal error.

User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

BIC00001  Illegal Argument

Explanation: The specified argument is not valid.

User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

BIC00002  Null Pointer

Explanation: A null pointer exception occurred.

User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

BIC00004  {0}

Explanation: The specified exception occurred.

User response: Correct the specified exception and try again.

BIC00005  Unknown exception.

Explanation: An error occurred while retrieving a resource string.

User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

BIC00006  This feature is not supported by DataQuant

Explanation: The specified feature is not supported by DataQuant.

User response: No action is required.

BIC00007  Object is not supported by DataQuant

Explanation: The specified object is not supported by DataQuant.

User response: No action is required.

BIC00009  Fetching of children is cancelled by user.

Explanation: The operation was cancelled by the user.

User response: Retry to fetch the specified objects.

CLC00001  Cannot convert {0} to number.

Explanation: The specified element can not be converted into a numeral.

User response: Specify valid element to convert into a numeral.

CLC00002  Unable to evaluate linReg: data series have different numbers of elements.

Explanation: The data series specified for the x and y variables contain different numbers of data points.

User response: Specify data series that contain the same number of data points.

CLC00003  Unable to evaluate linReg: not enough data.

Explanation: The data series specified do not contain enough rows to calculate the linear regression.

User response: Specify a query result set that contains more than one row of data points.
Unable to evaluate linReg: coefficient is out of range.

Explanation: The value that you specified for the nParam parameter of the linreg() function is invalid.

User response: Specify either a 0 or a 1 for the nParam parameter. A 0 returns the slope of the linear regression. A 1 returns the intercept of the linear regression.

Illegal data row range specified: from {0} to {1}

Explanation: The range of data rows specified for the nFirstRow and nLastRow parameters is invalid.

User response: Specify a valid range of data rows. The nFirstRow value must specify a row before the nLastRow value in the query result set.

Unable to calculate gammaIP: domain error.

Explanation: Invalid arguments were specified in the gammaIP function.

User response: Specify a valid argument in the gammaIP function.

"{0}" function is not found in Lib class, but supported in expressions.

Explanation: An internal error occurred.

User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

"{0}" function has wrong arguments description.

Explanation: An internal error occurred.

User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

Type conversion error. Object of {0} type cannot be converted to {1} type.

Explanation: The indicated object can not be converted to the indicated type.

User response: Specify a valid object to be converted to the indicated type.

Evaluation of expression has failed.

Explanation: The evaluation of the specified expression has failed.

User response: Check the syntax of the expression for errors and try again.

Cannot parse an expression: {0}

Explanation: An internal error occurred.

User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

Unknown function name: {0}.

Explanation: The indicated function name is not valid.

User response: Specify a valid function name.

Unable to process URL: "{0}".

Explanation: The indicated URL is invalid.

User response: Specify a valid URL.

"{0}" function description is missing.

Explanation: An internal error occurred.

User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

Multiple declarations of "{0}" library in LibraryFactory class.

Explanation: An internal error occurred.

User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

Multiple declarations of "{0}" library in LibraryFactory class.

Explanation: An internal error occurred.

User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

Cannot load "{0}" library in LibraryFactory class.

Explanation: An internal error occurred.

User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

Evaluation of expression failed: {0}

Explanation: The evaluation of the indicated expression failed.

User response: Specify a valid expression for evaluation.
CLC00041  Types "[0]" and "[1]" are not acceptable for "[2]" function.

Explanation: The arguments that were passed to the function are of invalid types.
User response: Check the syntax of the expression for errors and try again.

CLC00042  Type "[0]" is not acceptable for "[1]" function.

Explanation: The specified function does not accept parameters of the given type.
User response: Check the syntax of the expression for errors and try again.

CLC00043  Information service is undefined.

Explanation: An internal error occurred.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

CLC00044  Aggregation service is undefined.

Explanation: An internal error occurred.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

CLC00045  Hierarchy service is undefined.

Explanation: An internal error occurred.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

CLC00046  Color service is undefined.

Explanation: An internal error occurred.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

CLC00047  PPI service is undefined.

Explanation: An internal error occurred.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

CLC00048  Value provider is undefined.

Explanation: An internal error occurred.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

> Collect Support Data and forward it to customer support.

CLC00049  Function "[0]" is defined for {1} argument(s).

Explanation: An invalid number of parameters were specified for the indicated function.
User response: Specify a correct number of parameters for the indicated function.

CLC00050  Function "[0]" is undefined for argument {1}.

Explanation: An invalid number of parameters were specified for the indicated function.
User response: Specify a valid number of parameters for the indicated function.

CLC00051  One of the operands does not have measurement units.

Explanation: One of the operands of the function does not have measurement units.
User response: Make sure that all of the operands in the function have measurement units.

CLC00052  Cannot multiply two measured values.

Explanation: Measured values can not be multiplied.
User response: Specify values that are not measured to be multiplied.

CLC00053  Cannot create list from elements of "[0]" type.

Explanation: A list can not be created using elements of the indicated type.
User response: Specify elements of a different type to be listed.

CLC00054  List cannot contain elements of different types.

Explanation: The specified list can not contain elements of different types.
User response: Specify elements of the same type to be listed.

CLC00055  Types "[0]", "[1]" and "[2]" are not acceptable for "[3]" function.

Explanation: The indicated function is not compatible with the given types.
User response: Check the syntax of the expression for errors and try again.
CLC00056  Argument(s) with measurement units are not acceptable for "{0}" function.

Explanation: The indicated function can not contain arguments with measurement units.
User response: Remove all measurement units from the arguments of the function.

CLC00057  Incorrect index given.

Explanation: An error occurred in the LineText function.
User response: Check the arguments that are specified for the LineText function for errors.

CLC00058  Types "{0}", "{1}", "{2}" and "{3}" are not acceptable for "{4}" function.

Explanation: The indicated function is not compatible with the given types.
User response: Check the expression syntax for errors and try again.

CLC00060  Value for variable "{0}" is not defined.

Explanation: The value for the indicated variable is not defined.
User response: Define the value for the indicated variable.

CLC00061  Function "{0}" caused error: {1}

Explanation: The indicated function caused the indicated error.
User response: Correct the indicated error and rerun the function.

CLC00062  Property "{0}" contains error: {1}

Explanation: The indicated property caused the indicated error.
User response: Correct the indicated error and rerun the function.

CLC00063  List sizes are not comparable.

Explanation: Invalid parameters with type List were specified for add, multiply, divide, or subtract functions.
User response: Specify a valid value for the List parameter of any add, multiply, divide, or subtract functions.

CLC00066  Cannot be evaluated for empty list.

Explanation: No value was specified for the List parameter of a function.
User response: Specify a valid value for the List parameter of any relevant function.

CLC00067  Function @if has odd number of parameters: @if(cond1, exp1, cond2, exp2, ..., expn). expn is used when there aren't true conditions

Explanation: The syntax of an @if function is invalid.
User response: Check the syntax of any @if functions for errors and try again.

DAL01001  The feature is not supported.

Explanation: The specified feature is not supported by the database.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

DAL01002  No column named "{0}" was found.

Explanation: The indicated column was not found.
User response: Check the column name for errors or specify a different column name.

DAL01004  The current row is unsuitable for get/set operations.

Explanation: The specified row can not be retrieved or set.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

DAL01005  The database cursor has been closed.

Explanation: The requested operation could not be completed because the cursor is closed.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

DAL01006  An error occurred while accessing the file. {0}

Explanation: An input/output error occurred while accessing the file.
User response: Collect support data by selecting Help
> **Collect Support Data** and forward it to customer support.

**DAL01007**  
**Character encoding [0] is not supported.**  
**Explanation:** The indicated character encoding is not supported.  
**User response:** Use a character set that is supported by your current JVM.

**DAL01008**  
**An error occurred while accessing the database.**  
**Explanation:** An error occurred while accessing the indicated database.  
**User response:** Collect support data by selecting **Help**  
> **Collect Support Data** and forward it to customer support.

**DAL01009**  
**An internal error occurred. [0]**  
**Explanation:** The indicated internal error occurred.  
**User response:** Collect support data by selecting **Help**  
> **Collect Support Data** and forward it to customer support.

**DAL0101**  
**Class [0] is not suitable for server description**  
**Explanation:** An internal error occurred.  
**User response:** Collect support data by selecting **Help**  
> **Collect Support Data** and forward it to customer support.

**DAL01012**  
**Requested operation is not available in offline mode**  
**Explanation:** The specified operation is not available in offline mode.  
**User response:** Specify a different operation to apply to the active object, or switch to online mode and try again.

**DAL01013**  
**Cannot create connection to server "[0]" due to the following: [1]**  
**Explanation:** A connection to the indicated server could not be established due to the indicated error.  
**User response:** Resolve the indicated error and retry to connect to the server.

**DAL01014**  
**Invalid set of connection parameters used,**  
**Explanation:** An internal error occurred.  
**User response:** Collect support data by selecting **Help**

**DAL01016**  
**Cannot parse data (base64 encoding rules violation)**  
**Explanation:** The XML file is corrupted.  
**User response:** Fix any errors in the XML file and try again.

**DAL01017**  
**Duplicate query with name "[0]" is detected in package "[1]".**  
**Explanation:** An internal error occurred; the indicated package contains several queries with the same specified name.  
**User response:** Collect support data by selecting **Help**  
> **Collect Support Data** and forward it to customer support.

**DAL01018**  
**The source data is not compatible with the target table.**  
**Explanation:** The attempt to save data in the database table failed because of the following:  
- Number of columns does not match.  
- Columns have incompatible types.  
**User response:** Select compatible target table and try again.

**DAL01019**  
**Operation is not supported.**  
**Explanation:** An internal error occurred; the requested operation can not be performed due to internal limitations.  
**User response:** Collect support data by selecting **Help**  
> **Collect Support Data** and forward it to customer support.

**DAL01020**  
**Invalid SQL type definition: "[0]"**  
**Explanation:** An internal error occurred; the indicated SQL type definition is invalid (it can be mapped to more than one known data types).  
**User response:** Collect support data by selecting **Help**  
> **Collect Support Data** and forward it to customer support.

**DAL01021**  
**This product does not contain SQLj support module**  
**Explanation:** DataQuant does not support or can not initialize the SQLj support module.  
**User response:** Collect support data by selecting **Help**  
> **Collect Support Data** and forward it to customer support.
<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>DAL01022</td>
<td>Cannot have two different driver libraries with the same driver name.</td>
<td>The driver with the specified driver name is already defined in another library definition.</td>
<td>Use (edit) the already defined driver library instead of creating a new one.</td>
</tr>
<tr>
<td>DAL01023</td>
<td>An error has occurred while saving driver libraries list: {0}</td>
<td>The indicated error occurred while the driver libraries list was being saved.</td>
<td>Resolve the indicated error and try again.</td>
</tr>
<tr>
<td>DAL01025</td>
<td>An error has occurred while loading the driver libraries list: {0}</td>
<td>The indicated error occurred while trying to load the driver libraries list.</td>
<td>Resolve the indicated error and try again.</td>
</tr>
<tr>
<td>DAL01026</td>
<td>Operation cannot be performed due to resource limits restriction: {0}</td>
<td>The operation could not be performed due to the indicated resource limits restriction.</td>
<td>Check your current resource limits by selecting Resource Limits from the View menu. Specify an operation within your resource limits or contact your administrator for specific permissions.</td>
</tr>
<tr>
<td>DAL01027</td>
<td>User name is missing.</td>
<td>The user name is missing from the User Information dialog name field.</td>
<td>Specify a user name.</td>
</tr>
<tr>
<td>DAL01028</td>
<td>Password is missing.</td>
<td>The password is missing from the User Information dialog.</td>
<td>Specify a password.</td>
</tr>
<tr>
<td>DAL01029</td>
<td>Wrong JDBC URL: {0}.</td>
<td>The indicated JDBC URL cannot be processed by DataQuant. The URL may be incorrect.</td>
<td>Check the JDBC URL for errors or specify a different URL.</td>
</tr>
<tr>
<td>DAL01030</td>
<td>Query parameter {0} is of wrong Java type. Data type &quot;{1}&quot; is required.</td>
<td>An internal error occurred while running the query. The query parameters have invalid types.</td>
<td>Collect support data by selecting Help &gt; Collect Support Data and forward it to customer support.</td>
</tr>
<tr>
<td>DAL01031</td>
<td>Cached server descriptor cannot be restored due to the following: {0}</td>
<td>The cached server descriptor cannot be restored due to the following error.</td>
<td>Resolve the indicated error and try again.</td>
</tr>
<tr>
<td>DAL01032</td>
<td>An error occurred while making remote method call. {0}</td>
<td>The indicated error occurred while the operation was running on the server side.</td>
<td>Refer to the indicated error description for possible response(s).</td>
</tr>
<tr>
<td>DAL01033</td>
<td>Client request cannot be processed by remote server.</td>
<td>An internal error occurred; the client request cannot be processed by a remote server.</td>
<td>Collect support data by selecting Help &gt; Collect Support Data and forward it to customer support.</td>
</tr>
<tr>
<td>DAL01034</td>
<td>Attempt to use incomplete metadata descriptor is detected.</td>
<td>An internal error occurred.</td>
<td>Collect support data by selecting Help &gt; Collect Support Data and forward it to customer support.</td>
</tr>
<tr>
<td>DAL01035</td>
<td>Editing is not supported for this data set.</td>
<td>An internal error occurred; this data set cannot be edited.</td>
<td>Collect support data by selecting Help &gt; Collect Support Data and forward it to customer support.</td>
</tr>
<tr>
<td>DAL01036</td>
<td>The current row is unsuitable for editing.</td>
<td>An internal error occurred; the current row can not be edited.</td>
<td>Collect support data by selecting Help &gt; Collect Support Data and forward it to customer support.</td>
</tr>
</tbody>
</table>
> Collect Support Data and forward it to customer support.

**DAL01037**  The database server does not support table renaming

**Explanation:**  Tables in this database server can not be renamed by DataQuant.

**User response:**  No action is required.

**DAL01038**  The edit operation was cancelled.

**Explanation:**  The table editing operation was cancelled by the user.

**User response:**  No action is required.

**DAL01039**  The record could not be updated (possibly concurrent edit/delete operations).

**Explanation:**  The record could not be updated. This is most likely because it is locked due to a concurrent edit/delete operation.

**User response:**  Refresh the result set and try again.

**DAL01040**  The record could not be deleted (possibly concurrent edit/delete operations).

**Explanation:**  The record could not be deleted. This is most likely because it is locked due to a concurrent edit/delete operation.

**User response:**  Refresh the result set and try again.

**DAL01041**  The value of a calculated column is longer than specified in the metadata

**Explanation:**  The data could not be exported because one or more of the calculated columns in the result set contains data that is longer than what is allowed in the column's definition.

**User response:**  Increase the maximum column length or modify the data in the calculated column.

**DAL01042**  Invalid type conversion detected.

**Explanation:**  An internal error occurred; a type conversion in the specified operation is invalid.

**User response:**  Collect support data by selecting Help > Collect Support Data and forward it to customer support.

**DAL01043**  An attempt was made to modify a deleted record.

**Explanation:**  An internal error occurred; records that have already been deleted can not be modified or restored.

**User response:**  Collect support data by selecting Help > Collect Support Data and forward it to customer support.

**DAL01044**  Connection is blocked due to the following: {0}

**Explanation:**  The attempted connection was blocked due to the indicated error or restriction.

**User response:**  Depending on the indicated problem, either resolve the specified error or contact your administrator to remove the restriction.

**DAL01046**  This product does not contain static mode support module for selected database.

**Explanation:**  This product does not contain static mode support module for selected database.

**User response:**  Collect support data by selecting Help > Collect Support Data and forward it to customer support.

**DAL01048**  Driver class name "\{0\}" is not loaded. This may be caused by an incorrect driver class name or missing JDBC driver libraries.

**Explanation:**  The indicated driver class name can not be loaded. This may be caused by an incorrect driver class name or missing JDBC driver libraries.

**User response:**  Check that there is a proper definition for the JDBC driver library that refers to the indicated driver class.

**DAL01049**  Selected protection mode is not supported by database.

**Explanation:**  The selected protection mode is not supported by the specified database.

**User response:**  Collect support data by selecting Help > Collect Support Data and forward it to customer support.

**DAL01050**  Driver specific functionality is not available due to: {0}

**Explanation:**  Driver specific functionality is not available due to the indicated error.

**User response:**  Resolve the indicated error and retry. Verify that the JDBC driver library for the driver is
properly configured and that it contains all of the necessary JAR files. If the problem persists, collect support data by selecting Help > Collect Support Data and forward it to customer support.

DAL01200  Generic data access error has occurred.  
{0}
Explanation: An error with no textual description occurred. Additional information may follow the message. This error code may refer to different error conditions depending on product versions.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

DAL01201  Generic data access error has occurred.  
{0}, {1}
Explanation: An error with no textual description occurred. Additional information may follow the message. This error code may refer to different error conditions depending on product versions.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

DAL01202  Generic data access error has occurred.  
{0}, {1}, {2}
Explanation: An error with no textual description occurred. Additional information may follow the message. This error code may refer to different error conditions depending on product versions.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

DAL01203  Generic data access error has occurred.  
{0}, {1}, {2}, {3}
Explanation: An error with no textual description occurred. Additional information may follow the message. This error code may refer to different error conditions depending on product versions.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

DAL01204  Generic data access error has occurred.  
{0}, {1}, {2}, {3}, {4}
Explanation: An error with no textual description occurred. Additional information may follow the message. This error code may refer to different error conditions depending on product versions.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

DAL01205  Generic data access error has occurred.  
{0}, {1}, {2}, {3}, {4}, {5}
Explanation: An error with no textual description occurred. Additional information may follow the message. This error code may refer to different error conditions depending on product versions.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

DAL01206  Generic data access error has occurred.  
{0}, {1}, {2}, {3}, {4}, {5}, {6}
Explanation: An error with no textual description occurred. Additional information may follow the message. This error code may refer to different error conditions depending on product versions.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

DAL01207  Generic data access error has occurred.  
{0}, {1}, {2}, {3}, {4}, {5}, {6}, {7}
Explanation: An error with no textual description occurred. Additional information may follow the message. This error code may refer to different error conditions depending on product versions.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

DAL01208  Generic data access error has occurred.  
{0}, {1}, {2}, {3}, {4}, {5}, {6}, {7}, {8}
Explanation: An error with no textual description occurred. Additional information may follow the message. This error code may refer to different error conditions depending on product versions.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

DDM0001  Unexpected error occurred.
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.
DDM0002 • DDM0017

DDM0002  Object {0} have no fields with codepoint {1}
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

DDM0003  Socket open exception. {0}
Explanation: Unable to establish TCP/IP connection.
User response: Check the host and port details in the JDBC URL; ping the server to check that the network connection works.

DDM0004  Socket write exception. {0}
Explanation: There was a network connection failure or an internal error in the driver code was detected.
User response: Check you network connection. If the connection works fine, send an error report to the developers.

DDM0005  Data format exception detected.
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

DDM0006  Invalid JDBC URL {0}
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

DDM0007  DSS header format error detected.
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

DDM0008  Unsupported CCSID {0}
Explanation: An internal error was detected in the driver code.
User response: Send an error report to the developers.

DDM0009  Cipher error {0}
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

DDM0010  Object {0} does not contain required field {1}
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

DDM0011  Object {0} does not support value {1}
Explanation: An internal error was detected in the driver code.
User response: Send an error report to the developers.

DDM0012  Syntax error detected: {0}
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

DDM0013  Syntax error detected: {0}
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

DDM0014  Object {0} can hold no more repeated fields {1}
Explanation: An internal error was detected in the driver code.
User response: Send an error report to the developers.

DDM0015  Illegal port number value: {0}
Explanation: The JDBC URL contains an invalid value in the Port field.
User response: Specify a correct port number in the JDBC URL.

DDM0016  {0} is invalid length for the field {1} of object {2}
Explanation: An internal error was detected in the driver code.
User response: Send an error report to the developers.

DDM0017  Unknown FD:OCA descriptor type id {0}
Explanation: An internal error was detected in the driver code.
User response: Send an error report to the developers.
<table>
<thead>
<tr>
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<th>User response</th>
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<tbody>
<tr>
<td>DDM0018</td>
<td>Null value for non nullable data detected.</td>
<td>An internal error was detected in the driver code.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An internal error was detected in the driver code.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>User response:</strong> Send an error report to the developers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DDM0019</td>
<td>Whole number of FD:OCA {0} triplet repeating groups cannot be placed in {1} bytes</td>
<td>An internal error was detected in the driver code.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An internal error was detected in the driver code.</td>
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<td></td>
<td><strong>User response:</strong> Send an error report to the developers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DDM0020</td>
<td>Illegal CPT triplet detected.</td>
<td>An internal error was detected in the driver code.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An internal error was detected in the driver code.</td>
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<td><strong>User response:</strong> Send an error report to the developers.</td>
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</tr>
<tr>
<td>DDM0021</td>
<td>Illegal duplicated field {1} in object {0}</td>
<td>An internal error was detected in the driver code.</td>
<td>Send an error report to the developers.</td>
</tr>
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<td><strong>Explanation:</strong> An internal error was detected in the driver code.</td>
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<td><strong>User response:</strong> Send an error report to the developers.</td>
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<td></td>
</tr>
<tr>
<td>DDM0022</td>
<td>Referenced FD:OCA triplet {0} not found</td>
<td>An internal error was detected in the driver code.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
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<td><strong>Explanation:</strong> An internal error was detected in the driver code.</td>
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<td><strong>User response:</strong> Send an error report to the developers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DDM0023</td>
<td>FD:OCA {0} triplets cannot be referenced from RLO triplet</td>
<td>An internal error was detected in the driver code.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An internal error was detected in the driver code.</td>
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<td></td>
<td><strong>User response:</strong> Send an error report to the developers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DDM0024</td>
<td>Replication factor {0} is detected in RLO triplet while only 1 and 0 is allowed by DRDA</td>
<td>An internal error was detected in the driver code.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An internal error was detected in the driver code.</td>
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<td><strong>User response:</strong> Send an error report to the developers.</td>
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</tr>
<tr>
<td>DDM0025</td>
<td>FD:OCA {0} triplets cannot be referenced from GDA triplet</td>
<td>An internal error was detected in the driver code.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An internal error was detected in the driver code.</td>
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<td><strong>User response:</strong> Send an error report to the developers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DDM0026</td>
<td>Unknown DRDA type {0}</td>
<td>An internal error was detected in the driver code.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An internal error was detected in the driver code.</td>
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<td><strong>User response:</strong> Send an error report to the developers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DDM0027</td>
<td>Infinite element count is not allowed for RLO handler of {0}</td>
<td>An internal error was detected in the driver code.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An internal error was detected in the driver code.</td>
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<td><strong>User response:</strong> Send an error report to the developers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DDM0028</td>
<td>An error occurred while parsing triplet handler for DRDA type {0}</td>
<td>An internal error was detected in the driver code.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An internal error was detected in the driver code.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>User response:</strong> Send an error report to the developers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DDM0029</td>
<td>Unspecified value for JDBC statement variable {0}</td>
<td>An internal error was detected in the driver code.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An internal error was detected in the driver code.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>User response:</strong> Send an error report to the developers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DDM0030</td>
<td>Illegal type conversion.</td>
<td>An internal error was detected in the driver code.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An internal error was detected in the driver code.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>User response:</strong> Send an error report to the developers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DDM0031</td>
<td>Illegal date or time format detected: {0}</td>
<td>An internal error was detected in the driver code.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An internal error was detected in the driver code.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>User response:</strong> Send an error report to the developers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DDM0032</td>
<td>Prepared statement parameter type {0} (from java.sql.Type set) is not supported.</td>
<td>An internal error was detected in the driver code.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An internal error was detected in the driver code.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>User response:</strong> Send an error report to the developers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DDM0033</td>
<td>Unknown DB2 type {0}</td>
<td>An internal error was detected in the driver code.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An internal error was detected in the driver code.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>User response:</strong> Send an error report to the developers.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
DDM0035  Statement is closed.
Explanation:  An attempt to work with a closed Statement object was detected.
User response:  Fix your program code.

DDM0036  ResultSet is closed.
Explanation:  An attempt to work with a closed ResultSet object was detected.
User response:  Fix your program code.

DDM0037  Object is closed.
Explanation:  An attempt to work with a closed object was detected.
User response:  Fix your program code.

DDM0038  Operation cannot be performed in current ResultSet state.
Explanation:  An attempt to work with a ResultSet column of a result set that is not positioned on any valid record was detected.
User response:  Fix your program code.

DDM0039  Error reply is received.
Explanation:  An internal error in the driver code was detected.
User response:  Send an error report to the developers.

DDM0040  Error reply is received for [0] command.
Explanation:  An internal error in the driver code was detected.
User response:  Send an error report to the developers.

DDM0041  Error detected while processing [0] object.
Explanation:  An internal error in the driver code was detected.
User response:  Send an error report to the developers.

DRL00001  The maximum number of connections to the server has been reached.
Explanation:  The maximum number of connections to the server has been reached.
User response:  Increase the maximum of number of connections parameter in the Repository Storage dialog or set the value to zero to remove this restriction.

DSCERRCD0001  FD:OCA triplet is not used in DRDA descriptors, or the type code is invalid.
Explanation:  An internal error in the driver code was detected.
User response:  Send an error report to the developers.

DSCERRCD0002  FD:OCA triplet sequence error.
Explanation:  An internal error in the driver code was detected.
User response:  Send an error report to the developers.

DSCERRCD0003  An array description is required, and this is not one (too many or too few Row Lay Out (RLO) triplets).
Explanation:  An internal error in the driver code was detected.
User response:  Send an error report to the developers.

DSCERRCD0004  A row description is required, and this is not one (too many or too few RLO triplets).
Explanation:  An internal error in the driver code was detected.
User response:  Send an error report to the developers.

DSCERRCD0005  Late environmental descriptor just received, not supported.
Explanation:  An internal error in the driver code was detected.
User response:  Send an error report to the developers.

DSCERRCD0006  Malformed triplet; required parameter is missing.
Explanation:  An internal error in the driver code was detected.
User response:  Send an error report to the developers.

DSCERRCD0007  Parameter value is not acceptable.
Explanation:  An internal error in the driver code was detected.
User response:  Send an error report to the developers.

DSCERRCD0017  Meta-Data Descriptor (MDD) present is not recognized as a Structured Query Language (SQL) descriptor.
Explanation:  An internal error in the driver code was detected.
User response: Send an error report to the developers.

DSCERRCD0018  MDD class is not recognized as a valid SQL class.
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

DSCERRCD0019  MDD type is not recognized as a valid SQL type.
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

DSCERRCD0033  Representation is incompatible with SQL type (in prior MDD).
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

DSCERRCD0034  CCSID is not supported.
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

DSCERRCD0050  Group Data Array (GDA) references a local identifier (LID) which is not a Scalar Data Array (SDA) or GDA.
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

DSCERRCD0051  GDA length override exceeds limits.
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

DSCERRCD0052  GDA precision exceeds limits.
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

DSCERRCD0053  GDA scale greater than precision or scale negative.
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

ERM0001  Permanent Agent Error.
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

ERM0002  Not Authorized to Command.
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

ERM0003  Command Check.
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

ERM0004  Command Not Supported.
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

ERM0005  Manager Dependency Error.
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
<th>Explanation</th>
<th>User Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERM0006</td>
<td>Manager-level Conflict.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0007</td>
<td>Conversational Protocol Error.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0008</td>
<td>Parameter Not Supported.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0009</td>
<td>Resource Limits Reached.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0010</td>
<td>Data Stream Syntax Error.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0011</td>
<td>Target Not Supported.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0012</td>
<td>Parameter Value Not Supported.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0013</td>
<td>Conversational Protocol Error.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0014</td>
<td>RDB Currently Accessed.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0015</td>
<td>RDB Access Failed Reply Message.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0016</td>
<td>Not Authorized To RDB.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0017</td>
<td>RDB Not Found.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0018</td>
<td>Resource Limits Reached.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0019</td>
<td>Data Stream Syntax Error.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0020</td>
<td>Invalid Request.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0021</td>
<td>Abnormal End Unit of Work Condition.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0022</td>
<td>RDB Package Binding Process Active.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0023</td>
<td>Query Not Open.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>Explanation</td>
<td>User response</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------------------------</td>
<td>--------------------------------------------------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td>ERM0024</td>
<td>RDB Not Accessed.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0025</td>
<td>Data Descriptor Mismatch.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0026</td>
<td>Object Not Supported.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0027</td>
<td>RDB Package Binding Not Active.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0028</td>
<td>RDB Update Reply Message.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0029</td>
<td>SQL Error Condition.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0030</td>
<td>End of Data.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0031</td>
<td>End of Query.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0032</td>
<td>Commitment Request.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0033</td>
<td>End Unit of Work Condition.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0034</td>
<td>Invalid Descriptor.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0035</td>
<td>Open Query Complete.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0036</td>
<td>Open Query Failure.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0037</td>
<td>Query Previously Opened.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM0038</td>
<td>Command Violation.</td>
<td>An internal error in the driver code was detected.</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>ERM1200</td>
<td>Generic DRDA error has occurred. [0]</td>
<td>The indicated generic DRDA error has occurred.</td>
<td>Resolve the indicated generic DRDA error and try again.</td>
</tr>
<tr>
<td>ERM1201</td>
<td>Generic DRDA error has occurred. [0], [1]</td>
<td>The two indicated generic DRDA error have occurred.</td>
<td>Resolve the two indicated errors and try again.</td>
</tr>
</tbody>
</table>
ERM1202  Generic DRDA error has occurred. 0, 1, 2
Explanation:  The three indicated generic DRDA errors have occurred.
User response:  Resolve the three indicated errors and try again.

ERM1203  Generic DRDA error has occurred. 0, 1, 2, 3
Explanation:  The four indicated generic DRDA errors have occurred.
User response:  Resolve the four indicated errors and try again.

ERM1204  Generic DRDA error has occurred. 0, 1, 2, 3, 4
Explanation:  The five indicated generic DRDA errors have occurred.
User response:  Resolve the five indicated errors and try again.

ERM1205  Generic DRDA error has occurred. 0, 1, 2, 3, 4, 5
Explanation:  The six indicated generic DRDA errors have occurred.
User response:  Resolve the six indicated errors and try again.

ERM1206  Generic DRDA error has occurred. 0, 1, 2, 3, 4, 5, 6
Explanation:  The seven indicated generic DRDA errors have occurred.
User response:  Resolve the seven indicated errors and try again.

ERM1207  Generic DRDA error has occurred. 0, 1, 2, 3, 4, 5, 6, 7
Explanation:  The eight indicated generic DRDA errors have occurred.
User response:  Resolve the eight indicated errors and try again.

ERM1208  Generic DRDA error has occurred. 0, 1, 2, 3, 4, 5, 6, 7, 8
Explanation:  The nine indicated generic DRDA errors have occurred.
User response:  Resolve the nine indicated errors and try again.

EXPT1000  Cannot perform export command: 0
Explanation:  The indicated export command cannot be performed.
User response:  Resolve the first indicated error and try again.

EXPT1001  An unsupported data type 0 was encountered.
Explanation:  The result set contains columns with the types that are not supported by the IXF370 format.
User response:  Make sure that the result set does not contain columns with any of the following types: BINARY, VARBINARY, ROWID, LONGVARBINARY, CLOB, DBCLOB, BLOB, GRAPHIC, VARGRAPHIC, or LONGVARGRAPHIC.

EXPT1002  The length of column 0 must be less than 1.
Explanation:  The length of the indicated column must be less than the indicated length due to restrictions of the IXF format.
User response:  Make sure that the indicated data column is less than the indicated length. Try to export using another format (for example, XML).

EXPT1003  The precision of column 0 must be an odd number between 1 and 2, inclusive.
Explanation:  The precision of the indicated column must be an odd number between the two indicated values due to restrictions of the IXF format.
User response:  Make sure the precision of the indicated data column is an odd number between the two indicated values. Try to export using another format (for example, XML).

EXPT1004  The data could not be exported due to an unsupported CCSID 0.
Explanation:  The indicated CCSID is not supported for export.
User response:  Specify a valid CCSID for export. A list of supported CCSIDs can be obtained from the CCSID drop down menu in the Export dialog.

EXPT1005  The data could not be exported because the single-byte code page is not specified.
Explanation:  A result set containing CLOB, CHAR, VARCHAR, or LONGVARCHAR columns was exported in IXF format but a CCSID that contains a single-byte code page was not specified.
User response: Select a CCSID that contains a single-byte code page.

EXPT1006 The data could not be exported because the double-byte code page is not specified.
Explanation: A result set containing DBCLOB, GRAPHIC, VARGRAPHIC, or LONGVARGRAPHIC columns was exported in IXF format but a CCSID that contains a double-byte code page was not specified.
User response: Select a CCSID that contains a double-byte code page.

EXPT1007 The value in column [0] exceeds the maximum length supported by the dBASE file format.
Explanation: The value in the indicated column exceeds the character limit that is supported by the dBASE file format.
User response: Shorten the value in the indicated column or specify a different file format for export.

EXPT1008 The data type of column [0] is not supported in dBASE files.
Explanation: The data type of the indicated column is not supported by the dBASE file format.
User response: Specify a different data type for the indicated column or select a different file format for export.

EXPT1009 The row length in a dBASE file cannot exceed 4000 characters.
Explanation: The summary length of all of the result set's columns exceeds 4,000 characters, which is not supported by the dBASE file format.
User response: Make sure that the length is shorter than 4,000 characters, or select a different file format for export.

EXPT1010 The specified data source does not exist.
Explanation: There was an attempt to export a result set to a data source that does not exist.
User response: Specify a valid data source.

EXPT1011 The operation cancelled.
Explanation: The user cancelled the export command when prompted for a user name and password.
User response: Specify a valid user name and password for the export command.

EXPT1012 Name must be specified.
Explanation: There was an attempt to export a result set to a table that does not exist.
User response: Specify a valid export table.

EXPT1013 Invalid storage entry.
Explanation: The storage file contains corrupted data.
User response: Setup fonts and font mapping for PDF export.

EXPT1014 Cannot create font [0] for PDF
Explanation: The indicated font can not be created for the PDF file format.
User response: Specify a different font for conversion, specify a different file format for export, or set up fonts and font mapping for PDF file export.

EXPT1015 [0] font is not mapped
Explanation: The indicated font name is not mapped to the physical font file.
User response: Set up fonts and font mapping for PDF file export.

FRM1001 The input line type is invalid.
Explanation: Corrupted form. The form loader is hanging on a line with a certain first character, because every line in a form file, according to the form file format, starts with certain character (T, V, R, H, E, E) that define the line type. The current line's first character has an unknown type.
User response: Try to open and save again with exact same version of DataQuant that was used to create the form.

FRM1002 The input line is too short.
Explanation: The form loader is hanging on a line with a certain character count, because each line type must have a character count greater than a certain number (T > 15, V > 11, R > 3, or H > 44). The current line is too short.
User response: Try to open and save again with exact same version of DataQuant that was used to create the form.

FRM1003 The boolean value is invalid. Valid values are YES or NO.
Explanation: Corrupted form: A boolean value in the form file has a string other than YES or NO.
User response: Try to open and save again with exact
same version of DataQuant that was used to create the form.

FRM1004  The numeric value is invalid. Valid values are NONE, COLUMNS, DEFAULT, or an integer value.
Explanation: Corrupted form: The form loader waits for a valid Integer value or predefined word (NONE, COLUMNS, or DEFAULT).
User response: Try to open and save again with exact same version of DataQuant that was used to create the form.

FRM1005  An invalid code was encountered.
Explanation: Corrupted form: Every table structure in a form file has its own column types. The form loader waits for certain column types depending on the table type.
User response: Try to open and save again with exact same version of DataQuant that was used to create the form.

FRM1006  The object header is too short.
Explanation: The form loader is hanging on a line with a certain character count, because each line type must have a character count greater than a certain number (T > 15, V > 11, R > 3, or H > 44). The current line is too short.
User response: Try to open and save again with exact same version of DataQuant that was used to create the form.

FRM1007  The object header is invalid.
Explanation: Corrupted form: The object header contains unexpected fields or data.
User response: Try to open and save again with exact same version of DataQuant that was used to create the form.

FRM1008  Invalid usage code.
Explanation: The “new column” of the form dialog contains an invalid usage code.
User response: Leave the usage code field empty or select one from the combo box.

FRM1009  The value specified for {0} is invalid. Valid values are {1}.
Explanation: In the form dialog page, there are several places where you can type or choose a listed value. An invalid listed value was entered.
User response: Enter a valid value from the list.

FRM1010  The column heading "[0]" is too long.
Explanation: The length of the column heading must be less then 40 characters.
User response: Ensure that the column heading is less than 40 characters.

FRM1011  There is no condition expression with ID [0].
Explanation: A form has a few detail blocks in the “detail” branch (by default – one) and each detail can use a condition that defines the detail as enabled or disabled. The condition typed in the C1, C2, .. C999 format and the condition with the according index should exist in the “conditions” branch.
User response: Specify YES, NO, or Ci where Ci is the existing condition.

FRM1012  Line Wrapping Width must be NONE when Number of Fixed Columns is not NONE.
Explanation: In the Options page of the form designer, when any number is defined in the Number of Fixed Columns field, the Line Wrapping Width field must be set to NONE.
User response: Specify NONE in either the Line Wrapping Width field or the Number of Fixed Columns field

FRM1013  The ID for calculation [0] is already being used by a different calculation.
Explanation: In the Calculations page of the form designer, two or more calculations with the same ID were specified.
User response: Ensure that each calculation ID is unique.

FRM1014  The ID for condition [0] is already being used by a different condition.
Explanation: In the Conditions page of the form designer, two or more conditions with the same ID were specified.
User response: Ensure that each of the conditions are unique.

FRM1015  Line Wrapping Width must be 0 if any column uses a column wrapping edit code.
Explanation: If a column uses the wrapping edit code, then in the Options page of the form designer, the Line Wrapping Width field must be set to NONE.
User response: Either set the Line Wrapping Width
field to NONE, or do not use the line wrapping edit code.

FRM1016  Automatically Reorder Report Columns must be TRUE when using the ACROSS usage code.

Explanation: If any columns have the ACROSS usage code, then in the Options page of the form designer, the Automatically Reorder Report Columns field must be set to TRUE.

User response: Either set the Automatically Reorder Report Columns field to TRUE or do not use the ACROSS usage code.

FRM1017  The ACROSS usage code requires other columns to use the GROUP and aggregate usage codes.

Explanation: If any columns use the ACROSS usage code, then all other columns must use either the OMIT, GROUP, or AGGREGATION usage code.

User response: Set the OMIT, GROUP, or AGGREGATION usage codes for all other columns.

FRM1018  Only one column can use the ACROSS usage code.

Explanation: Only one column can use the ACROSS usage code.

User response: Ensure that only one column uses the ACROSS usage code.

FRM1019  The GROUP usage code requires other columns to use aggregate usage codes.

Explanation: When one column uses the GROUP usage code, all of the other columns must use the OMIT, GROUP, BREAK, or AGGREGATION usage codes.

User response: Ensure that all of the other columns use the OMIT, GROUP, BREAK, or AGGREGATION usage codes.

FRM1020  The GROUP usage code requires all other columns to use a non-blank usage code.

Explanation: When a column uses the GROUP usage code, all of the other columns must use the OMIT, GROUP, BREAK, or AGGREGATION usage codes.

User response: Ensure that all of the other columns use the OMIT, GROUP, BREAK, or AGGREGATION usage codes.

FRM1021  The aggregate usage code can only be used when the column has a numeric data type.

Explanation: The SUM, CSUM, AVERAGE, STDEV, PCT, TPCT, CPCT, and TCPCT usage codes can only be used with numeric columns.

User response: Specify a different usage code than SUM, CSUM, AVERAGE, STDEV, PCT, TPCT, CPCT, or TCPCT for non-numeric columns.

FRM1022  There is no calculation expression with ID [0].

Explanation: In the Calculations page of the form designer, the calculation usage code ID must be specified.

User response: Specify a calculation ID for the calculation usage code.

FRM1023  "[0]" is not a valid edit code for a calculation.

Explanation: The specified edit code is not a valid calculation edit code.

User response: Specify another calculation edit code.

FRM1024  Invalid edit code.

Explanation: The specified edit code is invalid.

User response: Check the reference section of the User help to find a valid edit code.

FRM1025  Invalid string "[0]" is encountered. Parsing failed.

Explanation: The form is corrupted or needs to be opened with another locale because a string that represents a number value can not be parsed in the current locale.

User response: Try to open and save the form with the same version of DataQuant that was used to create the form or try to change the locale and reopen.

FRM1026  The variable "[0]" is invalid in this context.

Explanation: The specified variable name is invalid when used in the expression.

User response: Specify a valid variable name for the expression.
FRM1027  There is no column [0].
Explanation: The expression contains a variable that refers to a column that does not exist.
User response: Specify a valid column number in the expression variable.

FRM1028  The suffix '_B' is invalid in this context.
Explanation: The suffix '_B' can not be used in predefined variables, and as such is invalid for the current variable.
User response: Remove the suffix '_B' from all predefined variables.

FRM1029  Unable to open linked data source.
Explanation: The form attempted to open a linked data source and an error occurred during this process.
User response: Specify a valid data source object for the form.

FRM1030  An error occurred while registering user edit code.
User response: Review the FormCustomEditCode implementation documentation and check for errors.

FRM1031  The user-defined edit routine class could not be found. [0]
Explanation: The user implementation class FormCustomEditCode can not be loaded by the Classloader.
User response: Check the className.jar CLASSPATH.

FRM1032  An error occurred while initializing user-defined edit routine class. [0]
Explanation: An error occurred.
User response: See additional information in the wrapped exception.

GERR00001  Generic driver error has occurred. [0],
Explanation: An internal error in the driver code was detected.
User response: Send an error report to the developers.

GERR00002  Generic driver error has occurred. [0],
{1}, [2]
Explanation: An internal error in the driver code was detected.

IXF01002  The LOB column index is invalid.
Explanation: The file contains an invalid index of a LOB column.
User response: The imported IXF file is corrupted or has an unknown format.

IXF01003  The LOB column length is invalid.
Explanation: The IXF file contains a LOB column that has an invalid length.
User response: The imported IXF file is corrupted or has an unknown format.

IXF01004 The end of the file was encountered prematurely.
Explanation: A premature end of file was encountered while importing data from the IXF file.
User response: The imported IXF file is corrupted or has an unknown format.

IXF01005 The length of record {0} is invalid.
Explanation: A corrupted record was encountered while importing data from the IXF file.
User response: The imported IXF file is corrupted or has an unknown format.

IXF01006 An invalid record length was encountered in record {0}.
Explanation: An invalid record length was encountered while importing data from the IXF file.
User response: The imported IXF file is corrupted or has an unknown format.

IXF01007 An invalid name length was encountered in record {0}.
Explanation: An invalid column name length was encountered while importing data from the IXF file.
User response: The imported IXF file is corrupted or has an unknown format.

IXF01008 An unrecognized record type was encountered in record {0}.
Explanation: An unknown record type was encountered while importing data from the IXF file.
User response: The imported IXF file is corrupted or has an unknown format.

IXF01009 An invalid value was encountered in record {0}.
Explanation: An unexpected data value was encountered while importing data from the IXF file.
User response: The imported IXF file is corrupted or has an unknown format.

IXF01010 An unsupported data type was encountered in record {0}.
Explanation: An unsupported data type was encountered while importing data from the IXF file.
User response: The imported IXF file is corrupted or has an unknown format.

IXF01011 An unsupported CCSID was encountered in record {0}.
Explanation: The IXF file contains character data which is encoded using a CCSID that is not supported by DataQuant.
User response: Create an IXF file using another CCSID to import to DataQuant.

IXF01012 The column length is invalid.
Explanation: An invalid column name was encountered while importing data from the IXF file.
User response: The imported IXF file is corrupted or has an unknown format.

IXF01013 The data record ID in record {0} is negative.
Explanation: An invalid data identifier was encountered while importing data from the IXF file.
User response: The imported IXF file is corrupted or has an unknown format.

IXF01014 The position for a column is negative in record {0}.
Explanation: An invalid column position was encountered while importing data from the IXF file.
User response: The imported IXF file is corrupted or has an unknown format.

IXF01015 The "IXF" identifier was not found in record {0}.
Explanation: The imported IXF file has no "IXF" signature, which is required at the beginning of its contents.
User response: The imported IXF file is corrupted or has unknown format.

IXF01016 The version of the IXF file is "{0}", which is not supported.
Explanation: The imported IXF file version is not supported by DataQuant.
User response: Check to see if the IXF file is version 0, 1 or 2. all others are not supported.

IXF01017 An invalid record count was encountered in record {0}.
Explanation: An invalid column count was encountered while importing data from the IXF file.
User response: The imported IXF file is corrupted or has an unknown format.
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IXF01018</td>
<td>IXF file contents are corrupted.</td>
</tr>
<tr>
<td>User response:</td>
<td>Ensure that a valid license file is being used.</td>
</tr>
<tr>
<td>LIC1003</td>
<td>License file could not be found (0).</td>
</tr>
<tr>
<td>User response:</td>
<td>Use the Manage License dialog to add the license to the product.</td>
</tr>
<tr>
<td>LIC1004</td>
<td>Unexpected file error: (0).</td>
</tr>
<tr>
<td>User response:</td>
<td>Send an error report to the developers.</td>
</tr>
<tr>
<td>LIC1006</td>
<td>License signature verification failed.</td>
</tr>
<tr>
<td>User response:</td>
<td>Provide a valid license file.</td>
</tr>
<tr>
<td>LIC1007</td>
<td>License has expired.</td>
</tr>
<tr>
<td>User response:</td>
<td>Buy a full license.</td>
</tr>
<tr>
<td>LIC1008</td>
<td>Unexpected error.</td>
</tr>
<tr>
<td>User response:</td>
<td>Ensure that the correct license file is being used.</td>
</tr>
<tr>
<td>LIC1009</td>
<td>The license is incorrect.</td>
</tr>
<tr>
<td>User response:</td>
<td>Use the original license file.</td>
</tr>
<tr>
<td>LIC1010</td>
<td>License file not found.</td>
</tr>
<tr>
<td>User response:</td>
<td>Use the Manage Licenses dialog to import a valid license.</td>
</tr>
<tr>
<td>MAIL1000</td>
<td>{0}</td>
</tr>
<tr>
<td>User response:</td>
<td>Resolve the error and try again.</td>
</tr>
</tbody>
</table>

---

IXF file contents are corrupted.
Explanation: The imported IXF file is corrupted.
User response: Check that you are specifying an IXF file to import.

Data format is not supported in host IXF files.
Explanation: An unsupported column type was encountered while importing data from the IXF file.
User response: The imported IXF file is corrupted or has an unknown format.

Unknown JDF file format.
Explanation: An incorrect job file was selected while importing a job file in the old format (.jdf) to the new format (.jdfx).
User response: Select a correct job file in the old format to import.

Unexpected end of file.
Explanation: A corrupted job file was selected while importing a job file in the old format (.jdf) to the new format (.jdfx).
User response: Resave the job file in QMF version 8 and retry to import the file.

License field "[0]") has invalid date format: [1].
Explanation: The format of the date at the specified field is incorrect.
User response: Ensure that the license file contains a date in dd/mm/yyyy format.

Required field "[0]" missed.
Explanation: No value was specified for the indicated field.
User response: Ensure that a value is specified for the indicated field.

Field "[0]" has invalid value "[1]"). Valid value is [2].
Explanation: An incorrect value was specified for the indicated field.

License field could not be found (0).
Explanation: The license file could not be found.
User response: Use the Manage License dialog to add the license to the product.

Unexpected file error: (0).
Explanation: A file system error occurred while loading the license file.
User response: Send an error report to the developers.

License signature verification failed.
Explanation: The license file digital signature verification failed.
User response: Provide a valid license file.

License has expired.
Explanation: The trial period of the license expired.
User response: Buy a full license.

Unexpected error.
Explanation: An unexpected error occurred while verifying the license.
User response: Ensure that the correct license file is being used.

The license is incorrect.
Explanation: The license verification failed because of an invalid license file.
User response: Use the original license file.

License file not found.
Explanation: The license (any *.lic file) was not found the user's home directory or in application's directory.
User response: Use the Manage Licenses dialog to import a valid license.

The indicated error occurred.
User response: Resolve the error and try again.
MAIL1001  SMTP server must be specified.

Explanation: The email server that will send the message containing the object has not been specified in the procedure command.

User response: Specify the email server that will send the message in the MAIL TO procedure command. Check the MAIL TO procedure command topic in the user help for more information.

MAIL1002 Unknown type of attachment specified.

Explanation: The file specified in the MAIL TO command is of an unknown file format, or was entered incorrectly.

User response: Check the ATTACHMENT parameter of the MAIL TO command for errors or specify a different attachment. Check the MAIL TO procedure command topic in the user help for more information.

NLS00001 Generic error #0 has occurred in module {1}.

Explanation: The indicated error occurred.

User response: Send an error report to the developers.

NLS00002 Generic error #0 has occurred in module {1} (2).

Explanation: The indicated error occurred.

User response: Send an error report to the developers.

NLS00003 Generic error #0 has occurred in module {1} (2; 3).

Explanation: The indicated error occurred.

User response: Send an error report to the developers.

NLS00004 Generic error #0 has occurred in module {1} (2; 3; 4).

Explanation: The indicated error occurred.

User response: Send an error report to the developers.

NLS00005 Generic error #0 has occurred in module {1} (2; 3; 4; 5).

Explanation: The indicated error occurred.

User response: Send an error report to the developers.

NLS00006 Generic error #0 has occurred in module {1} (2; 3; 4; 5; 6).

Explanation: The indicated error occurred.

User response: Send an error report to the developers.

NLS00007 Generic error #0 has occurred in module {1} (2; 3; 4; 5; 6; 7).

Explanation: The indicated error occurred.

User response: Send an error report to the developers.

NLS00008 Generic error #0 has occurred in module {1} (2; 3; 4; 5; 6; 7; 8).

Explanation: The indicated error occurred.

User response: Send an error report to the developers.

NLS00009 Generic error #0 has occurred in module {1} (2; 3; 4; 5; 6; 7; 8; 9).

Explanation: The indicated error occurred.

User response: Send an error report to the developers.

OLCQ1000 {0}

Explanation: This is a wrapped message.

User response: Resolve the indicated error and try again.

OLCQ1001 Query was cancelled.

Explanation: The current query was cancelled.

User response: Rerun the query.

OLCQ1002 You must select at least one value for each level.

Explanation: At least one value must be selected in every level of a slicer control.

User response: Select a value and try again.

OLCQ1005 Cannot to find needed data source.

Explanation: A nonexistent data source was specified for the OLAP query.

User response: Specify a valid data source for the OLAP query.

OLP1000 {0}

Explanation: This is a wrapped message.

User response: Resolve the indicated error and try again.

OLP1002 The database does not support OLAP feature.

Explanation: The specified database does not support OLAP functionality.
User response: Specify a database with OLAP functionality.

### OLP1003
Unable to locate cube measure `{0}`.

Explanation: The indicated cube measure could not be found on the database.

User response: Select a different database to search for the cube measure.

### OLP1004
Unable to locate cube dimension `{0}`.

Explanation: The indicated cube dimension could not be found on the database.

User response: Select a different database to search for the cube dimension.

### OLP1005
Unable to locate `{0}`.

Explanation: The indicated OLAP cube could not be found on database.

User response: Select a different database to search for the OLAP cube.

### OLP1006
Cannot retrieve values for `{0}`.

Explanation: An error occurred while reading the dimension information.

User response: Ensure that the indicated dimension exists.

### OLP1007
Measure or dimension cannot be added because it is not related to any table currently used in the layout.

Explanation: An error occurred while building the SQL query to retrieve OLAP data from CubeViews; the table that stores information about the selected measure or dimension could not be found.

User response: Check the integrity of the CubeView metadata.

### OLP1008
There is not enough information to link specified measure or dimension: `{0}`.

Explanation: An error occurred while building the SQL query to retrieve OLAP data from CubeViews; the tables that store information about the selected measures or dimensions could not be joined.

User response: Check the integrity of the CubeView metadata.

### OLP1009
Cannot connect to database: `{0}`.

Explanation: Can not connect to the database.

User response: Check if connection to a database is available or ask your administrator for more information.

### OLP1010
Cube definition is not suitable for layout of the current query.

Explanation: The cube structure as it is defined in the OLAP query does not match the current cube structure.

User response: Check to make sure that the cube structure that is defined in the OLAP query matches the current cube structure.

### OLQ1000
{0}

Explanation: This is a wrapped message.

User response: Resolve the indicated error and try again.

### OLQ1001
Internal Error.

Explanation: An internal error occurred.

User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

### OLQ1002
Query was cancelled.

Explanation: The current query was cancelled.

User response: Rerun the query.

### OLQ1003
You must select at least one value for each level.

Explanation: At least one value must be selected in a slicer control.

User response: Select a value and try again.

### OLQ1004
Invalid type for saving the query.

Explanation: An invalid object type was selected in which to save the query. OLAP queries can only be saved in the *.oq file format.

User response: Save the OLAP query to a file with the *.oq file extension.

### OLQ1005
No data source was specified for the query.

Explanation: A nonexistent data source was specified for the OLAP query.

User response: Specify a valid data source for the OLAP query.
<table>
<thead>
<tr>
<th>Code</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>OLQ1006</td>
<td>Only one reference to dimension hierarchy (0) can appear in the slicer.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> MDX DB2 DWE supports only one dimension per slicer.</td>
</tr>
<tr>
<td></td>
<td><strong>User response:</strong> Select only one dimension.</td>
</tr>
<tr>
<td>PE00001</td>
<td>Encountered &quot;(0)&quot; at column (1). \r\nWas expecting one of: (2).</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An invalid character was encountered at the indicated column.</td>
</tr>
<tr>
<td></td>
<td><strong>User response:</strong> Replace the invalid character with one of the indicated characters.</td>
</tr>
<tr>
<td>PE00002</td>
<td>Expression needs a calculator to get a value.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> The expression does not return a value.</td>
</tr>
<tr>
<td></td>
<td><strong>User response:</strong> No action is required.</td>
</tr>
<tr>
<td>PE00004</td>
<td>Parse exception occurred.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An error occurred while parsing the expression.</td>
</tr>
<tr>
<td></td>
<td><strong>User response:</strong> Check the expression syntax for errors and try again.</td>
</tr>
<tr>
<td>PRC1000</td>
<td>An unexpected error occurred while parsing the command.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An internal error occurred.</td>
</tr>
<tr>
<td></td>
<td><strong>User response:</strong> Collect support data by selecting Help &gt; Collect Support Data and forward it to customer support.</td>
</tr>
<tr>
<td>PRC1001</td>
<td>An error occurred while parsing the command: unexpected token &quot;(0)&quot;.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An unexpected token was encountered while parsing the procedure.</td>
</tr>
<tr>
<td></td>
<td><strong>User response:</strong> Check the procedure's text for syntax errors (using the documentation or Content Assist via Ctrl+Space)</td>
</tr>
<tr>
<td>PRC1002</td>
<td>An error occurred while parsing the command: unexpected character &quot;(0)&quot;.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An unexpected character was encountered while parsing the procedure.</td>
</tr>
<tr>
<td></td>
<td><strong>User response:</strong> Check the procedure's text for syntax errors (using the documentation or Content Assist via Ctrl+Space)</td>
</tr>
<tr>
<td>PRC1003</td>
<td>The parameter &quot;(0)&quot; is invalid in this context.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An unsupported parameter token was encountered while parsing the procedure.</td>
</tr>
<tr>
<td></td>
<td><strong>User response:</strong> Check the procedure's text for syntax errors (using the documentation or Content Assist via Ctrl+Space)</td>
</tr>
<tr>
<td>PRC1004</td>
<td>The parameter &quot;(0)&quot; cannot be specified twice.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> The indicated parameter was specified twice in the same procedure command.</td>
</tr>
<tr>
<td></td>
<td><strong>User response:</strong> Only specify one instance of the indicated parameter.</td>
</tr>
<tr>
<td>PRC1005</td>
<td>&quot;(1)&quot; is not a valid value for parameter &quot;(0)&quot;.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> The indicated value is not valid for the indicated parameter.</td>
</tr>
<tr>
<td></td>
<td><strong>User response:</strong> Specify a valid value for the indicated parameter. See the Procedure Commands section of the user help for more information on procedure commands and their parameters.</td>
</tr>
<tr>
<td>PRC1006</td>
<td>You cannot set variable &quot;(0)&quot;.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> The indicated variable can not be set manually.</td>
</tr>
<tr>
<td></td>
<td><strong>User response:</strong> Specify a valid variable and try again.</td>
</tr>
<tr>
<td>PRC1008</td>
<td>An error occurred while parsing the command: unexpected end of line.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> An unexpected end of line was encountered while parsing the procedure.</td>
</tr>
<tr>
<td></td>
<td><strong>User response:</strong> Check the procedure's text for syntax errors (using the documentation or Content Assist via Ctrl+Space)</td>
</tr>
<tr>
<td>PRC1009</td>
<td>An error occurred while parsing the command: unrecognized command &quot;(0)&quot;.</td>
</tr>
<tr>
<td></td>
<td><strong>Explanation:</strong> The indicated command is not valid.</td>
</tr>
<tr>
<td></td>
<td><strong>User response:</strong> Check the procedure text for errors or specify a different command.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>PRC1010</td>
<td>Parsing error at lines {0}-{1} (command #2). [3]</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>A syntax error was encountered while parsing procedure.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Check the procedure’s text for syntax errors (using the documentation or Content Assist via Ctrl+Space)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRC1101</td>
<td>An error occurred while parsing the command: invalid object name &quot;{0}&quot;.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The indicated object name is invalid.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Check the procedure text for errors and specify a valid object name. See the Procedure Commands section of the user help for more information.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRC1012</td>
<td>You must specify object type or object name.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>A required object type or name was not specified.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Specify a valid object type or name where needed in the procedure command text. See the Procedure Commands section of the user help for more information.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRC1013</td>
<td>&quot;{0}&quot; is an invalid variable name.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The indicated variable name is invalid.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Check the variable name for syntax errors or specify another valid variable. Check the Procedure Commands section of the user help for more information.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRC1014</td>
<td>Close bracket reached before end.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>An unexpected close bracket was encountered while parsing the procedure.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Check the procedure’s text for syntax errors (using the documentation or Content Assist via Ctrl+Space)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRC2001</td>
<td>An error occurred while retrieving {0}.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The indicated error occurred while retrieving the indicated object.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Resolve the error and rerun the procedure.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRC2002</td>
<td>{0} does not exist.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The indicated object does not exist.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Specify a valid object in the procedure command.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRC2003</td>
<td>{0} exists but is of the wrong type.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The indicated object exists in an open window of the editor, but the object type that was specified in the procedure command does not match the type of the object.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Make sure the object type that is specified in the procedure command matches the type of the object in the open window of the editor.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRC2004</td>
<td>{0} does not exist or is of the wrong type.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>There is no object of the specified object type open in an open window of the editor, or the object type is incorrect.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Make sure that the object type that is specified in the procedure command matches the type of the object that is in the open window.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRC2005</td>
<td>The procedure issued a command against a current object, but no current object of the correct type exists.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The procedure does not specify a specific object name, only an object type. In this instance, if an object of this type is open in another window of the editor, the procedure will run correctly. Since an object of the type specified is not open in another window, the procedure failed to run.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Make sure an object of the specified type is open in another window, or specify a specific object name.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRC2006</td>
<td>{0}</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>This is a wrapped message.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Resolve the indicated error and try again.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRC2007</td>
<td>The CONVERT command can only be issued against queries; it cannot be applied to {0}.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The indicated object can not be converted using the CONVERT command.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Specify a query to be converted using the CONVERT command. For more information, see the CONVERT topic in the Procedure Commands section of the user help.</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
</tr>
</tbody>
</table>
| PRC2008 | The operation was cancelled.  
Explanation: The operation was cancelled by the user.  
User response: Rerun the operation. |
| PRC2011 | Saving in {0} format is not supported.  
Explanation: The selected format is not supported when exporting an object. Reports may only be exported in TEXT, HTML and PDF formats.  
User response: Change the export data format in the procedure command. |
| PRC2017 | The maximum nesting depth of procedures was exceeded.  
Explanation: More than 50 nested procedure levels are not supported.  
User response: Redesign the procedure to decrease its depth. |
| PRC2018 | The specified query did not return a result set.  
Explanation: The SAVE DATA command was issued against a query that does not contain a result set.  
User response: Ensure that the query you are trying to save contains a result set. |
| PRC2020 | An error occurred while saving the object at the server. {0}  
Explanation: The indicated error occurred while the object was being saved at the server.  
User response: Resolve the indicated error and rerun the procedure. |
| PRC2022 | The operation cannot be performed because no data is available.  
Explanation: The EXPORT DATA command was issued against an object that does not contain data.  
User response: Ensure that the object that you are trying to export contains data. |
| PRC2025 | The procedure was terminated because it recursively invokes itself.  
Explanation: The procedure recursively invoked itself. Recursion is not supported in procedures.  
User response: Rewrite the procedure and remove the recursion. |
| PRC2026 | An error occurred while running the procedure. {0}  
Explanation: The indicated error occurred while the procedure was being run.  
User response: Resolve the indicated error and rerun the procedure. |
| PRC2028 | An error occurred while importing the {0} file.  
Explanation: An error occurred while the file was being imported.  
User response: Ensure that object that is being imported is of a supported format. |
| PRC2029 | Could not connect to a server {1}: {0}  
Explanation: The data source alias that was specified in the CONNECT TO command is undefined.  
User response: Ensure that the command refers to a valid data source in the repository. |
| PRC2030 | Specified object {0} for import has incompatible type.  
Explanation: The IMPORT or DISPLAY command was issued against an object with an unsupported type.  
User response: Ensure that the object to be imported or displayed is of a valid type. |
| PRC2031 | Specified command, or some of its parameters unsupported.  
Explanation: The procedure contains commands or parameters that are not supported.  
User response: Check the procedure's text for syntax errors (using the documentation or Content Assist via Ctrl+Space) |
| PRC2032 | Cannot save non-QMF object into QMF Catalog.  
Explanation: The specified object is a non-QMF object and can not be saved into the QMF Catalog.  
User response: Specify a different location in which the save the object or specify a different object to be saved. |
| PRC2033 | You cannot set the value of {0}.  
Explanation: The indicated parameter's value can not be manually set with the SET GLOBAL command.  
User response: Values for some DSQ variables cannot be set manually (for example DSQAO_CONNECT_ID, DSQAO_NUM_FETCHED, etc). Rewrite the procedure to exclude these variable values. |
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
<th>Explanation</th>
<th>User Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRC2035</td>
<td>The printer name &quot;[0]&quot; is invalid.</td>
<td>The indicated printer name is invalid.</td>
<td>Check the spelling of the printer name, or specify a different printer to use for the PRINT command.</td>
</tr>
<tr>
<td>PRC2036</td>
<td>You are not authorized to use the table editor at this data source.</td>
<td>The Enable Table Editing resource limit for the data source is turned off; you cannot open Table Editor of the data source</td>
<td>Ask your administrator to enable this resource limit.</td>
</tr>
<tr>
<td>PRC2037</td>
<td>You are not authorized to edit tables at this data source.</td>
<td>The Enable Table Editing resource limit for the data source is turned off; you cannot edit values in a query's grid cells.</td>
<td>Ask your administrator to enable this resource limit.</td>
</tr>
<tr>
<td>PROC1000</td>
<td>REXX procedure references cannot be determined.</td>
<td>References for the procedure cannot be built for REXX procedures.</td>
<td>You can view references at the Repository or Workspaces views for generic procedures only.</td>
</tr>
<tr>
<td>PROC1001</td>
<td>Some substitution variables are not defined.</td>
<td>Some of the substitution variables of the procedure are not defined.</td>
<td>Ensure that all of the substitution variables are defined for the procedure, or run this procedure without the /batch parameter in the command line. In this case DataQuant will ask for all of the necessary variables values.</td>
</tr>
<tr>
<td>QEL00001</td>
<td>You are not allowed to run queries returning LOB data.</td>
<td>You are not allowed to run queries that contain large object data.</td>
<td>Check your LOB Options resource limits by selecting Resource Limits from the View menu to see your specific allowances or ask your administrator for more information.</td>
</tr>
<tr>
<td>QEL00002</td>
<td>The Maximum Rows to Fetch limit has been exceeded. [0] rows were retrieved so far.</td>
<td>The Maximum Rows to Fetch limit has been reached. The indicated number of rows have been retrieved so far.</td>
<td>Check your Maximum Rows to Fetch resource limit by selecting Resource Limits from the View menu to see your specific allowances or ask your administrator for more information.</td>
</tr>
<tr>
<td>QEL00003</td>
<td>The Maximum Bytes to Fetch limit has been exceeded. [0] bytes were retrieved so far.</td>
<td>The Maximum Bytes to Fetch limit has been reached. The indicated number of bytes have been retrieved so far.</td>
<td>Check your Maximum Bytes to Fetch resource limit by selecting Resource Limits from the View menu to see your specific allowances or ask your administrator for more information.</td>
</tr>
<tr>
<td>QEL00004</td>
<td>The length of a LOB column exceeds the maximum allowable length.</td>
<td>The length of a LOB column in the query results exceeds the maximum allowable length.</td>
<td>Check your Maximum LOB column size by selecting Resource Limits from the View menu to see your specific allowances or ask your administrator for more information.</td>
</tr>
<tr>
<td>QEL00005</td>
<td>You are not allowed to use the &quot;[0]&quot; SQL verb.</td>
<td>You are not allowed to use the indicated SQL verb.</td>
<td>Check your SQL Verbs limits by selecting Resource Limits from the View menu to see your specific allowances or ask your administrator for more information.</td>
</tr>
<tr>
<td>QEL00006</td>
<td>You are not allowed to save data to database.</td>
<td>You are not allowed to save data to the database.</td>
<td>Check your Save Data resource limits by selecting Resource Limits from the View menu to see your specific allowances or ask your administrator for more information.</td>
</tr>
</tbody>
</table>
QEN00001  Query was cancelled.
Explanation: The active query was cancelled.
User response: Rerun the query.

QEN00003  Unexpected token: {0}
Explanation: An unexpected token was encountered while parsing the query that calls the stored procedure.
User response: Check the query's syntax for errors.

QEN00004  Unexpected token: {0} is expected but {1} was found.
Explanation: An unexpected closed bracket was encountered while parsing the query that calls the stored procedure.
User response: Check the query's syntax for errors.

QEN00005  Unexpected end of statement.
Explanation: An unexpected end of statement was encountered while parsing the query that calls the stored procedure.
User response: Check the query's syntax for errors.

QEN00006  Expression {0} is not a stored procedure.
Explanation: An internal error occurred.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

QEN00007  End of statement is expected but {0} was found
Explanation: Tokens were encountered after the end of statement while parsing the query that calls the stored procedure.
User response: Check the query's syntax for errors.

QEN00008  Unsupported parameter data type: {0}
Explanation: An unsupported parameter was encountered while parsing the query that calls the stored procedure.
User response: Check the query's syntax for errors.

QRL00001  You are not authorized to access this data source in user interface mode.
Explanation: You are not authorized to access this data source in user interface mode.
User response: Check your Options limits by selecting Resource Limits from the View menu to see your specific allowances or ask your administrator for more information.

QRL00002  You are not authorized to access this data source in automation mode.
Explanation: You are not authorized to access this data source in automation mode.
User response: Check your Options limits by selecting Resource Limits from the View menu to see your specific allowances or ask your administrator for more information.

QRL00003  You are not authorized to run unsaved queries.
Explanation: You are not authorized to run unsaved queries.
User response: Check your Options limits by selecting Resource Limits from the View menu to see your specific allowances or ask your administrator for more information.
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QRL00004</td>
<td>You are not authorized to save data from this data source to a file.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>You are not authorized to save data from this data source to a file.</td>
</tr>
<tr>
<td>User response:</td>
<td>Check your Save Data limits by selecting Resource Limits from the View menu to see your specific allowances or ask your administrator for more information.</td>
</tr>
<tr>
<td>QRL00005</td>
<td>You are not authorized to save data from this data source to the database.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>You are not authorized to save data from this data source to the database.</td>
</tr>
<tr>
<td>User response:</td>
<td>Check your Save Data limits by selecting Resource Limits from the View menu to see your specific allowances or ask your administrator for more information.</td>
</tr>
<tr>
<td>QRL00006</td>
<td>You are not authorized to retrieve LOB data.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>You are not authorized to retrieve LOB data.</td>
</tr>
<tr>
<td>User response:</td>
<td>Check your LOB Options limits by selecting Resource Limits from the View menu to see your specific allowances or ask your administrator for more information.</td>
</tr>
<tr>
<td>QRL00008</td>
<td>No resource group for user [0] was found.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>No resource group for the indicated user was found.</td>
</tr>
<tr>
<td>User response:</td>
<td>Specify a valid resource group for the user.</td>
</tr>
<tr>
<td>QRL00009</td>
<td>The operation cannot be performed because the processing of LOB data is disabled.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>The operation cannot be performed because the processing of LOB data is disabled.</td>
</tr>
<tr>
<td>User response:</td>
<td>Check you LOB Options limits by selecting Resource Limits from the View menu to see your specific allowances or ask your administrator for more information.</td>
</tr>
<tr>
<td>QRY0999</td>
<td>[0]</td>
</tr>
<tr>
<td>Explanation:</td>
<td>This is a wrapped message.</td>
</tr>
<tr>
<td>User response:</td>
<td>Resolve the indicated error and try again.</td>
</tr>
<tr>
<td>QRY1001</td>
<td>Query was cancelled.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>The query was cancelled.</td>
</tr>
<tr>
<td>User response:</td>
<td>Rerun the query.</td>
</tr>
<tr>
<td>QRY1002</td>
<td>An invalid header record was encountered.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>The query was loaded with errors.</td>
</tr>
<tr>
<td>User response:</td>
<td>Try to reload the query; otherwise the query is corrupted.</td>
</tr>
<tr>
<td>QRY1003</td>
<td>No data source was specified for the query.</td>
</tr>
<tr>
<td>Explanation:</td>
<td>No data source was specified for the query.</td>
</tr>
<tr>
<td>User response:</td>
<td>Specify a data source for the query.</td>
</tr>
<tr>
<td>QRY1004</td>
<td>An unexpected &quot;R&quot; record was encountered: [0].</td>
</tr>
<tr>
<td>Explanation:</td>
<td>An error was encountered while loading a type R record from the prompted query file during storage of info in the prompted query structure.</td>
</tr>
<tr>
<td>User response:</td>
<td>Collect support data by selecting Help &gt; Collect Support Data and forward it to customer support.</td>
</tr>
<tr>
<td>QRY1005</td>
<td>An unexpected &quot;T&quot; record was encountered: [0].</td>
</tr>
<tr>
<td>Explanation:</td>
<td>An error was encountered while loading a type T record from the prompted query file during storage of info in the prompted query structure.</td>
</tr>
<tr>
<td>User response:</td>
<td>Collect support data by selecting Help &gt; Collect Support Data and forward it to customer support.</td>
</tr>
<tr>
<td>QRY1006</td>
<td>An invalid &quot;T&quot; record was encountered: [0].</td>
</tr>
<tr>
<td>Explanation:</td>
<td>An error was encountered while loading a type T record from the prompted query file during storage of info in the prompted query structure.</td>
</tr>
<tr>
<td>User response:</td>
<td>Collect support data by selecting Help &gt; Collect Support Data and forward it to customer support.</td>
</tr>
<tr>
<td>QRY1007</td>
<td>A &quot;T&quot; record with invalid column information was encountered: [0].</td>
</tr>
<tr>
<td>Explanation:</td>
<td>An error was encountered while loading a type T record from the prompted query file during storage of info in the prompted query structure.</td>
</tr>
<tr>
<td>User response:</td>
<td>Collect support data by selecting Help &gt; Collect Support Data and forward it to customer support.</td>
</tr>
</tbody>
</table>
> Collect Support Data and forward it to customer support.

**QRY1008** An unrecognized table type was encountered: {0}.

**Explanation:** An error was encountered while loading a type R record from the prompted query file during storage of info in the prompted query structure.

**User response:** Collect support data by selecting Help > Collect Support Data and forward it to customer support.

**QRY1009** An invalid value in an "R" record for table 1110 was encountered: {0}.

**Explanation:** An error was encountered while loading a type R record from the prompted query file during storage of info in the prompted query structure.

**User response:** Collect support data by selecting Help > Collect Support Data and forward it to customer support.

**QRY1010** An invalid value in an "R" record for table 1150 was encountered: {0}.

**Explanation:** An error was encountered while loading a type R record from the prompted query file during storage of info in the prompted query structure.

**User response:** Collect support data by selecting Help > Collect Support Data and forward it to customer support.

**QRY1011** An invalid value in an "R" record for table 1210 was encountered: {0}.

**Explanation:** An error was encountered while loading a type R record from the prompted query file during storage of info in the prompted query structure.

**User response:** Collect support data by selecting Help > Collect Support Data and forward it to customer support.

**QRY1012** An invalid value in an "R" record for table 1310 was encountered: {0}.

**Explanation:** An error was encountered while loading a type R record from the prompted query file during storage of info in the prompted query structure.

**User response:** Collect support data by selecting Help > Collect Support Data and forward it to customer support.

**QRY1013** An invalid value in an "R" record for table 1410 was encountered: {0}.

**Explanation:** An error was encountered while loading a type R record from the prompted query file during storage of info in the prompted query structure.

**User response:** Collect support data by selecting Help > Collect Support Data and forward it to customer support.

**QRY1014** An out of sequence 'R' record for table 1310 was encountered.

**Explanation:** An error was encountered while loading a type R record from the prompted query file during storage of info in the prompted query structure.

**User response:** Collect support data by selecting Help > Collect Support Data and forward it to customer support.

**QRY1015** An invalid "V" record was encountered: {0}.

**Explanation:** An error was encountered while loading a type V record from the prompted query file during storage of info in the prompted query structure.

**User response:** Collect support data by selecting Help > Collect Support Data and forward it to customer support.

**QRY1016** There must be less than 16 tables in Prompted Query.

**Explanation:** There must be less than sixteen tables called from the Prompted Query editor.

**User response:** Ensure that there are less than sixteen tables called from the Prompted Query editor and rerun the query.

**QRY1017** The same correlation ID was encountered for two or more tables.

**Explanation:** The PqTable object for the specified correlation ID already exists.

**User response:** Select another table for the Prompted Query editor.

**QRY1018** An invalid table correlation ID was encountered.

**Explanation:** An error was encountered while retrieving a valid correlation ID.

**User response:** Try to add the query to the Prompted Query editor again, or collect support data by selecting Help > Collect Support Data and forward it to customer support.
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QRY1019</td>
<td>A column on which to join tables is in more than one of the tables in the query.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>A join column can only exist in one table when multiple tables are joined in a single query.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Ensure that any join columns in the query exist in only one table.</td>
</tr>
<tr>
<td>QRY1020</td>
<td>A column on which to join tables is not in any of the tables in the query.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>A specified join column is not present in any of the tables in the query.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Check the join column name for errors, or specify a different join column.</td>
</tr>
<tr>
<td>QRY1021</td>
<td>Type of join columns for joined tables mismatch.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>Columns that join two or more tables must all be of the same column type.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Ensure that all of the columns that make up a single join are of the same column type.</td>
</tr>
<tr>
<td>QRY1022</td>
<td>The expression contains a syntax error: {0}</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The indicated expression contains a syntax error.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Correct the syntax error and rerun the query.</td>
</tr>
<tr>
<td>QRY1023</td>
<td>An invalid connector for a row condition was encountered.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>An invalid connector for a row condition was encountered.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Check all row conditions for errors and rerun the query.</td>
</tr>
<tr>
<td>QRY1024</td>
<td>An invalid expression type in a row condition was encountered.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>An invalid expression type in a row condition was encountered.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Check all expression types in the row conditions for errors and rerun the query.</td>
</tr>
<tr>
<td>QRY1025</td>
<td>An invalid operator in a row condition was encountered.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>An invalid operator in a row condition was encountered.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Check all operators in the row conditions for errors and rerun the query.</td>
</tr>
<tr>
<td>QRY1026</td>
<td>The selected relational operator is not valid for numeric data.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>An invalid operator in a row condition was encountered for numeric data.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Check all of the operators in the row conditions for errors and rerun the query.</td>
</tr>
<tr>
<td>QRY1027</td>
<td>An invalid sort direction was encountered.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>An invalid sort direction was encountered. Valid directions are <em>Ascending</em> or <em>Descending</em>.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Check all instances where sort directions are applied and change them to either ascending or descending.</td>
</tr>
<tr>
<td>QRY1028</td>
<td>The prompted query format is an earlier version, and contains join conditions that cannot be migrated to the current version. These join conditions have been deleted.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>A join condition can only appear with the higher of the two tables involved in the join. Also, a table cannot be joined with a preceding table if there is a third table between them with no join conditions.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Reordered elements of the array of joins to match the current order of the tables.</td>
</tr>
<tr>
<td>QRY1029</td>
<td>The table {0} does not exist.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The indicated table is called in the SQL code, but does not exist in the data source.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Check the table name for errors, or enter a different table to be called.</td>
</tr>
<tr>
<td>QRY1030</td>
<td>The prompted query cannot be saved because a table name exceeds the maximum length allowed in the prompted query export format.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The prompted query cannot be saved because a table name exceeds the maximum length allowed in the prompted query export format.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Decrease the length of the table name.</td>
</tr>
<tr>
<td>QRY1031</td>
<td>The prompted query cannot be saved because a column name used in a join condition exceeds the maximum length allowed in the prompted query export format.</td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The prompted query cannot be saved because a column name used in a join condition exceeds the maximum length allowed in the prompted query export format.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Check all column names in the query for errors and remove any that exceed the maximum length allowed.</td>
</tr>
</tbody>
</table>
User response: Decrease the length of the join column name.

QRY1032 The prompted query cannot be saved because a column expression exceeds the maximum length allowed in the prompted query export format.

Explanation: The prompted query cannot be saved because a column expression exceeds the maximum length allowed in the prompted query export format.

User response: Decrease the length of the column expression name.

QRY1033 The prompted query cannot be saved because an expression in a row condition exceeds the maximum length allowed in the prompted query export format.

Explanation: The prompted query cannot be saved because an expression in a row condition exceeds the maximum length allowed in the prompted query export format.

User response: Decrease the length of the row condition.

QRY1034 An invalid record was encountered.

Explanation: An invalid record was encountered.

User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

QRY1035 Only a SELECT query can be shown in the prompted view.

Explanation: Only a SELECT query can be shown in the Prompted Query editor.

User response: Make sure that the specified query contains a SELECT statement.

QRY1036 Only simple SELECT statements are supported.

Explanation: Only simple SELECT statements are supported.

User response: Ensure that the specified query only contains simple SELECT statements.

QRY1037 Unrecognized table reference.

Explanation: An error occurred while parsing the SQL text to construct the prompted query.

User response: Check the SQL text for errors and try again.

QRY1038 You cannot view a query that has subselects in the prompted view.

Explanation: Subselects are not supported for queries that are viewed in the Prompted Query editor.

User response: Ensure that specified query does not contain subselects if it is to be viewed in the Prompted Query editor.

QRY1039 Table locator references are not supported.

Explanation: An error occurred while parsing the SQL text to construct the prompted query.

User response: Check the SQL text for errors and try again.

QRY1040 Table functions are not supported.

Explanation: An error occurred while parsing the SQL text to construct the prompted query.

User response: Check the SQL text for errors and try again.

QRY1041 Only AND conditions are supported for joins in the prompted view.

Explanation: Only AND conditions are supported for joins in queries that are viewed in the Prompted Query editor.

User response: Ensure that the specified query only contains AND conditions for joins if it is to be viewed in the Prompted Query editor.

QRY1042 Quantified predicates are not supported.

Explanation: An error occurred while parsing the SQL text to construct the prompted query.

User response: Check the SQL text for errors and try again.

QRY1043 'Exists' predicates are not supported.

Explanation: An error occurred while parsing the SQL text to construct the prompted query.

User response: Check the SQL text for errors and try again.

QRY1044 Only simple LIKE statements are supported.

Explanation: Only simple LIKE statements are supported.

User response: Ensure that the specified query only contains simple LIKE statements.
Only simple row conditions are supported.

**Explanation:** Only simple row conditions are supported.

**User response:** Ensure that the specified query only contains simple row conditions.

Expression cannot be empty.

**Explanation:** An error occurred while constructing the query.

**User response:** Check the query’s syntax for errors and try again.

Invalid type for saving the query.

**Explanation:** The type that was set for the query is invalid.

**User response:** Specify a valid type for the query or collect support data by selecting Help > Collect Support Data and forward it to customer support.

You cannot run an empty query.

**Explanation:** The specified query did not contain any SQL code.

**User response:** Populate the query with at least a SELECT statement and rerun.

Some substitution variables are not defined.

**Explanation:** Some of the substitution variables in the query were not given values when the query was run.

**User response:** Ensure that all of the substitution variables in the query are defined.

You cannot view a query that uses row values in the predicate.

**Explanation:** An error occurred while parsing the SQL text to construct the prompted query.

**User response:** Check the SQL text for errors and try again.

'XMLExists' predicates are not supported.

**Explanation:** An error occurred while parsing the SQL text to construct the prompted query.

**User response:** Check the SQL text for errors and try again.

An invalid value: {0}.

**Explanation:** An error occurred while parsing the SQL text to construct the prompted query.

**User response:** Check the SQL text for errors and try again.

Only SELECT statements are supported in compound queries.

**Explanation:** Only SELECT statements are supported in compound queries.

**User response:** Ensure that only SELECT statements are called in the specified compound query.

Query content is not compatible with Prompted Query format.

**Explanation:** The query can not be saved in the prompted format.

**User response:** Save the query in another format.

Host variable predicates are not supported.

**Explanation:** An error occurred while parsing the SQL text to construct the prompted query.

**User response:** Check the SQL text for errors and try again.

An internal processor error occurred.

**Explanation:** An internal error

**User response:** Collect support data by selecting Help > Collect Support Data and forward it to customer support.

Type mismatch

**Explanation:** An unexpected error occurred while processing the *.rco file.

**User response:** Collect support data by selecting Help > Collect Support Data and forward it to customer support.

Function {0} is not implemented yet

**Explanation:** An unexpected error occurred while processing the *.rco file.

**User response:** Collect support data by selecting Help > Collect Support Data and forward it to customer support.
RCO0003  Undefined variable {0}
Explanation: An unexpected error occurred while processing the *.rco file.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RCO0004  Missing variable name
Explanation: An unexpected error occurred while processing the *.rco file.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RCO0005  Syntax error in "\"{0}\""
Explanation: An unexpected error occurred while processing the *.rco file.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RCO0006  Unknown function {0}
Explanation: An unexpected error occurred while processing the *.rco file.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RCO0007  Unknown object type {0}
Explanation: An unexpected error occurred while processing the *.rco file.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RCO0008  Wrong parameters in "\"{0}\""
Explanation: An unexpected error occurred while processing the *.rco file.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RCO0009  Database object {0} not found
Explanation: An unexpected error occurred while processing the *.rco file.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RCO0010  Database error {0}
Explanation: An unexpected error occurred while processing the *.rco file.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RCO0011  Unknown database server type {0}
Explanation: An unexpected error occurred while processing the *.rco file.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

REP01000  {0}
Explanation: The indicated error occurred while accessing the repository.
User response: Resolve the indicated error and try again.

REP01001  An input/output error occurred: {0}
Explanation: The indicated error occurred in the repository.
User response: Resolve the indicated error and try again.

REP01002  Character encoding is not supported: {0}
Explanation: The indicated encoding error occurred while the data was being processed.
User response: Ensure that UTF-8 encoding is used in the repository storage database.

REP01003  Internal error has occurred: {0}
Explanation: The indicated error occurred.
User response: Resolve the indicated error and try again.

REP01004  The following error has occurred while accessing database: {0}
Explanation: The indicated error occurred while the database was being accessed.
User response: Resolve the indicated error and retry to connect to the database.

REP01005  Operation is not supported.
Explanation: The specified operation is not supported by the repository.
User response: Specify a different operation and try again.

Object with such identifier not found.
Explanation: An error occurred while searching for the object.
User response: Ensure that the specified object identifier is correct.

Object or file with URL "{0}" not found.
Explanation: There are no objects or files with the indicated URL.
User response: Check the URL for errors or specify a different URL.

Not enough permissions to perform operation.
Explanation: Your user ID does not have permission to perform the specified operation.
User response: Contact your administrator to check your specific permissions or specify a different operation to perform.

Operation cancelled due to invalid object identifier: {0}
Explanation: The operation was cancelled because the indicated object identifier is invalid.
User response: Specify a different object identifier and retry the specified operation.

Cannot open connection: {0}
Explanation: The indicated error occurred while establishing a connection to the repository database.
User response: Ensure that the repository database is accessible.

At least one line of the document is longer than 79 characters, which is the maximum supported length when saving objects in the database.
Explanation: The maximum character length allowed for documents saved to the database is seventy-nine characters. The document contains at least one line that is longer than seventy-nine characters.
User response: Ensure that all of the lines of the document are less than seventy-nine characters and retry to save the document.

[0] already exists and has a different type.
Explanation: The indicated object name already exists as a different type of object. Each object in the database must have a different name.
User response: Specify a different name for the object and retry to save the object.

[0] does not exist.
Explanation: The indicated object could not be found because it does not exist in the database.
User response: Specify a different object name to search for in the database.

[0] already exists.
Explanation: The indicated object could not be saved because it already exists in the database.
User response: Specify a different name for the object and retry to save the object.

[0] has unsupported type and cannot be accessed.
Explanation: The indicated object is of an unsupported type.
User response: Ensure that all of the necessary plug-ins are installed and available.

Operation is impossible because object is too large.
Explanation: The specified operation could not be performed because the specified object is too large.
User response: Specify a different object or a different operation and try again.

Illegal state or illegal operation error.
Explanation: An internal error occurred in the repository.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

User is not logged on repository.
Explanation: You cannot perform the specified operation, because you are not connected to the repository.
User response: Connect to the repository and try again.
REP01019  Not implemented.
Explanation: The indicated error occurred while attempting to access a non-implemented functionality.
User response: Ensure that you are using the latest version of the product.

REP01020  Unexpected error occurred.
Explanation: An internal error occurred in the repository.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

REP01021  Initialization error occurred "(0)".
Explanation: An error occurred while the repository was being initialized.
User response: Check the repository initialization parameters and try again.

REP01022  Invalid initialization parameters were specified "(0)".
Explanation: An error occurred while the repository was being initialized.
User response: Check the repository initialization parameters and try again.

REP01027  A repository instance hasn't been initialized.
Explanation: An error occurred while trying to access a non-initialized repository.
User response: Initialize the repository and try again.

REP01028  Repository "(0)" could not be found.
Explanation: The indicated repository could not be found.
User response: Check the repository name for errors or specify a different repository and try again.

REP01029  Object type [0] cannot be added to this folder.
Explanation: Objects of the indicated type can not be added to the specified folder.
User response: Specify a different folder in which to add the indicated object.

REP01030  More authentication information for [0] required.
Explanation: Not enough authentication information was provided for the indicated object.
User response: Provide more authentication information to the indicated object and try again.

REP01031  Repository storage table structure is obsolete. Contact repository storage administrator.
Explanation: An error occurred while trying to access a repository that has an obsolete structure.
User response: Contact your administrator to upgrade the repository database structure.

REP01032  CCSID information could not be found for current QMF catalog.
Explanation: An error occurred while trying to read CCSID information from the QMF Catalog.
User response: Specify valid CCSID information and try again.

REP01034  A repository with name [0] already exists.
Explanation: The repository could not be created, because a repository of the same name already exists.
User response: Specify a different name for the new repository and try again.

REP01035  Unknown object type.
Explanation: An error occurred while trying to access an unsupported object.
User response: Ensure that all of the required plug-ins are installed and available.

REP01036  Object [0] cannot be added to this folder.
Explanation: The indicated object can not be added to the specified folder.
User response: Specify a different folder in which to add the indicated object.

REP01037  Repository could not be found.
Explanation: The specified repository could not be found.
User response: Check the repository name for errors or specify a different repository name and try again.
REP01038 Defined or wrong repository identifier
Explanation: An error occurred while trying to initialize a repository with deprecated initialization parameters.
User response: Change the repository connection properties through the Edit Repository Connection dialog and try again.

REP01039 There are no catalogs on the server
Explanation: No QMF catalogs exist on the specified server.
User response: Specify a different server and try again.

REP01042 You are not authorized to use objects with Owner = [0].
Explanation: Your user ID is not authorized to use objects with the indicated owner.
User response: Specify an object that has a different owner or contact your administrator for more information.

REP01043 This data source cannot be accessed by DataQuant
Explanation: The application cannot access this data source.
User response: Check your user license and try again.

REP01044 Access to data source ":[0]" blocked due to QMF catalog restriction violation.
Explanation: Access to the indicated data source is blocked due to a restriction imposed by the QMF catalog protection limits.
User response: Specify a different data source to access or contact your administrator for more information.

REP01045 Associated QMF catalog data source could not be found: [0]
Explanation: The indicated QMF catalog data source could not be found.
User response: Check the data source name for errors or specify a different data source and try again.

REP01046 Cannot find connection: [0]
Explanation: The indicated repository connection could not be found.
User response: Specify a different repository connection and try again.

REP01047 Cannot find data source: [0]
Explanation: The indicated data source could not be found.
User response: Specify a different data source and try again.

REP01049 Object name cannot exceed [0] characters.
Explanation: The indicated object name exceeds the maximum character limit.
User response: Shorten the indicated object name and try again.

REP01050 Object path cannot exceed [0] characters.
Explanation: The indicated object path exceeds the character limit.
User response: Shorten the indicated object path and try again.

REP01051 Cannot connect to repository ":[0]\" because it is used by another instance of DataQuant. Select different repository.
Explanation: You cannot connect to the indicated repository because it is being used by another instance of the application.
User response: Select a different repository connection and try again.

REP01052 Data Source plug-in ":[0]\" was not properly initialized.
Explanation: The indicated plug-in was not properly initialized.
User response: Change the plug-in parameters.

RGEN1000 An error has occurred while generating the report: [0]
Explanation: The indicated error occurred while the report was being generated.
User response: Resolve the indicated error and retry to generate the report.

RGEN1001 The action was cancelled.
Explanation: The specified action was cancelled
User response: Rerun the specified action.
RGEN1002  The number of columns in the form does not match the number of columns in the query.

Explanation: The number of columns in the form does not match the number of columns in its associated query.

User response: Edit the number of columns in the form to match the number of columns its associated query.

RGEN1003  Internal error.

Explanation: An internal error occurred.

User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RGEN1004  The number of columns in the form does not match the number of columns in the query.

Explanation: The number of columns in the form does not match the number of columns in its associated query.

User response: Edit the number of columns in the form to match the number of columns its associated query.

RGEN1005  The data source object is not specified.

Explanation: The data source object for the report is not specified.

User response: Specify a data source object for the report and try again.

RLE00002  Cannot retrieve resource limits of type {0}.

Explanation: The resources of the indicated type cannot be retrieved.

User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RLE00003  An error has occurred while retrieving resource limits from remote site: {0}

Explanation: The indicated error occurred while resource limits were being obtained from a remote site.

User response: Resolve the indicated error and try again.

RLE00004  Unknown resource limits key is used to retrieve limits.

Explanation: An error occurred while retrieving resource limits.

User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RLE00005  An error has occurred while obtaining resource limits: {0}

Explanation: The indicated error occurred while resource limits were being obtained.

User response: Resolve the indicated error and try again.

RLE00006  Cannot retrieve resource limits because resource limits key content is corrupted: {0}

Explanation: The indicated error occurred while attempting to retrieve resource limits.

User response: Resolve the indicated error and try again.

RLE00007  The following error has occurred while retrieving resource limits: {0}

Explanation: The indicated error occurred while resource limits were being retrieved.

User response: Resolve the error and try again.

RLE00008  Data source cannot be accessed.

Explanation: Your user ID does not have permission to access the data source.

User response: Check your resource limits by selecting Resource Limits from the View menu or contact your administrator for more information.

RLE00009  LOB data saving is denied.

Explanation: Your user ID does not have permission to save objects that contain LOB data.

User response: Check your LOB Options resource limits by selecting Resource Limits from the View menu or contact your administrator for more information.

RLE00010  You are only authorized to run saved queries at this server.

Explanation: You are only allowed to run saved queries while you are connected to the current server.

User response: Check you Save Data resource limits by selecting Resource Limits from the View menu or
contact your administrator for more information.

**RLE00011**  You are not authorized to save objects at this server.

*Explanation:*  You are not authorized to save objects while you are connected to the current server.

*User response:*  Check your Save Data resource limits by selecting Resource Limits from the View menu or contact your administrator for more information.

**RLE00012**  You are not authorized to access data source [0].

*Explanation:*  Your user ID is not authorized to access the indicated data source.

*User response:*  Try to connect to another data source, or contact your administrator for information regarding specific allowances.

**RLE00013**  You are not authorized to access data source [0].

*Explanation:*  Your user ID is not authorized to access the indicated data source.

*User response:*  Try to connect to another data source, or contact your administrator for information regarding specific allowances.

**RLW00001**  [0] rows were retrieved. The Maximum Rows to Fetch warning limit has been exceeded.

*Explanation:*  The indicated number of rows were retrieved and the warning limit for the Maximum Rows to Fetch limit has been reached.

*User response:*  Click OK to continue running the query. Click Abort to abort the query. Click Ignore to ignore the warning.

**RLW00002**  [0] bytes were retrieved. The Maximum Bytes to Fetch warning limit has been exceeded.

*Explanation:*  The indicated number of bytes were retrieved and the warning limit for the Maximum Bytes to Fetch limits has been reached.

*User response:*  Click OK to continue running the query. Click Abort to abort the query. Click Ignore to ignore the warning.

**RLW00003**  There has been no response from [0],[1] for [2] seconds.

*Explanation:*  The query was cancelled because the Server Response Timeout limit has been reached. There was no response from the indicated server after a wait time of the indicated length.

*User response:*  Check your Server Response Timeouts resource limit by selecting Resource Limits from the View menu or try to connect to the server during a time of lighter server traffic.

**RLW00004**  The query has been idle for [0] seconds.

*Explanation:*  The query has been idle for the indicated number of seconds and the Idle Query Timeouts warning limit has been reached.

*User response:*  Click OK to continue running the query. Click Abort to abort the query. Click Ignore to ignore the warning.

**RLW00005**  The query was cancelled because the Idle Query Timeout limit was exceeded.

*Explanation:*  The query was cancelled because the Idle Query Timeout limit was exceeded.

*User response:*  Attempt to rerun the query at a time when there is less server traffic.

**RLW00006**  The operation cannot be performed because the processing of LOB data is disabled.

*Explanation:*  The operation can not be performed because the LOB Retrieval Option resource limits is disabled.

*User response:*  Check your LOB Retrieval Option resource limit by selecting Resource Limits from the View menu or contact your administrator for more information.

**RPT00001**  Unable to process a Level component.

*Explanation:*  An internal error occurred.

*User response:*  Collect support data by selecting Help > Collect Support Data and forward it to customer support.

**RPT00002**  Report does not contain a main page.

*Explanation:*  The visual report does not contain a main page.

*User response:*  Make sure that the report contains a main page.

**RPT00003**  A group expression "[0]" is not correct.

*Explanation:*  The indicated expression refers to a nonexistent column.

*User response:*  Ensure that the expression refers to a valid column.
RPT00014  BLOB locator was not initialized.
Explanation:  An error occurred while retrieving a BLOB locator.
User response:  Reconnect to the repository and try again.

RPT00015  Query results were not initialized.
Explanation:  The query results were not initialized.
User response:  Reconnect to the repository and try again.

RPT00033  Internal swing renderer error: too early completion.
Explanation:  The line object is incorrect.
User response:  Delete the line object and recreate it in the designer.

RPT00034  Internal swing renderer error: incorrect segment type.
Explanation:  The line object is incorrect.
User response:  Delete the line object and recreate it in the designer.

RPT00035  Internal error in reporter engine.
Explanation:  An internal error occurred.
User response:  Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RPT00037  Invalid arguments was used: row and column should be positive or zero.
Explanation:  A row or column in the grid is of a length that is less than zero when viewed in the HTML or SWF rendering mode.
User response:  Reload the visual project.

RPT00038  Parameter {0} already exists.
Explanation:  The specified parameter already exists.
User response:  Specify a new name for the new parameter.

RPT00039  Unable to process one or more expressions in the visual dashboard to render its runtime content.
Explanation:  The renderer attempted to render a scene that is undefined.
User response:  Reload the visual project.

RPT00040  A renderer for the selected report format has generated an error. No output contents has been produced.
Explanation:  A renderer for the selected report format has generated an error. No output contents have been produced.
User response:  Try to view the visual project in another rendering mode, or reload the visual project.

RPT00041  Internal error: unable to create reporter engine.
Explanation:  An internal error occurred.
User response:  Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RPT00042  Unable to parse previously stored visual project data.
Explanation:  The visual project's data is corrupted.
User response:  Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RPT00043  Unable to locate visual dashboard format file.
Explanation:  {CONFIG_DIR}/converter/repository/world.xml can not be found or read.
User response:  Reinstall DataQuant.

RPT00044  Unable to read visual dashboard format file.
Explanation:  {CONFIG_DIR}/converter/repository/world.xml can not be found or read.
User response:  Reinstall DataQuant.

RPT00045  Unable to read visual dashboard scene.
Explanation:  The visual project's data is corrupted.
User response:  Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RPT00048  Unable to serialize object {0}.
Explanation:  An internal error occurred.
User response:  Collect support data by selecting Help > Collect Support Data and forward it to customer support.
RPT00049  Internal serialization error: no tag for [0] object class.
Explanation: The tag description for the indicated class could not be found during the serialization process.
User response: Reinstall DataQuant.

RPT00050  Unknown parameter type.
Explanation: An unknown parameter type was encountered during the serialization process.
User response: Reload the visual project.

RPT00051  Invalid action type.
Explanation: An unknown action type was encountered while loading the visual project.
User response: Reload the visual project.

RPT00052  Embedded visual dashboard picture is corrupted.
Explanation: An embedded image in the visual dashboard is corrupted and can not be opened.
User response: Check all of the embedded images in the visual dashboard and delete any that are corrupted.

RPT00053  Invalid color value.
Explanation: Corrupted tags were encountered while loading a ColorMap or a ColorSequence.
User response: Reload the visual project.

RPT00054  Invalid threshold value for color map.
Explanation: Corrupted tags were encountered while loading a ColorMap or a ColorSequence.
User response: Reload the visual project.

RPT00055  Invalid event type.
Explanation: An unknown event type was encountered.
User response: Reload the visual project.

RPT00056  Missing image alias.
Explanation: An unknown image was found.
User response: Reload the visual project.

RPT00057  Invalid number value.
Explanation: While loading the visual project, a string that was supposed to contain a number value was encountered without digit characters.
User response: Reload the visual project or try using a different locale.

RPT00058  Invalid date value.
Explanation: While loading the visual project, a string that was supposed to contain a date value was encountered with characters that could not be parsed into a date value.
User response: Reload the visual project or try using a different locale.

RPT00059  Invalid point value.
Explanation: While loading the visual project, a string that was supposed to contain a point value was encountered with characters that could not be parsed into a point value.
User response: Reload the visual project.

RPT00060  Unable to read visual dashboard.
Explanation: An error occurred while loading the visual dashboard.
User response: Reload the visual dashboard.

RPT00061  (Multiple possible messages; see Explanation)
Explanation:
1. Missing query alias. - A query with no query name tag was encountered while loading the visual project.
2. The offline visual report cannot be saved in file. - Offline visual reports can not be saved to a file.
User response:
1. Reload the visual project.
2. Convert the visual report to an online report before saving to a file.

RPT10001  Source Visionary World file has not been specified.
Explanation: The Visionary World file can not be found.
User response: Ensure that the Visionary World file exists and that it can be read.
RPT10002  Configuration directory has not been specified.

Explanation: The configuration directory for the converter can not be found.
User response: Reinstall DataQuant.

RPT10003  Source Visionary World file has not been found.

Explanation: The Visionary World file can not be found.
User response: Ensure that the Visionary World file exists.

RPT10004  Configuration directory has not been found.

Explanation: The configuration directory for the converter can not be found.
User response: Reinstall DataQuant.

RPT10005  Configuration file [0] has not been found.

Explanation: The configuration file for the converter can not be found.
User response: Reinstall DataQuant.

RPT10006  Unable to locate Visionary Connection file(s) in the folder [0].

Explanation: The Visionary Connection files do not exist in the proper locations.
User response: Check that all Visionary World files are saved in the correct locations.

RPT10007  Unable to read Visionary Query file [0].

Explanation: The Visionary World file that is specified in the query can not be found.
User response: Check that all Visionary World files are saved in the correct locations.

RPT10008  Unable to locate Visionary Scene file [0].

Explanation: The indicated scene file is not saved in the correct location.
User response: Check that all Visionary World files are saved in the correct locations.

RPT10009  Unable to read an image file [0].

Explanation: The image file that is specified by the indicated name can not be found.
User response: Check that all Visionary World files are saved in the correct locations.

RPT10010  Picture file [0] is too large.

Explanation: The indicated picture file is too long.
User response: Specify a smaller picture file to be used in the visual project.

RPT10011  XML parsing error.

Explanation: An XML parsing error occurred while attempting to convert the Visionary World.
User response: Save the Visionary World file in Visionary and try again.

RPT10012  XML reading error.

Explanation: An input/output error occurred while attempting to read the XML data.
User response: Try to convert the XML data again.

RPT10013  Unable to create Visual Dashboard object.

Explanation: An error occurred while attempting to convert the Visionary World file.
User response: Try to convert the Visionary World file again.

RPT10014  Cannot parse configuration file [0].

Explanation: An error occurred while attempting to parse the converter configuration files.
User response: Reinstall DataQuant.

RPT10015  Visual Dashboard for a connection is not specified.

Explanation: The Visionary World file was not loaded properly.
User response: Reload the Visionary World file.

RPT10016  Invalid color description has been found.

Explanation: Corrupted tags were encountered while loading a ColorMap or ColorSequence.
User response: Reload the Visionary World file.

RPT10017  Invalid color map description has been found.

Explanation: Corrupted tags were encountered while loading a ColorMap.
User response: Reload the Visionary World file.
RPT10018  Unknown tag: [0]
Explanation: Unknown tags were encountered while attempting to convert the Visionary World file.
User response: Try to convert the Visionary World file again.

RPT10019  Invalid scene template description.
Explanation: An error occurred while loading the Visionary World scene file.
User response: Reload the Visionary World scene file.

RPT10020  Corrupted property value has been found.
Explanation: An incorrect format or a corrupted value was specified in a property tag.
User response: Reload the Visionary World file.

RPT10021  Invalid URL or path format: "[0]"
Explanation: The indicated URL or path format is invalid.
User response: Check the URL for errors or specify a different URL.

RPT10022  Unknown or unsupported event type
Explanation: A corrupted or unknown event type was encountered.
User response: Reload the Visionary World file.

RPT10023  Function name in expression is missing
Explanation: A function name in an expression is missing.
User response: Reload the Visionary World file.

RPT10024  Cannot parse function argument
Explanation: The function argument could not be parsed while loading the Visionary World file.
User response: Reload the Visionary World file.

RPT10025  Invalid scene template description.
Explanation: An error occurred while loading the Visionary World scene file.
User response: Reload the Visionary World file.

RPT10026  Unable to parse a number: [0]
Explanation: While loading the Visionary World file, a string that was supposed to contain a number value was encountered without digit characters.
User response: Reload the Visionary World file.

RPT10027  PointSet component XML is corrupted.
Explanation: While loading the Visionary World file, a string that was supposed to contain a point value was encountered with characters that could not be parsed into PointSet value.
User response: Reload the Visionary World file.

RPT10028  Unknown expression type [0].
Explanation: An unknown expression type was encountered while loading the Visionary World file.
User response: Reload the Visionary World file.

RPT10029  One or more queries do not have alias.
Explanation: A query alias tag that does not contain a name property was encountered while converting the Visionary World file.
User response: Reload the Visionary World file.

RPT10031  Unable to parse a point value.
Explanation: While loading the Visionary World file, a string that was supposed to contain a point value was encountered with characters that could not be parsed into PointSet value.
User response: Reload the Visionary World file.

RPT10032  Visionary World XML has been corrupted.
Explanation: An error occurred while attempting to load the Visionary World file.
User response: Reload the Visionary World file.

RPT10033  Internal error: unable to access Visionary World.
Explanation: An internal error occurred.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RPT10034  Unable to add parameter [0] to a Visual Dashboard
Explanation: An internal error occurred.
User response: Collect support data by selecting Help
> Collect Support Data and forward it to customer support.

<table>
<thead>
<tr>
<th>RPT20001</th>
<th>Unable to access repository during Visual Report conversion.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong> The repository could not be accessed while the Visual Report was being converted.</td>
<td></td>
</tr>
<tr>
<td><strong>User response:</strong> This could possibly be because you were not connected to the repository. Make sure you are connected and try again.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT20002</th>
<th>Source visual report file has not been specified.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong> The source visual report file has not been specified.</td>
<td></td>
</tr>
<tr>
<td><strong>User response:</strong> Specify the source visual report file.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT20003</th>
<th>Source visual report file has not been found.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong> The source visual report file could not be found.</td>
<td></td>
</tr>
<tr>
<td><strong>User response:</strong> Specify a valid source visual report file.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT20004</th>
<th>Visual Report name has not been specified.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong> The visual report name has not been specified.</td>
<td></td>
</tr>
<tr>
<td><strong>User response:</strong> Specify a name for the visual report.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT20005</th>
<th>Unable to create visual report.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong> An error occurred while creating the visual report.</td>
<td></td>
</tr>
<tr>
<td><strong>User response:</strong> Reload the visual report.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT20006</th>
<th>Unable to open an embedded image.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong> An embedded image file was not found.</td>
<td></td>
</tr>
<tr>
<td><strong>User response:</strong> Reload the visual report.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT20007</th>
<th>Unknown section type: [0]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong> The structure of a section set and type was not found while loading the visual report.</td>
<td></td>
</tr>
<tr>
<td><strong>User response:</strong> Reload the visual report.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT20008</th>
<th>Unable to create Visual Report page component.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong> An error occurred while parsing and creating a page component.</td>
<td></td>
</tr>
</tbody>
</table>

User response: Reload the visual report.

<table>
<thead>
<tr>
<th>RPT20009</th>
<th>Internal error: unable to access Visual Report.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong> An internal error occurred.</td>
<td></td>
</tr>
<tr>
<td><strong>User response:</strong> Collect support data by selecting Help &gt; Collect Support Data and forward it to customer support.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT20011</th>
<th>Unable to set a line style for a line control.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong> An undefined line style was encountered while loading the visual report.</td>
<td></td>
</tr>
<tr>
<td><strong>User response:</strong> Reload the visual report.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT20012</th>
<th>Invalid linked picture alias has been found in Visual Report.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong> A link to a picture without a name was encountered while parsing the visual report data.</td>
<td></td>
</tr>
<tr>
<td><strong>User response:</strong> Reload the visual report.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT20013</th>
<th>Unable to create Visual Report control.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong> An error occurred while loading a primitive or control object.</td>
<td></td>
</tr>
<tr>
<td><strong>User response:</strong> Reload the visual report.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT20015</th>
<th>Invalid parameter name &quot;[0]&quot; has been found.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong> The parameter value is invalid.</td>
<td></td>
</tr>
<tr>
<td><strong>User response:</strong> Specify a different name for the parameter indicated.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT20016</th>
<th>Invalid parameter value &quot;[0]&quot; has been found.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong> The parameter value is invalid.</td>
<td></td>
</tr>
<tr>
<td><strong>User response:</strong> Specify a different value for the parameter indicated.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT30001</th>
<th>Navigate to Embedded Scene: Embedded Scene not found for name &quot;[0]&quot;.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong> The Navigate to Embedded Scene action failed because the indicated embedded scene could not be found.</td>
<td></td>
</tr>
<tr>
<td><strong>User response:</strong> Correct the name of the embedded scene that is associated with the Navigate to Embedded Scene action, or specify another.</td>
<td></td>
</tr>
</tbody>
</table>
RPT30002 Navigate back: can’t execute exit action (maybe history is empty).

Explanation: The Navigate Back action failed, possibly because the navigation history is empty.
User response: Reload the visual project and try again.

RPT30021 DesignReporter: LevelTemplate is null.

Explanation: An internal error occurred.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RPT30022 DesignReporter: unknown component {0}.

Explanation: An unknown component was encountered during runtime rendering.
User response: Reload the visual project.

RPT30024 The template is invalid. FillStyle or LineStyle property is null!

Explanation: An error occurred while running the substitution rule to change the Wedge template.
User response: Check the FillStyle and LineStyle properties for errors.

RPT30025 The template is invalid. Height == {0}!

Explanation: An error occurred while running the substitution rule to change a template.
User response: Check the Height property for errors.

RPT30026 The template is invalid. Width == {0}!

Explanation: An error occurred while running the substitution rule to change a template.
User response: Check the Width property for errors.

RPT30028 Cannot load resources for package {0} and locale {1}.

Explanation: The bundle for the resource can not be found.
User response: Restart the application. If this does not fix the problem, reinstall the application.

RPT30029 Request for resource string "{0}" from package {1} failed.

Explanation: An error occurred while requesting a string resource.
User response: Restart the application. If this does not fix the problem, reinstall the application.

RPT30035 No OutputComponentCreator in map for {0}.

Explanation: An internal error occurred.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RPT30038 Could not find {0}.

Explanation: One of the objects in the Connections folder could not be found.
User response: Reload the project or delete the connection and try again.

RPT30040 Chart cannot read query result set.

Explanation: An error occurred while creating a ClusterGraph, OrganizationChart, or TreeChart.
User response: Reconnect to the repository and reload the visual project.

RPT30042 Error - axisLength is infinite.

Explanation: The value of an axis's PercentageLength property is invalid.
User response: Check the PercentageLength property value of the axis for errors.

RPT30044 Unknown checkbox value: {0}.

Explanation: A value other than UNCHECKED, CHECKED, or INDETERMINATE was specified.
User response: Ensure that any action that sets the value of a checkbox sets it to UNCHECKED, CHECKED, or INDETERMINATE.

RPT30045 Unknown m_style: {0}.

Explanation: An invalid style property was specified for a ComboBox object.
User response: Check the style property for the ComboBox object for errors.

RPT30047 Line is not horizontal or vertical.

Explanation: A segment in an ElbowConnector object is set to neither vertical or horizontal.
User response: Reload the visual project.
RPT30048 Unsupported segment type: {0}.
Explanation: An unsupported segment type was encountered for an ElbowConnector object.
User response: Reload the visual project.

RPT30049 Could not get corner type last: {0} start: {1} end: {2}.
Explanation: The start and end coordinates of a line segment do not define a corner in an ElbowConnector object.
User response: Reload the visual project, or delete and re-create the ElbowConnector object.

RPT30050 Should not have gotten here.
Explanation: An internal error occurred.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RPT30052 Unknown horizontal align: {0}.
Explanation: A value other than LEFT, RIGHT, or CENTER was encountered in the HorizontalAlign property of an object.
User response: Ensure that any action that sets the value of the HorizontalAlign property of an object sets it as LEFT, RIGHT, or CENTER.

RPT30053 Unknown vertical align: {0}.
Explanation: A value other than TOP, BOTTOM, or CENTER was encountered in the VerticalAlign property of an object.
User response: Ensure that any action that sets the value of the VerticalAlign property of an object sets it as TOP, BOTTOM, or CENTER.

RPT30054 Unknown location anchor: {0}.
Explanation: A value other than BOTTOMLEFT, LEFTCENTER, TOPLEFT, BASELINELEFT, BOTTOMCENTER, CENTER, TOPCENTER, BASELINECENTER, BOTTOMRIGHT, RIGHTCENTER, or BASELINERIGHT was encountered in the LocationAnchor property of an object.
User response: Ensure that any action that sets the value of the LocationAnchor property of an object sets it as BOTTOMLEFT, LEFTCENTER, TOPLEFT, BASELINELEFT, BOTTOMCENTER, CENTER, TOPCENTER, BASELINECENTER, BOTTOMRIGHT, RIGHTCENTER, or BASELINERIGHT.

RPT30055 Unknown arrowheadStyle: {0}.
Explanation: A value other than NONE, TRIANGLE, CIRCLE, DIAMOND, or SWEPTPOINTER was encountered in the MarkerShape property of an arrow object.
User response: Ensure that any action that sets the value of the MarkerShape property of an arrow object sets it as NONE, TRIANGLE, CIRCLE, DIAMOND, or SWEPTPOINTER.

RPT30056 Unknown marker shape: {0}.
Explanation: A value other than HOLLOWCIRCLE, HOLLOWDIAMOND, HOLLOWTRIANGLE, HOLLOWCIRCLE2, HOLLOWSTAR, HOLLOWPLUS, SOLIDCIRCLE, SOLIDDIAMOND, SOLIDTRIANGLE, SOLIDTRIANGLE2, SOLIDSTAR, SOLIDCROSS, PLUS, BOXCROSS, or BOXPLUS was encountered in the MarkerShape property of a data point object.
User response: Ensure that any action that sets the value of the MarkerShape property of a data point object sets it as HOLLOWCIRCLE, HOLLOWDIAMOND, HOLLOWTRIANGLE, HOLLOWCIRCLE2, HOLLOWSTAR, HOLLOWPLUS, SOLIDCIRCLE, SOLIDDIAMOND, SOLIDTRIANGLE, SOLIDTRIANGLE2, SOLIDSTAR, SOLIDCROSS, PLUS, BOXCROSS, or BOXPLUS.

RPT30060 Unknown attachmentStyle: {0}.
Explanation: A value other than TOPLEFT, TOPCENTER, TOP, TOPRIGHT, CENTERLEFT, CENTER, CENTERRIGHT, BOTTOMLEFT, BOTTOMCENTER, BOTTOM, or BOTTOMRIGHT was encountered in the AttachmentStyle property of a connector object.
User response: Ensure that any action that sets the value of the AttachmentStyle property of a connector object sets it as TOPLEFT, TOPCENTER, TOP, TOPRIGHT, CENTERLEFT, CENTER, CENTERRIGHT, BOTTOMLEFT, BOTTOMCENTER, BOTTOM, or BOTTOMRIGHT.

RPT30061 Unknown border type for table: {0}.
Explanation: An invalid value was encountered in the BorderType property of an object.
User response: Ensure that any action that sets the BorderType property of an object sets a valid value.

RPT30062 Unknown m_horizontalAlign: {0}.
Explanation: An invalid value was encountered in the HorizontalAlign property of a table cell.
User response: Ensure that any action that sets the HorizontalAlign property of a table cell sets a valid value.
<table>
<thead>
<tr>
<th>RPT30063</th>
<th>Unknown m_verticalAlign: [0].</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>An invalid value was encountered in the VerticalAlign property of a table cell.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Ensure that any action that sets the VerticalAlign property of a table cell sets a valid value.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT30064</th>
<th>Unknown border type for table: [0].</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>An invalid value was encountered in the Border property of a table.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Ensure that any action that sets the Border property of a table sets a valid value.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT30065</th>
<th>Unknown scrollBarStyle: [0].</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>An invalid value was encountered in the ScrollBarStyle property of an object.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Ensure that any action that sets the ScrollBarStyle property of an object sets a valid value.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT30066</th>
<th>Unknown AlignmentStyle: [0].</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>An invalid value was encountered in the AlignmentStyle property of a textbox object.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Ensure that any action that sets the AlignmentStyle property of a textbox object sets a valid value.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT30067</th>
<th>Unknown lineStylePattern: [0].</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>An invalid value was encountered in the LineStylePattern property of an object.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Ensure that any action that sets the LineStylePattern property of an object sets a valid value.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT30068</th>
<th>Unknown gradient type: [0].</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>An invalid value was encountered in the GradientType property of an object.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Ensure that any action that sets the GradientType property of an object sets a valid value.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT30069</th>
<th>Unknown borderType: [0].</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>An invalid value was encountered in the BorderType property of a textbox or embedded scene object.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Ensure that any action that sets the BorderType property of a textbox or embedded scene object sets a valid value.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT30070</th>
<th>Unknown imageAnchor: [0].</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>An invalid value was encountered in the ImageAnchor property of an object.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Ensure that any action that sets the ImageAnchor property of an object sets a valid value.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT30071</th>
<th>Unknown scrollBarStyle.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>An invalid value was encountered in the ScrollBarStyle property of an embedded scene object.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Ensure that any action that sets the ScrollBarStyle property of an embedded scene object sets a valid value.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT30072</th>
<th>Embedded Scene: Unknown scrollBarStyle.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>An invalid value was encountered in the ScrollBarStyle property of an embedded scene object.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Ensure that any action that sets the ScrollBarStyle property of an embedded scene object sets a valid value.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT30073</th>
<th>Embedded Scene: unknown typeOfFind: [0].</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>An internal error occurred.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Collect support data by selecting Help &gt; Collect Support Data and forward it to customer support.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT30074</th>
<th>The cell chosen by client not found.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>The action can not be performed when using the HTML rendering mode.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Reload the visual project.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT30075</th>
<th>Grid cell's click event could not be dispatched.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>The action can not be performed when using the HTML rendering mode.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Reload the visual project.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT30076</th>
<th>Unknown page type - [0].</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>An internal error occurred.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Collect support data by selecting Help &gt; Collect Support Data and forward it to customer service.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT30077</th>
<th>Parameters group cloning problem [0].</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>An internal error occurred.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Collect support data by selecting Help &gt; Collect Support Data and forward it to customer support.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RPT30078</th>
<th>No class in map for [0].</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>An internal error occurred.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Collect support data by selecting Help</td>
</tr>
</tbody>
</table>
Collect Support Data and forward it to customer support.

RPT30088  Unable to serialize an object: {0}.
Explanation: An internal error occurred.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RPT30089  Value must be positive: {0}.
Explanation: The indicated value must be a positive number.
User response: Ensure that the indicated value is a positive number.

RPT30090  Level was null when zoom was {0}.
Explanation: No level is specified for the indicated zoom percentage.
User response: Ensure that a level is specified for the indicated zoom percentage.

RPT30091  Chart can't find parent column: {0}.
Explanation: The indicated parent column could not be found in the result set.
User response: Ensure that a valid column named is specified in the DataLocator property of the group.

RPT30092  Chart can't find child column: {0}.
Explanation: The indicated child column could not be found in the result set.
User response: Ensure that a valid column named is specified in the DataLocator property of the group.

RPT30095  Hierarchy chart must have one DataTemplate child.
Explanation: A hierarchy chart must have one DataTemplate child.
User response: Check the Project Explorer and ensure that the hierarchy chart only has one DataTemplate child.

RPT30096  CurrentRowIndex < 0.
Explanation: The specified row index is less than zero. The row index must be an integer that is equal to or greater than zero.
User response: Ensure the specified row index is an integer that is equal to or greater than zero.

RPT30097  Unknown interval: {0}.
Explanation: An invalid value was specified for the DateAxis property of an object.
User response: Ensure that any action that sets the value of the DateAxis property of an object sets a valid value.

RPT30098  Unhandled interval: {0}.
Explanation: An invalid value was specified for the DateAxis property of an object.
User response: Ensure that any action that sets the value of the DateAxis property of an object sets a valid value.

RPT30099  Unknown dateInterval: {0}.
Explanation: An invalid value was specified for the DateAxis property of an object.
User response: Ensure that any action that sets the value of the DateAxis property of an object sets a valid value.

RPT30104  Shouldn't get here - roundingIncrement: {0} power: {1}.
Explanation: An internal error occurred.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RPT30105  Group name is undefined for group header.
Explanation: An internal error occurred.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RPT30106  Group name is undefined for group footer.
Explanation: An internal error occurred.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RPT30107  m_templateRows contained a {0}.
Explanation: An internal error occurred.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.
RPT30109 Embedded Scene: Linked not found for name \(0\).

Explanation: The value of the LinkedScene property of an embedded scene is invalid.

User response: Ensure that the scene that the embedded scene is linked to exists and that the link text is correct.

RPT30111 Unable to clone component \(0\).

Explanation: An internal error occurred.

User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RPT30112 Property \(0\) of component \(1\) doesn't appear to be of type \(2\).

Explanation: The property of the indicated object is of an invalid type.

User response: Ensure that any action or expression that sets the value of the property sets it to a valid type.

RPT30114 Swing output cannot be created for component \(0\).

Explanation: An internal error occurred.

User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RPT30117 Component \(0\) does not support action \(1\).

Explanation: The indicated component does not support the indicated action.

User response: Specify a different action for the component and try again.

RPT30118 Component \(0\) does not support property \(1\).

Explanation: The indicated component does not support the indicated property.

User response: Specify a different property and try again.

RPT30120 (Multiple possible messages; see Explanation)

Explanation:
1. Check the global parameter "\(0\)" does not exist - The indicated global parameter does not exist.
2. Query "\(0\)" does not contain column named "\(1\)" - The indicated column does not exist in the indicated query.

User response:
1. Check the global parameter name for errors or specify a different global parameter.
2. Check the column name for errors or specify a different column name.

RPT30121 Result set index "\(0\)" for query "\(1\)" is out of bounds.

Explanation: An invalid value was set for the ResultSetIndex of a layout object.

User response: Ensure that any action that sets the ResultSetIndex property of a layout object sets a valid value.

RPT30122 Query with key "\(0\)" does not exist.

Explanation: A query with the indicated key does not exist in the repository.

User response: Select the query in the Repository Explorer or Workspaces view and copy and paste the key value from the Properties view, or specify a different query's key.

RPT30123 Component "\(0\)" cannot be created due to the following problem: \(1\)

Explanation: The indicated component cannot be created due to the indicated error.

User response: Resolve the indicated error and try again.

RPT30124 Result set index cannot be defined.

Explanation: An internal error occurred.

User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RPT30126 Security list "\(0\)" cannot be found.

Explanation: The indicated security list can not be found.

User response: Check the security list name for errors or specify a different security list.

RPT30127 Visual project "\(0\)" cannot be loaded because of missing project descriptor.

Explanation: The indicated visual project can not be loaded because it is missing a project descriptor.

User response: Ensure that the visual project has a project descriptor and retry to load the project.
<table>
<thead>
<tr>
<th>Code</th>
<th>Message</th>
<th>Explanation</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSE01000</td>
<td>{0}</td>
<td>Explanation: The indicated error occurred while accessing the repository security provider.</td>
<td>User response: Resolve the indicated error and try again.</td>
</tr>
<tr>
<td>RSE04000</td>
<td>System internal error occurred, please check the error log.</td>
<td>Explanation: A system internal error occurred.</td>
<td>User response: Check the error log by selecting Output from the context menu of the Window menu.</td>
</tr>
<tr>
<td>RSE04001</td>
<td>Cannot find User {0}</td>
<td>Explanation: The indicated user can not be found.</td>
<td>User response: Check the name of the user for errors and try again.</td>
</tr>
<tr>
<td>RSE04002</td>
<td>User {0} already exists;</td>
<td>Explanation: The indicated user already exists.</td>
<td>User response: Specify a different user.</td>
</tr>
<tr>
<td>RSE04003</td>
<td>Group {0} already exists;</td>
<td>Explanation: The indicated group already exists.</td>
<td>User response: Specify a different group.</td>
</tr>
<tr>
<td>RSE04004</td>
<td>Cannot find group {0}</td>
<td>Explanation: The indicated group can not be found.</td>
<td>User response: Specify a different group.</td>
</tr>
<tr>
<td>RSE04005</td>
<td>Not logged in with security provider.</td>
<td>Explanation: You attempted to access the repository without logging in.</td>
<td>User response: Login to the repository and try again.</td>
</tr>
<tr>
<td>RSE04006</td>
<td>The user ID and password are invalid</td>
<td>Explanation: The user ID and password that were entered are invalid.</td>
<td>User response: Check the user ID and password for errors and try again.</td>
</tr>
<tr>
<td>RSE04007</td>
<td>Name &quot;{0}&quot; is in conflict with the existing name.</td>
<td>Explanation: The new name that was entered already exists.</td>
<td>User response: Select a different name.</td>
</tr>
<tr>
<td>RSE04008</td>
<td>Object access denied</td>
<td>Explanation: Access to the specified object is denied.</td>
<td>User response: Select a different object to access or contact your administrator for more information.</td>
</tr>
<tr>
<td>RSE04011</td>
<td>Cannot remove User {0} from Group {1}</td>
<td>Explanation: The indicated user can not be removed from the indicated group.</td>
<td>User response: Select another user to be removed from the group.</td>
</tr>
<tr>
<td>RSE04012</td>
<td>Cannot delete User {0}</td>
<td>Explanation: The indicated user can not be deleted.</td>
<td>User response: Select another user to be deleted.</td>
</tr>
<tr>
<td>RSE04013</td>
<td>Cannot delete Group {0}</td>
<td>Explanation: The indicated group can not be deleted.</td>
<td>User response: Select another group to be deleted.</td>
</tr>
<tr>
<td>RSE04014</td>
<td>Cannot initialize security provider,{0}</td>
<td>Explanation: An error occurred while initializing the repository.</td>
<td>User response: Change the repository initialization parameters and try again.</td>
</tr>
<tr>
<td>RSE04015</td>
<td>This security provider is a read-only one.</td>
<td>Explanation: You can not change the principals of a read-only security provider.</td>
<td>User response: Choose another security provider to modify.</td>
</tr>
<tr>
<td>RSE04016</td>
<td>Cannot find any name associates with UID {0} in Repository</td>
<td>Explanation: The indicated repository identifier is invalid.</td>
<td>User response: Specify a valid repository identifier invalid.</td>
</tr>
<tr>
<td>RSE04017</td>
<td>AuthType is not anonymous(&quot;none&quot;),please specify principal and credentials</td>
<td>Explanation: An error occurred while initializing the LDAP security provider.</td>
<td>User response: Change the repository initialization parameters and try again.</td>
</tr>
</tbody>
</table>
RSE04018 LDAP Configuration contains illegal values or some required values are missing, please check the preferences(0)

Explanation: An error occurred while initializing the LDAP security provider.
User response: Change the repository initialization parameters and try again.

RSE04019 Cannot connect to the LDAP server. Communication broken or Directory Service is not available.

Explanation: An error occurred while connecting to the LDAP directory.
User response: Check the network connection and try again.

RSE04020 Cannot read User's password attribute (Make sure you have enough permission or PasswordAttribute in configuration is correct)

Explanation: An error occurred while reading data from the LDAP directory.
User response: Ensure that the LDAP service is accessible.

RSE04021 Invalid search filter in LDAP configuration

Explanation: The specified search filter in the LDAP configuration is invalid.
User response: Specify a valid search filter for the LDAP configuration.

RSE04022 LDAP server returned error

Explanation: An error occurred while reading data from the LDAP directory.
User response: Ensure that the LDAP service is accessible.

RSE04023 Cannot find the specified name [0]

Explanation: The indicated user name can not be found.
User response: Specify a different user name.

RSE04024 Not enough permission to perform the LDAP operations.

Explanation: You user ID does not have permission to perform LDAP operations.
User response: Contact your administrator for more information concerning specific permissions and allowances.

RSE04025 Cannot find a attribute of entry [0] specified in LDAP configurations.

Explanation: An error occurred while reading attribute data from the LDAP configuration.
User response: Correct the configuration parameters and try again.

RSE04026 UUID [0] mapping to an invalid distinguished name [1].(2)

Explanation: The indicated distinguished name is invalid.
User response: Specify a valid distinguished name and try again.

RSE04028 Incorrect operation.

Explanation: An error occurred while editing the principals of the security provider.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

RSE04029 Cannot register security provider.

Explanation: An error occurred while registering the security provider in the provider registry.
User response: Ensure that the registered name of the provider is unique.

RSE04030 Security provider not initialized.

Explanation: An error occurred while accessing the security provider service because the service is not initialized.
User response: Initialize the security provider and try again.

RSE04031 Security provider not registered.

Explanation: An error occurred while accessing the security provider service because the security provider is not registered.
User response: Register the security provider and try again.

RSE04032 You can not remove default Administrator.

Explanation: The default administrator can not be deleted.
User response: Specify a different administrator to be deleted.
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Explanation</th>
<th>User response</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSE04033</td>
<td>You can not change the default Administrator's membership.</td>
<td>The membership of the default administrator can not be changed.</td>
<td>Specify the membership of a different administrator to change.</td>
</tr>
<tr>
<td>RSE04035</td>
<td>You can not rename the Administrators group.</td>
<td>The group of the default administrator can not be renamed.</td>
<td>Specify the group of a different administrator to be renamed.</td>
</tr>
<tr>
<td>RSE04036</td>
<td>Password has expired and is no longer valid.</td>
<td>The specified password has expired and is no longer valid.</td>
<td>Specify an updated password and try again.</td>
</tr>
<tr>
<td>RSE04037</td>
<td>Group could not became its own parent.</td>
<td>A group may not be its own parent. You must select a different group as the parent.</td>
<td>Select a different group to be the parent of the specified group.</td>
</tr>
<tr>
<td>SPL01001</td>
<td>Cannot find objectClass attribute of {0}</td>
<td>The indicated object does not have an objectClass attribute. Every object in the LDAP directory must contain this attribute.</td>
<td>Specify an objectClass attribute for the indicated object.</td>
</tr>
<tr>
<td>SPL01002</td>
<td>The returned entry {0} is not acceptable for LDAP Security Provider, its objectClass is not (1) or (2)</td>
<td>The indicated object is defined as neither a user or group in the LDAP security provider.</td>
<td>Edit the objectClass attribute of the indicated object to specify whether it is a user or group.</td>
</tr>
<tr>
<td>SPL01003</td>
<td>Cannot read the Group's name (attribute: {0})</td>
<td>The LDAP directory does not contain an object that has the required attribute.</td>
<td>Edit the groupName attribute so that it will point to an existing object in the LDAP directory.</td>
</tr>
<tr>
<td>SPL01004</td>
<td>Cannot read the User's name (attribute: {0})</td>
<td>The LDAP directory does not contain an object that has the required attribute.</td>
<td>Edit the userName attribute so that it will point to an existing object in the LDAP directory.</td>
</tr>
<tr>
<td>SPL01005</td>
<td>LDAP server host or port was not specified.</td>
<td>The LDAP server host or port was not specified.</td>
<td>Specify the LDAP server and host.</td>
</tr>
<tr>
<td>SPL01006</td>
<td>The base distinguish name of the LDAP server must be present.</td>
<td>The base distinguished name of the LDAP server was not specified.</td>
<td>Specify the base distinguished name of the LDAP server.</td>
</tr>
<tr>
<td>SPL01007</td>
<td>The distinguish name of user principal must be present.</td>
<td>The distinguished name of the principal user was not specified.</td>
<td>Specify the distinguished name of the principal user or use anonymous authentication.</td>
</tr>
<tr>
<td>SPL01008</td>
<td>The credentials of user entry must be specified.</td>
<td>The credentials of the entry user were not specified.</td>
<td>Specify the credentials of the entry user or use anonymous authentication.</td>
</tr>
<tr>
<td>SPL01009</td>
<td>Cannot create LDAP entry for administrator user: {0}</td>
<td>The user who is associated with the administrative account could not be found in the LDAP directory.</td>
<td>Specify the administrative user of the LDAP directory.</td>
</tr>
<tr>
<td>SPL01010</td>
<td>Cannot create LDAP entry for administrators group: {0}</td>
<td>The group that is associated with the administrative account could not be found in the LDAP directory.</td>
<td>Specify the administrative group of the LDAP directory.</td>
</tr>
</tbody>
</table>
SPL01011 Cannot create LDAP entry for everyone group: {0}
Explanation: The group that is associated with the everyone account could not be found in the LDAP directory.
User response: Specify the everyone group of the LDAP directory.

SPL01012 Cannot create LDAP entry for root group: {0}
Explanation: The object that is associated with the Base DN could not be found in the LDAP directory.
User response: Specify the Base DN object in the LDAP directory.

SPL01013 Cannot find the JNDI extension package or Sun's LDAP Service Provider.
Explanation: The JNDI extension package or Sun's LDAP Service Provider was not located in the CLASSPATH.
User response: Ensure that the CLASSPATH includes both the JNDI extension package and Sun's LDAP Service Provider.

SPL01014 The catalog object is missing.
Explanation: The catalog object is not set.
User response: Specify the catalog object and try again.

SPL01015 Empty name is not allowed.
Explanation: No name was specified as an RDN.
User response: Specify a name as an RDN.

SPL01016 Illegal RDN of security object (offending string: "{0}")
Explanation: The RDN is invalid. The RDN must be one or more LDAP components that are separated by commas.
User response: Specify valid components for the RDN.

SPL01017 Unknown attribute name "{0}" in RDN.
Explanation: An unknown attribute name was encountered while parsing the RDN.
User response: Check the attributes of the RDN for errors.

SPL01101 Currently Client Authentication is not supported.
Explanation: Client Authentication is not supported.
User response: Use anonymous authentication.

SPL01103 SSL is not correctly initialized.
Explanation: The secure socket protocol factory is not initialized.
User response: Restart the application and try again.

SPL01104 Attribute {0} is absent.
Explanation: The indicated attribute was not found while reading the LDAP object.
User response: Specify a valid value for the indicated attribute.

SPL01105 Object class name "{0}" is unknown.
Explanation: The object name has an invalid class name; it must be either qmfUser or qmfGroup.
User response: Specify either qmfUser or qmfGroup for the indicated object name.

SQM02001 An input/output error occurred while processing package "{0}": {1}
Explanation: The indicated error occurred while processing the indicated package.
User response: Resolve the indicated error and try again.

SQM02002 Error in SQLJ customization: {0}
Explanation: The indicated error occurred while processing the SQLJ customization.
User response: Resolve the indicated error and try again.

SQM02003 No SQLJ installed
Explanation: The SQLJ library could not be loaded.
User response: Add sqlj.zip to the driver definition.

SQM02004 An error occurred while retrieving profile data for package "{0}": {1}
Explanation: The indicated error occurred while the profile data for the indicated package was being loaded.
User response: Resolve the indicated error and try again.
<table>
<thead>
<tr>
<th>Code</th>
<th>Message</th>
<th>Explanation</th>
<th>User response</th>
<th>User response comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQM02005</td>
<td>An error occurred while loading the profile for package &quot;{0}&quot;.</td>
<td>The indicated error occurred while the profile for the indicated package was being loaded.</td>
<td>Resolve the indicated error and try again.</td>
<td></td>
</tr>
<tr>
<td>SQM02006</td>
<td>While loading the class with the implementation of package &quot;{0}&quot; the following error has occurred: &quot;{1}&quot;.</td>
<td>The indicated error occurred while class with the implementation of the indicated package was being loaded.</td>
<td>Reinstall the application and try again.</td>
<td></td>
</tr>
<tr>
<td>SQM02007</td>
<td>A database access error occurred while processing package &quot;{0}&quot;. {1}</td>
<td>The indicated database access error occurred while the package was being processed.</td>
<td>Resolve the indicated database access error and try again.</td>
<td></td>
</tr>
<tr>
<td>SQM02008</td>
<td>A database access error occurred: {1}</td>
<td>The indicated database access error occurred.</td>
<td>Resolve the indicated error and try again.</td>
<td></td>
</tr>
<tr>
<td>SQM02009</td>
<td>User has no rights to execute queries of package &quot;{0}&quot;. Original error follows: {1}</td>
<td>The user does not have permission to access the package because of the indicated reason.</td>
<td>Contact your database administrator.</td>
<td></td>
</tr>
<tr>
<td>SQM02010</td>
<td>An error occurred while deleting profile for package &quot;{0}&quot;. {1}</td>
<td>The indicated error occurred while the profile for the indicated package was being deleted.</td>
<td>Resolve the indicated error and try again.</td>
<td></td>
</tr>
<tr>
<td>SQM02011</td>
<td>Empty customizer call pattern</td>
<td>Package customization failed because of an unexpected error.</td>
<td>Collect support data by selecting Help &gt; Collect Support Data and forward it to customer support.</td>
<td></td>
</tr>
<tr>
<td>SQM02013</td>
<td>An error occurred while loading data for package &quot;{0}&quot;.</td>
<td>An error occurred while the data for the indicated package was being loaded.</td>
<td>Resolve the indicated error and try again.</td>
<td></td>
</tr>
<tr>
<td>SQM02014</td>
<td>Wrong customizer call pattern: {0}</td>
<td>Package customization failed because of an unexpected error.</td>
<td>Collect support data by selecting Help &gt; Collect Support Data and forward it to customer support.</td>
<td></td>
</tr>
<tr>
<td>SQM02016</td>
<td>Cannot create collection &quot;{0}&quot; due to the following: {1}</td>
<td>The indicated collection could not be created due to the indicated error.</td>
<td>Resolve the indicated error and try again.</td>
<td></td>
</tr>
<tr>
<td>SQM02017</td>
<td>Profile for package &quot;{0}&quot; is too long to be stored at database</td>
<td>The profile for the indicated package is too long to be stored at the database.</td>
<td>Collect support data by selecting Help &gt; Collect Support Data and forward it to customer support.</td>
<td></td>
</tr>
<tr>
<td>SQM02018</td>
<td>No collection ID (profile owner) is specified. Cannot proceed in static mode.</td>
<td>The SQLJ package can not be loaded if no collection ID is specified.</td>
<td>Collect support data by selecting Help &gt; Collect Support Data and forward it to customer support.</td>
<td></td>
</tr>
<tr>
<td>SQM02019</td>
<td>Cannot prepare statement &quot;{0}&quot; of package &quot;{1}&quot; due to the following error: &quot;{2}&quot;</td>
<td>The indicated statement of the package can not be prepared due to the indicated error.</td>
<td>Resolve the indicated error and try again.</td>
<td></td>
</tr>
<tr>
<td>SQM02020</td>
<td>While checking user rights on package &quot;[0]&quot; the following error has occurred: &quot;[1]&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Explanation:</strong></td>
<td>The indicated error occurred while the user rights on the indicated package were checked.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Resolve the indicated error and try again.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SQM02021</th>
<th>Inconsistent profile data for queries package &quot;[0]&quot; were detected. Rebind package.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>Inconsistent profile data for the indicated queries package was detected.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Rebind the package.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SQM02100</th>
<th>The required parameter &quot;[0]&quot; is missing.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>The indicated required parameter is missing.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Collect support data by selecting Help &gt; Collect Support Data and forward it to customer support.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SQM02101</th>
<th>An error occurred while initializing the connection. [0]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>The indicated error occurred while the connection was initialized.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Resolve the indicated error and try again.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SQM02102</th>
<th>[0]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>The indicated database access error occurred.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Resolve the indicated error and try again.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SQM02103</th>
<th>An error occurred while loading package description class &quot;[0]&quot;. [1]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>The indicated error occurred while the package description class was loaded.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Resolve the indicated error and try again.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SQM02104</th>
<th>An error occurred while loading the profile for package &quot;[0]&quot;. [1]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>The indicated error occurred while the profile for the indicated package was loaded.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Resolve the indicated error and try again.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SQM02105</th>
<th>Static mode profile for package &quot;[0]&quot; is not found.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>The static mode for the indicated package was not found.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Reinstall the application and try again.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SQM02106</th>
<th>An error occurred while creating directory &quot;[0]&quot;.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>The temporary directory for the customization process could not be created.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Ensure that the application has permissions to create the directory and try again.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SQM02107</th>
<th>An error occurred while creating profiles directory &quot;[0]&quot;.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>An error occurred while the indicated profile's directory was created.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Ensure that the application has permissions to create the directory and try again.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SQM02108</th>
<th>An error occurred while saving the profile for package &quot;[0]&quot;. [1]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>The indicated error occurred while the profile for the indicated package was saved.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Resolve the error and try again.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SQM02109</th>
<th>An error occurred while saving the packages description file. [0]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>The indicated error occurred while the package description file was saved.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Resolve the error and try again.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SQM02110</th>
<th>An error occurred while starting customization. [0]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>The indicated error occurred while customization was started.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Resolve the error and try again.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SQM02111</th>
<th>An error occurred while customizing package &quot;[0]&quot;. [1]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explanation:</strong></td>
<td>The indicated error occurred while the indicated package was customized.</td>
</tr>
<tr>
<td><strong>User response:</strong></td>
<td>Resolve the indicated error and try again.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>SQM02112</td>
<td>An error occurred while creating the profiles data table.</td>
</tr>
<tr>
<td>Explanation: The indicated error occurred while the data table of the profile was created.</td>
<td></td>
</tr>
<tr>
<td>User response: Resolve the indicated error and try again.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQM02113</td>
<td>No user ID list for GRANT/REVOKE operation was specified.</td>
</tr>
<tr>
<td>Explanation: No user ID list for GRANT/REVOKE operation was specified.</td>
<td></td>
</tr>
<tr>
<td>User response: Specify a user ID list for the GRANT/REVOKE operation.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQM02115</td>
<td>An error occurred while uninstalling the packages.</td>
</tr>
<tr>
<td>Explanation: The indicated error occurred while the packages were uninstalled.</td>
<td></td>
</tr>
<tr>
<td>User response: Resolve the indicated error and try again.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQM02116</td>
<td>File with packages description was not found.</td>
</tr>
<tr>
<td>Explanation: The indicated error occurred while preparing the packages descriptions based on the previously build packages description file.</td>
<td></td>
</tr>
<tr>
<td>User response: Collect support data by selecting Help &gt; Collect Support Data and forward it to customer support.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>SQM02117</td>
<td>An error occurred while reading the packages description file.</td>
</tr>
<tr>
<td>Explanation: The indicated error occurred while the packages description file was being read.</td>
<td></td>
</tr>
<tr>
<td>User response: Collect support data by selecting Help &gt; Collect Support Data and forward it to customer support.</td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQM02119</td>
<td>An error occurred while installing the package.</td>
</tr>
<tr>
<td>Explanation: The indicated error occurred when the indicated package was being installed.</td>
<td></td>
</tr>
<tr>
<td>User response: Resolve the indicated error and try again.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQM02120</td>
<td>An error occurred while uninstalling the package.</td>
</tr>
<tr>
<td>Explanation: The indicated error occurred when the indicated package was being uninstalled.</td>
<td></td>
</tr>
<tr>
<td>User response: Send an error report to the developers.</td>
<td></td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>SYNERRCD0009</td>
<td>Object length greater than maximum allowed.</td>
</tr>
<tr>
<td>SYNERRCD0010</td>
<td>Object length less than minimum required.</td>
</tr>
<tr>
<td>SYNERRCD0011</td>
<td>Object length not allowed.</td>
</tr>
<tr>
<td>SYNERRCD0012</td>
<td>Incorrect large object extended length field.</td>
</tr>
<tr>
<td>SYNERRCD0013</td>
<td>Object codepoint index not supported.</td>
</tr>
<tr>
<td>SYNERRCD0014</td>
<td>Required object not found.</td>
</tr>
<tr>
<td>SYNERRCD0015</td>
<td>Too many command data objects sent.</td>
</tr>
<tr>
<td>SYNERRCD0017</td>
<td>Too few command data objects sent.</td>
</tr>
<tr>
<td>SYNERRCD0018</td>
<td>Duplicate object present.</td>
</tr>
<tr>
<td>SYNERRCD0019</td>
<td>Invalid request correlator specified.</td>
</tr>
<tr>
<td>SYNERRCD0020</td>
<td>Required value not found.</td>
</tr>
<tr>
<td>SYNERRCD0021</td>
<td>Reserved value not allowed.</td>
</tr>
<tr>
<td>SYNERRCD0022</td>
<td>DSS continuation less than or equal to two.</td>
</tr>
<tr>
<td>SYNERRCD0023</td>
<td>Objects not in required order.</td>
</tr>
<tr>
<td>SYNERRCD0024</td>
<td>DSS chaining bit not 1, but DSSFMT bit 3 set to 1.</td>
</tr>
</tbody>
</table>
SYNERRCD0025  Previous DSS indicated current
dSS has the same request correlator, but
the request correlators are not the same.
Explanation:  An internal error in the driver code
occurred.
User response:  Send an error report to the developers.

SYNERRCD0026  Previous DSS indicated current
DSS has the same request correlator, but
the request correlators are not the same.
Explanation:  An internal error in the driver code
occurred.
User response:  Send an error report to the developers.

SYNERRCD0027  DSS chaining bit not 1, but error
continuation requested.
Explanation:  An internal error in the driver code
occurred.
User response:  Send an error report to the developers.

SYNERRCD0028  Mutually-exclusive parameter
values specified.
Explanation:  An internal error in the driver code
occurred.
User response:  Send an error report to the developers.

SYNERRCD0029  Codepoint not valid command.
Explanation:  An internal error in the driver code
occurred.
User response:  Send an error report to the developers.

SYNERRCD0030  The atmind instance variable is not
set to its default value of 0x00 on an
EXCSQLSTT command within an
atomic EXCSQLSTT chain.
Explanation:  An internal error in the driver code
occurred.
User response:  Send an error report to the developers.

THM1001  Cannot copy CSS file.
Explanation:  The CSS file could not be copied to the
server.
User response:  Ensure that the CSS file name is
correct and try again.

THM1002  Cannot extract main theme CSS file
from the archive.
Explanation:  The specified archive does not contain
the main CSS file.
User response:  Ensure that the main CSS file is saved
to the archive and try again.

THM1003  Already registered. Try another theme
name.
Explanation:  A theme with the same name already
exists.
User response:  Specify a different name for the theme.

THM1004  Theme root folder already exists. Try
another theme name.
Explanation:  A theme with the same name already
exists.
User response:  Specify a different name for the theme.

UIM12001  Internal error has occurred: {0}
Explanation:  The indicated internal error occurred.
User response:  Resolve the indicated error and try
again.

UIM12004  An input/output error occurred: {0}
Explanation:  The indicated input/output error
occurred.
User response:  Resolve the indicated error and try
again.

UIM12005  The file does not exist: {0}
Explanation:  The indicated file does not exist.
User response:  Specify a valid file and try again.

VAL00001  Variable {0} not found.
Explanation:  The indicated variable was not found.
User response:  Specify a valid variable.

VAL00003  Type conversion error. Object of {0} type
cannot be converted to {1} type.
Explanation:  The indicated object can not be
converted to the indicated type.
User response:  Specify an object of a different type to
be converted, or convert the object to a different type.
VAL00004 • VDS1004

VAL00004  Unit conversion error. Unit [0] cannot be converted to [1].
Explanation: The indicated unit can not be converted to the indicated type.
User response: Specify a different unit to be converted, or convert the unit to a different type.

VAL00005  An expression contains a syntax error.
Explanation: An expression that you entered contains a syntax error.
User response: Check the expressions that you typed for syntax errors.

VAL00006  Wrong expression has been used.
Explanation: An incorrect expression has been used.
User response: Specify a valid expression.

VAL00007  Name "[0]" has invalid character at [1].
The name must start with a letter and should not contain special characters. See the help for a list of invalid characters.
Explanation: The indicated name contains an invalid character at the indicated column.
User response: Check the help for syntax rules and retype the invalid character.

VAL00008  Name cannot be empty. The name must start with a letter and should not contain special characters. See the help for a list of invalid characters.
Explanation: The name of a control can not be empty.
User response: Specify a correct name for the control.

VAL00009  Unable to process URL: "[0]"
Explanation: The indicated URL could not be processed.
User response: Check the URL for errors and try again.

VAL00010  Unable to process URI: "[0]"
Explanation: The indicated URI could not be processed.
User response: Check the URI for errors and try again.

VAL00019  Cycle has been found in definition of following properties: [0].
Explanation: The expression contains a cyclic reference.
User response: Edit the expression to remove the cyclic reference and try again.

VAL00021  Cannot evaluate properties: [0].
Explanation: The expression could not be evaluated.
User response: Check the expression for syntax errors and try again.

VAL00022  Validation failed: Cannot set [0] to [1]. Value must be [2] [3].
Explanation: The property can not have the indicated value. Possible values are listed in the error message.
User response: Edit the property’s expression and try again.

VDS1000  [0]
Explanation: The indicated error occurred while processing the virtual data source.
User response: Resolve the indicated error and try again.

VDS1001  Internal Error.
Explanation: An internal error occurred.
User response: Collect support data by selecting Help > Collect Support Data and forward it to customer support.

VDS1002  No data source was specified for the query.
Explanation: No data source was specified for the query.
User response: Specify a data source for the query.

VDS1003  Configuration directory is not defined.
Explanation: The configuration directory is not defined.
User response: Define the configuration directory.

VDS1004  Source data source not found for virtual table "[0]".
Explanation: The source data source for the indicated virtual table was not found. It is possible that the source data source has been moved or deleted.
User response: Check the location of the source data.
source and copy the source table to the virtual data source again if necessary.

VDS1005  Table is not defined in the query.
Explanation:  The table is not defined in the query.
User response:  Define the table in the query.

VDS1006  Source table column not found for virtual column "[0]" in the table "[1]."
Explanation:  The indicated virtual column does not match any of the source table columns.
User response:  Ensure that every column in the virtual table has a corresponding column in the source table.

VDS1007  Only tables and queries can be added to the virtual data source.
Explanation:  You attempted to move an object that was not a table or a query to the virtual data source. Only tables and queries may be added to the virtual data source.
User response:  Specify a table or query to be moved to the virtual data source.

VDS1008  Cannot find specified tables in data source.
Explanation:  The tables that are referenced in the virtual data source can not be found in the source data source. This may be because the source tables were moved or deleted.
User response:  Check the location of the source tables in the data source and copy them to the virtual data source again if necessary.

VDS1009  Cannot remove the last column from virtual table.
Explanation:  You attempted to remove the last column from the virtual table. A virtual table must have at least one column.
User response:  Ensure that the virtual table has at least one column.

VDS1010  Only queries for relational data sources can be added.
Explanation:  You attempted to add a query from a multidimensional data source. Only queries for relational data sources can be added to virtual data sources.
User response:  Specify queries for relational data sources to be added to the virtual data source.
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Glossary

The glossary provides brief descriptions of product terms.

**accessibility.** Features that help those with physical disabilities, such as restricted mobility or limited vision, use their computer.

**breakpoints.** Color maps that specify the value at which the color changes.

**calculated columns.** Columns of data that you add to the query results.

**classic reports.** Text-based, tabular reports that are generated using query results as the data source and a form template.

**color map.** A color map can be used to vary the color of a visual project object depending on a value associated with the object.

**color sequence.** A color sequence can be used to modify the color properties of a visual project object based on an index value.

**command bar.** An interface that allows you to run procedure commands directly from the DataQuant for Workstation interface.

**connectivity tool.** An interface that allows you to define dependencies between non-query driven objects such as text box objects and label objects. The Connectivity tool is only available when creating visual dashboards.

**cube structure tree.** In the layout format, the Cube Structure tree lists the dimensions and measures that are contained in the cube.

**data sources.** Data sources allow you to create virtual tables that can be edited and manipulated by users without altering the original tables’ content. Virtual data sources work by introducing a metadata layer which mediates between an administrator-defined, virtual data source and the underlying data sources that contain the physical tables and views.

**data templates.** Data templates are used to create and control the visual representation of query result set data within layout objects.

**Diagram Query Editor.** When building queries using the Diagram Query editor, you supply table, join, column, sort, and row information and the Diagram Query editor constructs the Structured Query Language (SQL) statements. The Diagram Query editor is not available in DataQuant for WebSphere.

**Draw Query Editor.** Use the Draw Query editor to create a query object automatically based on the query type and tables that you specify.

**drilldown.** A navigation feature that enables your users to click an object and jump to another scene that contains more information that relates specifically to the original object’s value. The Drilldown wizard is available for all layout objects that can display query result data.

**edit codes.** Edit codes specify how to format character, date, graphic, numeric, time and timestamp data that will appear in a specific column of a report. You can also create user-defined edit codes.

**embedded scene.** An embedded scene object is a container through which you can view all or a portion of another scene and then navigate to that scene. The scene where you place the embedded scene object is considered the source scene. The destination scene is the embedded scene.

**event actions.** You define event actions to objects to provide scene interactivity and navigation. As a user navigates your dashboard, mouse actions trigger predefined events, such as jumps between scenes, executing of SQL statements, or the launching of other applications.

**Expression Designer.** The Expression Designer is used to specify any property value that is associated with a selected object. The Expression Designer is an alternative way of specifying an object’s properties. For each property that can be specified for an object, you are given templates that can help you format the value of that property. In addition, you have more space available to work and view your property value (which can grow quite large if expressions are used).

**fast save.** When saving your query results data using a “fast save” method, all the processing occurs at the database. There is no further passing of data between the DataQuant interface and the database. The DataQuant interface adds SQL to the original query, the query is rerun and the data is saved directly into the specified table(s). Saving query results data using the “fast save” process significantly improves performance when a large amount of data is to be saved.

**file-based repositories.** If you are using DataQuant for Workstation, you can create a file repository connection to set up the information that enables you to connect to a file-based repository that is stored on a
local or network drive. File connections can only be created for legacy, file-based repositories.

**formatting options.** You can customize how the query results will appear in the editor window. You can specify different fonts, colors and text alignments for each column heading and each cell of the column. You can also specify that column and cell formatting be applied based on the results of a conditional expression. You can apply formatting options to entire columns, individual cells, column headings, and summary cells.

**forms.** Forms are considered objects and they can be saved in your repository, in the QMF catalog, or in a file. When you open a form object that has been saved, you are actually running the form object to generate the report. When opened, forms automatically use the currently active query results as the data source.

**form variables.** Form variables are codes that you can insert into text fields to produce information on the report. For example, you can insert a date variable to produce the current date whenever the report is printed.

**global parameter.** A global parameter is available to your entire visual project and to the user of your visual dashboard. You can pass global parameters when you specify object properties or when you create event actions. You also have the option of making global parameters public at run time so they are accessible to the user.

**global resources.** Global resources can be used by all the pages of a visual report or all the scenes of a visual dashboard. You can use global resources for computing object properties.

**global variables.** Global variables are variables that stay active while the current session of DataQuant is active. This is in contrast to substitution variables that are active only during the execution of an object (query, procedure, form). For objects that use global variables, the value currently defined for the global variable is used.

**grouping and aggregation.** Grouping and aggregation options can be applied to query result columns to organize the result data into logical or summarized groupings. By adding grouping and aggregation you can automatically obtain summary information about your data and display the data more logically. For example you can roll up data in a report by department or average departmental commissions.

**information zooming.** Information zooming is a navigation feature that presents a more detailed view of data as your user zooms in on a scene or a data point in a layout. Every layout object and scene has a default zoom level (100% zoom). You can set up information zooming navigation for whole scenes and for individual layout objects. Information zooming on the layout object allows you to provide more query information on each data point as the user zooms in on a layout object. You use the same query results data for each zoom level. Information zooming on the scene level allows you to display an entirely different layout and query results data for each zoom level.

**JDBC drivers.** DataQuant uses JDBC to connect to all database repositories and data sources. DataQuant does not include JDBC drivers. The location of the JDBC drivers that DataQuant will use to connect to repositories and data sources must be defined. DataQuant administrators are responsible for identifying where each instance of the application interface will find the JDBC drivers.

**job definition files.** Job definition files (.jdfx) are legacy DataQuant files that can be imported to set up scheduled jobs.

**job scheduler.** DataQuant has the ability to schedule a procedure object to be executed on a periodic, recurring basis or at a specific date and time. A DataQuant procedure can perform one or more sequential steps, such as run queries, apply report templates, export reports to PDF files, or send reports using email. You can schedule your procedure to run at any given time using your local scheduler or the DataQuant for WebSphere scheduler.

**layout objects.** In a visual dashboard scene, layout objects are used to display query results in visual formats, such as charts, graphs, maps, tables and grids. For most layout objects, you display the results of multiple queries in a single layout. For example, you could create a single XY chart that displays sales figures derived from one query and spending figures derived from another query. You can nest multiple layout objects. When you nest layout objects, you can pass query result information from a higher level layout object to a lower level layout object. Because you have the ability to pass this information, you can use nested layout objects to display more detailed information that relates to a specific data value.

**Layout Properties dialog.** An interface that allows you to set all the options that are available for formatting query results. The Layout Properties dialog uses a tree structure to represent the columns in the query results. Depending on what you have selected in the query results, the Layout Properties tree displays branches for all columns in the query results or for a single column in the query results. You can apply formatting options to entire columns, individual cells, column headings, and summary cells.

**Legacy Visionary world.** You can create a new dashboard from an existing Visionary world that was created using a previous version of QMF Visionary. The Visionary world that you import must have been exported as an XML file using QMF Visionary Version 8.1, Fix Pack 13 or later.
LOB data. A large object (LOB) is a DB2 for z/OS and DB2 for Linux, UNIX®, and Windows data type that houses nontraditional data such as text, multimedia, image, video, photograph, sound, or any very large data file inside a database table. Retrieving or saving LOB data can consume a substantial amount of resources.

network repositories. A connection to a shared repository using direct network access. Network connectivity permits users to access a shared repository without the need for direct database connectivity from the workstation. Connecting to repositories using a network connection allows for consolidation of data access at a central server and removes the need to distribute JDBC drivers across each desktop running DataQuant for Workstation. This type of connection is not applicable to DataQuant for WebSphere users.

OLAP queries. OLAP queries enable users to dynamically access different dimensions of multidimensional data. Using DataQuant for Workstation and DataQuant for WebSphere you can create an OLAP query for multidimensional data sources that is queried using MDX and accessed using XMLA.

palette objects. From the Palette view, you can insert any graphical object that is listed into your visual project. All objects from the Palette view can be inserted in a visual dashboard. Not all objects available from the Palette view can be inserted in a visual report. The objects that cannot be inserted in a visual report have interactive properties, and visual reports are not interactive.

personal repositories. Personal repositories serve a single user and are stored in the personnel settings directory of the workstation (server) that is running the DataQuant application interface.

perspectives. An interface used for querying data and formatting results.

procedures. A set of commands that enable you to run queries, print reports, import and export data, as well as perform other functions.

Project Explorer view. The Project Explorer view details in a tree structural all the elements and objects of each visual report and each dashboard.

Prompted Query editor. An interface that allows you to build simple to complex queries. The Prompted Query editor prompts you for the information it needs to build the SQL statement. You can also set sort and row conditions using the Prompted Query editor. (DataQuant for Workstation only)

QMF catalogs. A set of database tables that contain saved objects (queries, procedures and forms); user resource limits and profiles; reports; and other miscellaneous settings and information. QMF catalogs reside on database servers that host a DB2 database.

Query Editor. An interface that allows you to open any database table that is accessible to you in your workspace.

query parameters. Query parameters contain the value that will be sent to the query and used at run time.

regular save. When saving your query results data using a “regular save” method, the interface that you are using (DataQuant for Workstation or DataQuant for WebSphere) saves the retrieved query results to the database using an individual SQL INSERT statement for each row of data. This type of save can be expensive in terms of performance due to the overhead of passing large amounts of data back to the database.

relational query. A query is a request for information from a data source. To request information from a relational data source your query is constructed using SQL statements.

resource limits. DataQuant resource limits control your data source access and resource consumption. You must be connected to the data source in order to view the resource limits that are in effect for your user ID when you access that data source.

scene parameters. A parameter that is available only to a specific scene in a visual dashboard. You can pass scene parameters when you create embedded scenes and event actions.

scheduled jobs. You can schedule your procedure to run at any given time using your local scheduler or the DataQuant for WebSphere scheduler. Procedures that have been scheduled to run at another time are referred to as scheduled jobs.

shared repositories. Shared repositories are located on a database and can be shared by many users. Only DataQuant administrators can create shared repositories.

SQL Query editor. For those with SQL experience, one way of creating a query is to type their own SQL statements in the SQL Query editor. You can write a single SQL statement that will return a single result set or multiple SQL statements that will return multiple result sets. The editor provides coloring support for your SQL statements.

static SQL packages. Several tables in repository storage are used by DataQuant to store processing information. Some of these tables store sensitive information, for example the permissions table. By default all users can access these repository storage tables and make changes to the tables. You can choose to protect the repository storage tables. In protection mode, the repository storage tables are accessed using a
collection of stored procedures or static SQL packages depending on what the database that is hosting the repository storage supports. Users of the repository storage must then be granted permission to run the stored procedures or static SQL packages.

**substitution variables.** Substitution variables are used to enter changing values to a SQL query at run time. This feature enables you to substitute a part of an SQL statement and make it more generic. Substitution variables are active only while the object (query, procedure or form) is running. As a result, only one object can access the substitution variable. The variable will not exist after the object is executed.

**Table Editor.** An interface that allows you to open any database table that is accessible to you in your workspace.

**Table Viewer.** An interface that allows you to open any database table that is accessible to you in your workspace.

**translation tables.** Translation tables enable dashboard designers to publish a single visual dashboard that may be viewed in multiple languages. When content developers create a dashboard, button captions, labels, tool tips and other embedded text is entered directly into the property values of the dashboard objects. Using translation tables, content developers can supply alternate versions of this entered text, to be displayed when the user is in a different locale. For example, a Japanese developer may elect to author a new dashboard in Japanese but then also include translation tables for German and French, each of which will be used when the dashboard is viewed under German and French locales.

**usage codes.** Usage codes provide summary information about the data in a column. For example, usage codes can provide total summary information at the end of a column, or partial summaries at control breaks in a table. The usage codes available depend on the data in the column and the type of summary.

**user preferences.** The Preferences dialog is used to set user preferences that will apply to specific functions in the current DataQuant application interface session. The Preferences dialog consists of two panes. The left pane displays a hierarchical tree to organize the preferences and the right pane displays the pages of actual preference values.

**variables bar.** You can use the Variables bar to specify a property value. The Variables bar is located in the menu bar. From the Variables bar you can choose a global or local parameter that has been defined for the visual project and a column name from a set of query results.

**views.** DataQuant views support editors and provide alternative presentations as well as ways to navigate the information in your window. Each view displays as a pane in the main workstation window. Each perspective of DataQuant initially displays the views that are most commonly used to perform specific functions.

**visual dashboards.** Visual dashboards present interactive or persistent data obtained from querying multiple heterogeneous data sources across the enterprise. Visual dashboards present data in a scene format using a wide variety of graphics including charts, graphs, maps and user interface widgets. Data driven graphical objects can be easily linked so that user selections will trigger unique data displays. Content developers can create a visual dashboard that can be viewed by multiple users with either DataQuant for Workstation or DataQuant for WebSphere.

**visual designer.** You can quickly design visual reports and dashboards using the intuitive Visual Designer perspective that includes an editor that presents both design and runtime views of the project; the Project Explorer view which details the structural content of each visual report and each dashboard; and the Palette, Properties, Events and Output views which support the Visual Designer editor and assist in creating visual reports and dashboards.

**visual reports.** Visual reports are page-based, printable reports that include both formatted text and graphics to display persistent data to a wide variety of users. Visual reports can also contain data driven graphics (such as maps and charts) inserted in different sections (such as the headers or footers) of the report. Each of the data driven graphics can present data from multiple queries that are run across the enterprise.

**web service repositories.** You create a Web service repository connection to set up the information that enables you to connect to a shared repository through DataQuant for WebSphere web services API using a HTTP or HTTPS connection. Web-based connectivity permits users to access a shared repository without the need for direct database connectivity from the workstation. Connecting to repositories using a web-based connection allows for consolidation of data access at a central server and removes the need to distribute JDBC drivers across each desktop running DataQuant for Workstation. This type of connection does not apply to DataQuant for WebSphere.

**workspaces.** All of the data sources and objects that you can access are contained in one or more workspaces that have been pre-populated for you by the DataQuant administrator. Each workspace to which you have access is listed in the Workspaces view. From the Workspaces view, you can perform the majority of query and reporting functions.

**zoom.** If you are using DataQuant for Workstation, you can use the Zoom option to view in hexadecimal or binary the contents of a cell in the query results.
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