IBM Application Discovery for IBM Z Web Services V5.1.0

User Guide
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Chapter 1. Accessibility Features for IBM Application Discovery for IBM Z

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 for IBM Z® includes the following major accessibility features:

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

IBM Application Discovery for IBM Z 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-its/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 for IBM Z.

The IBM Application Discovery for IBM Z 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 AD Installation and Configuration Guide.

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

The IBM Application Discovery for IBM Z 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 for IBM Z 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 you install IBM AD Catalog, IBM AD Audit and IBM AD BRD web services, make sure that the following software is installed and configured on the same Windows machine:

- Microsoft SQL Server.
- Microsoft JDBC Driver 6.0 for SQL Server.
- JAVA version 8.
- The ports used by IBM WAS Liberty Web Server are open, unused and not blocked by your firewall.

**Note:** Default ports for IBM WAS Liberty Web Server are **9080** and **9443**.

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

  ![Object Explorer](Image)

  - An additional SQL database must be created for the IBM 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 **z/OS® Connect** server must be 3.0.2 or higher for **Data collector**.
About this task
To use IBM AD Catalog, IBM AD Audit and IBM AD BRD web services, a Liberty web server must be installed. If you do not have a Liberty server installed, you can install the IBM WAS Liberty Web Server, which is provided after the installation of IBM AD is completed.

Procedure
1. Extract the wlp folder from the wlp-webProfile8-18.x.x.x.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.
   
   **Note:** The IBM AD Catalog, IBM AD Audit and IBM AD BRD web services are deployed on the same IBM WAS Liberty. If you plan to reinstall or update IBM WAS Liberty, it is recommended to back up the web services together because they are using the same configuration file. For more information, see VI. AD Web Services.

2. Go to \wlp\bin and execute the following command: server.bat create ad_server.
   
   **Note:** You can verify the successful web service creation by checking if the \ad_server folder is present in \wlp\usr\servers.
Chapter 4. IBM AD Catalog

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

### Installing the Catalog Service

**Procedure**

1. Make sure IBM WAS Liberty Web Service is correctly installed. For more information about installing IBM WAS Liberty Web Server, visit Chapter 3, “Installing Was Liberty,” on page 5.

2. From the IBM AD Web Services installation folder, copy file `com.ibm.etools.ad.catalog.war` to `\usr\servers\ad_server\apps`.

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

   **Note:** This file represents a template for all IBM AD Web Services settings.

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

### Configuring the Catalog Service

**Procedure**

1. Open the `server.xml` file from `\usr\servers\ad_server`.

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

   ```xml
   <dataSource id="ACatRDB" jndiName="jdbc/ad/catalog/relational" type="javax.sql.DataSource">
     <driverClass>com.microsoft.sqlserver.jdbc.SQLServerDriver</driverClass>
     <url>jdbc:sqlserver://localhost:1433;databaseName=(adapter)<databaseName>example</databaseName>;uid=sales;pwd=sales</url>
     <properties databaseName="Catalog" serverName="\server\" portNumber="1433" user="sa" password="password" />
   </dataSource>
   ```

   **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.

```xml
serverName=
```

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

```xml
portNumber="1433"
```

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

```xml
user="sa" password="password"
```

**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.
Configuring the Data Collector

About this task

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 z/OS Connect server as a URL.
      
      Note: You need to append /zosConnect/apis as the path part of the URL. An example value is http://<zoscHost>:9081/zosConnect/apis.

   b. ZoscUser: Specify the user name by which Data Collector connects to the z/OS Connect server. If user authentication is disabled on z/OS Connect server or IBM 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 z/OS Connect server. If user authentication is disabled on z/OS Connect server or IBM 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 z/OS 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 com.ibm.etools.ad.catalog/cat/entity to the URL path. An example value is http://<catalogHost>:9080/com.ibm.etools.ad.catalog/cat/entity/.

   f. ADCatalogUser: Specify the user name by which Data Collector connects to the AD Catalog If user authentication is disabled on z/OS Connect server or IBM 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 IBM AD Catalog If user authentication is disabled on z/OS 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 zoscncd.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_x.x.x.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 z/OS Connect API Information

About this task
Take the following steps to invoke Data Collector to collect z/OS 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.
Chapter 5. IBM AD Audit

Installing the Audit Service

Procedure
1. Make sure IBM WAS Liberty Web Service is correctly installed. For more information about installing IBM WAS Liberty Web Server, visit Chapter 3, “Installing Was Liberty,” on page 5.
2. From the IBM AD Web Services installation folder, copy file com.ibm.ad.audit.service.war to \usr\servers\ad_server\apps.
3. From the IBM AD Web Services installation folder, copy file server.xml to \usr\servers\ad_server, overwriting the existing one.
   Note: This file represents a template for all IBM AD Web Services settings.
4. 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\ad_server.
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=
   
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.
   
   <dataSource id="DefaultDataSource" jndiName="jdbc/DataSource" type="javax.sql.DataSource">
   
   Note: By default, the Audit Service communicates trough port 9080. However, you can change the port number by altering the httpPort field from the server.xml file.
   
   <!-- 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=""/>
Configuring IBM AD Components to Use the Audit Service

About this task
IBM AD Build Client, IBM AD Batch Server and IBM AD Analyze Client can be configured to use the Audit Service by following these steps.

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.

Note: The Audit Service for IBM AD Batch Server is set to be enabled by default. To stop using the Audit Service, set audit.enable=true to audit.enable=false in the server.properties file located in the \conf folder.

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 AD 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**.
Chapter 6. IBM AD BRD

Installing the BRD Service

Procedure

1. Make sure IBM WAS Liberty Web Service is correctly installed. For more information about installing IBM WAS Liberty Web Server, visit Chapter 3, “Installing Was Liberty,” on page 5.
2. From the IBM AD Web Services installation folder, copy file com.ibm.ad.brd.restapi.war to \usr\servers\ad_server\apps.
3. From the IBM AD Web Services installation folder, copy file server.xml to \usr\servers\ad_server, overwriting the existing one.
   **Note:** This file represents a template for all IBM AD Web Services settings.
4. From the IBM AD Web Services installation folder, copy file com.ez.jtds-x.x.x.jar to \usr\shared\config.

Configuring the BRD Service

Procedure

1. From the IBM AD Web Services installation folder, copy folder conf.brd-ws to \wlp\usr\servers\ad_server.
2. Go to \wlp\usr\servers\ad_server\conf.brd-ws and in application.properties file, enter the desired values for the properties detailed below.
3. Fill in the username and the password defined for IBM AD BRD Service.
   - ad.user=<UserName>
   - ad.password=<Password>
4. Add the IP of the computer where the IBM AD Configuration Server host is installed.
   ```
   ## IBM AD Configuration Server host
   ccs.server.host=
   ```
5. Add the port number to be used by IBM AD Configuration Server; the default port is 2181, if no other value is specified the default value will be used.
   ```
   ## IBM AD Configuration Server port
   ## default 2181
   #ccs.server.port=
   ```
6. Add the ID of the Environment set in IBM AD Configuration Server.
   ```
   ## IBM AD Configuration Server environment
   ccs.environment=
   ```
Chapter 7. Starting AD Web Services

About this task

Once the installation and configuration are done, you can start the IBM AD Catalog, IBM AD Audit and IBM AD BRD web services by following these steps.

Procedure

1. Go to `\wlp\bin` and execute the `server.bat start ad_server` command.
   
   **Note:** It takes roughly 30 seconds to 1 minute for the Ad Server to start.

2. Check the execution log file, accessible at `\wlp\usr\servers\ad_server\logs\console.log`. 
Documentation Notices for IBM Application Discovery for IBM Z

This edition applies to version 5.1.0 of IBM Application Discovery for IBM Z with the corresponding fix packs.


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