IBM Application Discovery Web Services
V5.0.5

User Guide
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Chapter 1. Accessibility Features for IBM Application Discovery

Accessibility features assist users who have a disability, such as restricted mobility or limited vision, to use information technology content successfully.

**Overview**

IBM® Application Discovery includes the following major accessibility features:

- Keyboard-only operation
- Operations that use a screen reader

IBM Application Discovery uses the latest W3C Standard, WAI-ARIA 1.0 (www.w3.org/TR/wai-aria/), to ensure compliance with US Section 508 (www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-section-508-standards/section-508-standards) and Web Content Accessibility Guidelines (WCAG) 2.0 (www.w3.org/TR/WCAG20/). To take advantage of accessibility features, use the latest release of your screen reader and the latest web browser that is supported by IBM Application Discovery.

The IBM Application Discovery online product documentation in IBM Knowledge Center is enabled for accessibility. The accessibility features of IBM Knowledge Center are described in the Accessibility section of the IBM Knowledge Center help (https://www.ibm.com/support/knowledgecenter/en/about/releasenotes.html).

**Keyboard navigation**

This product uses standard navigation keys.

**Interface information**

For alternative installation using Command Line Installation (CLI), refer to section Alternative Installation for ADDI Using CLI in *IBM Application Discovery Installation and Configuration Guide*.

The IBM Application Discovery user interfaces do not have content that flashes 2 - 55 times per second.

The IBM Application Discovery web user interface relies on cascading style sheets to render content properly and to provide a usable experience. The application provides an equivalent way for low-vision users to use system display settings, including high-contrast mode. You can control font size by using the device or web browser settings.

The IBM Application Discovery web user interface includes WAI-ARIA navigational landmarks that you can use to quickly navigate to functional areas in the application.

**Related accessibility information**

In addition to standard IBM help desk and support websites, IBM has a TTY telephone service for use by deaf or hard of hearing customers to access sales and support services:

TTY service
800-IBM-3383 (800-426-3383)
(within North America)

For more information about the commitment that IBM has to accessibility, see IBM Accessibility (www.ibm.com/able).
Chapter 2. Prerequisites

Before installing AD Catalog, Data Collector and Audit Service, make sure the following software is installed and configured on the same Window machine:

- Microsoft SQL Server.
- Microsoft JDBC Driver 6.0 for SQL Server.
- JAVA version 8.
- Port 9080 is open, unused and not blocked by your firewall.

Note: This is the port both Audit Service and AD Catalog use by default.

- An SQL database must be created for the Audit entries. Example:

  ![Object Explorer](image)

- An additional SQL database must be created for the AD Catalog. The name of this database must match the name of the database that will be entered in server.xml.

The version of the target zOS Connect server must be 3.0.2 or higher for Data collector.
Chapter 3. Installing WAS Liberty

To use IBM AD Catalog and IBM AD Audit web services, a Liberty web server must be installed. If you do not have a Liberty server installed, you can install the WAS Liberty web server, which is provided after the installation of IBM Application Discovery is completed.

To install the WAS Liberty web server, extract the wlp folder from the wlp-base-embeddable-17.0.0.3.zip file, and put the wlp folder in the IBM AD Web Services installation folder. The default installation folder is C:\Program Files\IBM Application Discovery Servers\IBM AD Web Services.
Chapter 4. IBM AD Catalog

The IBM AD Catalog package is used to enable the impact analysis on the api(s) published by a zOS Connect server.

Installing the Catalog Service

Procedure


2. Go to \wlp\bin and execute the following command:

   server.bat create webservices

   Microsoft Windows [Version 6.1.7601]
   Copyright (c) 2009 Microsoft Corporation. All rights reserved.
   C:\wlp\bin>server.bat create webservices
   Server webservices created.
   C:\wlp\bin>

   Note: You can verify the successful web service creation by checking if the \webservices folder is present in \wlp\usr\servers.

3. From the IBM AD Web Services archive, extract ad-audit.war and com.ibm.etools.ad.catalog.war to \usr\servers\webservices\dropins.

4. From the IBM AD Web Services archive, extract server.xml to \usr\servers\webservices, overwriting the existing one.

   Note: This file represents a template for the Catalog Service settings.

5. From the IBM AD Web Services archive, extract jtds-1.3.1.jar to \usr\shared\config.

Configuring the Catalog Service

Procedure

1. Open the server.xml file from \usr\servers\webservices.

2. In the <!-- Add the Catalog database connection details--> area, enter the SQL database in the databaseName field.

   databaseName="Catalog"

   Note: The Catalog Service uses only a database created on a SQL Server.
3. In the same area, enter the IP of the server in the `serverName` field.

```
serverName="127.0.0.1"
```

4. Enter the SQL port in the `portNumber` field (the default is 1433).

```
portNumber="1433"
```

5. Enter the user and password used to connect to the SQL database in the `user` and `password` fields.

```xml
<dataSource id="ADCatROB" jndiName="jdbc/ad/catalog/relational" type="javax.sql.DataSource">
  <driver libraryRef="JTDLSib" xmlns="http://java.sun.com/jdbc">net.sourceforge.jtds.jdbcx.JtdsDataSource</driver>
  <properties databaseName="catalog" serverName="127.0.0.1" portNumber="1433" user="sa" password="password"/>
</dataSource>
```

**Note:** By default, the Catalog Service communicates through port 9080. However, you can change the port number by altering the `httpPort` field from the server.xml file.

Starting the Catalog Service

**About this task**

Once the installation and configuration are done, you can start the Catalog Service by following these steps.

**Procedure**

1. Go to `\wlp\bin` and execute the `server.bat start webservices` command.

   **Note:** It takes roughly 30 seconds to 1 minute for the Webservice to start.

2. Check the execution log file, accessible at `\wlp\usr\servers\webservices\logs\console.log`.

Configuring the Data Collector

**About this task**

Once the installation and configuration are done, you can start the Catalog Service by following these steps.

**Procedure**

1. Copy the files for Data Collector from zoscDataCollector to a new working directory.

2. Update the DC.properties file in this newly created working directory, by setting the following property values:

   **Important:** Please do not update other property values in the file, unless otherwise instructed by IBM Support.

   a. ZoscURL: Specify the protocol, the host name and the port for the zOS Connect server as a URL.

      **Note:** You need to append `/zosConnect/apis` as the path part of the URL. An example value is `http://adzosc.ibm.com:9081/zosConnect/apis`.

   b. ZoscUser: Specify the user name by which Data Collector connects to the zOS Connect server. If user authentication is disabled on zOS Connect server or AD Catalog, you do not need to define this property value in the property file

   c. ZoscPass: Specify the password (in plain text) used by Data Collector to connect to the zOS Connect server. If user authentication is disabled on zOS Connect server or AD Catalog, you do not need to define this property value in the property file.
d. **DataCollectorId**: Specify the **Data Collector** ID, for **AD** to identify an instance of **zOS Connect** server.

   **Note:** For v5.0.4, the **DataCollectorId** string must be the same as the ZoscURL property value. Additionally, **DataCollectorId** must contain the `zosConnect/apis` string which can be either `zosConnect/apis` or the full URL of the ZoscURL.

e. **ADCatalogURL**: Specify the protocol, the host name and the port used by the **AD Catalog**.

   **Note:** You need to append `/catalog/cat/entity/` to the URL path. An example value is `http://adcatalog.ibm.com:9080/catalog/cat/entity/`.

f. **ADCatalogUser**: Specify the user name by which **Data Collector** connects to the **AD Catalog**. If user authentication is disabled on **zOS Connect** server or **AD Catalog**, you do not need to define this property value in the property file.

g. **ADCatalogPass**: Specify the password (in plain text) used by **Data Collector** to connect to the **AD Catalog**. If user authentication is disabled on **zOS Connect** server or **AD Catalog**, you do not need to define this property value in the property file.

3. Check the PATH environment variable. You need to add the directory where `java.exe` resides in the **PATH environment** variable, in case it is missing.

4. Update `zoscdc.cmd`.

   **Important:** You need to specify the jar file of **JSON4J** that resides under `/WAS_Liberty_Library/lib/` with full path name, as a part of the `-classpath` argument. The file name of the jar file should look like `com.ibm.json4j_1.0.16.jar`.

   Alternatively, you can specify the property values listed in **step 2** as the property values passed to the `java` command. For example, the ZoscUser property can be specified as an argument for `-DZoscUser=user1`.

### How to Collect zOS Connect API Information

**About this task**

Take the following steps to invoke **Data Collector** to collect **zOS Connect** API information.

**Procedure**

1. Open a windows command prompt and change the current directory to the `/Data_Collector_Working_Directory/`.
2. Run `zoscdc.cmd`. 

IBM AD Catalog 9
Chapter 5. IBM AD Audit

Installing the Audit Service

Procedure


2. Go to \wlp\bin and execute the following command:

```
server.bat create webservices
```

![Command Output]

**Note:** You can verify the successful web service creation by checking if the \webservices folder is present in \wlp\usr\servers.

3. From the IBM AD Web Services installation folder, copy files ad-audit.war and com.ibm.etools.ad.catalog.war to \usr\servers\webservices\dropins.

4. From the IBM AD Web Services installation folder, copy file server.xml to \usr\servers\webservices, overwriting the existing one.

   **Note:** This file represents a template for the Audit Service settings.

5. From the IBM AD Web Services installation folder, copy file com.ez.jtds-x.x.x.jar to \usr\shared\config.

Configuring the Audit Service

Procedure

1. Open the server.xml file from \usr\servers\webservices.

2. In the `<!- Add the Audit database connection details -->` area, enter the SQL database in the `databaseName` field.

   ```
   databaseName="Audit"
   ```

   **Note:** The Audit Service uses only a database created on a SQL Server.
3. In the same area, enter the IP of the server in the `serverName` field.

   `serverName="127.0.0.1"`

4. Enter the SQL port in the `portNumber` field (the default is 1433).

   `portNumber="1433"`

5. Enter the user and password used to connect to the SQL database in the `user` and `password` fields.

   ```xml
   <dataSource id="ADCatalog" jndiName="jdbc/ad/catalog/relation" type="javax.sql.DataSource">
   <properties databaseName="catalog" serverName="127.0.0.1" portNumber="1433" user="sa" password="password"/>
   </dataSource>
   ```

   **Note:** By default, the Audit Service communicates through port 9080. However, you can change the port number by altering the `httpPort` field from the `server.xml` file.

   ```xml
   <!-- To access this server from a remote client add a host attribute to the following element, e.g. host="*" -->
   <httpEndpoint httpPort="9080" httpsPort="9443" id="defaultHttpEndpoint" host="*"/>
   ```

### Starting the Audit Service

**About this task**

Once the installation and configuration are done, you can start the Audit Service by following these steps.

**Procedure**

1. Go to `\wlp\bin` and execute the `server.bat start webservices` command.

   **Note:** It takes roughly 30 seconds to 1 minute for the Webservice to start.

2. Check the execution log file, accessible at `\wlp\usr\servers\webservices\logs\console.log`.

### Configuring IBM AD Build Client to Use the Audit Service

**Procedure**

1. Go to **Build Client** installation path and open `AuditConfig.ini` from `\Bin\Release\`.

2. Set the host on which the Audit Service is installed, and the port used to communicate with it.

   ```json
   {
   "host": "127.0.0.1",
   "port": "9080",
   "command": "/ad-audit/audit-service/events"
   }
   ```

### Configuring IBM AD Batch Server to Use the Audit Service

**About this task**

As configured in the `server.properties` file located in the `\conf` folder, the Audit Service configurations are set to be enabled by default, and to use the port 9080 and localhost as a hostname.
In order to change the default settings, follow the next steps.

**Procedure**

1. Set `#audit.enable=true` to `#audit.enable=false` to stop using the Audit Service.
2. Change the default `localhost` value (from `#audit.hostname=localhost`) to a custom IP.
3. Change the default `port` value (from `#audit.port=9080`) to a custom port number.

**Configuring IBM AD Analyze Client to Use the Audit Service**

**Procedure**

1. Open the IBM AD Configuration Server application, and go to Configurations > Audit page.
2. Set the hostname and the port used to communicate with the Audit Service.
Using the Audit Service Web GUI

**Procedure**

1. Open a browser and access the following address: localhost:9080/ad-audit.
   
   **Note:** Use the same port as the one configured in the Web Service.

2. Click **Search** to see all entries.

3. Use filters to search for specific entries by start and end date, username or by application.
4. Alternatively, you can export the results by clicking **Download as csv**.

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This edition applies to version 5.0.5 of IBM Application Discovery with the corresponding fix packs.


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