

Oracle
Primavera Unifier
Oracle Analytics Server Configuration Guide for On-Premises

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Oracle Primavera Unifier Oracle Analytics Server Configuration Guide for On-Premises

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Introduction

This document provides Oracle Primavera Unifier network and database administrators instructions on how to download Oracle Analytics Server, configure Oracle Analytics Server settings, configure Oracle Analytics Server in Unifier, and create and run Oracle Analytics Server reports.

Oracle Analytics Server integrate with Unifier to deliver on-demand web-based reporting through Unifier.

Follow the instructions in this guide to:

- 1) Download Oracle Analytics Server.
- 2) Configure Oracle Analytics Server settings.
- 3) Configure Oracle Analytics Server in Unifier.
- 4) Create Oracle Analytics Server reports.
- 5) Run Oracle Analytics Server reports.

Note: These instructions contain information only on configuring Oracle Analytics Server to work with Unifier. They do not include information on installing Oracle Analytics Server. For Oracle Analytics Server installation instructions, refer to the documentation included with Oracle Analytics Server.

Before getting started, familiarize yourself with the way Oracle Analytics Server handle reports. Unifier populates its list of reports from the Report Definitions that load from Oracle Analytics Server Web Services. When you need to create or modify a report, you will use Oracle Analytics Server. The Oracle Analytics Server documentation will help you understand how it works.

Downloading Oracle Analytics Server

Unifier can integrate with Oracle Analytics Server.

Note: For the full list of system requirements, applications, and application version levels, refer to the *Unifier Tested Configurations* document.

Any prior version of Oracle Analytics Server will fail to connect with Unifier.

To download Oracle Analytics Server:

- 1) Go to the Oracle Software Delivery Cloud.
- 2) Search for Oracle Analytics Server and enter your platform version.
- 3) Select the Oracle Analytics Server for your platform and download the applicable files.
- 4) Use the instructions for Oracle Analytics Server to install it from the files you downloaded.

Configuring Oracle Analytics Server for Unifier Reporting

To run reports in Unifier, you must complete these tasks:

- 1) Download Oracle Analytics Server from the Oracle Software Delivery Cloud.

Note: For the full list of system requirements, applications, and application version levels, refer to the *Unifier Tested Configurations* document.

- 2) If not already set up, install and deploy an Oracle Analytics Server environment to manage reports. See the documentation included with Oracle Analytics Server.
- 3) Configure sample reports, roles, security, and users in Oracle Analytics Server. See **Configuring Enterprise Reporting with Oracle Analytics Server** (on page 9).
- 4) Populate Oracle Analytics Server settings in the Unifier Configurator. See **Configuring Oracle Analytics Server in Unifier**.

In This Section

Configuring Enterprise Reporting with Oracle Analytics Server.....9

Configuring Enterprise Reporting with Oracle Analytics Server

The following topics describe how to configure reports in Oracle Analytics Server to work with Unifier.

Configuring an Oracle Analytics Server User in WebLogic

To add an administrative Oracle Analytics Server user to WebLogic:

- 1) Open a web browser and launch Oracle WebLogic for your installation of Oracle Analytics Server.
- 2) Log in to **Oracle WebLogic Administration Console**.
- 3) In the **Domain Structure** section, select **Security Realm**.
- 4) Select the realm name in the table.
- 5) Select the **Users and Groups** tab.
- 6) Select the **Users** sub tab.
- 7) Select **New**.
- 8) In the **Create a New User** form:
 - a. Complete the required fields for Name, Password, and Confirm Password. Ensure that this user has a unique user name.
 - b. Select **OK**.

- 9) Select the user name that you created.
- 10) Select the **Group** tab.
 - a. Choose one of the following:
 - Move the **BI Service Administrators**, **BI Content Author**, and **BI Consumers** groups from the **Available** column to the **Chosen** column.
 - Move the **OA Service Administrators**, **OA Content Author**, and **OA Consumers** groups from the **Available** column to the **Chosen** column.
 - b. Select **Save**.
- 11) Log out of the Oracle WebLogic Administration Console.

Security Model in Oracle Analytics Server

The default security in Oracle Analytics Server is Fusion Middleware, which is a role-based, declarative model that employs container-managed security where resources are protected by roles that are assigned to users. This security model can be utilized when integrating with Unifier.

Creating the JDBC Connection String for Oracle Analytics Server

To create the JDBC connection string:

- 1) Log in to Oracle Analytics Server as an administrative user.
- 2) In Oracle Analytics Server, select the **Administration** link.
- 3) Under **Data Sources**, select the **JDBC Connection** link.
- 4) Select **Add Data Source**, or choose the data source name you want to use.
- 5) In the **General** section:
 - a. In the **Data Source Name** field, enter the alphanumeric name of the Unifier data source.
 - b. In the **Driver Type** field, select your version.
 - c. In the **Database Driver Class** field, enter the JDBC driver class for your database.
 - d. In the **Connection String** field, enter your JDBC connection string for the Unifier Database.
 - e. Ensure the **Use System User** option is not selected.
 - f. In the **Username** field, enter your Unifier Database Schema User (for example, Unifier).
 - g. In the **Password** field, enter your Unifier Database Schema User password.
 - h. Ensure the **Pre Process Function** and **Post Process Function** fields are left blank.
 - i. Clear the **Use Proxy Authentication** option for this data source definition.
 - j. Select **Test Connection**.
- 6) Select **Apply**.

Disabling the Cache for Oracle Analytics Server

To disable the cache:

- 1) Log in to Oracle Analytics Server as an administrative user.

- 2) In Oracle Analytics Server, select the **Administration** link.
- 3) Under **System Maintenance**, select the **Server Configuration** link.
- 4) In the **Cache Expiration (minutes)** field, enter **0** minutes.
- 5) Select **Apply**.
- 6) Restart the Oracle Analytics Server.

Creating a Reports Folder in Oracle Analytics Server

To create a reports folder for Unifier:

- 1) Log in to Oracle Analytics Server as an administrative user.
- 2) Select **Catalog**.
- 3) Under **Folders** highlight **Shared Folders**.
- 4) Select **New**, and select **Folder**.
- 5) Enter a folder name, and select **OK**.

Adding Data Sources to Roles with the Fusion Middleware Security Model

You can assign an existing role to users, but you need to assign the JDBC data source to the roles.

To assign the data source:

- 1) Select the **Administration** link at the top of your screen.
- 2) In the **Security Center** section, select the **Roles and Permissions** link.
- 3) For the **BI Service Administrator** or **OA Service Administrator** role, select **Add Data Source**.
- 4) Under **Database Connections** move the data source created for Unifier from the **Available Data Sources** to **Allowed Data Sources**.
- 5) Select **Apply**.
- 6) Repeat steps 1-5 for the **BI Consumer** or **OA Consumer** role and the **BI Content Author** or **OA Content Author** role.

Assigning Permissions to the Unifier Reports Folder

To assign permissions to the Unifier Reports Folder:

- 1) Log in to Oracle Analytics Server as an administrative user.
- 2) Select **Catalog**.
- 3) Under **Shared Folders**, highlight the Unifier **Reports** folder.
- 4) In the **Tasks** pane, select **Permissions**.
- 5) Select **+** to add a role.
- 6) Select **Search** to list all available roles.
- 7) Highlight the appropriate role for Unifier, and select **Move**.
- 8) Select **OK** to close the **Add Roles** window.

- 9) In the **Permissions** window, select all boxes.
- 10) Select **OK** to save.

Configuring Oracle Analytics Server in Unifier

To configure Oracle Analytics Server in WebLogic in Unifier:

- 1) Open the Unifier Configurator:
 - a. Go to the Unifier home directory and open the WebLogic folder (for example, Unifier_Home/weblogic).
 - b. Run **configure.bat** (for Windows) or **configure.sh** (for Linux).
- 2) Select the **Report** tab.
- 3) In the **Oracle Analytics Publisher Endpoint URL** field, enter the Oracle Analytics Server Web Services endpoint URL.
For example: `http://host1.name1.com:9704`
- 4) In the **Oracle Analytics Publisher User Name** field, enter the user name created above for the Oracle Analytics Server.
- 5) In the **Oracle Analytics Publisher Password** field, enter the password for the Oracle Analytics Server user.
- 6) In the **Oracle Analytics Publisher Data Source** field, enter the JDBC data source name you entered when you created the Oracle Analytics Server JDBC Data Source.
- 7) In the **Oracle Analytics Publisher Report Folder** field, enter the name of the folder created under the **Shared Folders** location in the **Oracle Analytics Server Catalog**.
- 8) In the **Oracle Analytics Publisher External Report Folder** field, enter the name of the external folder created under the **Shared Folders** location in the **Oracle Analytics Server Catalog**.

Setting Permissions for Custom Reports

To set permissions for Custom Reports:

- 1) Go to the **Company Workspace** tab, and switch to **Admin** mode.
- 2) In the left Navigator, select **User Administration**, and then select **Access Control**.
- 3) In the right pane, expand **User Mode Access**, and then complete the following:
 - ▶ If the reports are at the Program level, expand **Programs**, expand **Reports**, expand **Custom**, and then select `[report name]`.
 - ▶ If the reports are at the Project level, expand **Projects/Shells**, expand **Reports**, expand **Custom**, and then select `[report name]`.
- 4) Select the access for the appropriate user.
- 5) Select **OK**.

Notes:

- A user with the configure permission to the **Custom Report** node, can configure custom print templates. There are no separate permissions for performing actions on the custom print templates.
 - If you have a **User Mode Navigator**, you must include the **Custom Report** in the navigator and redeploy before the user can assign permission through **Access Control**.
-

Creating Data Views

You will create data views to operate as data sources for custom reports.

Note: Refer to the *Unifier Modules Setup Administration Guide* for more information.

To create a data view:

- 1) Sign in to your Unifier environment, as company administrator or administrator.
- 2) Go to the **Company Workspace** tab, and switch to **Admin** mode.
- 3) In the left Navigator, select **Data Structure Setup**, and then select **Data Views**.
- 4) In the **User-Defined Data Views** window, select **New**.
- 5) Enter the information needed for your data view. See "Tips" for more information.
- 6) Select **Apply** and **OK**.
- 7) Highlight the new view and select **Status, Published**.

Tips

The SQL definition will consist of the SQL query used to populate the report with specific data based on the desired output.

Note: If using the data view as a Main view in a Project level report, you must have a column named **project_id**. If using the data view in a Program level report, you must have a column named **program_id**.

For example, a Project level data view for a company registry "companyReg" can be like this below:

```
SELECT    pu.PID as PROJECT_ID,
          p.PROJECTNUMBER as PROJECTNUMBER,
          c.COMPANYNAME as COMPANY_NAME,
          c.SHORTNAME as COMPANY_SHORT_NAME,
          c.DESCRPTION as COMPANY_DESCRIPTION,
          c.CONTACTNAME as COMPANY_CONTACT_NAME,
          u.FULLNAME as USER_FULL_NAME,
          u.USERID as USER_ID,
          u.USERNAME as USER_NAME,
          u.EMAIL as USER_EMAIL
FROM      companyReg_SYS_USER_INFO_VIEW u,
          companyReg_SYS_COMPANY_INFO c,
          companyReg_SYS_PROJECT_INFO p,
```

```
companyReg_SYS_PROJECTUSER pu
WHERE c.COMPANYID = p.COMPANYID
      AND p.PID = pu.PID
      AND u.userid = pu.userid
```


Creating an Oracle Analytics Server Report in Unifier

To create an Oracle Analytics Server report:

Note: For creating and updating Oracle Analytics Server custom reports and Oracle Analytics Server custom prints, and importing reports from Oracle Analytics Server into Unifier (synchronization), refer to the *Unifier General Administration Guide*.

- 1) Sign in to your Unifier environment.
- 2) Go to the **Company Workspace** tab, and switch to **Admin** mode.
- 3) In the left Navigator, select **Configuration**, and then select **Custom Templates**.
- 4) In the right pane:
 - a. Select the **New** (drop-down arrow).
 - b. Choose **Report with Internal Data Model** or **Report with External Data Model**.
If you choose Report with External Data Model, you will continue using the steps in the section.

Notes:

- **Internal data model:** Unifier maintains the data model file internally. Any changes in the data views, data links, query parameters, and additional parameters are being applied and saved in the data model when the Oracle Analytics Server report is saved.
 - **External data model:** Users need to upload the data model (.xdm) file and maintain it externally. This means that the user may modify the .XDM file manually or by using the Oracle Analytics Server data model editor.
-

- 5) In the **General** tab of the **Custom Report** dialog box:
 - a. In the **Name** field, enter a name for the report.
 - b. In the **Description** field, enter a brief description about the report (maximum 250 characters and non-ASCII characters are permitted).
 - c. The **Data Model Type** field is a pre-populated and read-only field with values that can be internal or external based on the option selected at the time of creating the custom print.
 - d. In the **Report Level** field, select a type for the report.
 - e. In the **Main View** field, select a type of view for the report.

Note: The administrator can create these user-defined views. Refer to the *Unifier General Administration Guide* for more information on creating data views.

- 6) In the **Views** tab, select **Add** or **Remove** to edit the views for the report.

- 7) Select **Apply**.
- 8) When the **Sample Data** tab opens, you can download the sample XML data for creating or modifying report layouts:
 - ▶ If you are using the Internal Data Model:
 - a. Select a project/shell.
 - b. Select a number of rows to return.
 - c. Select **Generate**.
 - d. Select **Download**.
 - e. Save the XML file.
 - ▶ If you are using the External Data Model:

Note: You cannot download sample data until after you define and publish the report.
- 9) Create a report layout in Microsoft Word to have templates available in Microsoft Word when you publish reports:
 - a. Open **Microsoft Word**.
 - b. Create an **RTF** file.
 - c. In the **Oracle Analytics Server** tab:
 1. Select **Sample XML** in the **Load Data** section.
 2. Upload the XML file you created above.
 3. Create a table for the layout using the Table Wizard included with the Oracle Analytics Server plug-in.
 4. Save and close the RTF file.
- 10) Return to the **Custom Report** dialog box.
- 11) In the **Template File** tab (consisting of Add, Modify, Remove, and Download options)
 - a. Select **Add** to open the template window.
 - b. Enter information in the following fields: Template Name, Template Type, and Report Layout File.
 - To localize the Custom Report output for different languages, you can provide XLIFF files for RTF-type templates here.
 - The Template Name field accepts spaces and other characters.
 - c. Select **Browse** to select the template file for uploading.
 - d. Select **OK** to confirm the upload.
- 12) Return to the **Company Workspace** tab.
- 13) In the left pane:
 - a. Expand **Configuration**.

b. Select **Custom Reports**.

14) In the right pane, select the report you want to publish.

15) From the toolbar, select **Status**, and select **Published**.

If you have not already installed the Oracle Analytics Publisher plug-in for Microsoft Word, install it now. You can find it here:

<https://www.oracle.com/middleware/technologies/analytics-publisher/downloads.html>

<https://www.oracle.com/middleware/technologies/analytics-publisher/downloads.html>

Note: For the full list of system requirements, applications, and application version levels, refer to the *Unifier Tested Configurations* document.

Refer to the documentation included with Oracle Analytics Server for more information on using this plug-in.

Adding Permissions to Run Oracle Analytics Server Reports

These steps apply to sample custom reports and may not apply for every report.

To add permissions to run reports:

- 1) Go to the **Company Workspace** tab, and switch to **Admin** mode.
- 2) Select the **User Mode Navigator**.
- 3) Open the **Project/Shell** navigator.
- 4) Under **Reports**, create a **Custom Reports** node.
- 5) Change the icon to **u_report_select.gif**.
- 6) Under the **Custom Reports** node, add the new report.
- 7) Select **OK**.
- 8) Highlight the **Project/Shell** navigator.
- 9) Select **Deploy** to apply changes.
- 10) Go to the **Company Workspace** tab, and switch to **Admin** mode.
- 11) Navigate to **Company Sponsored Shells, All Projects**.
- 12) Highlight **All Projects** in the right window pane and select **Open**.
- 13) Select **Access Control**.
- 14) Navigate to **User Mode Access, Reports, Custom Reports**.
- 15) Select the custom report.
- 16) Add users to allow access to reports.
- 17) Select **Apply** and **OK**.

Configuring Oracle Analytics Server Publisher Reports to Use Unifier Images

To add a dynamic Unifier image in an Oracle Analytics Server report, you must create a data set in the Data Model (XDM) file, as explained below.

Note: The following instructions apply to reports that run directly on the Oracle Analytics Server. The Oracle Analytics Server reports that run via Unifier do not require these changes.

In the .XDM file:

```
<dataSet name="security_token" type="complex">
  <sql>
    <![CDATA[SELECT token_value sec_token from ( SELECT
token_value,expired,ROW_NUMBER() OVER (ORDER BY expired desc) rn FROM
sys_server_token WHERE token_type = 'img') where rn = 1]]>
  </sql>
</dataSet>
<group name="security_token" label="security_token"
source="security_token">
  <element name="SEC_TOKEN" value="SEC_TOKEN" label="SEC_TOKEN"
dataType="xsd:string" breakOrder="" fieldOrder="1"/>
</group>
```

Note: The purpose is to get the server token from database where "expired" is the maximum from all the rows.

In the report template that requires to have the image to be inserted, change the "Alt text" of the image to point to image retrieval URL.

To retrieve a Unifier image, use the URL:

`https://unifier-server-address/bluedoor/rest/image/<image_id>/<server_token>`

The report parameter `uuu_p_urlF` can be created in Data Model (XDM) file with a default value, so at the runtime the server address-part of the URL can be changed appropriately:

```
<parameter name="uuu_p_urlF"
defaultValue="https://unifier-server-address/bluedoor/rest/image"
dataType="xsd:string" rowPlacement="8">
  <input label="uuu_p_urlF" size="100"/>
</parameter>
```

The report template uses this URL in the "Alt text" of the image, as in:

```
url:{concat($uuu_p_urlF,'/',DATA_IMAGE_ID,'/',//security_token/SEC_TOKEN[1])}
```

Where: `uuu_p_urlF` can be the template variable, for example:

```
<?variable@begin:uuu_p_urlF;(.//uuu_p_urlF)[1]?>
```

The security token, retrieved from DB by the dataset is: `//security_token/SEC_TOKEN[1]`

The runtime data (image ID) is: `DATA_IMAGE_ID`

Additional Information

In a Cloud deployment, you can use the "`uuu_p_tenantIdF`" data element for passing the tenant ID to the Oracle Analytics Server report. This will include the required URL needed for accessing the image file in the Oracle Analytics Server report. For legacy Oracle Analytics Server reports, in a Cloud or On-premises deployment, you can continue to use the following data elements for passing the user ID to the Oracle Analytics Server report:

- ▶ `uuu_p_urlF`
- ▶ `uuu_sessionIdF`
- ▶ `uuu_p_companyRegistry`

Running the Oracle Analytics Server Report in Unifier

To run the Oracle Analytics Server Report in Unifier:

- 1) Sign in to your Unifier environment.
- 2) Select a project/shell and switch to **User** mode.
- 3) In the project/shell navigation tree, select **Reports, Custom node**.
- 4) Select a report.
- 5) In the dialog box that appears, enter the search conditions, and select **Report** to run the report.