

Oracle
Primavera Unifier
BI Publisher and Oracle Analytics Publisher Configuration Guide for
On-Premises
January 2024
Version 23

Oracle Primavera Unifier BI Publisher and Oracle Analytics Publisher 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 Business Intelligence Publisher (BI Publisher) or Oracle Analytics Publisher, configure BI Publisher/Oracle Analytics Publisher settings, configure BI Publisher/Oracle Analytics Publisher in Unifier, and create and run BI Publisher/Oracle Analytics Publisher reports.

BI Publisher/Oracle Analytics Publisher integrate with Unifier to deliver on-demand web-based reporting through Unifier.

Follow the instructions in this guide to:

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

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

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

Downloading BI Publisher/Oracle Analytics Publisher

Unifier can integrate with BI Publisher/Oracle Analytics Publisher.

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

Any prior version of BI Publisher/Oracle Analytics Publisher will fail to connect with Unifier.

To download BI Publisher/Oracle Analytics Publisher

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

Configuring BI Publisher/Oracle Analytics Publisher for Unifier Reporting

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

- 1) Download BI Publisher/Oracle Analytics Publisher 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 a BI Publisher/Oracle Analytics Publisher environment to manage reports. See the documentation included with BI Publisher/Oracle Analytics Publisher.
- 3) Configure sample reports, roles, security, and users in BI Publisher/Oracle Analytics Publisher. See **Configuring Enterprise Reporting with BI Publisher/Oracle Analytics Publisher** (on page 9).
- 4) Populate BI Publisher/Oracle Analytics Publisher settings in the Unifier Configurator. See **Configuring BI Publisher/Oracle Analytics Publisher in Unifier**.

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Configuring Enterprise Reporting with BI Publisher/Oracle Analytics Publisher

The following topics describe how to configure reports in BI Publisher/Oracle Analytics Publisher to work with Unifier.

Configuring a BI Publisher/Oracle Analytics Publisher User in WebLogic

To add an administrative BI Publisher/Oracle Analytics Publisher user to WebLogic

- 1) Open a web browser and launch Oracle WebLogic for your installation of BI Publisher/Oracle Analytics Publisher.
- 2) Log in to **Oracle WebLogic Administration Console**.
- 3) In the **Domain Structure** section, click **Security Realm**.
- 4) Click the realm name in the table.
- 5) Click the **Users and Groups** tab.
- 6) Click the **Users** sub tab.
- 7) Click **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. Click **OK**.
- 9) Click the user name that you created.
- 10) Click 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. Click **Save**.
- 11) Log out of the Oracle WebLogic Administration Console.

Security Model in BI Publisher/Oracle Analytics Publisher

The default security in BI Publisher/Oracle Analytics Publisher 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 BI Publisher/Oracle Analytics Publisher

To create the JDBC connection string

- 1) Log in to BI Publisher/Oracle Analytics Publisher as an administrative user.
- 2) In BI Publisher/Oracle Analytics Publisher, click the **Administration** link.
- 3) Under **Data Sources**, click the **JDBC Connection** link.
- 4) Click **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. Click **Test Connection**.
- 6) Click **Apply**.

Disabling the Cache for BI Publisher/Oracle Analytics Publisher

To disable the cache

- 1) Log in to BI Publisher/Oracle Analytics Publisher as an administrative user.
- 2) In BI Publisher/Oracle Analytics Publisher, click the **Administration** link.
- 3) Under **System Maintenance**, click the **Server Configuration** link.
- 4) In the **Cache Expiration (minutes)** field, enter **0** minutes.
- 5) Click **Apply**.
- 6) Restart the BI Publisher/Oracle Analytics Publisher server.

Creating a Reports Folder in BI Publisher/Oracle Analytics Publisher

To create a reports folder for Unifier

- 1) Log in to BI Publisher/Oracle Analytics Publisher as an administrative user.
- 2) Select **Catalog**.
- 3) Under **Folders** highlight **Shared Folders**.
- 4) Select the **New** icon and select **Folder**.
- 5) Enter a folder name and click **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) Click 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 the **Add Data Source** icon.
- 4) Under **Database Connections** move the data source created for Unifier from the **Available Data Sources** to **Allowed Data Sources**.
- 5) Click **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 BI Publisher/Oracle Analytics Publisher as an administrative user.
- 2) Click **Catalog**.
- 3) Under **Shared Folders**, highlight the Unifier **Reports** folder.
- 4) In the **Tasks** pane, click **Permissions**.

- 5) Click **+** to add a role.
- 6) Click **Search** to list all available roles.
- 7) Highlight the appropriate role for Unifier and click **Move**.
- 8) Click **OK** to close the **Add Roles** window.
- 9) In the **Permissions** window, select all boxes.
- 10) Click **OK** to save.

Configuring BI Publisher/Oracle Analytics Publisher in Unifier

To configure BI Publisher 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 **BIP Endpoint URL** field, enter the BI Publisher Web Services endpoint URL.
For example: *http://host1.name1.com:9704*
- 4) In the **BIP User Name** field, enter the user name created above for the BI Publisher server.
- 5) In the **BIP Password** field, enter the password for the BI Publisher user.
- 6) In the **BIP Data Source** field, enter the JDBC data source name you entered when you created the BI Publisher JDBC Data Source.
- 7) In the **BIP Report Folder** field, enter the name of the folder created under the **Shared Folders** location in the **BI Publisher Catalog**.
- 8) In the **BIP External Report Folder** field, enter the name of the external folder created under the **Shared Folders** location in the **BI Publisher Catalog**.

To configure Oracle Analytics Publisher 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 Publisher 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 Publisher .
- 5) In the **Oracle Analytics Publisher Password** field, enter the password for the Oracle Analytics Publisher user.
- 6) In the **Oracle Analytics Publisher Data Source** field, enter the JDBC data source name you entered when you created the Oracle Analytics Publisher 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 Publisher 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 Publisher 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, click **User Administration > Access Control**.
- 3) In the **Access Control** window, complete the following:
If the reports are at the Program level, in the right pane, select **User Mode Access > Programs > Reports > Custom > <report name>**.
If the reports are at the Project level, in the right pane, select **User Mode Access > Projects/Shells > Reports > Custom > <Report Name>**.
- 4) Select the access for the appropriate user.
- 5) Click **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, click **Data Structure Setup > Data Views**.
- 4) In the **User-Defined Data Views** window, click **New**.
- 5) Enter the information needed for your data view. See **Tips** for more information.
- 6) Click **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.DESRIPTION 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 a BI Publisher/Oracle Analytics Publisher Report in Unifier

To create a BI Publisher/Oracle Analytics Publisher report

Note: For creating and updating BI Publisher/Oracle Analytics Publisher custom reports and BI Publisher/Oracle Analytics Publisher custom prints, and importing reports from BI Publisher/Oracle Analytics Publisher 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, click **Configuration > 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 BI Publisher/Oracle Analytics Publisher 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 BI Publisher/Oracle Analytics Publisher 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, click **Add** or **Remove** to edit the views for the report.
- 7) Click **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. Click **Generate**.
 - d. Click **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.

- a. Select a project/shell.
 - b. Click **Generate**.
 - c. Click **Download**.
 - d. Save the XML file.
- 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 **BI Publisher** or **Oracle Analytics Publisher** 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 BI Publisher/Oracle Analytics Publisher 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. Click **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. Click **Browse** to select the template file for uploading.
 - d. Click **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) Click the **Status** drop-down list on the toolbar and select **Published**.

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

<http://www.oracle.com/technetwork/middleware/analytics-publisher/downloads/index.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 BI Publisher/Oracle Analytics Publisher for more information on using this plug-in.

Adding Permissions to Run BI Publisher/Oracle Analytics Publisher 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) Click **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) Click **Apply** and **OK**.

Configuring BI Publisher/Oracle Analytics Publisher Reports to Use Unifier Images

To add a dynamic Unifier image in a BI Publisher/Oracle Analytics Publisher 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 BI Publisher/Oracle Analytics Publisher server. The BI Publisher/Oracle

Analytics Publisher 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 BI Publisher/Oracle Analytics Publisher report. This will include the required URL needed for accessing the image file in the BI Publisher/Oracle Analytics Publisher report. For legacy BI Publisher/Oracle Analytics Publisher reports, in a Cloud or On-premises deployment, you can continue to use the following data elements for passing the user ID to the BI Publisher/Oracle Analytics Publisher report:

- ▶ uuu_p_urlF
- ▶ uuu_sessionIdF
- ▶ uuu_p_companyRegistry

Running the BI Publisher/Oracle Analytics Publisher Report in Unifier

To run the BI Publisher/Oracle Analytics Publisher 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 click **Report** to run the report.