Oracle Procurement Cloud
Creating and Administering Analytics and Reports for Procurement
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Preface

This preface introduces information sources that can help you use the application.

Using Oracle Applications

Using Applications Help

Use help icons 🎧 to access help in the application. If you don’t see any help icons on your page, click your user image or name in the global header and select Show Help Icons. Not all pages have help icons. You can also access Oracle Applications Help.

Watch: This video tutorial shows you how to find help and use help features.

You can also read Using Applications Help.

Additional Resources

• Community: Use Oracle Cloud Customer Connect to get information from experts at Oracle, the partner community, and other users.

• Guides and Videos: Go to the Oracle Help Center to find guides and videos.

• Training: Take courses on Oracle Cloud from Oracle University.

Conventions

The following table explains the text conventions used in this guide.

<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>boldface</strong></td>
<td>Boldface type indicates user interface elements, navigation paths, or values you enter or select.</td>
</tr>
<tr>
<td><strong>monospace</strong></td>
<td>Monospace type indicates file, folder, and directory names, code examples, commands, and URLs.</td>
</tr>
<tr>
<td>&gt;</td>
<td>Greater than symbol separates elements in a navigation path.</td>
</tr>
</tbody>
</table>

Documentation Accessibility

For information about Oracle’s commitment to accessibility, visit the Oracle Accessibility Program website.

Videos included in this guide are provided as a media alternative for text-based help topics also available in this guide.
Contacting Oracle

Access to Oracle Support
Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit My Oracle Support or visit Accessible Oracle Support if you are hearing impaired.

Comments and Suggestions
Please give us feedback about Oracle Applications Help and guides! You can send an e-mail to: oracle_fusion_applications_help_ww_grp@oracle.com.
1 Overview

About This Guide

This guide is intended for advanced users and administrators who want to modify and create analytics and reports, as well as perform setup and maintenance tasks for business intelligence. The guide contains both conceptual and procedural information intended to help you build and manage analyses, reports, and dashboards that are tailored to the content needs of your line of business or company. You can also use the information in this guide to help you set up business intelligence.

Overview of Oracle Transactional Business Intelligence

Oracle Transactional Business Intelligence (OTBI) provides embedded real-time analytics, reports, and dashboards based on real-time transactional data in Oracle Fusion applications, allowing role-based, contextual analysis and reporting in your applications.

Analyses, reports, and dashboards are embedded and available from the Reports and Analytics panel tab in many of your application pages and work areas, and link directly to transactions and decision points. In addition to the prebuilt analyses and reports, ad-hoc analysis against relevant subject areas allows creation of new analyses and revision and changes to existing analytical objects.

OTBI provides services that allow you to create ad-hoc analyses, interactive dashboards or pixel perfect formatted reports, download or schedule reports and save reports as briefing books. Administrators can create user-defined folders and set permissions on them, configure privileges on BI objects, export and import user-defined string captions, and access query log files. However, you can’t access BI Server, Catalog Manager, or associated server configuration files and system catalog files.

Oracle BI Enterprise Edition (OBIEE) components available in OTBI include:

- BI Interactive Dashboards: highly interactive dashboards
- BI Delivers: proactive business activity monitoring and alerting
- BI Publisher: enterprise reporting and distribution of pixel-perfect reports

OBIEE components not available in SaaS BI include:

- BI Server: processes user requests and queries in underlying data sources.
- Catalog Manager: a tool for performing online and offline management of the business intelligence catalog and BI objects.

Related Documents and Training

Review videos, tutorials, and other help about analytics and reports in the Oracle Cloud Documentation Library. Regardless of your role, Oracle Procurement Cloud analytics and reports are designed to make your job easier. For more information about analytics and reports, see:

- The Business Intelligence chapter in Oracle Applications Cloud Using Common Features
Creating and Administering Procurement Cloud Analytics and Reports: Overview

Business intelligence enables you to analyze data to gain insight that you can act on, gathering information to meet specific requirements. You can use different types of predefined analytics and reports, or create and edit them, to support your business needs.

Types of Business Intelligence

The following table describes and explains the purpose of analyses, dashboards and reports.

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analysis</td>
<td>An interactive display of data, for example in a table or graph.</td>
<td>To summarize or break down simple, real-time data, and help you make short-term decisions.</td>
</tr>
<tr>
<td>Dashboard</td>
<td>A collection of analyses and other content, presented on one or more pages, or tabs.</td>
<td>To get various pieces of information about a particular subject.</td>
</tr>
<tr>
<td>Report</td>
<td>Output of data in a readable, predefined format.</td>
<td>To get high-volume data in an output optimized for printing, including documents to support internal operations, statutory requirements, and other business needs.</td>
</tr>
</tbody>
</table>

For a list of predefined analyses and reports, see Oracle Procurement Cloud View Procurement Reports and Analyses on the Oracle Help Center.

Create, Edit, and Modify Analytics and Reports

You can create and edit analytics and reports for your own use. Or, if you have the appropriate roles, you can them modify them for others. For example, you can:

- Add or remove columns from an analysis.
- Change the branding logo on report output.
- Create a dashboard to include your most commonly viewed analyses.
Setup and Administration

Administrators perform setup and administration tasks to manage how you or how other users use and modify analytics and reports. For example, you can:

- Configure Oracle Business Intelligence Publisher, the tool used for generating and editing reports.
- Define flexfields to provide user-defined attributes that can be used in analyses.
- Archive analytics and reports and move them from one environment to another.

For a list of setup reports, see Oracle Procurement Cloud View Setup Reports and Analyses on the Oracle Help Center. It provides details for all of the setup reports and analyses for Cloud applications, each of which you can modify to meet your company’s requirements.

Related Topics
- Oracle Procurement Cloud View Procurement Reports and Analyses
- Oracle Procurement Cloud View Setup Reports and Analyses

Securing Procurement Analytics and Reports: Overview

All users with appropriate roles can create and access analyses and reports based on role access to subject areas and catalog folders.

Analyses and reports are secured by applying job roles with associated duty roles to users. Duty role assignments determine access to subject areas for analyses as well as catalog folders. For information about the job and duty roles provided with Procurement Cloud, see the Oracle Procurement Cloud Security Reference guide. For information about modifying your security model, creating job roles and assigning duty roles to them, see the Oracle ERP Cloud Securing Oracle ERP guide.

In addition to folder and object access, duty roles also determine data security. Each of the duty roles that provides access to subject areas and catalog folders is granted one or more data security policies that allow access to the data.

Related Topics
- Oracle Procurement Cloud Security Reference
- Oracle ERP Cloud Securing Oracle ERP

Viewing Analytics and Reports

Video

Watch: This video tutorial shows you how to find analytics and reports, and how to make the most of the viewing features. The content of this video is also covered in text topics.
Procedure

You can view analyses, dashboards, and reports on the pages and infolets you usually work with, or navigate directly to them in the business intelligence catalog using the Reports and Analytics work area and the Reports and Analytics panel tab. You can also view analytics in infolets.

Viewing Analytics in Infolets

To view analytics in infolet pages you usually work with:

1. Explore frequently used infolet pages using the page controls and Previous and Next icons.
2. You may find analytics displayed in infolets with summaries and aggregations or performance metrics.
3. Click the infolet to open a detailed report, for example to view the details of transactions that are aggregated as a total.
4. Click **Done** to return to the infolet page.

Viewing Objects in Familiar Work Areas and Pages

To view analyses, dashboards, and reports on the pages and work areas you usually work with:

1. Explore frequently used pages, where you may find one or more analyses and reports available as links or embedded in parts of the page, including tabs or panel tabs.
2. Some work areas have a Reports and Analytics panel tab, in which you can explore the catalog folders for analyses and reports specific to the work area and, if you have permission, map additional objects to the work area.
   a. Open the panel tab.
   b. Expand the Shared Reports and Analytics folder and explore the available content.
   c. Click the link for any object and see its type to determine whether it’s an analysis, a report, or a dashboard.
   d. To view the object, click **View**.

Viewing Objects in the Reports and Analytics Work Area

To search or browse the catalog and view any analysis, dashboard, and report you have access to:

1. Click **Navigator > Reports and Analytics**.
2. Filter and search for objects:
   a. Optionally, select from the filter list to refine results by object type.
   b. Enter a name or partial name and click **Search**. To view objects you have marked as favorites, select **Favorites** in the list. Select **Recent Items** to view objects you have recently worked with, or a recent search to run it again.
   c. In the search results, use the icons to identify the type of the objects.
   d. Locate an analysis, dashboard, or report and select it, then click **More** and select **View**.
3. In the catalog breadcrumb, you can also browse the catalog folders for analytics and reports.
   a. Click the **Hierarchical Selector** for All Folders and click **My Folders** or **Shared Folders** to explore their subfolders or contents to locate objects.
   b. Click **More** for an object, and then select **View** to open it, or **Edit** to modify it.
Viewing Analyses
An analysis queries against your company’s data and gives you answers to your business questions. Analyses are visualizations, such as charts and tables, of a specific set of data, and may appear in your frequently used pages, or as components of a dashboard.

To view analyses:

1. From the catalog folders or search results, open an analysis to view.
2. Click Refresh to rerun the analysis and refresh its data.
3. Click Print and select either Printable PDF or Printable HTML to open a printable version of the analysis.
4. Click Export to export analysis data in various formats, for example PDF, Excel, PowerPoint, and XML.

Viewing Dashboards
Dashboards are a collection of analyses grouped together to return data. A dashboard contains analyses, prompts which filter information, and other objects that are presented on one or more pages.

To view dashboards:

1. From the catalog folders or search results, open a dashboard to view.
2. If available, select values for dashboard prompts to filter the dashboard.
3. Click Apply to refine the results of all of the analyses in the dashboard.

Viewing Reports
Reports show data in a predefined format that’s optimized for printing.

To view reports:

1. From the catalog folders or search results, click a report’s name to view it.
2. Click the View Report icon.
   - Choose whether you want the report displayed as HTML or PDF for printing. Because it’s optimized for printing, often PDF provides the best print results.
   - You can also export the report as RTF for editing in a word processor, or as Excel or PowerPoint.
3. From the catalog folders or search results, you can also:
   - Click Edit to edit the report properties, layout, and data model.
   - Click Report History to view details about when the report was submitted in the past.
   - Click Schedule to schedule the report to be run.

Reports and Analytics Work Area and Panel Tab

Navigate to and search for analytics and reports in the Reports and Analytics work area and panel tab. The Reports and Analytics work area provides access to all the analytics and reports in the Business Intelligence (BI) catalog you own or have permissions for. The Reports and Analytics panel tab provides access to BI catalog content relevant to work areas where it appears. If you have appropriate roles, you can specify which reports appear in a specific work area.
Reports and Analytics Work Area

The Reports and Analytics work area is a central place for you to quickly search for and run analytics and reports that are related to your work. The work area (Navigator > Tools > Reports and Analytics) opens at the highest level of the business intelligence (BI) catalog’s folder hierarchy with all objects you have marked as favorites.

- Search the catalog by object type and name, or use saved searches.
  a. Optionally, select an object type in the list to search for analyses, reports, or dashboards.
  b. Enter a name or part of a name and click **Search**. Select from the saved searches, including Favorites and Recent items, to quickly access frequently used objects.
  c. Optionally, click **Add Favorites** for an object to mark it as a favorite.
- View and edit analyses and reports.
- Navigate the catalog’s folder hierarchy using the folder breadcrumb.
  a. Click the **Hierarchical Selector** for All Folders and select **My Folders** or **Shared Folders** to begin navigating the catalog folder contents.
  b. Click a folder in the folder breadcrumb or the results to navigate to it.
  c. Click the **Hierarchical Selector** within the folder breadcrumb to navigate to a parent folder and select one of its subfolders in the catalog.
- View your favorite analyses and reports and mark objects as favorites.
  a. Select **Favorites** in the Saved Searches to display your favorite objects.
  b. Click **Add Favorites** for an object to mark it as a favorite.
  c. Click **Remove from Favorites** to remove an object from your favorites.
- Create and edit analyses and reports.
  a. Click **Create** and select **Report** or **Analysis**.
  b. Use wizards to create your analysis or report.
- Click an object’s path to navigate to its catalog folder.
- Click an object’s name to open it.
- Click **Browse Catalog** to open the catalog in Oracle Business Intelligence.

Reports and Analytics Panel Tab

You may find the Reports and Analytics panel tab on some work areas. Click the **Reports and Analytics** icon to open the panel tab. If you have permission, you can create analyses and reports by clicking **Create** and selecting an object. Open the folders to view mapped analyses and reports for the work area, and click their names to view details and to open or edit them.

Available Catalog Folders

This table describes what’s in the folders of the Reports and Analytics work area and panel tab.

<table>
<thead>
<tr>
<th>Folder</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>My Folders</td>
<td>All of the analyses and reports that you saved for your own use only.</td>
</tr>
</tbody>
</table>
Oracle Procurement Cloud
Creating and Administering Analytics and Reports for Procurement

Chapter 1
Overview

Folder | Content
--- | ---
Shared Folders | • Reports and Analytics work area: all of the analyses and reports that you have permissions to access, including any in the Custom subfolder. Place your shared analyses and reports in the Custom folder to protect them during upgrades.
• Reports and Analytics panel tab: All predefined analyses and reports that are relevant to your role and have been mapped to the work area.

Related Topics
• Set Up the Reports and Analytics Panel Tab
• Creating and Editing Analyses Using a Wizard: Procedure
• How You Create and Edit Reports

Business Intelligence Catalog

Reports, analyses, dashboards, and other business intelligence (BI) objects are stored and administered in the business intelligence catalog.

Navigating to the Catalog

To navigate to the catalog:

1. Click **Tools > Reports and Analytics** in the Navigator.
2. In the Reports and Analytics work area, click the **Browse Catalog** button.

Identifying Objects in the Catalog

The catalog stores the BI objects in a folder structure of individual files, organized by product family.

BI objects and reports are organized in the following folder hierarchy:

• Shared Folders (parent)
• Product family (example: Financials)
• Product (example: Payables)
• Report groups (example: Invoices)
• Dashboard reports
• Data Models
• Report Components
• BI Publisher reports
• Prompts

The following table describes the common BI objects that you find in the catalog:
Catalog Object | Description | Location
--- | --- | ---
Analysis | Analyses are used primarily by dashboards. | Report Components folder
Dashboard | Dashboards organize analytical content and catalog objects, and present them in a meaningful way. | Reporting group folder
Dashboard Prompt | Dashboard prompts allow users to filter dashboard content using provided values. | Prompts folder
Filter | Filters are used in dashboards and analyses. | Prompts folder
Report | Reports are operational reports created in Business Intelligence Publisher. | Reporting group folder
Data Model | Data models are used by reports created in Business Intelligence Publisher. | Data Models folder
Subtemplate | Subtemplates are used by reports created in Business Intelligence Publisher. | Reporting group folder

Where to Save Analytics and Reports

You save analyses, dashboards, and reports in the business intelligence (BI) catalog, along with other objects, including prompts and filters. The catalog has a hierarchy of folders, starting with My Folders and Shared Folders. One important folder is Custom, which you find in Shared Folders and use to store your modified analytics and reports.

My Folders

You’re the only one who can access anything that you save in My Folders. You can see your saved items in My Folders on the Reports and Analytics work area, but not in My Folders in the Reports and Analytics panel tab on any other work area. The only exception is when you create an analysis using the wizard in the Reports and Analytics work area, and save it in My Folders. In this case, the analysis is available in any panel tab on all work areas.

Shared Folders

If you have the appropriate roles, you can also save in Shared Folders so that your modified analytics or reports are available to anyone with the correct access. You should save objects in the Custom subfolder, which has subfolders organized by product family.

Regarding predefined analytics and reports in Shared Folders:

- You should save a copy of the predefined analysis or dashboard in the corresponding product family subfolder in the Custom folder, and edit only the copy. Directly edit predefined analytics only when necessary, to make sure that any references to the analysis or dashboard still work properly.
- For predefined reports only, you can use a special Customize option to copy the report and also the folder structure and permissions. The copy is linked to the original, so editing the copy is like directly editing the original.
Custom Folder
Keep all modified analytics and reports in the Custom folder so that:

- You ensure that modified copies of those objects are not affected during upgrades, which can change predefined analytics and reports outside the Custom folder. You might lose changes saved outside the Custom folder during upgrades.
- You can easily find modified objects.
- You can edit objects in the Custom folder without compromising security on the original objects.

When you copy an object into the Custom folder, the copied object inherits the permission settings of the Custom folder. An administrator can reset the permissions on the object and the folder that it’s in.

Related Topics
- How You Create and Edit Reports
- Creating and Editing Analytics: Highlights
- Using the Customize Option for Predefined Reports: Points to Consider

Do I need to create copies of predefined reports and analyses for each user?

You don’t need to create multiple versions of the same analysis or report for different users. When you view an object, it includes only the data that you have permission to view from your data security profile. In analyses and reports with hierarchical dimensions, you see information from your level in the hierarchy and downward in the hierarchy.

What happens to modified analytics and reports when an update is applied?

When saved in the Custom subfolder within Shared Folders, or in My Folders in the business intelligence (BI) catalog, modified analytics and reports are preserved during an update. Any modified objects in the Custom folder are preserved in any update. Changes to existing analytics and reports outside the Custom folder, including those you create, are preserved only if the update doesn’t include a new version of those BI objects. If the update includes a new version of a predefined object that you edited outside the Custom folder, then:

- The new version overwrites the existing predefined object.
- A copy of the existing object (with your edits) is automatically created in the same folder, with a new name that indicates it’s a new version.
If the update includes a new version of both the predefined object and a folder in its file path, then:

- The new folder, along with the new version of the object, overwrites the existing predefined folder and object.
- A copy of the existing folder (along with your edited object) is automatically created. The folder is renamed to indicate that it’s a new version, but your edited object is not renamed.

*Note:* Future updates won’t affect renamed objects or anything within a renamed folder.

Setup and Administration Overview

Tools for Administering Analyses and Reports

You can use several different tools to manage and administer your analytics. Analytics can be reports or analyses, depending on how you intend to display and distribute them.

These components support modification and administration of your analyses and reports:

- Use the Business Intelligence catalog to interact directly with your reports and analyses. Use this interface to manage permissions, properties, and the organization of your analyses and reports.
- Use the Oracle Business Intelligence Publisher administration pages to configure settings specific to the running and scheduling of operational reports, such as setting up your delivery servers, managing scheduler work load, and setting run-time properties for reports.

Oracle Business Intelligence Enterprise Components

Business intelligence analytics and reports in the application are provided by the Oracle Business Intelligence Enterprise Edition suite. You can access many information sources about working with Oracle Business Intelligence Enterprise Edition.

The information resources cover the following areas:

- Oracle Business Intelligence Enterprise Edition
- Oracle Business Intelligence Publisher

Oracle Business Intelligence Enterprise Edition

Oracle Business Intelligence Enterprise Edition provides predefined and ad hoc analysis against your transactional data.

- Create and work with analyses, dashboards, and advanced analytical content, including dashboard prompts, conditions, actions, and key performance indicators.
  

Oracle Business Intelligence Publisher

Oracle Business Intelligence Publisher is used for reports.
• Run and view reports.
  
  See: Oracle Fusion Middleware User’s Guide for Oracle Business Intelligence Publisher
• Create and edit reports, layouts, and templates and subtemplates.
  
  See: Oracle Fusion Middleware Report Designer’s Guide for Oracle Business Intelligence Publisher
• Create data models and use the Data Model Editor.
  
  See: Oracle Fusion Middleware Data Modeling Guide for Oracle Business Intelligence Publisher
2 Setup and Configuration

Mapping to Work Areas

Set Up the Reports and Analytics Panel Tab

You can find the Reports and Analytics panel tab in many work areas, and the analytics and reports you see in it depend on the work area. You can define what’s available for a specific work area, by mapping reports from the business intelligence (BI) catalog to that work area. In this mapping context, reports refer to both analytics and reports. Your changes apply to all users who have access to the work area you’re mapping.

Mapping Reports from Your Work Area

To map reports to the work area that you’re in:

1. Expand the Reports and Analytics panel tab.
2. Click the **Edit Settings** icon in the panel tab.
   
   You see all the reports that are currently mapped to your work area.
3. Click **Select and Add**.
4. Find the report in the catalog and select it.
5. Click **OK**.
6. To remove any mapping, select the report and click **Remove**.
7. Save your work.

Mapping Reports to Any Work Area

To map reports to any work area that you have access to:

1. In the Setup and Maintenance work area use the Map Reports to Work Areas task.
2. Select the application of the work area you want to map to.
3. Select the work area.
4. Click **Search** and see all the reports that are currently mapped to that work area.
5. Click **Select and Add**.
6. Find the report in the catalog and select it.
7. Click **OK**.
8. To remove any mapping, select the report and click **Remove**.

**Tip:** Click **Synchronize** to remove all mappings to any reports that are no longer in the catalog. You synchronize all work areas, not just the one you’re mapping.

9. Save your work.

Related Topics

- Set Up Reports for Scheduling
- Reports and Analytics Work Area and Panel Tab
Why can't I see reports when mapping reports to work areas for the Reports and Analytics panel tab?

Either no reports are currently mapped to the work area you select on the Map Reports to Work Areas page, or you don't have access to the reports that are mapped.

Similarly, when you're selecting a report to map, you can see only the reports that you have access to. Ask your administrator to either:

- Assign you roles that have access to the reports you want to map to work areas.
- Grant the Reports and Analytics Region Administration Duty to someone who already has access to those reports.

Why can't I see reports when I edit settings for the Reports and Analytics panel tab?

In the Edit Settings window, you might not see a currently mapped report because you don't have access to it.

Similarly, when you're selecting a report to map, you can see only the reports that you have access to. Ask your administrator to either:

- Assign you roles that have access to the reports you want to map to work areas.
- Grant the Reports and Analytics Region Administration Duty to someone who already has access to those reports.

Setting Up Currency

Set Currency Preferences for Analytics

Oracle Transactional Business Intelligence gives you the ability to set your personal currency preferences, as well as set currency preferences which determine how your analyses display currency and calculate exchange rates.

The user preferences for your cloud offering are set in the cloud environment, and the currency preferences for analyses are set in Oracle Business Intelligence (BI). Both user preferences impact how your report currency is calculated and displayed. Your application administrator sets the corporate currency as the common currency basis for all users.

There are three ways currency is set in cloud and BI environments:

- **User Currency** - Set by the business user in Regional settings. This setting applies to the entire application interface for that user only. The currency options available are set by your application administrator.
- **Reports Currency** - Set by the business user in BI in My Account settings in the Reports area. The setting applies to that user only and only relevant for report production.
- **Corporate Currency** - Set by the application administrator. This setting applies to all users in that company.
Set Your General User Currency

User currency settings govern the currency that is used as the default for your application interface. User currency is set in the application and applies to your entire interface for your signed-in session.

To set your user currency:

1. Navigate to **Tools, Set Preferences**.
2. Select **General Preferences > Regional**.
3. Select the preferred currency to be used. Available currencies include those set up for your company by your application administrator.

Setting Your Personal Analysis Currency

The analysis currency determines the currency that is used in reports and analyses. It also determines how and when your currency conversion rates are calculated.

To set your currency for reports and analyses:

1. Navigate to **Business Intelligence**.
2. Click **Analytics** in the navigator menu.
3. Click **Browse Catalog**.
4. Click your user name and and select **My Account**.
5. Go to the Preference.
6. Select your choice in **Currency**.

The following table describes the currency menu options.

<table>
<thead>
<tr>
<th>Currency Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entered Currency</td>
<td>Currency used on a transaction.</td>
</tr>
<tr>
<td>&lt;Application&gt; Currency</td>
<td>Currency set up in each respective Cloud application as the common Corporate currency used company-wide.</td>
</tr>
<tr>
<td>User Preferred Currency using Simple Currency Management</td>
<td>Conversion to User Preferred Currency is performed at the time your run the report, and is calculated from the Corporate currency based on the last time the record was updated and saved or closed.</td>
</tr>
<tr>
<td>User Preferred Currency using Advanced Currency Management</td>
<td>Conversion to User Preferred Currency happens on the date your run the report, and uses the currency indicated on the record.</td>
</tr>
</tbody>
</table>

Setting a Default Currency Conversion Option for All Users

The default setting for the way currency conversion is handled for analytics is the User Preferred Currency Using Simple Currency Management. This simple currency management setting provides the best run-time performance when dealing with currency exchange rate management. But there are cases when your organization might want to standardize the setting for all system users, by setting the default preference to another option, such as CRM Currency or User Preferred Currency Using Advanced Currency Management.
To change the default currency setting for all users, administrators need to add a profile option and a corresponding value. Note that when administrators change the default currency setting for users in their organization, individual users can still override that setting and select their preferred currency in My Account.

The following table shows the profile option code parameters to override the default currency setting.

<table>
<thead>
<tr>
<th>Profile Code</th>
<th>Profile Value Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI_DEFAULT_CURRENCY_CONVERSION_METHOD</td>
<td>CRM Currency - Defaults to Application Currency.</td>
</tr>
<tr>
<td>BI_DEFAULT_CURRENCY_CONVERSION_METHOD</td>
<td>User Preferred Currency 1 - Defaults to User Preferred Currency Simple Currency Management.</td>
</tr>
<tr>
<td>BI_DEFAULT_CURRENCY_CONVERSION_METHOD</td>
<td>User Preferred Currency 2 - Defaults to User Preferred Currency Advanced Currency Management.</td>
</tr>
</tbody>
</table>

Add a Currency Profile

To set default global currency conversion types for all users, administrators create a currency profile using the Manage Profile Options task in the Setup and Maintenance work area. Only administrators can change global currency preferences by creating profiles.

To add a currency profile:

1. In the Setup and Maintenance work area, go to the Manage Profile Options task.
2. Enter the following values:
   - Profile Option Code: BI_DEFAULT_CURRENCY_CONVERSION_METHOD
   - Profile Display Name: BI Default Currency Conversion Method
   - Application
   - Module
   - Start Date: Provide previous day’s date to proceed to next step to define values.
3. Click Save and Close.
4. In the Manage Profile Options dialog box, you see your new profile. Check the Enabled box for Site.
5. Click Save and Close.

Related Topics

- Accessing Tasks to Update Existing Setup Data: Procedure

Define Currency Profile Values

Once you have created your currency profile, the last step is to define the profile value. This step defines which currency management option is assigned to that profile.

To define a currency profile value:

1. In the Setup and Maintenance work area, use the Manage Administrator Profile Values task.
2. In Profile Option Code search for your profile: BI_DEFAULT_CURRENCY_CONVERSION_METHOD.
3. In Manage Administrator Profile Values, Click + (Add icon).
4. Select Site as the Profile level.
5. Enter "User Preferred Currency 2" in Profile Value.
6. Click Save and Close to close the dialog.

Considerations for User-Preferred Currency Reporting and Exchange Rates

The simple and advanced user-preferred currency choices determine how and when your currency exchange rates are calculated for your reports. For both simple and advanced currency management, when you save or close a report, the application sets the exchange rate at that time. The option you choose impacts how quickly your reports are generated at run time. Each case includes trade-offs, as detailed in the examples.

User Preferred Currency using Simple Currency Management

The advantage of this option is performance - the application doesn't have to look up the rate for each transaction because when you close or save a record, the application converts it to your corporate currency at that day's rate. When you run the opportunity report, the application multiplies that value by your preferred currency exchange rate for the date you run the report. This eliminates the need for the application to cycle through each record, and calculate the corresponding exchange rate to your preferred exchange rate at the time that record was closed or last saved. It simply takes the value on record for the original transaction exchange to corporate currency, and multiplies it by your preferred currency exchange rate at the time your run the report.

As an example of user preferred currency using simple currency management, a user updates and saves or closes an opportunity record with associated revenue of one million Indian Rupees on January 31st with an exchange rate of 0.01403 Rupees to one US Dollar. The user then runs an opportunity report in US Dollars on March 31st. In the report, the US Dollar Corporate Currency is set at the January 31st rate it was saved at, in this case reporting as $14,030, or one million multiplied by 0.01403. Finally, an opportunity report on March 31st in Euros uses the March 31st conversion rate for US Dollars to Euros of 0.75017 to convert the recorded US Dollar amount into Euros, in this example one million multiplied by 0.1403, which is the January 31st Rupee to US Dollar exchange rate, multiplied by 0.75013, which is the March 31st rate for Euros. This requires less processing, because the January 31st Rupee to US Dollar exchange rate, while not exact on March 31st, is used as the basis for the calculation of the March 31st opportunity revenue conversion to Euros at the later exchange rate.
The following figure describes an example of user preferred currency using simple currency management.

![Example of User Preferred Currency using Simple Currency Management](image)

**User Preferred Currency using Advanced Currency Management**

This option provides a more precise exchange rate, since it goes through each record to determine the rate on the date the record was updated or closed. The downside of this option is performance. Your reports will take longer to run. The application has to cycle through each record and match currency exchange rates to the date the record was closed or updated and saved.

As an example of user preferred currency using advanced currency management, a user updates and saves or closes an opportunity record with associated revenue of one million Indian Rupees on January 31st, when an exchange rate of 0.01050 Rupees to one Euro applies. The user then runs an opportunity report on March 31st. In the report, the User Preferred Currency of Euros is applied, using the March 31st Rupee to Euro rate of 0.01052, requiring calculation during report processing to resolve the opportunity to 10,520 Euros. Finally, an opportunity report on March 31st in Euros again uses the March 31st conversion rate for Euros.
The following figure describes an example of user preferred currency using advanced currency management.

**Example of User Preferred Currency using Advanced Currency Management:**

User updates and saves or closes record on January 31st

User runs opportunity report on March 31st

Opportunity report on March 31st shows all opportunities in EUR

---

Why do I see amounts of zero in analyses?

The currency exchange rates might not be set up correctly. For example, you choose EUR as your preferred currency in general preferences, and your corporate currency is USD. Amounts in analyses are displayed in EUR after conversion from USD, based on the current exchange rate. But if the exchange rate between EUR and USD isn’t set up, or if the conversion fails for any reason, then the amounts show as zero. If this happens, contact your help desk.

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**Configuring Business Intelligence Publisher**

**Overview of Report Delivery Servers Management**

Oracle Business Intelligence Publisher, the report generation and delivery engine, requires configuration and tuning to deliver reports to users.

Report requests are received by Publisher from:

- Oracle Enterprise Scheduler
Oracle Procurement Cloud
Creating and Administering Analytics and Reports for Procurement

Chapter 2
Setup and Configuration

- The Reports and Analytics work area and panel tab
- Application pages

Requests submitted through Oracle Enterprise Scheduler are processed by the Oracle BI Publisher scheduler. Requests submitted through the Reports and Analytics work area or panel tab can be either real-time online requests or scheduled requests. Requests submitted through an application may call Oracle Enterprise Scheduler or may return report request results directly back to the application page.

Oracle BI Publisher is configured to accept requests from Oracle Applications Cloud. However, before you can deliver report documents to their destinations, you must define the delivery servers in Oracle BI Publisher. Use the Oracle BI Publisher Administration page to define your delivery servers.

Once delivery servers are defined, you can further configure the number of report processor and delivery threads to best handle your processing and delivery requirements. In addition, you can configure report properties for the delivery servers or at the report level to tune performance of your reports. To diagnose report processing issues, BI Publisher provides a set of scheduler diagnostics.

Navigate to the BI Publisher Administration Page

You use the Oracle BI Publisher Administration Page to perform most tasks related to report delivery and performance.

Use the Oracle BI Publisher Administration page to:

- Configure delivery servers
- Manage report and delivery processors
- View scheduler diagnostics
- Set system properties and report runtime configuration properties

Request the Oracle Applications Cloud security administrator to assign the BI Platform Administrator duty role (BI stripe) to the person responsible for administering BI analyses, dashboards, and BI Publisher reports. Administration tasks include security permissions for objects, organizing objects into folders, accessing log files, and several other tasks.

Navigating to the Administration Page

To navigate to the Oracle BI Publisher Administration page:

1. Click **Tools > Reports and Analytics** in the Navigator.
2. In the Reports and Analytics work area, click **Browse Catalog**.
3. In the Catalog page, click **Administration**, then click **Manage BI Publisher**.

Configure Report Delivery Servers

Set up the report delivery servers to support printing.

Configuring Servers

To configure delivery servers:

1. From the BI Publisher Administration page, click **Delivery Configuration**.
2. Enter values in the Delivery Configuration Options tab to set general properties for email deliveries and notifications.
3. To configure a delivery server, click the appropriate tab.
Configure Printers

Administrators can restrict printer access by role and you can set a default printer for your account.

Set a Default Printer for Your Account

You can set a default printer for your account. When you schedule a job and if the destination is Printer, your default printer is selected. However, you can select another printer assigned to your role for the job.

To set a default printer:

1. Navigate to BI Publisher.
2. Click your user name and select My Account.
3. In the General tab, select a default printer in the list and click OK.

Restrict Printer Access by Roles

By default, the access to a printer is set to Public, making it available to all users. An administrator can restrict role-based access to a printer.

To configure role-based access:

1. Navigate to the Administration page.
2. In the Delivery section, select Printer.
3. In the Printer tab, add a new printer or select an existing printer.
4. In the Access Control section, deselect Public.
5. Select one or more roles you want to provide access to the printer, and click Move to add them to the Allowed Roles.
6. Click Apply.

Overview of Report and Delivery Processors

When Oracle Enterprise Scheduler initiates a job, it is picked up by the BI Publisher scheduler queue.

- Job Processor: Listens for requests from the scheduler queue. When the job information is received, the job processor executes the data model (and splits the data for bursting jobs), stores the data in the shared temporary folder, and sends the report metadata to the report queue.

- Report Processor: Listens for requests from the report queue. When the report information is received, the report processor generates the report documents, stores it in the shared temporary folder and puts the delivery information in the delivery queue.

- Delivery Processor: Listens to the delivery queue and handles the delivery of reports for its channel. The delivery processors are:
  - Email Processor
  - File Processor
  - FTP Processor
  - Print Processor
  - WebDAV Processor
Manage Report Processing and Delivery Server Load

Manage the processors in the BI Publisher Scheduler Configuration page.

Managing Processing and Server Load

By default, each processor is enabled and the thread count for each is set to five. For each managed server that is running in the BI cluster, a table for that instance’s processors is displayed. Use the table to enable or disable processors for the instance and configure the thread counts.

To configure processor threads:

1. From the BI Publisher Administration page, click **Scheduler Configuration**.
2. In the Cluster Instances region of the Scheduler Configuration page, enter the Number Threads value in the processor configuration table.
3. All processors are automatically set to use the number of threads defined in the Threads Per JMS Processor value of the JMS Configuration region of the page. Enter a value in the Number Threads column to change the value from this default.

After performing the scale-out procedure, configure the processor threads for each cluster instance using the same steps.

Diagnose Report Processing Issues

The Scheduler Diagnostics page provides the runtime status of the scheduler. Among others, it provides status of its JMS configuration, JMS queues, cluster instances, scheduler Database, and Oracle Enterprise Scheduler.

Diagnosing Issues

To access the Scheduler Diagnostics page:

1. Navigate to the Oracle Business Intelligence Publisher **Administration** page.
2. In the System Maintenance group, click **Scheduler Diagnostics**.

Configure System Properties for Reports

Use the Oracle BI Publisher Runtime Configuration page to set the system-level runtime properties for reports.

Configure Reporting Properties

To access the Runtime Configuration page:

1. Navigate to the Oracle Business Intelligence Publisher **Administration** page.
2. In the Runtime Configuration group, click **Properties**.
FTP and SFTP Delivery Retry Property
By default, if FTP or SFTP delivery fails, another attempt is made to deliver the file to the failed destination 10 seconds later. When you set the Enable FTP/SFTP delivery retry property to False, no retry attempt is made. This setting affects all of the FTP and SFTP delivery requests, and can’t be configured for individual servers.

XPT Template Properties
Configure XPT templates by setting the properties described in the table.

<table>
<thead>
<tr>
<th>Property Name</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>XPT Scalable Mode</td>
<td>When you set this property to true, scheduled reports that use the XPT template and include a large amount of data run without memory issues. The first 100,000 rows of data in the report are stored in memory and the remaining rows are stored in the file system. For reports that contain smaller amount of data, you can set this property to false. So, scheduled reports that use the XPT template are processed in-memory.</td>
<td>true</td>
</tr>
<tr>
<td>Enable Asynchronous Mode for Interactive Output</td>
<td>When you set this property to true, interactive reports that use the XPT template make asynchronous calls to Oracle WebLogic Server. When you set this property to false, interactive reports that use the XPT template make synchronous calls to Oracle WebLogic Server. Oracle WebLogic Server limits the number of synchronous calls. Any calls that are stuck expire in 600 seconds.</td>
<td>true</td>
</tr>
</tbody>
</table>

Overview of Memory Guard Settings
Memory Guard settings for Oracle BI Publisher have default settings optimized for performance.

Reviewing Memory Guard Settings
To Review Memory Guard Settings:

1. Click Properties.
2. Click Manage BI Publisher.
3. In the Runtime Configuration, click Properties.
4. The Memory Guard settings set thresholds for report size and runtimes.
Use a Dedicated Business Intelligence Publisher Cluster for Critical Jobs

For some time-sensitive reports, including for example paycheck and invoice generation, you can use a dedicated Business Intelligence Publisher cluster by setting the report’s priority as critical, ensuring that reports are run during critical time windows.

Critical jobs are assigned to a dedicated cluster. To set a report as critical:

1. Open the report.
2. Click Properties.

Determining Which Reports Are Prioritized as Critical

To review which reports have been marked as critical, navigate to Report Job Histories, where critical jobs are highlighted.

Download Armored PGP Public Key Files: Procedure

To support encrypted communication channel from the BI Publisher Server to an FTP site, you download a Pretty Good Privacy (PGP) public key file in ASCII armor format and configure your FTP server to use PGP encrypted files in that format.

Download PGP Public File

Download PGP keys in the BI Publisher Administration page.

To download a PGP key in armored format:

1. Navigate to the BI Publisher Administration page.
2. In the Security Center section, click the PGP Keys link to open the PGP Keys page.
3. In the PGP Keys section, click the Download BI Publisher Key [name] (ASCII armored) Download icon.
4. In the Opening bipublisher@oracle.com.key dialog box, click OK. Enter a name for the key or accept the default in the Save dialog box and click OK.

Upload and Apply PGP Keys for PGP Encryption for FTP Delivery

To secure report delivery through the FTP/SFTP channel, you can encrypt the report using PGP Encryption.

Upload PGP Keys

You upload, test, and delete PGP keys in the BI Publisher Administration page.

To upload PGP keys:

1. Navigate to the BI Publisher Administration page.
2. In the Security Center section, click the PGP Keys link to open the PGP Keys page.
3. In the PGP Keys section, click Browse and select the PGP key file in the Open dialog box.
4. Click OK.
5. Click Upload. After the file is uploaded, it is imported into the keystore and its details are visible in the PGP Keys table. If a key with the same ID is imported again, the file is overwritten.
6. Click the **Download** icon of the key in the Encrypted Test Output column of the PGP Keys table to download and decrypt a test output file using the secret key of the imported public key. Successful decryption confirms the encryption is working for your keys.

**Delete a PGP Key**

To delete an imported public key, click the **Delete** icon.

**Apply PGP Encryption to FTP Delivery Channel**

To create an FTP channel:

1. Navigate to the BI Publisher Administration page.
2. In the Delivery section, click the **FTP** link to open the FTP page.
3. Add a new FTP Server, using the user name and the password and private key password set when you created the PGP key. The Filter Command field is read-only and is updated automatically when you select a PGP key.
4. Click **Test Connection**.
5. Select the PGP Key ID of the key you uploaded from the list.
6. If you want PGP encrypted output in ASCII armored format on the destination FTP server, select the **ASCII Armored Output** check box. The Filter Command is updated with a `-a` option.
7. Select the **true** check box for Sign Output to sign the encrypted document. If you select this check box, a `-s` parameter is added to the existing filter command.
8. Test the connection again to confirm that an encrypted test file is sent to the remote directory. The FTP delivery channel can now be used in a scheduled job.

**Configure the Email Addresses for Notifications**

Use the Delivery Configuration Options page to set e-mail addresses for notifications from BI Publisher.

To configure the email address for delivery notification:

1. Log in as an administrator.
2. In the BI Publisher home page, click **Administration**, and then click the **Delivery Configuration** tab.
3. Enter the email addresses in the Email From Address and Delivery Notification Email From Address fields.
4. Enter the email subject text in the following fields:
   - Success Notification Subject
   - Warning Notification Subject
   - Failure Notification Subject
   - Skipped Notification Subject

**Set Up and Configure Auditing and Monitoring**

BI Publisher logs statistics about user activity using that can be reported on in reports. An administrator can set the level of auditing and monitoring or turn them off.
Logged User Events

Important report publishing events are logged in the audit database, including the following. You can control the level of auditing.

- Tracks the start and end time of request events for reports (normal and scheduled).
- Tracks the relationship between requested start time, report execution events (data processing, bursting, rendering, and delivery), and request end events for report requests

Access Audit Records

To access audit records:

1. Configure the AuditDB data source.
   a. Click Administration.
   b. Click the JNDI Connection.
   c. Click Add Data Source, and enter:
      - Data Source Name: AuditDB
      - JNDI Name: jdbc/AuditViewDataSource
   d. Click Test Connection to confirm the connection.
   e. Click Apply.

2. Create a data model.
   a. In the Home page, click New and select Data Model.
   b. Click New Data Set and select SQL Query.
   c. In the Edit Data Set dialog box, select AuditDB in the Data Source list.
   d. Accept the default, Standard SQL, in the Type of SQL list.
   e. Enter the following SQL statement:

   ```sql
   SELECT IAU_TSTZORIGINATING, IAU_INITIATOR, IAU_EVENTTYPE, IAU_RESOURCE from BIPUBLISHER_V
   ORDER BY IAU_TSTZORIGINATING DESC
   ```
   f. Click OK.
   g. Click Save to save the data model.
   h. Click View Data.
   i. In the Data tab, click View.
   j. Click Save As Sample Data.
   k. Click Save to save the data model.
   l. Click Create Report.

3. Create a simple report with table layout.

Configure Auditing and Monitoring Levels

Administrators can configure auditing and monitoring in the BI Publisher Server Configuration page.

To manage auditing and monitoring:

1. Click the Administration link.
2. In System Maintenance, click Server Configuration.
3. In the Monitor and Audit section, select the appropriate option:
   a. To enable both auditing and monitoring, select Enable Monitor and Audit, and select Medium from the Audit Level list.
To disable both auditing and monitoring, deselect **Enable Monitor and Audit**.

To disable auditing and enable monitoring, select **Enable Monitor and Audit**, and select **None** from the Audit Level list.

4. Click **Apply**.

### Configuring Deep Links

#### Register Business Intelligence to Support Deep Linking

Deep links in analyses allow you to navigate from analytics to specific attributes and objects in your transactional pages so that you can work with them directly. To support deep links, use the Setup and Maintenance work area to register the Business Intelligence Server as a third-party application.

#### Registering Business Intelligence Server as a Third-Party Application

To register the BI Server:

1. Use the **Manage Third Party Applications** task.
2. Click **Create**.
3. Enter **AnalyticsApp** as the application name.
4. Enter the full URL for the BI Server (for example: `http://host:port/analytics/saw.dll`).
5. Enter **Analytics Server** as the Partner Name.
6. Click **Save and Close**.

#### Related Topics

- **Registering a Third-Party Application: Procedure**

### Create Deep Links in Analyses

Create deep links in analyses to navigate from analytics to specific attributes and objects in your transactional pages to work with them directly.

To create deep links in an analysis:

1. In the Reports and Analytics work area, click **Browse Catalog**.
2. Create or edit an analysis. Use a subject area that includes the attribute you want to link to in the transactional pages, and ensure that you include the object ID.
3. On the Criteria tab, click the **Options** icon for the attribute column on which you need a deep link and select **Column Properties**.
4. Open the Interaction tab in the Column Properties dialog box.
5. In the Primary Interaction list in the Value section, select **Action Links** to display the Action Links table.
6. Select the **Do not display in a pop-up if only one action link is available at runtime** option.
7. Click **Add Action Link**.
8. In the New Action Link dialog box, enter the link text for the navigation.
9. Click the **Create New Action** icon and select **Navigate to a Web Page**.
10. In the Create New Action dialog box, enter the URL to navigate to, which references parameters you define in the prompt. For shared analyses: //<hostname>/fscmUI/faces/deeplink?objType=@{1}&objKey=<object ID>=@{2}&action=@{3}&returnApp=AnalyticsApp&returnAppParams=PortalGo%26path=</shared/Custom/<folder>/@{6}
   For personal analyses stored in My Folders: //<hostname>/fscmUI/faces/deeplink?objType=@{1}&objKey=<object ID>=@{2}&action=@{3}&returnApp=AnalyticsApp&returnAppParams=PortalGo%26pather=/users/@{5}/@{6}

11. Click **Define Parameters** to add corresponding parameters for the URL.
12. In the Define Parameters section, click **Add Parameter** to add the following mandatory parameters:

<table>
<thead>
<tr>
<th>Name</th>
<th>Prompt</th>
<th>Type of Value</th>
<th>Value</th>
<th>Fixed</th>
<th>Hidden</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Object Type</td>
<td>Value</td>
<td>&lt;Object Type&gt;</td>
<td>Selected</td>
<td>Selected</td>
<td>Used for shared and personal analyses.</td>
</tr>
<tr>
<td>2</td>
<td>&lt;Prompt Name&gt;</td>
<td>Column Value</td>
<td>Column Name in &quot;&lt;table. name&gt;. &quot;&lt;column. name&gt;&quot; format</td>
<td>Selected</td>
<td>Selected</td>
<td>Used for shared and personal analyses.</td>
</tr>
<tr>
<td>3</td>
<td>Action</td>
<td>Value</td>
<td>edit</td>
<td>Selected</td>
<td>Selected</td>
<td>Used for shared and personal analyses.</td>
</tr>
<tr>
<td>4</td>
<td>returnApp</td>
<td>Value</td>
<td>AnalyticsApp</td>
<td>Selected</td>
<td>Selected</td>
<td>Used for shared and personal analyses.</td>
</tr>
<tr>
<td>5</td>
<td>Logged in User</td>
<td>Session Variable</td>
<td>USER</td>
<td>Selected</td>
<td>Selected</td>
<td>Session variable parameter used for personal analysis permissions.</td>
</tr>
<tr>
<td>6</td>
<td>Report Name</td>
<td>Value</td>
<td>Analysis Name</td>
<td>Selected</td>
<td>Selected</td>
<td>Used for shared and personal analyses. The name of the analysis to return to after working in the transactional page.</td>
</tr>
</tbody>
</table>

13. Click **Options** to set how the page opens.
14. In the Action Options dialog box, select **Open in New Window** to open the page in a new window.
15. Save your work.
16. If you have provided the Return Application name, a Return icon is available in the transactional page to return to the analysis.

**Related Topics**
- Creating and Editing Analyses with Advanced Features: Procedure
Creating Links to Purchasing Transactions from Reports: Procedure

You can construct and include links to source purchasing transactions in Oracle Business Intelligence Publisher (BI Publisher) and Oracle Transactional Business Intelligence (OTBI) reports. The links navigate directly to the source documents so users can easily view the transaction details.

When you create reports to track and analyze spend, the reports typically provide an overview of the spend data. Often the details are found in the source purchasing documents. When you add links to navigate to and view the purchasing documents, report users can view the additional transaction details from the report without having to query the application from within Oracle Procurement Cloud.

Creating Links

Construct links to purchasing documents with the following format:

https://<serverURL>/fndSetup/faces/deeplink?objType=<objType>&objKey=poHeaderId=<headerID>

1. Replace serverURL with the URL of your environment.
2. Replace objType with the appropriate object type value from the following table.

<table>
<thead>
<tr>
<th>Object Type Value</th>
<th>Application Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>PURCHASE_ORDER</td>
<td>View Order page</td>
</tr>
<tr>
<td>PURCHASE_AGREEMENT</td>
<td>View Agreement page</td>
</tr>
<tr>
<td>PURCHASE_ORDER_SUPPLIER</td>
<td>View Order page from Supplier Portal</td>
</tr>
<tr>
<td>PURCHASE_AGREEMENT_SUPPLIER</td>
<td>View Agreement page from Supplier Portal</td>
</tr>
</tbody>
</table>

3. Replace headerID with the header ID of the purchasing document.

For example, the URL for a link to the View Order page for a purchase order with the header ID 208429 might look like this:

https://pod.oraclecloud.com/fndSetup/faces/deeplink?objType=PURCHASE_ORDER&objKey=poHeaderId=208429

Adding Links to Reports

In an OTBI report, you can add a link to the purchasing document as an action link on a column value. For example, when a user clicks an order number in a report, a View Order link displays. When the user clicks the View Order link, the purchase order opens.

You can also add a document link to a field in a BI Publisher report, by adding the URL as an attribute in the data model and adding the attribute as a field in the RTF template. For example, when a user clicks a linked order number field on the report, the purchase order opens.
Setting Up the Delivery Channel

Set Up the Delivery Channel and Enable Encryption

BI Publisher supports Oracle WebCenter Content as the recommend delivery channel for delivering reports for distribution. You can use the provisioned connection to deliver files from BI Publisher to WebCenter Content, or configure a custom connection to deliver Pretty Good Privacy (PGP) encrypted files from BI Publisher.

Using the Default Connection

By default, a provisioned WebCenter Content connection, FA_UCM_Provisioned, uses a provisioned FUSION_APPS_OBIA_BIEE_APPID user to connect to WebCenter Content with security groups and accounts to support the most common use cases.

Creating a Custom Connection

If you have specific requirement to access WebCenter Content using user credentials other than FUSION_APPS_OBIA_BIEE_APPID, or if you want to use PGP key encryption, you can add a custom connection.

When you create a custom connection for WebCenter Content, it must use the same Uniform Resource Identifier (URI) as the provisioned connection, but should have its own user name and password.

To create a custom connection:

1. In the BI Publisher Administration page, navigate to the Content Server tab in the Delivery section, and click Add Server.
2. Enter the same URI used by the provisioned FA_UCM_Provisioned WebCenter Content server.
3. Enter the server name, URI, user name, and password.
4. Leave Enable Custom Metadata deselected. Custom metadata is not used.
5. Click Test Connection to ensure that you can connect.
6. Click Apply.

Configuring File Encryption

You can use PGP encryption to secure the file delivery.

To use PGP encryption:

1. Upload the PGP public keys to import the PGP keys of WebCenter Content.
   a. Navigate to the Security Center section in the BI Publisher Administration page.
   b. Click PGP Keys to open the PGP Keys page.
   c. In the PGP Keys section, click Browse and select the PGP key file in the Open dialog box.
   d. Click Upload. The uploaded file is imported into the keystore and its details are visible in the PGP Keys table. If a key with the same ID is imported again, the file is overwritten.
   e. Click Download for the key in the Encrypted Test Output column of the PGP Keys table to download and decrypt a test output file using the secret key of the imported public key. Successful decryption confirms the encryption is working for your keys.
2. Enable delivery of PGP encrypted files in a custom connection to WebCenter Content.
   a. Navigate to the Delivery section and the Content Server page.
   b. Select the custom content server connection you want to configure.
   c. Select the imported key by its ID from the PGP Keys list and verify that the GPG command is populated in the Filter Command.
   d. Click **Apply**.

**Deliver Content**

Use a scheduled job to deliver content and documents.

**Scheduling a Job to Deliver Content**

To schedule a job to deliver documents:

1. In BI Publisher, click **Create** and select **Report Job**.
2. In Schedule Report Job, on the General tab, click **search** for the Report field.
3. In the Open dialog box, navigate to and select the report, and then click **Open**.
4. In Schedule Report Job, in the Frequency list on the Schedule tab, select the option to use for this report.
5. In Schedule Report Job, on the Output tab, choose **Content Server** in the Destination Type list.
6. Click **Add Destination**.
7. Select the server from the Server list.
8. Select the WebCenter Content security group to assign to the report.
9. (Optional) Select an account within the Security Group to assign to the report.
10. (Optional) Select the Folder Path to deliver files to an existing folder in the content server.
11. (Optional) Enter a value for Author. If you don’t enter an author, your user name is used for the Author metadata in WebCenter Content.
12. (Optional) Type a Title for the report. If you don’t enter a title, the layout name is used for the title.
13. Ensure that you don’t include files with the same name in one folder. The File Name field is used as the Native File Name in WebCenter Content. If you don’t supply a file name value, the Output name is used.
14. (Optional) Type a description to include with the document in WebCenter Content.
15. Deselect **Include Custom Metadata**.
16. Click **Submit**.
17. In the Submit dialog box, type a name in the Report Job Name field, and click **OK**.
18. Click **Home** and navigate to the Report Job History page to verify the report delivery status.

**Defining a Bursting Query to Deliver to Deliver Content**

Bursting is a process of splitting data into blocks, generating documents for each block, and delivering the documents to one or more destinations. The data for the report is generated by executing a query once and then splitting the data based on a key value. For each data block, a separate document is generated and delivered. The bursting query is a SQL query that you define to provide the required information to format and deliver the report.

To deliver reports to WebCenter Content, define the bursting job with WCC as the delivery channel, and configure the parameter values as shown in the table.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEL_CHANNEL</td>
<td>Delivery channel. Specify <strong>WCC</strong> for WebCenter Content.</td>
</tr>
</tbody>
</table>
Oracle Procurement Cloud
Creating and Administering Analytics and Reports for Procurement

Chapter 2
Setup and Configuration

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parameter1</td>
<td>Server name</td>
</tr>
<tr>
<td>Parameter2</td>
<td>Security group</td>
</tr>
<tr>
<td>Parameter3</td>
<td>Author of the file</td>
</tr>
<tr>
<td>Parameter4</td>
<td>Account (Optional)</td>
</tr>
<tr>
<td>Parameter5</td>
<td>Title</td>
</tr>
<tr>
<td>Parameter6</td>
<td>Output file name</td>
</tr>
<tr>
<td>Parameter7</td>
<td>Comments (Optional)</td>
</tr>
<tr>
<td>Parameter8</td>
<td>Content ID (Optional) If you specify the ID, it must be unique. If you don’t specify the ID, a unique ID is generated.</td>
</tr>
<tr>
<td>Parameter9</td>
<td>Custom metadata, set as true or false. Specify false.</td>
</tr>
<tr>
<td>Parameter10</td>
<td>Folder Path</td>
</tr>
</tbody>
</table>

**Note:** Ensure that you don’t include files with the same name in one folder and that the Content ID is unique.

The following is a sample query for bursting reports:

```sql
select distinct
select distinct
product_status as "KEY", -- Split Key from data model SQL
'BurstTemp' TEMPLATE, -- Report template name
'en-US' LOCALE,
'PDF' OUTPUT_FORMAT, -- Output type
'WCC' DEL_CHANNEL, -- To send to content server
'CRMStage' PARAMETER2, -- Security group
'hcm.user' PARAMETER3, -- Author of the file
'PARAMETER4', -- Account (Optional)
'Custom_UCM' PARAMETER1, -- Content server name
'Burst_Burst' PARAMETER5, -- Title
'Product_Status|| TestFile.pdf' PARAMETER6, -- Output File name
'Product_Status PARAMETER8, -- Content ID (Optional)
'false' PARAMETER9, -- Custom metadata (Optional)
'\Contribution Folders/Test12311/Check' PARAMETER10 -- Folder path to deliver files from products
```

Embed Analyses and Dashboards
Whitelist Safe Domains

Whitelisting allows or approves access to specific content. For security reasons, you’re not allowed to add external content to reports or embed your reports in other applications unless your administrator considers it safe to do so. Only administrators can add safe domains to the whitelist.

Only authorized users may access the content. Users are prompted to sign in when they access content on these safe domains, unless your service is set up with Single Sign On (SSO). After you’ve added a safe domain to the whitelist, users need to sign out and sign back in to access content from that source.

1. Navigate to the Reports and Analytics work area.
2. Click Browse Catalog.
3. Click the Administration link.
4. Click the Manage Safe Domains link.
5. To allow users to embed their analyses in content located on other domains, enter the name of the safe domain as well as the port. Use formats such as:
   - www.example.com:<port number>
   - *.example.com:<port number>
   - https:
6. Select the types of resources you want to allow and block any resource types you don't consider safe. At a minimum, to allow embedding, select Embedding.
7. To remove a domain, select it and click the Delete icon.

Embed Your Content in Other Applications

You can embed your analytics in other applications and portals. This is a good way to share content and data among multiple systems.

When other users click on embedded content, if you don’t have single sign-on they might have to login again.

1. Whitelist the domain name to which you want to link. For example, to link to URLs for myportal.com, whitelist *.myportal.com. You need to be an administrator to do this.
2. Obtain the URL of the analysis or dashboard you want to embed.
   a. Go to the catalog and open the analysis or dashboard.
   b. Delete "Portal" from the copied URL, so that your URL resembles the following examples, then copy the URL displayed in the browser’s address bar.

<table>
<thead>
<tr>
<th>Content</th>
<th>Example URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyses</td>
<td><a href="http://example.com">http://example.com</a>:&lt;port number&gt;/ analytics/ sawdllGoAction prompt&amp;path= %2Fshared %2F&lt;folder&gt;%20&lt;analysis name&gt;</td>
</tr>
</tbody>
</table>

3. Sign in to the target application or portal, then embed the content inside an iFrame and use the copied URL.
3 Subject Areas

How Data Is Structured for Analytics

The business intelligence (BI) repository contains the metadata that defines which columns you can include in analyses, and the source of that data. The repository is organized into subject areas, which contain folders with the columns.

☝️ Note: You can also use the BI repository as a data source for reports.

Columns

This table describes the three types of columns available when you create or edit analyses.

<table>
<thead>
<tr>
<th>Column Type</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fact</td>
<td>Provides a measure of something, meaning that the values are numbers.</td>
<td>Total</td>
</tr>
<tr>
<td>Attribute</td>
<td>Represents a piece of information about a business object, with values that are dates, IDs, or text.</td>
<td>Start Date</td>
</tr>
</tbody>
</table>
| Hierarchy   | Holds data values that are organized in a hierarchical manner. | Time, with sublevels:  
  - Year  
  - Quarter  
  - Month |

Note: Attribute columns can be flexfield segments imported into the BI repository.

Subject Areas

When you create an analysis, you first select a subject area, which contains columns related to a specific business object or area. Then, open folders within the subject area to find the columns to include.

Folders

Each subject area has one fact folder and a number of dimension folders. Folders can have subfolders.

- Fact folders:
  - Contain fact columns.
  - Are usually the last in a list of folders and are usually named after the subject area.
• **Dimension folders:**
  
  o Contain attribute and hierarchical columns.
  
  o Are joined to the fact folder within a subject area.

  For example, if your analysis has the Currency attribute from a dimension folder, you see currencies in the results. If you also add the Total fact, then your analysis includes only records with both a currency and a total amount. The more columns you add, the smaller the query set for your analysis.

  o Can be common folders, or common dimensions, that appear in more than one subject area.

  If your analysis has columns from multiple subject areas, then you:

  • Should include columns only from dimension folders that are common to all of those subject areas. At least one such column is required.
  
  • Must include one column from the fact folder in each of those subject areas.

**Related Topics**

• Creating and Editing Analytics: Highlights

• Creating and Editing Analyses with Advanced Features: Procedure

• Creating and Editing Analyses Using a Wizard: Procedure

• Modify Data Models

**Procurement Subject Areas, Folders, and Attributes: Explained**

To create real-time analyses, you should be familiar with the Oracle Business Intelligence concepts of subject areas, folders, and attributes.

**Subject Areas**

To create an analysis, you begin by selecting a subject area from which you select columns of information to include in the analysis. For example, to create an analysis of requisition information, you begin by selecting a Requisitions subject area. Subject areas are based around a business object or fact.

Some of the Oracle Procurement Cloud-specific subject areas are:

• Procurement - Implemented Change Orders Real Time

• Procurement - Pending Change Orders Real Time

• Procurement - Procure to Pay Real Time

• Procurement - Purchasing Agreements Real Time

• Procurement - Purchasing Real Time

• Procurement - Requisitions Real Time

• Procurement - Spend Real Time

• Sourcing - Supplier Awards Real Time
Oracle Procurement Cloud
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Chapter 3
Subject Areas

- Sourcing - Supplier Negotiations Real Time
- Sourcing - Supplier Responses Real Time
- Supplier - Supplier Real Time
- Supplier Import - Supplier Real Time
- Supplier Qualification - Qualifications and Assessments Real Time
- Supplier Registration - Supplier Registration Real Time

**Note:** Oracle Transactional Business Intelligence (OTBI) subject areas always have a suffix of "Real Time."

For a complete list of Procurement-specific subject areas, see the Oracle Procurement Cloud Subject Areas for Transactional Business Intelligence in Procurement guide.

**Folders**

Each subject area has one fact folder and a number of dimension folders. Fact folders contain attributes that can be measured, meaning that they are numeric values like order quantity and order amount. A special folder, called a Degenerate Dimension, is also associated with the fact folder. Each dimension folder is joined to the fact folder within a subject area.

Some folders, such as Buyer, Procurement BU, and Requisitioning BU, appear in more than one subject area. These are referred to as common folders or common dimensions. Fact folders are usually at the bottom of the list of folders and named after the subject area.

Each fact has a different level of granularity. For example, Buyer has contact details.
Attributes

Finally, each dimension folder contains attributes, such as address, item details, and so on. This figure illustrates the structure of subject areas, folders, and facts.

In the preceding figure, the following OTBI components are shown:

- Subject area: Procurement - Purchasing Real Time
- Dimension presentation folder: Buyer
- Dimension attributes: Address Line 1, City, Country, Full Name, and so forth
- Fact presentation folder: Purchase Order Schedules
• Fact measures: Accepted Quantity, Billed Amount, Billed Quantity, Count

Related Topics

• Oracle Procurement Cloud Subject Areas for Transactional Business Intelligence in Procurement
Overview of Flexfield Use in Analyses

Flexfields are extensible sets of placeholder fields associated with business objects which can be placed on application pages. You can use flexfields to extend business objects and meet your data management requirements without changing the data model or performing any database programming. To include flexfields you have used for extension for use in analyses, you must enable them for business intelligence.

Extension of analyses using flexfields is available for Oracle Enterprise Resource Planning Cloud and Oracle Human Capital Management Cloud.

Flexfield Types

The following types of flexfields are available and provide a means to modify application features without programming:

- Descriptive
- Extensible
- Key

Depending on the flexfield type, business intelligence enablement is performed differently and has different requirements. Once they are enabled for business intelligence, you can import any changes made to flexfields automatically using an import scheduled process.

Configuring Key Flexfields for Transactional Business Intelligence

Enable Key Flexfields for Business Intelligence Reporting

To include flexfields in your analyses, you must enable them for Business Intelligence. Extensibility of analysis using flexfields is used for Enterprise Resource Planning and Human Capital Management. For Customer Relationship Management, the Extensibility Framework supports this.

To designate key flexfields as BI-enabled:

1. In the Setup and Maintenance work area, go to the Manage Key Flexfields task.
2. On the Manage Key Flexfields page, enter your search value in Key Flexfield Code.
3. Click Manage Structure Instances.
4. Enter your search value in Structure Instance Code.
5. Click Edit to display the Edit Key Flexfield Structure Instance dialog box.
6. Select the BI Enabled option, then click OK.
7. For each flexfield segment instance, repeat steps 5 through 6.
8. Click Save.
9. Populate the BI Object Name for each of the segment labels:

   a. Query the Key Flexfield Code in the Manage Key Flexfields window.
   b. From the Actions menu, select **Manage Segment Labels**.
   c. Populate the BI Object Name for each segment label to be mapped. The BI Object Name for the following qualified segment labels should not be modified:

<table>
<thead>
<tr>
<th>Segment Label Code</th>
<th>BI Object Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA_COST_CTR</td>
<td>Dim - Cost Center</td>
</tr>
<tr>
<td>GL_BALANCING</td>
<td>Dim - Balancing Segment</td>
</tr>
<tr>
<td>GL_ACCOUNT</td>
<td>Dim - Natural Account Segment</td>
</tr>
</tbody>
</table>

Before you deploy a flexfield, you must access the Chart of Accounts Instance and assign the newly created segment label to the appropriate segment in the Chart of Accounts.

   d. Click **Deploy Flexfield**.
   e. Click **Save and Close**.

**Related Topics**
- Enabling Key Flexfield Segments for Business Intelligence: Points to Consider
- Accessing Tasks to Update Existing Setup Data: Procedure

**Overview of Supported Key Flexfields**

Key flexfields are used to store internally defined codes unique to a particular business, specifying part numbers, general ledger accounts, and other business entities.

<table>
<thead>
<tr>
<th>Product Area</th>
<th>Key Flexfield</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Assets</td>
<td>Category (CAT#)</td>
<td>Dim - Asset Category</td>
</tr>
<tr>
<td>Fixed Assets</td>
<td>Location (LOC#)</td>
<td>Dim - Asset Location</td>
</tr>
<tr>
<td>General Ledger</td>
<td>Accounting (GL#)</td>
<td>Dim - Balancing Segment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dim - Cost Center</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dim - Natural Account</td>
</tr>
<tr>
<td>Payroll</td>
<td>Costing</td>
<td>Dim - Costing Segments</td>
</tr>
<tr>
<td>Supply Chain Management</td>
<td>Locator</td>
<td>Dim - Inventory Org</td>
</tr>
<tr>
<td>Supply Chain Management</td>
<td>Item Category</td>
<td>Dim - Item</td>
</tr>
</tbody>
</table>
Map Non-Qualified Segments to BI Objects

To map non-qualified segments that must be mapped and used in analysis, create a new label and associate a BI object with the label. Associate this new segment label with the segment code.

To map non-qualified segments to BI objects:

1. In the Setup and Maintenance work area, go to the Manage Key Flexfields task.
2. On the Manage Key Flexfields page, search for the appropriate key flexfield code.
3. From the Actions menu, select Manage Segment Labels.
4. Click the Add Row icon.
5. Enter the details for the Segment Label Code, including name, description, and BI Object name. Enter the BI object names carefully and note whether there is a space between Segment and the number.

This table provides examples of Key Flexfields and associated BI object names.

<table>
<thead>
<tr>
<th>Key Flexfield</th>
<th>BI Object Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting (GL)</td>
<td>Dim - GL Segment1 through Dim - GL Segment10</td>
</tr>
<tr>
<td>Budgetary Control (XCC)</td>
<td>Dim - XCC Segment1 through Dim - XCC Segment10</td>
</tr>
<tr>
<td>Revenue Management (VRM)</td>
<td>Dim - VRM Segment 1 through Dim - VRM Segment 10</td>
</tr>
</tbody>
</table>

6. Complete the mapping by assigning unique segment labels to the key flexfields.

Set Up the GL Accounting Flexfields

This topic describes the workflow for setting up Accounting key flexfields, but these steps also apply for other key flexfields.

- Understanding Accounting Key Flexfields
- Identifying Accounting Key Flexfields
- Assigning Unique Segment Labels
- Performing Column Flattening
- Designating GL Accounting Segment Instances as BI-Enabled
- Deploying Accounting Key Flexfields
Understanding Accounting Key Flexfields

The Accounting Key Flexfield is used to identify GL accounts.

A chart of accounts segment is a component of the accounting key flexfield. Each segment has a value set attached to it to provide formatting and validation of the set of values used with that segment. The combination of segments creates the account combination used for recording and analyzing financial transactions. You must set up your Chart of Accounts (COA) as part of implementing Oracle Applications Cloud.

Examples of segments that may be found in a chart of accounts structure include Company, Cost Center, Department, Division, Region, Account, Product, Program, and Location.

The Natural Account segment of the General Ledger Accounting Key Flexfield defines the account used in the account combination to record transactions.

The logical segment dimensions in the Oracle BI metadata are **Dim - Cost Center**, **Dim - Balancing Segment**, **Dim - Natural Account Segment** and all **Dim - GL Segment n** dimensions. These dimension tables are populated from a Tree value object or from a Value Set value object. Which value is used depends on whether a tree was associated with the segment in the Oracle Applications Cloud setup:

- For each segment associated with trees, two value objects are generated (Tree and TreeCode) with the following naming structure:
  - FscmTopModelAM.AccountBIAM.FLEX_TREE_VS_segmentlabel_VI
  - FscmTopModelAM.AccountBIAM.FLEX_TREECODE_VS_segmentlabel_VI

- For each segment without trees, one view object is generated with the following naming structure:
  - FscmTopModelAM.AccountBIAM.FLEX_VS_XXX_VI

In addition to the segment dimension tables, the BI Extension process also extends **Flex BI Flattened VO**; FscmTopModelAM.AccountBIAM.FLEX_BI_Account_VI. This view object has a pair of columns for each segment; segmentlabel_ and segmentlabel_c.

For example, for your Cost Center segment which has the segment label FA_COST_CTR, there are two columns in this view object, named FA_COST_CTR_ and FA_COST_CTR_c.

Identifying Accounting Key Flexfield Segments

Identify and map segments of the chart of accounts.

For each Chart of Accounts (Accounting Key Flexfield) used to analyze Transactional Business Intelligence facts, identify the segments of the chart of accounts. Map them to the Transactional Business Intelligence GL Accounting Segment logical dimensions.

<table>
<thead>
<tr>
<th>Accounting Key Flexfield Segment</th>
<th>Segment Label</th>
<th>Transactional Business Intelligence GL Accounting Segment Logical Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balancing</td>
<td>GL_BALANCING</td>
<td>Dim - Balancing Segment</td>
</tr>
<tr>
<td>Natural Account</td>
<td>GL_ACCOUNT</td>
<td>Dim - Natural Account Segment</td>
</tr>
<tr>
<td>Cost Center</td>
<td>FA_COST_CTR</td>
<td>Dim - Cost Center</td>
</tr>
<tr>
<td>Other segments to be equalized across the charts of accounts</td>
<td>Other unique segment label</td>
<td>Dim - GL Segment n where n is an integer from 1 to 10</td>
</tr>
</tbody>
</table>
Assigning Unique Segment Labels
You must assign a unique segment label to the charts of accounts segments that are the balancing segments or the natural account segments. The segments must be also used for specific purposes.

For example, assign the Primary Balancing segment label to the segment used for your company or legal entities. That label provides a correct recording of intercompany transactions and company analysis. You can assign other segment labels when required.

To assign unique segment labels to charts of accounts segments:

1. In the Setup and Maintenance work area, go to the Manage Charts of Accounts task and then navigate to the Manage Chart of Accounts page.
2. In the Search section, enter the GL# for the Key Flexfield Code and click the Search button.
3. In the Search Results section, select Accounting Flexfield and click the Manage Structures button to navigate to Manage Key Flexfield Structures.
4. In the Search section, enter the chart of accounts code or the name for Structure Code or Name and click the Search button.
5. In the Search Results section, select the chart of accounts and click Edit to navigate to the Edit Key Flexfield Structure window.
6. Select the Enabled check box to code-enable the Structure code.
7. In the Segments section, select the applicable segments and click Edit to navigate to the Edit Key Flexfield Segment window.
8. Select the Enabled check box to enable the segments.
9. In the Segment Labels section, select the unique segment labels to equalize the segments across the charts of accounts. Click the shuttle to move the segments to the selected list.
10. Click Save and Close to return to the Edit Key Flexfield Structure window.
11. Click Done to return to the Manage Key Flexfields window.

Performing Column Flattening
Column flattening of trees is required in order for OTBI hierarchy analyses to be populated with correct data.

To flatten columns for account hierarchies:

1. In the Setup and Maintenance work area, go to the Manage Trees and Tree Versions task and navigate to the Manage Chart of Accounts page.
2. In the Search section, enter GL_ACCT_FLEX for the Tree Structure Code and the involved tree code or name, and click Search.
3. In the Search Results section, select the tree version you want to flatten. If the status of the Tree Version is Draft, to make the Tree Version active, select Actions, then Status, and then Active.
4. (Optional): After the tree version is specified, perform an audit on the Tree Version to ensure its integrity before launching the flattening job. Select Actions and then Audit. See the section on working with Trees in the Developer’s Guide.
5. Choose Column Flattening from the Actions menu.
6. Click the Online Flattening button to launch the flattening job immediately. Or, click the Schedule Flattening button to schedule the flattening job according to your requirements.
Designating GL Accounting Segment Instances as BI-Enabled

Specify the applicable chart of accounts segment instances that are BI-enabled to make them available for use in Transactional Business Intelligence.

To specify the chart of accounts segment instances as BI-enabled:

1. In the Search Results section of the Manage Key Flexfields window, select Accounting Flexfield and click the Manage Structure Instances button to navigate to the Manage Key Flexfield Structure Instances window.
2. In the Search section, select the chart of accounts for Structure Name and click the Search button.
3. In the Search Results section, select the structure instance and click Edit to navigate to the Edit Key Flexfield Structure Instance window.
4. Check the Enabled check box to code-enable the structure instance.
5. In the Segment Instances section, select the segment instances and click Edit to update. Each of the segment instances must be selected individually.
6. Select the Business Intelligence enabled check box in the Edit Key Flexfield Segment pop-up window and click OK to return to the Edit Key Flexfield Structure Instance window.
7. After you have enabled all applicable segment instances for Business Intelligence, click Save and Close to save the changes and return to the Edit Key Flexfield Structure Instance window.
8. Repeat steps 2 - 6 for each chart of accounts to enable all the applicable segment instances for Business Intelligence.
9. Click Done to return to the Manage Key Flexfields window.
10. After you have configured all the charts of accounts, click the Deploy Flexfield button to deploy the Accounting Flexfield and make the latest definition available for use.

Deploying Accounting Key Flexfields

After you have set up accounting key flexfields, you must deploy them.

Accounting key flexfields have one of the following deployment statuses:

- Edited: The flexfield definition has not been deployed or changes have been made to the structure, the structure instances, or the value sets.
- Patched: The flexfield definition has been modified through an update, but the flexfield has not yet been deployed so the updated definition is not reflected.
- Deployed to Sandbox: The flexfield is deployed and available in a flexfield-enabled sandbox.
- Deployed: The flexfield definition is deployed and available to end users.
- Error: The deployment attempt failed.

To deploy accounting key flexfields:

1. In the Setup and Maintenance work area, go to the Manage Chart of Accounts task.
2. Click Search.
3. Locate the Deployment Status column.
4. Click the icon.
5. Select Edited.
6. Click Deploy Flexfield.
7. Monitor the Deployment Status and when it reaches 100% click OK.
8. Verify that a check mark displays in the Deployment Status column.
9. Click Done.
Configuring Descriptive Flexfields for Transactional Business Intelligence

Overview of Transactional Business Intelligence Configuration of Descriptive Flexfields

Configure descriptive flexfields to track unique information not typically found on business forms. Descriptive flexfields can store several important details on a form without cluttering it. For example, several details may make an asset form heavy and unmanageable. However, the user still needs to access those details and therefore, they must be present on the form. In such cases, descriptive flexfields are convenient to use and are easy to manage.

Descriptive flexfields provide a way for you to add attributes to entities and to define validation and display properties for them. A descriptive flexfield is a logical grouping of attributes (segments) that are mapped to a set of extension columns which are shipped as part of Oracle Applications Cloud tables.

Configure Descriptive Flexfield Segments

If a descriptive flexfield is enabled for Oracle Business Intelligence, you can enable global and context segments for Oracle Business Intelligence, and you can select segment labels. Not all descriptive flexfields are supported for Business Intelligence.

Configuring a Descriptive Flexfield Segment

1. In the Setup and Maintenance work area, go to the Manage Descriptive Flexfields task.
2. If the BI Enabled option is cleared, select it.
3. Select the options for deployment of the descriptive flexfields.

Set Descriptive Flexfields as BI-Enabled

If a descriptive flexfield is already defined, you can enable it for use in Business Intelligence reports. Not all descriptive flexfields are supported for Business Intelligence.

Setting a Flexfield as BI-Enabled

1. In the Setup and Maintenance work area, go to the Manage Descriptive Flexfields task.
2. Navigate to the Edit Descriptive Flexfields window.
3. Enter the descriptive flexfield name.
4. Check the BI Enabled option on the desired descriptive flexfields. If the option is unavailable, the flexfield is a non-supported entity.
5. Click OK.
Configuring Extensible Flexfields for Transactional Business Intelligence

Configure Extensible Flexfields

You can use extensible flexfields to configure more segments.

An extensible flexfield is similar to a descriptive flexfield in that it provides an expansion space that you can use to configure additional attributes (segments) without additional programming. As with descriptive flexfields, each segment is represented in the database as a single column. However, with extensible flexfields, the context values and context-sensitive segments are stored in an extension table.

Categories and Contexts

You can combine and arrange the segments into attribute groups that are tailored to your specific needs. For example, you can group related segments so that they appear together on the page. The attribute groups are referred to as contexts. You can optionally set up an extensible flexfield to enable categorization of contexts.

You can add contexts and segments to extensible flexfields just like the descriptive flexfields. To see the extensible flexfields in analyses, you need to deploy them and then run the BI Extender Essbase scheduled process.

Configuring Extensible Flexfields

To configure extensible flexfields:

1. In the Setup and Maintenance work area, go to the Manage Extensible Flexfield task.
2. Search for the EFF you want to configure, then select it and click the Edit icon.
3. In the Edit Extensible Flexfield dialog, highlight the category Display Name, then select Manage Contexts.
4. In the Manage Context dialog, search for the context that contains the segment you want to configure, highlight it, then click the Edit icon.
5. In the Edit Context dialog, click the Edit icon.
6. Edit the segment, as required, then click Save.

Related Topics

- Flexfield Usages: Explained

Setting Extensible Flexfields as BI-Enabled: Procedure

Extensible flexfields are BI enabled if at least one segment in a context is BI enabled.

Setting Extensible Flexfields as BI-Enabled

To set extensible flexfields as BI-enabled:

1. In the Setup and Maintenance work area, go to the Manage Extensible Flexfields task.
2. Enter the extensible flexfield name; for example, **Organization Information EFF**.
3. Select the applicable extensible flexfield, and then click **Edit**.
4. Select the applicable Category. The category contexts are populated automatically.
5. Click **Manage Contexts**
6. In the Edit Context page, select the applicable Context, and then click **Edit**.
7. Select the applicable Segment, and then click **Edit**.
8. In the Edit Segment page, select the **BI Enabled** check box.
9. Click **Save**.

**Essbase Rule File and Cubes: Overview**

Generate the Essbase rule file by running the Create Rules XML File for BI Extender Automation scheduled process. The Essbase rule file must be generated for all Oracle Essbase cubes mapped in the repository file (RPD).

**Job Status Conditions**

The process status displays one of these conditions.

- **INIT**: The process has just begun and is waiting for the extender command line JAR to update the status with more details.
- **COMPLETED_NO_EXTENSION_NEEDED**: No new Flexfield changes were detected in any of the Oracle Applications Cloud sources; because the RPD is already synchronized with all Flexfield changes, no changes were made in the RPD.
- **COMPLETED**: The RPD was successfully updated with Flexfield changes and uploaded into the Oracle Business Intelligence server.
- **FAILED**: Error conditions exist which require manual intervention.

**Related Topics**

- Submitting Scheduled Processes and Process Sets: Procedure

**Importing Changes to Flexfields Automatically**

**Importing Flexfield Changes: Overview**

You can use the Import Oracle Fusion Data Extensions for Transactional Business Intelligence scheduled process to import your flexfield changes.

Use the Import Oracle Fusion Data Extensions for Transactional Business Intelligence scheduled process to automatically import the following types of changes:

- Key Flexfield changes
- Descriptive Flexfield changes
- Extensible Flexfield changes
The Import Oracle Fusion Data Extensions for Transactional Business Intelligence scheduled process imports extensible data, including data in descriptive flexfield segments, key flexfield segments, and General Ledger balances in Essbase cubes.

If you have changes to key flexfields and descriptive flexfields, you can import all the changes in the same scheduled process.

This is an Oracle Applications Cloud scheduled process; it is not related to BI Applications. Detailed information on this process can be found in Oracle Applications Cloud documentation.

**Note:** We strongly recommend that you backup the Oracle Business Intelligence Enterprise Edition prior to importing any flexfield changes. Running the process disconnects all users from the server. You should not run this process when maintenance operations or system updates are being performed on the server.

### Running the Import Scheduled Process: Procedure

To import changes, run the Import Oracle Fusion Data Extensions for Transactional Business Intelligence scheduled process.

#### Running the Job

To run the process:

1. In the **Scheduled Processes** window, select **Search and Select: Name**.
2. Select **Search and Select: Name**.
3. Highlight **Import Oracle Fusion Data Extensions for Transactional Business Intelligence**.
4. Click **OK**.
5. Schedule the process.

#### Process Status Conditions

When the process is finished, the biExtenderCMDUtility.jar writes the status of the process into the JNDI file ess_bielExtenderEssJob_jobStatus, which can be viewed in Oracle WebLogic Server.

The process status displays one of the following conditions:

- **INIT:** The process has just begun and is waiting for the extender command line JAR to update the status with more details.
- **COMPLETED_NO_EXTENSION_NEEDED:** No new Flexfield changes were detected in any of the Oracle Applications Cloud sources; because the Oracle Business Intelligence is already synchronized with all Flexfield changes, no changes were made in the Oracle Business Intelligence.
- **COMPLETED:** Oracle Business Intelligence was successfully updated with Flexfield changes and uploaded into the Oracle Business Intelligence Server.
- **COMPLETED: PROCESS_ERRORS:** Oracle Business Intelligence was updated with the Flexfield changes but with some warnings that require manual intervention.
- **FAILED:** Error conditions exist that require manual intervention.

### Successful Import Process

If the import process is successful, you can perform the following actions:

- Query subject areas by segment dimensions such as Balancing Segment and Cost Center.
- Access DFF attributes for analyses.
- Use the General Ledger - Balances Real Time subject area to query Oracle Essbase cubes.
Disabling Flexfields as BI-Enabled

Overview

If you created a flexfield that you no longer want to use or report against, you can disable the flexfield as BI-enabled. There may be times, such as during development phases, when you try using a flexfield and later determine it is no longer needed.

Note: If you are considering disabling flexfields, keep in mind that any flexfields created in Oracle Applications Cloud must be designated as BI-enabled to be exposed in Transactional Business Intelligence. If you disable a flexfield, it cannot be deployed. Also, error conditions may occur if you disable a descriptive flexfield that has been implemented in BI Applications. If error conditions arise from disabling flexfields as BI-enabled, troubleshooting the errors can be difficult and time-consuming.

Disabling Key Flexfields as BI-Enabled: Procedure

If you created a flexfield that you no longer want to use or report against, you can disable the flexfield as BI-enabled. If you are considering disabling key flexfields, keep in mind that any flexfields created in Oracle Applications Cloud must be designated as BI-enabled to be exposed in Transactional Business Intelligence.

Disabling Key Flexfields

To disable key flexfields as BI-enabled:

1. In the Setup and Maintenance work area, go to the Manage Key Flexfields task.
2. Enter your search value in Key Flexfield Code.
3. Click Manage Structure Instances.
4. Enter your search value in Structure Instance Code.
5. Click Edit. The Edit Key Flexfield Structure Instance dialog box displays.
6. In Edit Key Flexfield Segment Instance, deselect the BI Enabled option.
7. Click OK, then Save.

Disabling Descriptive Flexfields as BI-Enabled: Procedure

If you created a flexfield that you no longer want to use or report against, you can disable the flexfield as BI-enabled. If you are considering disabling descriptive flexfields, keep in mind that any flexfields created in Oracle Applications Cloud must be designated as BI-enabled to be exposed in Transactional Business Intelligence.

Disabling Descriptive Flexfields

To disable descriptive flexfields as BI-enabled:

1. In the Setup and Maintenance work area, go to the Manage Descriptive Flexfields task.
2. Enter the **Descriptive Flexfield Name**.
3. Deselect the **BI Enabled** option on the desired descriptive flexfields.
4. Click **OK**, then **Save**.

### Disabling Extensible Flexfields as BI-Enabled: Procedure

If you created a flexfield that you no longer want to use or report against, you can disable the flexfield as BI-enabled.

If you are considering disabling extensible flexfields, keep in mind that any flexfields created in Oracle Applications Cloud must be designated as BI-enabled to be exposed in Oracle Transactional Business Intelligence.

**Disabling Extensible Flexfields**

To disable extensible flexfields as BI-enabled:

1. In the Setup and Maintenance work area, go to the **Manage Extensible Flexfields** task.
2. Enter the extensible flexfield Name; for example, "Organization Information EFF."
3. Select the applicable extensible flexfield and click **Edit** to navigate to Edit Extensible Flexfield.
4. Select the applicable Category. The category contexts are populated automatically.
5. Click **Manage Contexts** to navigate to Manage Contexts.
6. Select the applicable Context and click **Edit** to navigate to Edit Context.
7. Select the applicable Segment and click **Edit** to navigate to Edit Segment.
8. Deselect the **BI Enabled** option.
9. Click **Save**.

### Dimensions Supported by Descriptive Flexfields

**Procurement Descriptive Flexfields for Business Intelligence**

This table shows the Procurement product area dimensions supported by descriptive flexfields.

<table>
<thead>
<tr>
<th>DFF Code</th>
<th>Dimension Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO_ATTRIBUTE_VALUES</td>
<td>Dim - Purchase Agreement Details</td>
</tr>
<tr>
<td>PO_DISTRIBUTIONS</td>
<td>Dim - Purchase Order Details</td>
</tr>
<tr>
<td>PO_DOCUMENT_TYPES</td>
<td>Dim - Purchase Order Transaction Type</td>
</tr>
<tr>
<td>PO_HEADERS</td>
<td>Dim - Purchase Order Details</td>
</tr>
<tr>
<td>PO_LINE_LOCATIONS</td>
<td>Dim - Purchase Order Details</td>
</tr>
<tr>
<td>PO_LINE_TYPES</td>
<td>Dim - Purchase Line Type</td>
</tr>
<tr>
<td>PO_LINES</td>
<td>Dim - Purchase Order Details</td>
</tr>
<tr>
<td>DFF Code</td>
<td>Dimension Name</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---------------------------------------</td>
</tr>
<tr>
<td>PO_ NOTIFICATION_ CONTROLS</td>
<td>Dim - Agreement Notification Controls</td>
</tr>
<tr>
<td>PON_ AUCTION_ HEADERS</td>
<td>Dim - Sourcing Negotiation Details</td>
</tr>
<tr>
<td>PON_ AUCTION_ ITEM_PRICES</td>
<td>Dim - Sourcing Negotiation Details</td>
</tr>
<tr>
<td>PON_ AUCTION_ SUPPLIER_ HEADERS</td>
<td>Dim - Sourcing Negotiation Details</td>
</tr>
<tr>
<td>POR_ REQ_ DISTRIBUTIONS</td>
<td>Dim - Purchase Requisition Details</td>
</tr>
<tr>
<td>POR_ REQUISITION_ HEADERS</td>
<td>Dim - Purchase Requisition Details</td>
</tr>
<tr>
<td>POR_ REQUISITION_ LINES</td>
<td>Dim - Purchase Requisition Details</td>
</tr>
<tr>
<td>POZ_ SUPPLIER_ SITES_ALL_M</td>
<td>Dim - Supplier Sites</td>
</tr>
<tr>
<td>POZ SUPPLIERS</td>
<td>Dim - Supplier</td>
</tr>
</tbody>
</table>
Creating and Administering Analytics and Reports for Procurement

Chapter 5
Analytics Modification

5 Analytics Modification

Creating and Editing Analytics: Highlights

Edit and create analytics to provide ad hoc reporting on your transactional data. The predefined analyses and dashboards help answer many of your business questions, but you can also create your own to meet your requirements.

This table gives a just a few examples of creating or editing analytics.

<table>
<thead>
<tr>
<th>Task</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create an analysis</td>
<td>Your team needs a simple list of all your accounts, sorted by account ID. You include the account name, ID, and address in a new analysis, and add sorting on the ID column.</td>
</tr>
<tr>
<td>Create a view</td>
<td>A predefined analysis has a bar graph. You save a new version of this analysis with a table view added to the graph.</td>
</tr>
<tr>
<td>Create a view selector</td>
<td>You later decide that you want to toggle between viewing a table and a graph. You add a view selector that includes the table and graph views.</td>
</tr>
<tr>
<td>Edit a dashboard prompt</td>
<td>A predefined dashboard has a Start Date prompt. You make a copy of the dashboard and replace Start Date with a date range prompt.</td>
</tr>
<tr>
<td>Create a dashboard</td>
<td>You create a dashboard that includes an analysis and a report to view both together.</td>
</tr>
</tbody>
</table>

Tip: A wizard in the Reports and Analytics work area and panel tab is available to help you create or edit analyses.

Data Source Modification

Administrators can modify the business intelligence (BI) repository to determine the columns available for you to use.

- They enable flexfields (which support attributes) for BI, and import them into the repository.
- You can then select attributes from flexfields to include in your analyses.

Related Topics

- Reports and Analytics Work Area and Panel Tab
- How Data Is Structured for Analytics
- Overview of Flexfield Use in Analyses
Analyses

Creating and Editing Analyses Using a Wizard: Procedure

You can use a wizard that guides you through creating and editing analyses. Even though the wizard doesn't give you all available features, you can still use it to make typical changes, for example adding views or filters. For other tasks, such as creating dashboards or deleting analyses, use the advanced business intelligence features.

Creating an Analysis

1. Open the Reports and Analytics work area, or the Reports and Analytics panel tab if available in other work areas.
2. Click Create and select Analysis.
3. Select the subject area that has the columns you want for your analysis.
4. Optionally, add more subject areas or remove any that you no longer need.
5. Select the columns to include, set options for each column, and click Next.
6. Optionally, enter a title to display for the analysis.
7. Select the type of table or graph to include, specify the layout of the views, and click Next.

Note: At any point after this step, you can click Finish to go to the last step, to save your analysis.

8. Optionally, set more options for the table or graph, and click Next.
9. Optionally, add sorts or filters based on any of the columns you included, and click Next.
10. If you have a table, optionally define conditional formatting for select columns, for example to display amounts over a certain threshold in red. Click Next.
11. Enter the name of your analysis and select a folder to save it in.
12. Click Submit.

Editing an Analysis

1. Open the Reports and Analytics work area, or the Reports and Analytics panel tab if available in other work areas where you can find the analysis.
2. Select your analysis and edit it. In the Reports and Analytics work area, click More for the analysis and select Edit. In the Reports and Analytics panel tab, click the analysis, then click Edit.
3. Perform steps 4 through 10 from the preceding Creating an Analysis task, as needed.
4. To update an existing analysis, select the same name in the same folder. To save this analysis as a new copy, either name it with a new name or save it in a new folder.
5. Click Submit.

Related Topics

- Reports and Analytics Work Area and Panel Tab
- Where to Save Analytics and Reports
- How Data Is Structured for Analytics
Creating and Editing Analyses with Advanced Features: Procedure

Even though you can use a wizard to create or edit analyses, you might have to use advanced features for complicated analyses or specific requirements. For example, you can create view selectors so that users can toggle between views within an analysis, or define criteria for filters using SQL statements.

You can also perform other actions on analyses, for example delete them or copy and paste them within the business intelligence catalog.

Creating or Editing an Analysis

1. Open the Reports and Analytics work area, or the Reports and Analytics panel tab if available in other work areas.
2. Click the Browse Catalog button.
3. Click the New button, select Analysis in Analysis and Interactive Reporting, and select a subject area.
   
   Or, select your analysis in the Folders pane and click Edit.
4. Use the tabs as described in this table.

<table>
<thead>
<tr>
<th>Tab</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criteria</td>
<td>Select and define the columns to include.</td>
</tr>
<tr>
<td></td>
<td>Add filters.</td>
</tr>
<tr>
<td>Results</td>
<td>Add views and set options for results.</td>
</tr>
<tr>
<td>Prompts</td>
<td>Define prompts to filter all views in the analysis.</td>
</tr>
<tr>
<td>Advanced</td>
<td>View or update the XML code and logical SQL statement that the analysis generates.</td>
</tr>
<tr>
<td></td>
<td>Set options related to query performance.</td>
</tr>
</tbody>
</table>

5. Save your analysis.

Performing Other Actions on an Analysis

1. Open the Reports and Analytics work area, or the Reports and Analytics panel tab if available in other work areas where you can find the analysis.
2. Select your analysis and click Action and select More.
3. Click More for your analysis and select the wanted action, for example Delete or Copy.

Related Topics

- Reports and Analytics Work Area and Panel Tab
- How Data Is Structured for Analytics
- Where to Save Analytics and Reports
How can I provide access to a custom analysis or report to multiple users?

By default, shared analyses and reports are owned by the duty role of the user who created them. All users with that duty role are able to view, modify, and save the objects.

Cross-Subject Area Joins

Cross-Subject Area Joins: Overview

You can create analyses that combine data from more than one subject area. This type of query is referred to as a cross-subject area analysis. Review guidelines for creating these joins in MyOracle Support (Doc ID 1567672.1). Cross-subject area analyses can be classified into three broad categories:

- Using common dimensions.
- Using common and local dimensions.
- Combining more than one result set from different subject areas using set operators such as union, union all, intersection and difference.

Common Dimensions

A common dimension is a dimension that exists in all subject areas that are being joined in the report. These dimensions are considered common dimensions between subject areas and can be used to build a cross-subject area report.

Common and Local Dimensions

A local dimension is available only in one of the combined subject areas in a cross-subject area query.

Creating a Cross-Subject Area Analysis: Procedure

To create a real-time analysis that includes more than one subject area, which is referred to as a cross-subject area analysis, the analysis must include a measure from each of the subject areas to support the join if it uses a local dimension. You can hide the measure in the results if you don’t want it to appear in your analysis.

Creating a Cross-Subject Area Analysis

1. In the Reports and Analytics work area, click **Browse Catalog**.
2. Click **New** and select **Analysis**
3. In the Select Subject Area window, select a subject area.
4. In the Criteria tab, expand the dimensions and add a column to the analysis.
5. In the Subject Areas region, click **Add/Remove Subject Areas**.
6. In the Subject Area region of the Criteria tab, expand the dimensions and add a column to the analysis.
7. If the column is a local dimension, add a measure from the subject area. If it's preferable to hide the measure in your analysis, select its Column Properties, and in the Column Format tab of the Column Properties dialog box, select the **Hide** check box and click **OK**.

8. If you are using a local dimension, in the Advanced tab, navigate to the Advanced SQL Clauses section, select **Show Total value for all measures on unrelated dimensions**, then click **Apply SQL**.

9. Click the **Results** tab to see the results of the analysis.

10. Click the **Criteria** tab again to return to the analysis definition.

---

**Dashboards**

**Create and Edit Dashboards**

You can create and edit dashboards to determine their content and layout. In addition to objects in the business intelligence (BI) catalog, such as analyses, reports, and prompts, you can add text, sections, and more to a dashboard.

**Creating a Dashboard**

1. Open the Reports and Analytics work area, or the Reports and Analytics panel tab if available in other work areas.
2. Click **Browse Catalog**.
3. Click **New** and select **Dashboard** under **Analysis and Interactive Reporting**.
4. Enter the dashboard’s name and description, and select a folder to save in.
5. With the **Add content now** option selected, click **OK**.
6. Optionally, add more pages, or tabs, within the dashboard.
7. Drag and drop items from the Dashboard Objects or Catalog pane to add content to a page.
8. Click **Save**.

> **Note:** The first dashboard page is saved with the **page 1** name by default. To rename this page:

1. Click the **Catalog** link.
2. In the Folders pane, select your dashboard.
3. For **page 1**, click **More** and select **Rename**.
4. Enter the new name and click **OK**.

**Editing a Dashboard**

1. Open the Reports and Analytics work area, or the Reports and Analytics panel tab if available in other work areas where you can find the dashboard.
2. Select your dashboard in the pane and click **More**.
3. Click **Edit**.
4. Perform steps 5 and 6 from the preceding **Creating Dashboards** task, and make other changes as needed, for example:
   - Remove content from the dashboard.
   - Drag and drop within a page to move content around.
   - Change the layout of a page.
Related Topics
- Where to Save Analytics and Reports
- Reports and Analytics Work Area and Panel Tab

FAQs for Analyses and Dashboards

What are subject areas, dimensions, attributes, facts, and metrics?

Information for analysis is grouped into related functional areas called subject areas, which contain fact and dimension folders with attributes and facts used to create analyses.

Subject area folders include dimension and fact folders. Dimension folders include the grouping of dimensional attributes for the subject area. Columns (such as date of birth or name) which are grouped for a dimension are known as attributes. Fact folders contain numeric values, also called measures or metrics.

Dimension folders are often placed before fact folders in a subject area. Metrics can be combined with dimensional attributes for multi-dimensional analysis.

What's the relationship between dimensions and fact in a subject area?

A subject area is based around a single fact. The dimensions are all related to each other through the fact only. The fact is automatically included in any query that is created, even if none of the measures in the fact appear in the analysis.

What's a common dimension?

A common dimension is shared across multiple subject areas. For example, Time, Department, and Location are common dimensions. When constructing a cross-subject area analysis, only common dimensions can be used.

How can I determine which dimensions are shared across two subject areas?

If the dimensions exist in both subject areas, they are common dimensions, and are often among the first folders in a subject area. You can join any subject areas you have access to in Answers, but analyses are subject to the normalized data structure. Unless the underlying tables are joined by design, joining subject areas in Answers results in errors.

How can I identify subject areas to create analyses?

All OTBI subject area names end with the words “Real Time”. 
Can I change the columns in subject areas?

You can use only the available subject areas and their dimensions and facts. You can use other The data elements that are provided out of the box are the only ones that the customers can make use of. You can potentially use BI-enabled flexfields to analyze any column in the transactional tables.

Do analyses query transactional tables to display data?

Analyses run real-time queries of transactional tables through View Objects. Oracle Fusion data security, flexfields, user interface hints, lists of values, and other metadata are delivered through the View Objects.

What's a dashboard?

A dashboard is a container page to display analyses, reports, and other objects. Administrators can create shared dashboards for groups of users with common responsibilities or job functions. Personalized views can be created based on a user's permissions.
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Chapter 6
Reports Modification

6 Reports Modification

Overview of Business Intelligence Publisher

Oracle Business Intelligence (BI) Publisher allows you to author, generate, and deliver all types of highly formatted documents and operational reports. You can use familiar office desktop tools to create rich text format (.rtf) documents and reports against any data source. You can view reports, schedule them to run, and distribute them to predefined destinations.

A BI Publisher report consists of one or more .rtf layouts, a reference to a data model, and a set of properties. A report may also include style templates and subtemplates, which allow reusability of functionality and maintain consistency of design. In the logical architecture depicted in the figure, the report includes a data model and a layout, and the layout references two style templates in the catalog which in turn reference subtemplates.

In the BI Publisher logical architecture, the data model accesses data sources and the layout and its optional style template and subtemplates determine the formatting of the report output, which can include email, print, fax, or files, and others. The layout is designed using common office applications, for example Microsoft Word and Excel and Adobe Acrobat and Flash, among others.
Style Templates

A style template is a .rtf template that contains style information that can be applied to report layouts.

A style template is a .rtf template that contains style information that can be applied to report layouts at runtime to achieve a consistent look and feel across your enterprise reports. You associate a style template to a report layout in the report definition. Using a style template has the following benefits:

- Enables the same look and feel across your reports
- Enables consistent header and footer content, such as company logos, headings, and page numbering
- Simplifies changing elements and styles across all reports

Use style templates to define paragraph and heading styles, table styles, and header and footer content.

Paragraph and Heading Styles

When the named style is used in a report layout, the report layout inherits the following from the style template definition:

- font family
- font size
- font weight (normal, bold)
- font style (normal, italic)
- font color
- text decoration (underline or strike through)

Table Styles

Style elements inherited from the table style definition include:

- font style
- border style
- line definition
- shading
- text alignment

Header and Footer Content

The header and footer regions of the style template are applied to the report layout. This includes images, dates, page numbers, and any other text-based content. If the report layout also includes header and footer content, then it is overwritten.
Subtemplates

A subtemplate is a piece of formatting functionality in .rtf or .xsl format that can be defined once and used multiple times within a single layout template or across multiple report layout template files. Rich Text Format (RTF) subtemplates are easy to design using native features in Microsoft Word, while subtemplates using Extensible Stylesheet Language (XSL) can be used for complex layout and data requirements. Both .rtf and .xsl subtemplates are stored in the business intelligence catalog as a subtemplate object, and both can be called from .rtf layout templates.

Some common uses for subtemplates include:

- Reusing a common layout or component (such as a header, footer, or address block)
- Handling parameterized layout
- Handling dynamic or conditional layouts
- Handling lengthy calculations or reusing formulas

RTF Subtemplates

An RTF subtemplate is an RTF file that consists of one or more \texttt{<?template:?>} definitions, each containing a block of formatting or commands, that when uploaded to Business Intelligence (BI) Publisher as a subtemplate object in the catalog can be called from within another RTF template.

XSL Subtemplates

An XSL subtemplate is an XSL file that contains formatting or processing commands in XSL for the Business Intelligence Publisher formatting engine to execute. Use an XSL template to include complex calculations or formatting instructions not supported by the RTF standard.

How You Create and Edit Reports

Use reports to generate and print documents for internal operations, external business transactions, or legal requirements. To meet specific requirements, you must create or edit reports to capture different data, or present data in another way.

Report Components

Each report has components that you can modify, as described in this table:

<table>
<thead>
<tr>
<th>Report Component</th>
<th>Description</th>
<th>Tool for Modifying</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data model</td>
<td>Defines the data source, data structure, and parameters for the report. Multiple reports can use the same data model. Each report has one data model.</td>
<td>Data model editor in the application</td>
</tr>
</tbody>
</table>
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Reports Modification

### Report Component

<table>
<thead>
<tr>
<th>Layout</th>
<th>Description</th>
<th>Tool for Modifying</th>
</tr>
</thead>
</table>
|        | Defines the presentation, formatting, and visualizations of the data. A report can have multiple layouts. Different types of layout templates are available, for example Excel and RTF. | Depending on the template file type:  
• XPT: Layout editor in the application  
• RTF: Microsoft Word  
• PDF: Adobe Acrobat Professional  
• Excel: Microsoft Excel  
• eText: Microsoft Word |

<table>
<thead>
<tr>
<th>Properties</th>
<th>Specifies formatting and other settings for the report.</th>
<th>Report editor in the application</th>
</tr>
</thead>
</table>

### What You Can Create or Edit

This table gives just a few examples of creating or editing reports.

<table>
<thead>
<tr>
<th>Task</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edit the layout of a report.</td>
<td>Add your company logo to the report output.</td>
</tr>
<tr>
<td>Add a new layout to a report.</td>
<td>Design a new layout template that provides less detail than the existing template.</td>
</tr>
<tr>
<td>Edit a data model.</td>
<td>Add two fields to the data model used by a report so you can add those new fields to a layout for the report.</td>
</tr>
<tr>
<td>Create a new report based on a new data model.</td>
<td>Create a new data model based on data from an external system, and create reports using the data model.</td>
</tr>
</tbody>
</table>

### How You Access and Modify Report Components

To create or edit reports, you must access the business intelligence (BI) catalog. In the catalog, objects of type Report represent the report definition, which includes report properties and layouts. Data models are separate objects in the catalog, usually stored in subfolders called Data Models.

### Accessing the BI Catalog

You can access the BI catalog in any of the following ways:

- In the Reports and Analytics work area, click **Browse Catalog** to open the BI catalog, and find your report or data model in the Folders pane.
- In the Reports and Analytics work area, find your report and select **More** to go to the report directly in the catalog. The data model associated with the report should be in the Data Models subfolder within the same folder as the report.
- Sign in to the application directly (for example: [http://host:port/analytics/saw.dll](http://host:port/analytics/saw.dll)) to open the catalog.
• Sign in to the BI Publisher server directly (for example: http://hostname.com:7001/xmlpserver) to open the catalog.
  - Alternatively, once you are in the catalog using another method, for example, through the Reports and Analytics work area, change the final node of the URL. For example, change (http://host:port/analytics/saw.dll) to xmlpserver. So the URL you use would be: http://host:port/xmlpserver.

Predefined Reports
A special Customize option is available only:

• For predefined reports, not data models.
• Through direct access to the BI Publisher server using the /xmlpserver URL. When you find your report in the BI catalog, select Customize from the More menu.

The Customize option automatically creates a copy of a predefined report and stores it in the Shared Folders > Custom folder within the catalog. The new report is linked to the original, so that when users open or schedule the original, they are actually using the copied version.

If you don’t have access to the Customize option or don’t want the original version linked to the new report, make a copy of the predefined report and save it in the Custom folder.

Predefined Data Models
Don’t edit predefined data models. Instead, copy the data model into the Custom folder and edit the copy. You can’t create a new data model based on the transactional tables.

Related Topics
- Where to Save Analytics and Reports
- What happens to modified analytics and reports when an update is applied?

Using the Customize Option for Predefined Reports: Points to Consider
The Customize option automatically creates a copy of a predefined report and stores it in the Shared Folders > Custom within the business intelligence (BI) catalog. The copy includes the report definition, folder structure, and original report permissions, and is linked internally to the original report. You can edit the copy of the report, leaving the original report intact. When users open or schedule the original report, they are actually using the newer version.

Benefits of the Customize Option
In addition to conveniently copying a predefined report to the Custom folder, the Customize option:

• Makes it unnecessary to update processes or applications that call the report. For example, if the original report is set up to run as a scheduled process, you don’t need to change the setup. When users submit the same scheduled process, the newer report runs instead of the original.
• Automatically copies the security settings of the original report.
• Removes the risk of patches overwriting your edits. If a patch updates the original report, the newer report is not updated in any way.
Note: The report still references the original data model. The data model is not copied. A patch that updates the data structure of the data model might affect your report.

Accessing the Customize Option
To access the Customize option:

2. In the Folders pane, select the predefined report.
3. Select Customize from the More menu for the report.
4. The copied report in the Custom folder opens, so proceed to edit this report.

To edit the copied report again later, you don’t need to be in the BI server. Just go to the BI catalog and either:

- Select the Customize or Edit option for the original report.
- Find your report in the Custom folder and select Edit.

Related Topics
- Where to Save Analytics and Reports
- What happens to modified analytics and reports when an update is applied?

How Links Between Original and Modified Reports Are Managed
The Customize option for predefined reports creates a copy of the report that is linked to the original. Consider the following points when you work with both the original and modified versions.

Maintaining the Link Between Reports
The link between the predefined and modified report is based on the name of the modified report and its location within the Custom folder in the business intelligence (BI) catalog.

- If you manually create a report with the same name as a predefined report, and give it the same folder path in the Custom folder, then the new report becomes a version of the original. It would be as if you had used the Customize option to create a copy of the predefined report.
- You can edit the report so that it uses a different data model. But if the original data model is updated later, then your newer report doesn’t benefit from the change.

Caution: The link to the original report breaks if you rename the modified or original report.
Tasks Performed on Original Reports
This table describes what happens when you use the original report and a corresponding copied report exists.

<table>
<thead>
<tr>
<th>Task Performed on the Original Report</th>
<th>Result When There Is a Copied Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>Opens the copied report.</td>
</tr>
<tr>
<td>Schedule</td>
<td>Creates a report submission for the copied report.</td>
</tr>
<tr>
<td>Edit</td>
<td>Edits the copied report.</td>
</tr>
<tr>
<td>Delete</td>
<td>Deletes the original report only. If you delete the copied report, the original report is not deleted.</td>
</tr>
<tr>
<td>Copy</td>
<td>Copies the original report.</td>
</tr>
<tr>
<td>Cut and Paste</td>
<td>Cuts and pastes the original report.</td>
</tr>
<tr>
<td>Rename</td>
<td>Renames the original report. The copied report name is not changed.</td>
</tr>
<tr>
<td>Download</td>
<td>Downloads the copied report.</td>
</tr>
<tr>
<td>Customize</td>
<td>Edits the copied report.</td>
</tr>
<tr>
<td>History</td>
<td>Opens the job history of the copied report.</td>
</tr>
</tbody>
</table>

⚠️ **Caution:** This breaks the link between the original and copied reports.

**Related Topics**
- Where to Save Analytics and Reports
- What happens to modified analytics and reports when an update is applied?

**Layouts**

Create and Edit Report Layouts

The layout determines what and how data is displayed on report output. Each report has at least one layout template. This topic describes the following aspects of report templates:

- Layout templates
- Layout template types
• Overall process of managing layouts
• Deleting layout templates

Layout Templates
To modify a layout, you edit the layout template, which:

• Defines the presentation components, such as tables and labeled fields.
• Maps columns from the data model to these components so that the data is displayed in the correct place.
• Defines font sizes, styles, borders, shading, and other formatting, including images such as a company logo.

Layout Template Types
There are a few types of template files to support different report layout requirements.

• **RTF**: Rich text format (RTF) templates created using Microsoft Word.
• **XPT**: Created using the application’s layout editor, these templates are for interactive and more visually appealing layouts.
• **eText**: These templates are specifically for Electronic Data Interchange (EDI) and electronic funds transfer (EFT) information.

You can also create and edit other types of templates using Adobe PDF, Microsoft Excel, Adobe Flash, and XSL-FO.

Overall Process to Create or Edit Layouts
Editing or creating report layout, for example using Microsoft Word or the layout editor, involves making the actual changes to the template file. But that task is just one part of the entire process for modifying layouts.

1. Copy the original report and save the new version in **Shared Folders > Custom** in the business intelligence (BI) catalog. You create or edit templates for the new copy of the report.

   **Tip:** You can use the Customize option if the original is a predefined report.

2. Review report settings for online viewing.
3. Generate sample data for the report.
4. Edit or create the layout template file.
5. Upload the template file to the report definition. Skip this step if you’re using the layout editor.
6. Configure the layout settings.

Deleting Layout Templates
To remove a layout template for a report:

1. Select your report in the BI catalog and click **Edit**.
2. In the report editor, click **View a list**.
3. Select the layout template and click **Delete**.
Making Reports Available for Online Viewing: Procedure

Some reports are set up so that you can only view them through another application or submit them as scheduled processes. To view your report online while you’re editing it, you must define a few settings. When you’re done editing your report, make sure that you reset these settings as needed.

Updating Report Properties

1. Select your report in the business intelligence catalog and click Edit.
2. In the report editor, click Properties.

Updating Layout Settings

1. Back in the report editor, click View a list.
2. Make sure that the View Online check box is selected.

Generating Sample Report Data: Procedure

Depending on the type of report layout changes you’re making, sample data can be required or optional. You generate sample data, and then load it for use with your layout so that you can map data fields to layout components. For example, for the Start Date table column in your layout, you can set it so that the data displayed in that column comes from the Start Date field in the sample data.

You can generate sample data from the:

- Report data model
- Report viewer
- Scheduler

Generating Sample Data from the Data Model

Follow these steps:

1. Select your data model in the business intelligence (BI) catalog and click Edit. Alternatively:
   a. In the catalog, find the report to generate sample data for and click Edit.
   b. Click the data model name in the report editor.
2. In the data model editor, click View Data.
3. Enter values for any required parameters, select the number of rows to return, and click View.
4. To save the sample data to the data model, click Save As Sample Data.
   If you’re designing a .rtf template, click Export to save the file locally.
5. Save the data model.

Saving Sample Data from the Report Viewer

For reports that are enabled for online viewing, you can save sample data from the report viewer:

1. Select the report in the BI catalog.
2. Click **Open** to run the report in the report viewer with the default parameters.
3. On the Actions menu, click **Export**, then click **Data**.
4. Save the data file.

### Saving Sample Data from the Scheduler

For reports that are enabled for scheduling (not necessarily as a scheduled process), you can save sample data from the scheduler:

1. Select the report in the BI catalog.
2. Click **Schedule**.
3. On the General tab, enter values for any report parameters.
4. On the Output tab, ensure that **Save Data for Republishing** is selected.
5. Click **Submit**.
7. On the global header, click **Open**, then click **Report Job History**.
8. Select your report job name in the Job Histories table.
9. On the details page, under Output and Delivery, click the **XML Data Download** icon button.

### Layout Templates

#### Create and Edit Report Layout Templates Using the Layout Editor

The layout editor in the application provides an intuitive, drag-and-drop interface for creating pixel-perfect reports with PDF, RTF, Excel, PowerPoint, and HTML output. The layout template files you create with this tool have an `.xpt` extension. The layout editor tool is the only editing tool that provides dynamic HTML output. Users can interact with this output in a browser, for example by sorting, applying filters, and so on.

**Prerequisite**

Make sure that sample data is generated from the data model that your report is using.

**Using the Layout Editor**

To create or edit XPT templates:

1. Select the report in the business intelligence (BI) catalog and click **Edit**.
2. In the report editor, click **Edit** to update a template.
   Or, click **Add New Layout** and select a template type in the Create Layout section.
3. Create or edit the layout.
4. Click **Save** to save the layout to the report definition.

#### Set Up for RTF and Excel Report Layout Templates

You can use Microsoft Word or Microsoft Excel to create or edit RTF and Excel layout templates, in addition to the layout editor in the application. If you use Word or Excel directly, you must download and install the appropriate add-in so that the Microsoft application has the features you need to design report layouts.

**Note:** If you’re designing a new layout for your report, consider using the layout editor instead unless you are an experienced layout designer.

**Installing the Add-In**

1. Open the Reports and Analytics work area.
2. Click the Browse Catalog button.
3. Click Home.
4. In the Get Started pane, click Download BI Desktop Tools.
5. Select the add-in for the type of template you’re working with.
   - Template Builder for Word: RTF templates
   - Analyzer for Excel: Excel templates
6. Save and then run the installer.

Protecting Reports by Using Passwords
You can assign a password to your report and protect it from unwanted access. You can do this by setting the runtime properties at the server level using the Runtime Configuration page. The same properties can also be set at the report level, from the report editor’s Properties dialog. If different values are set for a property at each level, then report level takes precedence.

The following table describes the properties you can use to set passwords for reports in different formats.

<table>
<thead>
<tr>
<th>Report Format</th>
<th>Property Name</th>
<th>Description</th>
<th>Default</th>
<th>Configuration Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOCX output</td>
<td>Open password</td>
<td>Use this property to specify the password that report users must provide to open any DOCX report.</td>
<td>NA</td>
<td>docx-open-password</td>
</tr>
<tr>
<td>PPTX output</td>
<td>Open password</td>
<td>Use this property to specify the password that report users must provide to open any PPTX report.</td>
<td>NA</td>
<td>pptx-open-password</td>
</tr>
<tr>
<td>XLSX output</td>
<td>Open password</td>
<td>Use this property to specify the password that report users must provide to open any XLSX output file.</td>
<td>NA</td>
<td>xlsx-open-password</td>
</tr>
</tbody>
</table>

Creating and Editing RTF Report Layout Templates: Procedure
An RTF template is a rich text format file that contains the layout instructions to use when generating the report output. Use Microsoft Word with the Template Builder for Word add-in to design RTF templates.

Prerequisites
Install the Template Builder for Word add-in, and generate sample data.

Using Template Builder for Word
To modify an RTF template:
1. If you are editing an existing layout:
   a. Select your report in the business intelligence catalog and click Edit.
   b. In the report editor, click the Edit link of the layout to download the RTF file.
If you are creating a new layout, skip this step.

2. Open the downloaded RTF template file in Microsoft Word. Or, if you’re creating a new template, just open Microsoft Word.

3. Load the sample data that you generated.

4. Edit or create the layout template.

5. Save the file as Rich Text Format (RTF).

**eText Report Layout Templates: Explained**

An eText template is an RTF-based report template that is used for Electronic Funds Transfer (EFT) and Electronic Data Interchange (EDI). The template is applied to an input XML data file to create a flat text file that you transmit to a bank or other organizations. Use Microsoft Word to create or edit eText templates.

**File Format**

Because the output is for electronic communication, not printing, you must follow specific format instructions for exact placement of data on the template. You design eText templates using tables.

- Each record is represented by a table.
- Each row in a table corresponds to a field in a record.
- The columns of the table specify the position, length, and value of the field.

**Special Commands**

You must set up special handling of the data from the input XML file. This table describes the two levels of handling and where you declare the corresponding commands.

<table>
<thead>
<tr>
<th>Level</th>
<th>Example</th>
<th>Setup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global</td>
<td>Character replacement</td>
<td>Declare global commands in separate setup tables.</td>
</tr>
<tr>
<td></td>
<td>Sequencing</td>
<td></td>
</tr>
<tr>
<td>Record</td>
<td>Sorting</td>
<td>Declare functions in command rows, in the same table as the data.</td>
</tr>
</tbody>
</table>

**Upload the Layout Template File to the Report Definition**

If you’re creating or editing a report layout using the layout editor, the layout is automatically saved to the report definition, so you can skip this step. For all other layout types, for example RTF, upload the template file to the report definition after you’re done making layout changes.

**Uploading the Template File**

1. Select your report in the business intelligence catalog and click **Edit**.
2. In the report editor, click **View a list**.
3. In the table that lists the layouts, click **Create**.
4. Click **Upload** in **Upload or Generate Layout**.
5. In the Upload Template File dialog box:
   a. Enter a layout name.
   b. Browse for and select the layout template file that you created or edited.
   c. Select the template file type.
   d. Select the locale, which you can't change once the template file is saved to the report definition.
   e. Click Upload.
6. Save the report definition.

Configuring Layout Settings for Reports: Procedure

As part of creating or editing layout, you can set report properties related to layout. These settings determine, for example, which layouts users can choose from when viewing or scheduling the report. The settings apply only to your report.

Setting Layout Properties

1. Select your report in the business intelligence catalog and click Edit.
2. In the report editor, click View a list.
3. Set layout properties, some of which are described in this table.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Formats</td>
<td>Depending on the requirements for a report, you may want to limit the output file formats (for example, PDF or HTML) that users can choose. The available output formats vary depending on the template file type.</td>
</tr>
<tr>
<td>Default Format</td>
<td>When multiple output formats are available for the report, the default output format is generated when users open the report in the report viewer.</td>
</tr>
<tr>
<td>Default Layout</td>
<td>When multiple layouts are available for the report, you must select a default layout to present it first in the report viewer.</td>
</tr>
<tr>
<td>Active</td>
<td>Active layouts are available for users to choose from when they view or schedule the report.</td>
</tr>
<tr>
<td>View Online</td>
<td>Select this check box so that layouts are available to users when they view the report. Otherwise, the layout is available only for scheduling the report.</td>
</tr>
</tbody>
</table>

4. Click Save Report.

Data Models

Modify Data Models

A data model defines where data for a report comes from and how that data is retrieved. If a data model can't give you all the data that you need in your report, then you can either copy and edit an existing data model or create a new one. You must be a BI Administrator to create new data models.
Creating a Data Model

1. In the business intelligence (BI) catalog, click the **New** button and select **Data Model** in **Published Reporting**.
2. Optionally click the **Data Model** node in the Data Model pane to set properties for the data model.
3. Click the **Data Set** node in the Data Model pane to create or edit data sets, which determine where and how to retrieve data.
4. Click the **New Data Set** button and select a data set type. It’s best practice to use the BI repository as a data source, so you should select either:
   - **Oracle BI Analysis**: To use columns from a selected analysis.
   - **SQL Query**: To use a Query Builder tool to define what to use from the repository. Select **Oracle BI EE** as the data source.
5. Optionally, to limit the data included in the report output, click the **Parameters** node in the Data Model pane to define variables that users can set when they use the report.

   **Note**: The order of parameters is important if there are job definitions defined for reports that use your data model. If you change the order in the data model, you must also update the job definitions.

6. Optionally, define other components of the data model.
7. Click **Validate** to validate your data model. Errors and warnings pertaining to query performance are displayed. In case of errors in validation, the model is usable in development, but will not be available in production until errors are resolved.
8. Save your data model.

Editing a Data Model

1. To edit a predefined data model:
   a. Find the data model in the BI catalog and click **Copy**.
   b. Paste within **Shared Folders > Custom** in a subfolder that has a folder path similar to the folder that stores the original data model.
   c. For the data model you pasted, click **More**, and select **Edit**.
2. Optionally click the **Data Model** node in the Data Model pane to set properties for the data model.
3. Click the **Data Set** node in the Data Model pane to create or edit data sets.

   Most predefined data models are of type SQL Query, and are set up to get application data from the following tables:
   - **ApplicationDB_FSCM**: Financials, Supply Chain Management, Project Management, Procurement, and Incentive Compensation
   - **ApplicationDB_CRM**: Sales
   - **ApplicationDB_HCM**: Human Capital Management

4. Perform steps 5 through 8 from the preceding Creating a Data Model task, as needed.

Related Topics

- How You Set Up Reports to Run as Scheduled Processes
- How Data Is Structured for Analytics
Validating Data Models: Explained

Data model validation errors and warnings help you correct data models, optimize queries, reduce stuck threads, and enhance the reporting performance.

When you create or edit a data model that’s created in the current or previous releases, if you click Validate, BI Publisher:

1. Checks the queries used for data sets, LOVs, and bursting definitions.
2. Generates the execution plan for SQL queries.
3. Displays a list of errors and warnings.

Take the required action based on the data model validation messages. See Data Model Validation Messages.

Note that when you upgrade BI Publisher from a previous release, the existing data models are marked as not validated.

Data Model Validation Messages

The data model validation messages can be of the following types:

- Error - You must resolve the data model errors if you want to use the data model to run a report.
- Warning - Make the correction suggested in the warning message. Reporting performance might get affected if you choose to run the report ignoring the warning.

The data model validation messages and their details are as follows:

<table>
<thead>
<tr>
<th>Validation Code</th>
<th>Validation Type</th>
<th>Message Type</th>
<th>Message</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM01_USE_OF_SELECT_STAR</td>
<td>Query</td>
<td>Warning</td>
<td>SQL query contains SELECT <em>. Use of '</em>' is restricted. Select the specific columns.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>DM02_BIJDBC_NESTED_QUERY</td>
<td>Query</td>
<td>Warning</td>
<td>Data model contains nested BI JDBC queries. Linking logical queries is restricted. Use OTBI instead of BIP reports or remove the link between OBIEE data sets.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>DM03_MERGE_CARTESIAN_JOINS</td>
<td>Query</td>
<td>Warning</td>
<td>SQL query execution plan contains merge cartesian joins. Generate the explain plan for the SQL query and identify the merge cartesian joins. Add the required filters in the SQL query.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>DM04_NUM_BIND_VALUES_PER_PARAM</td>
<td>Runtime</td>
<td>Warning</td>
<td>Number of bind values per parameter more than the limit of {0} results in poor performance. Reduce the number of bind values.</td>
<td>100</td>
</tr>
<tr>
<td>Validation Code</td>
<td>Validation Type</td>
<td>Message Type</td>
<td>Message</td>
<td>Limit</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-----------------</td>
<td>--------------</td>
<td>-------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>DM05_ NUM_ COLUMNS_ WITHOUT_ PRUNING</td>
<td>Query</td>
<td>Warning</td>
<td>Number of columns in SELECT exceeds the limit of [0]. Select only the required columns and enable pruning.</td>
<td>30</td>
</tr>
<tr>
<td>DM06_ NUM_ COLUMNS_ WITH_PRUNING</td>
<td>Query</td>
<td>Warning</td>
<td>Number of columns in SELECT exceeds the limit of [0]. Select only the required columns.</td>
<td>100</td>
</tr>
<tr>
<td>DM07_ WHERE_ CLAUSE_ NOTIN_ NOTEQUAL</td>
<td>Query</td>
<td>Warning</td>
<td>SQL query contains non-equal joins. Intermediate row spawning can cause performance issues. Replace non-equal joins with equal join or outer join.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>DM08_ COLUMN_ ALIAS_LENGTH</td>
<td>Query</td>
<td>Warning</td>
<td>Selected column length name exceeds the limit of [0]. Length of the column name must not be more than 15 chars. Use short alias for column names.</td>
<td>15</td>
</tr>
<tr>
<td>DM09_ NUMBER_ OF_ INLINE_QUERY</td>
<td>Query</td>
<td>Warning</td>
<td>Number of inline or subquery exceeds the limit of [0]. Remove the additional in-line select queries.</td>
<td>10</td>
</tr>
<tr>
<td>DM10_ USE_OF_DUAL</td>
<td>Query</td>
<td>Warning</td>
<td>SQL query contains the FROM DUAL clause. SQL query contains too many DUAL tables. Avoid the usage of FROM DUAL clause.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>DM12_ NUM_ CLOB_COLUMNS</td>
<td>Query</td>
<td>Warning</td>
<td>Number of LOB columns in SELECT exceeds the limit of [0]. Select only the required columns.</td>
<td>2</td>
</tr>
<tr>
<td>DM14_ DML_ DDL_KEYWORD</td>
<td>Query</td>
<td>Error</td>
<td>Query contains DDL or DML keywords. Remove the DDL and DML keywords from the SQL query.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>DM15_ NUM_ GROUP_BREAKS</td>
<td>Structure</td>
<td>Warning</td>
<td>Number of group breaks on single data set exceeds the limit of [0]. Remove multiple groups from the data set.</td>
<td>2</td>
</tr>
</tbody>
</table>
### Validation Code Details

<table>
<thead>
<tr>
<th>Validation Code</th>
<th>Validation Type</th>
<th>Message Type</th>
<th>Message</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM16_ GROUP_ FILTERS_CHECK</td>
<td>Structure</td>
<td>Warning</td>
<td>Data model contains group filters. Replace the group filters with the WHERE clause in the SQL query.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>DM17_ DM_ PROPERTY_ CHECK</td>
<td>Runtime</td>
<td>Error</td>
<td>Data model property is invalid or contains invalid values. Specify the correct data model property and check the property value.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>DM18_ FULL_ TABLE_SCAN</td>
<td>Query</td>
<td>Warning</td>
<td>SQL query execution plan contains full table scans. Provide the required filters on indexed columns in the SQL query.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>DM19_ HIGH_ BUFFER_READS</td>
<td>Query</td>
<td>Warning</td>
<td>SQL query execution plan contains high buffer reads. Buffer reads exceed the limit of 1 GB. Add filters in the SQL query to reduce the data fetch volume.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>DM20_ HIGH_CPU_COST</td>
<td>Query</td>
<td>Warning</td>
<td>SQL query execution plan contains high CPU cycles. Add the required filters in the SQL query to reduce the data fetch volume.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>DM22_ FUNC_ USAGE_ ON_FILTERS</td>
<td>Query</td>
<td>Warning</td>
<td>SQL query execution plan contains function calls on filter columns. Use of SQL function calls on index columns results in poor performance. Remove function calls on filter columns.</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

### Define the Number of Rows in Tables

The data model used for a report can determine the number of rows to display in specific tables on the report. To change that number, you can edit a copy of the predefined data model.
Copying the Data Model

To copy the predefined data model used for the report:

1. Click **Navigator > Reports and Analytics**.
2. Click the **Browse Catalog** icon.
3. In the BI catalog (the Folders pane), find the predefined data model used for the report.
4. Click **Copy** in the toolbar.
5. In the BI catalog, expand **Shared Folders > Custom** and follow the same file path as the predefined data model outside the Custom folder. Create the corresponding folder structure in Custom if it doesn’t exist.

   **Note:** All reports using the predefined data model are automatically redirected to point to your copied data model in the Custom folder. This applies:
   - To all reports, predefined or not
   - Only if the copied data model has the same name and relative file path in Custom as the predefined data model

6. Click **Paste** in the toolbar.

Modifying the Data Model

To edit the copied data model:

1. In the BI catalog, find your copied data model.
2. Click **Edit**.
3. In the Data Model pane, in Data Sets, select the data set that provides data for the table in the report.
4. On the Diagram tab, click the **Edit Selected Data Model** icon.
5. In the Edit Data Set dialog box, see if the last line in the **SQL Query** field starts with `FETCH FIRST`, for example `FETCH FIRST 500 ROWS ONLY`. Not all data sets have this row limit that you can edit.
6. Change the number in that line to the number of rows you want displayed in the table, for example, `FETCH FIRST 50 ROWS ONLY`.
7. Click **OK**.
8. Click the **Save** icon.

New Reports

Create Reports

Create a report when the predefined reports don’t provide the data you need. Or, if you want to use a predefined data model, and also want to change other aspects of the report other than layout. Save your report to **Shared Folders > Custom** in the business intelligence catalog. Saving content in the Custom folder is the only way to ensure that the content is maintained upon upgrade.

Creating a Report

1. Open the Reports and Analytics work area, and .
2. Click click **New** and select **Report**.
3. Select the data model to use as the data source for your report.
Note: Be sure that the data model you select has been validated. If you select a data model that has not been validated or has errors, when the report is run it will error indicating that the data model has not been validated or has an invalid status. To override this warning for a report, select the Ignore Data Model Validation Error option in the report properties.

4. Continue with the wizard to create the report layout, or choose to use the layout editor and close the wizard.
5. Define the layout for the report.
6. Click the Properties button in the report editor to set specific formatting, caching, and processing options for your report, including overriding data model validation errors.

Setting Up Access
You or your administrator can:

- Create a job definition so that users can run your report as a scheduled process.
- Secure general access to your report and its job definition, if any.

Related Topics
- How You Set Up Reports to Run as Scheduled Processes
- Set Up Reports for Scheduling

Configurable Workflow Notifications

Overview of Procurement Configurable Workflow Notifications

As part of certain business flows with workflow tasks, the application automatically sends email or in-application notifications to your users, or to people your users do business with. For example, when a user submits a requisition, the approvers receive an email with the approval request. For some flows, configurable Oracle Business Intelligence (BI) Publisher reports determine the email and in-application notification content and format. For some workflow tasks, you can enable these configurable notifications to be used instead of the standard notifications.

Procurement business flows with configurable notifications include the following workflow tasks:

- Negotiation invitation
- Purchase order approval
- Purchase order change order approval
- Requisition approval
- Requisition reapproval (change to lines by requester, change to lines by buyer)
- Seller negotiation award decision
- Seller negotiation bid disqualification
- Seller negotiation change schedule
- Seller negotiation invitation
- External Supplier Registration Approval Decision
In addition to getting notifications in email, users can also view in-application notifications by:

- Clicking the **Notifications** icon in the global header and opening a notification.
- Going to the Worklist: Notifications and Approvals work area and opening a notification.
- Clicking the **In-App Notification** link at the end of an email notification.

**Process Overview**

The process to generate configurable email and in-application notifications is the same as generating other types of report output. The process involves various types of objects in the business intelligence catalog, including data models, subtemplates, style templates, and reports.

This figure shows how these objects work together to generate the output used for email and in-application notifications.

- **Data Source**: Stores the attributes and attribute values for business objects and transactions in the application
- **Data Model**: Determines which attributes from data sources are available to be included in the notification and how that data is retrieved
- **Subtemplate**: Provides common components, for example a branding logo and buttons, that can be reused in multiple reports
- **Style Template**: Provides styles, such as the type of lines and fonts to use in tables, or the font type, size, and color to use for headings
- **Report**: Contains a **layout template** that determines:
  - Which attributes appear in the notification, from the data model used for the report
  - What the notification looks like, using components from the subtemplate and styles from the style template used for the report
- **HTML**: Is the output generated from the report
- **Email Notification**: Is sent to users as part of a business flow, with the HTML output embedded in the email body

In-Application Notification: Has the HTML output embedded in the application user interface.

Each workflow task with configurable notifications has a corresponding predefined report in the BI catalog. For example, the Requisition Approval Email Report contains the Requisition Approval Email Layout and uses the Requisition Approval Email Data Model. The generated output is included in emails that are sent to users for requisition approval.

Notification Modifications

After you enable configurable workflow notifications, the predefined reports and related objects in the BI catalog work by default. The report-based notifications provide the same information as the standard notifications, but in a format optimized for mobile devices. To modify the notifications, you can edit copies of the predefined reports, data models, and subtemplate (but not the style template). You proceed as you would to edit any report, data model, or subtemplate in the catalog, for example:

1. Find a predefined report for procurement in the BI catalog.
2. Use the Customize option to create a copy, or copy the report and paste it within the Custom folder.
3. Edit the copied report layout template.

**Note:** The configurable, report-based notifications are delivered in a format optimized for mobile devices. If your organization has approvers using mobile devices, minimize making modifications that increase the number of columns in tables, and test all such modifications thoroughly on applicable mobile devices before deploying the changes.

For more information about creating and editing reports, see the Oracle Procurement Cloud Creating and Administering Analytics and Reports guide, available on the Oracle Help Center. You should get familiar with BI Publisher in general before modifying configurable notifications. Aspects specific to configurable notifications include:

- You use only the Template Builder for Word add-in to edit the .rtf template in Microsoft Word, not the layout editor or other tools available for creating and editing report layout.
- You usually edit a copy of predefined layout templates, rather than create reports or layout templates.

Security

To modify reports and data models for workflow notifications, you must have the BI Administrator role.

Setup

Use the Setup and Maintenance work area to enable each of the applicable configurable notifications features that meet the needs of your organization. Feature options include:

- Configure Purchasing Document Notifications with Business Intelligence Publisher
- Configure Purchase Requisition Notifications with Business Intelligence Publisher
- Configure Negotiation Invitation with Business Intelligence Publisher

Also download and install the Template Builder for Word add-in.

Related Topics

- Configurable Email Notifications: Implementation Considerations
- Overview of Workflow Tasks
- Oracle Business Intelligence Enterprise Components
Best Practices for Layouts in Workflow Notifications

Predefined workflow notifications based on report layout templates all follow a general format. When you edit a copy of these layout templates in Microsoft Word, follow the predefined layout as closely as possible for consistency. Also keep in mind shared components and mobile considerations.
General Structure

In general, the workflow notifications contain a set of components that are displayed in a certain order. The callouts in this figure identify the email notification components listed in the following table.

The callouts in this figure identify the in-app notification components listed in the following table. In addition to describing each component, the table also indicates if the component appears in the email notification, in-app notification, or both.
### Component Callouts

<table>
<thead>
<tr>
<th>Callout</th>
<th>Component</th>
<th>Notification Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Buttons with the primary actions to take on the task, such as <strong>Approve</strong> and <strong>Reject</strong>. These buttons aren’t part of the configurable, report-based notification content.</td>
<td>In-app</td>
</tr>
<tr>
<td>2</td>
<td>Notification header listing key attributes of the workflow task and the associated transaction.</td>
<td>Both</td>
</tr>
<tr>
<td>3</td>
<td>Buttons for the primary actions to take on the task, such as <strong>Approve</strong> and <strong>Reject</strong>.</td>
<td>Email</td>
</tr>
<tr>
<td>4</td>
<td>Notification body that usually includes transaction and line level details, displayed in tables or sets of attributes with corresponding values. The data model for the report restricts the total number of rows displayed in some of the tables. If the limit is exceeded, the table footer provides a link to the transaction details page, where users can view all the rows. To change this limit, you can edit a copy of the data model.</td>
<td>Both</td>
</tr>
<tr>
<td>5</td>
<td>Approval history, including any attachments that users in the history uploaded for the task. You can’t edit the approval history.</td>
<td>Email (or both, in rare cases)</td>
</tr>
</tbody>
</table>
Callout | Component | Notification Type
--- | --- | ---
6 | Buttons for the primary actions again. | Email
7 | A link to the corresponding transaction page, and another link to the in-app notification. | Email

When you modify notifications, try to keep to this general structure and don’t remove essential elements such as the action buttons. Likewise, don’t change the styles in your layout template. The predefined style template should still apply to your notification; don’t edit a copy of the style template and apply that to your notification.

To add components to your notification, for example another table, consider first downloading another style template from My Oracle Support. This template contains Quick Parts content that you can use in Word when you do more advanced work on layout templates. For example, from the Quick Parts gallery, you can select and add the table that is consistent in format with predefined tables already on your notification.

By default, the components that you add in the layout template appear in both email and in-app notifications, where available. You can add conditions to explicitly make a particular element, for example a field, appear only in one type of notification and not the other.

**Shared Components**

A predefined subtemplate in the business intelligence (BI) catalog applies to all predefined layout templates for workflow notifications. The subtemplate contains components that are shared among the notifications, for example:

- Branding logo, if you add one to the subtemplate, which would appear as the first component in the email body. The logo appears in email notifications only.
- Action buttons in email notifications.
- Links at the end of the email notification, one to the corresponding transaction page, and another to the in-app notification.

When you make a copy of a predefined layout template to edit, the copy automatically inherits the same predefined subtemplate. To edit these shared components, make a copy of the predefined subtemplate, edit the copied version, and apply it to your own layout templates.

**Mobile Considerations**

Because users can view the workflow notifications on mobile devices, always consider mobile first and keep the notifications as simple as possible. For example:

- Don’t put too much content horizontally, such as too many columns in tables.
- Keep all text, including attributes and column headings, as short as possible.
- Center align lists of attributes and their values, if they appear outside tables.

Make sure to test your email notifications on mobile devices.
Add a Branding Logo and Change Other Shared Components in Workflow Notifications

A predefined subtemplate contains common components for all workflow notifications based on predefined report layouts. For example, the subtemplate has a place for you to add a branding logo, which would appear at the beginning of email notifications. You can modify other shared components so that the same changes apply to your notifications. For example, for email notifications, you can also change the text on action buttons, or the text of the links that appear at the end of emails.

Note:
- You must edit a copy of the subtemplate in the Custom folder of the business intelligence (BI) catalog. Don’t directly update the predefined subtemplate.
- The exact steps can vary depending on your version of Microsoft Word.

Modifying Shared Components in the Subtemplate

To edit a copy of the predefined subtemplate that contains the shared components:

1. Click Navigator > Reports and Analytics.
2. Click the Browse Catalog icon.
3. In the BI catalog (the Folders pane), expand Shared Folders > Common Content > Templates.
4. For Workflow Notification Subtemplate, click More and select Customize.

If you’re not using the Customize option:
   a. Click Copy in the toolbar with Workflow Notification Subtemplate selected.
   b. In the BI catalog, expand Shared Folders > Custom > Common Content > Templates. Create a Templates folder in this location if it doesn’t exist.
   c. Click Paste in the toolbar.
   d. Click the Edit link for the copied subtemplate.

All reports using the predefined subtemplate are automatically redirected to point to your subtemplate in the Custom folder. This applies:
   - To all reports, predefined or not
   - No matter if you copy and paste the subtemplate or use the Customize option
   - Only if your subtemplate has the same name and relative file path within Custom as the predefined subtemplate

5. In the Templates section, click the link in the Locale column.
6. Save the subtemplate .rtf file to your computer.
7. Open the .rtf file with Microsoft Word.
   - To add a logo, insert your own image in the subtemplate.
   - To change button or link text, edit the text accordingly. Make the same edits wherever that button or link text appears in the subtemplate.

Caution: To ensure that your layout templates reflect these changes without additional rework, don’t edit any other text in the subtemplate .rtf file.
8. Update Word options to ensure that existing links remain intact in the subtemplate.
   a. Click File > Options > Advanced.
   b. In the Word Options dialog box, click Web Options in the General section.
   c. In the Web Options dialog box, open the Files tab.
   d. Deselect the Update links on save check box.
9. Save your changes in Word.

Uploading the Modified Subtemplate

To upload your subtemplate to the BI catalog:

1. In the BI catalog, expand Shared Folders > Custom > Common Content > Templates.
2. Click Edit for Workflow Notification Subtemplate.
3. In the Templates section, click the Upload icon.
4. Select your modified .rtf subtemplate and a locale, and click OK to overwrite the original subtemplate.

Use Quick Parts for Workflow Notifications

Use the Quick Parts feature in Microsoft Word to easily insert reusable pieces of formatted content. When you edit copies of predefined report layout templates for workflow notifications in Word, you can add predefined Quick Parts content to your .rtf file. For example, you can insert a table in a format that’s consistent with predefined notifications. The predefined Quick Parts content is available in a style template .dotx file on My Oracle Support.

 grinned Note: The exact steps can vary depending on your version of Microsoft Word.

Prerequisites

To get the predefined Quick Parts content into your Quick Parts gallery:

2. Download the .dotx file and save it to your Microsoft Word template folder, for example C:\Users\<user name>\AppData\Roaming\Microsoft\Templates.

Also, to preview your layout template changes before uploading the .rtf file back to the business intelligence (BI) catalog:

- Generate sample report data from the data model for the report that you’re editing.
- Download a local copy of the subtemplate that applies to the layout template.

Adding Quick Parts Content to Workflow Notifications

To insert content from the Quick Parts gallery into a layout template:

1. In the BI catalog, find the predefined report with the layout template that you want to modify.
2. For the report, click More and select Customize.
   If you’re not using the Customize option:
   a. Copy the predefined report and paste it in an appropriate subfolder within the Custom folder.
   b. Click the Edit link for the copied report.
3. Click Edit for the layout template to insert Quick Parts content into, and save the .rtf file to your computer with a new file name.
4. Open the .rtf file with Microsoft Word.
5. Put your cursor where you want to insert new content.
6. From the Insert tab on the ribbon, click **Quick Parts** within the Text group, and select the component to insert.
7. Edit the inserted component as needed and add any other components.
8. Save your changes in Word.

**Previewing the Layout Template Changes**

To preview your edits before uploading your layout template to the BI catalog:

1. On the ribbon, open the BI Publisher tab and click **Sample XML** within the Load Data group to import sample data from the data model. Skip this step if you already loaded sample data.
2. At the beginning of the document, replace the path with the location of the downloaded subtemplate file on your computer. For example, change `<?import:xdoxsl:///Common Content/Templates/Workflow Notification Subtemplate.xsb?>` to `<?import:file:///C:/Template_Directory/FinFunWorkflowNotificationSub.rtf?>`.
3. From the BI Publisher tab on the ribbon, click **HTML** in the Preview group.
4. If the preview reflects your changes as expected, then change the path back to the original location.
5. Save your changes in Word.

**Uploading the Modified Layout Template**

To upload your layout template to the BI catalog after previewing the changes:

1. Back in the BI catalog, click **Edit** for the report within the Custom folder, if that page isn’t still open.
2. Click the **View a list** link.
3. Click the **Create** icon on the table toolbar.
4. In the Upload or Generate Layout section, click **Upload**.
5. Upload your edited .rtf file with a unique layout name.
6. Back on the page for editing the report, click Delete for the layout template that you downloaded earlier.
7. Click the **Save Report** icon.

**Related Topics**

- Configurable Email Notifications: Implementation Considerations

**Set Up Content to Appear in Only Email or In-App Workflow Notifications**

For workflow tasks that have configurable email and in-app notifications, the same .rtf report layout template is used for both types of notifications. When you edit a copy of predefined templates in Microsoft Word to modify the notifications, you can make content conditional. For example, you can add an attribute from the data models used for the report, and set the attribute to appear only in in-app notifications.

The logo, action buttons, and links at the end of email notifications are predefined to appear only in emails, based on the subtemplate. The approval history is usually predefined to also appear in the body of only email notifications. Any conditional setting you apply to these components in the .rtf template won’t override the predefined setup.

**Prerequisites**

Generate sample report data from the data model used for the report, and save the .xml file to your computer.
Defining Conditional Regions

To define a conditional region of content that appears only in email or in-app notifications:

1. Open your .rtf report layout template in Microsoft Word.
2. On the ribbon, open the BI Publisher tab and click Sample XML within the Load Data group.
3. Select the .xml file you downloaded to import sample data from the data model.
4. In your .rtf document, select the content you want to make conditional.
5. On the ribbon, click Conditional Region within the Insert group.
6. In the Conditional Region dialog box, on the Properties tab, select BINDISONLINENOTIF from the Data field list in the General section. The values in this list come from the sample data you imported from the data model.
7. Select Date/Text from the next list.
8. In the Condition 1 section, select Equal to from the Data field list.
9. In the corresponding text field, enter true for content to appear only in in-app notifications, or false for content to appear only in emails.
10. Make sure that form fields containing the conditional logic are inserted around your selected content. The beginning form field, C, should be immediately before the conditional content, and the closing form field, EC, should be immediately after. Move the form fields as needed.

Tip: To make sure you're looking at the correct form fields, double-click the C form field to open the Conditional Region dialog box and see the BINDISONLINENOTIF setting.

11. Save your changes in Word.

Entering Conditional Code

If the data model for your report doesn’t have the BINDISONLINENOTIF attribute, then:

1. In your .rtf report layout template, put your cursor immediately before the content you want to make conditional.
2. Enter the following code, which functions the same as the C form field:
   - `<?if:BINDISONLINENOTIF='true'?>` for in-app only
   - `<?if:BINDISONLINENOTIF='false'?>` for email only
3. Put your cursor immediately after your conditional content.
4. Enter `<?end if?>`, which functions the same as the EC form field.
5. Save your changes in Word.

Preview Changes to Layout Templates for Workflow Notifications

To modify workflow notifications, you edit a local copy of the .rtf report layout templates in Microsoft Word. Before uploading the .rtf files to the business intelligence (BI) catalog, you should preview the output with the changes you made. You can avoid uploading a broken report that displays an error in the notifications sent to users.

Note: The exact steps can vary depending on your version of Microsoft Word.

Prerequisites

- Generate sample report data from the data model used for the report, and save the .xml file to your computer.
• Download a local copy of the subtemplate that applies to your own report layout template:
  a. In the BI catalog, expand Shared Folders > Custom > Common Content > Templates if you’re using a modified subtemplate, or Shared Folders > Common Content > Templates for the predefined subtemplate.
  b. Click Edit for Workflow Notification Subtemplate.
  c. In the Templates section, click the link in the Locale column.
  d. Save the subtemplate .rtf file to your computer.

Previewing Output

To generate sample output from a local layout template:

1. Open your .rtf report layout template in Microsoft Word and make your edits.
2. On the ribbon, open the BI Publisher tab and click Sample XML within the Load Data group.
3. Select the .xml file you downloaded to import sample data from the data model.
4. At the beginning of your .rtf document, replace the path with the location of the downloaded subtemplate file on your computer. For example, change

   ```xml
   <?import:xdoxsl:///Common Content/Templates/Workflow Notification Subtemplate.xsb?>
   ```

   to

   ```xml
   <?import:file:///C:/Template_Directory/FinFunWorkflowNotificationSub.rtf?>
   ```

5. From the BI Publisher tab on the ribbon, click HTML in the Preview group.
6. If the preview reflects your changes as expected, then change the path back to the original location.
7. From the BI Publisher tab on the ribbon, click Validate Template in the Tools group.
8. Also in the Tools group, click Check Accessibility.
9. Save your changes in Word.

Reports and Data Models Used for Procurement Notifications Based on Reports

You can configure Oracle Business Intelligence (BI) Publisher reports to send email and in-application notifications for some Oracle Procurement Cloud workflow tasks. Each business process area uses different Oracle BI Publisher reports and data models for configuring the email or in-application notifications.

Reports and Associated Data Models

This table shows the Oracle BI Publisher reports and associated data models that are available for configuring both email and in-application notifications for procurement business processes. The navigation to the business process folders is: Oracle BI Publisher > Catalog > Shared Folders > Procurement folder. Under this folder you can find the following business process folders having configurable notification reports and data models.

<table>
<thead>
<tr>
<th>Business Process</th>
<th>Report</th>
<th>Data Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchasing</td>
<td>Purchase Order Notification Report</td>
<td>Purchase Order Notification Data Model</td>
</tr>
<tr>
<td>Self Service Procurement</td>
<td>Requisition Approval Email Report</td>
<td>Requisition Approval Email Data Model</td>
</tr>
<tr>
<td>Sourcing</td>
<td>Negotiation Invitation Email Report</td>
<td>Sourcing Notifications Data Model</td>
</tr>
<tr>
<td>Sourcing</td>
<td>Seller Negotiation Award Decision Notification Report</td>
<td>Seller Negotiation Award Decision Notification Data Model</td>
</tr>
</tbody>
</table>
For each of these listed business process areas, you can use the associated reports and data models to configure both email and in-application notifications.

### Configuring Purchase Order Email Approval Notifications Using Reports: Worked Example

This example shows how to configure workflow email notifications for the purchase order approval business process using an Oracle Business Intelligence (BI) Publisher report. You use Microsoft Word to edit the RTF template used for notifications. You can modify the BI Publisher template only if you have the BI Administrator role.

In this scenario you want purchase order approvers to see the notes to suppliers.

The following table summarizes key decisions for this scenario.

<table>
<thead>
<tr>
<th>Decisions to Consider</th>
<th>This Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which report, data model and layout template do I update?</td>
<td>For updates to email notifications for purchase order approval:</td>
</tr>
<tr>
<td></td>
<td>• Purchase Order Notification Report</td>
</tr>
<tr>
<td></td>
<td>• Purchase Order Notification Data Model</td>
</tr>
<tr>
<td></td>
<td>• Purchase Order Approval Layout</td>
</tr>
<tr>
<td>Do I want to add prompts and headers to the layout template?</td>
<td>No, not for this example.</td>
</tr>
<tr>
<td>Do I want to add data model attributes to the layout template?</td>
<td>Yes, the Note to Supplier attribute.</td>
</tr>
<tr>
<td>Which language do I use for the RTF template?</td>
<td>English (United States).</td>
</tr>
</tbody>
</table>
Summary of the Tasks

Configure a purchase order email approval notification to add an attribute by:

1. Adding an attribute to the data model.
2. Exporting the data model XML file.
3. Downloading the report layout template.
4. Adding data model attributes to the template.
5. Uploading the modified report layout to the BI Publisher catalog.

Prerequisites

2. Download and install the Template Builder for Word to use Microsoft Word to edit the layout templates. To download, install, and set up Template Builder for Word, see Creating RTF Templates by Using BI Publisher 11g Template Builder for Word: http://www.oracle.com/webfolder/technetwork/tutorials/obe/fmw/bs/bip/tb4word/tbwordbip.htm.
3. To preview the configured templates, download a local copy of the subtemplate that applies to your own report layout template:
   - Sign in to the Oracle Business Intelligence Publisher server with the BI Administrator Role to open the Oracle Business Intelligence Home page.
   - Click Catalog.
   - In the BI catalog, go to Shared Folders > Common Content > Templates for the predefined subtemplate.
   - Click More for the Workflow Notification Subtemplate.
   - Click the Download option.
   - Save the subtemplate file to your computer.

Adding an Attribute to the Data Model

In this task, you add the Notes to Suppliers attribute to the data model.

1. Sign in to the Oracle Business Intelligence Publisher server with the BI Administrator Role to open the Oracle Business Intelligence Home page.
2. Click Catalog.
3. On the Catalog page, in the Folders section, expand Shared Folders > Procurement > Purchasing and select Data Models to display the data models in the right pane.
4. Under Purchase Order Notification Data Model, click More, then click Copy.
5. In the Folders section, expand Shared Folders Custom Procurement Purchasing.
6. Click the Paste Resource icon.
8. On the PurchasingNotificationDM page, in the Data Model section, select PurchaseOrderDraftLineDataSet.
9. On the Diagram tab, click the Edit Selected Data Set icon.
10. On the Edit Data Set dialog, under SQL Query, after the line for the Category ID, add a line and enter: Line.NOTE_TO_VENDOR AS NoteToSupplier.
11. Click OK.
Exporting the Data Model XML File

In this task, you export the XML file that includes the data model attributes predefined for the notifications. Perform this task to enable previewing your modified template. This task is also required to add data model attributes to the template.

1. Sign in to the Oracle Business Intelligence Publisher server with the BI Administrator Role to open the Oracle Business Intelligence Home page.
2. Click Catalog.
3. On the Catalog page, in the Folders section, expand Shared Folders > Custom > Procurement > Purchasing to display the data models in the right pane.
4. Under Purchase Order Notification Data Model, click Edit to open the Diagram tab on the PurchasingNotificationDM page.

**Note:** To ensure that all data sets include requested elements with undefined values in the output XML data, do the following:
   - In the Data Model section, select Properties.
   - In the Properties section, select Include Empty Tags for Null Elements.
   - In the Data Model section, select Data Sets.

**Note:** To add data model attributes to the template, perform steps 5 and 6. Otherwise, skip to step 7.

5. Click the Data tab.
6. Enter values for the following key attributes for an existing purchase order. Key attributes enable you to pull in all the purchase order attributes:
   - Document Number
   - Sold-to Legal Entity
   - Change Order Number
7. Click View to see the sample data in the report, and all the available attributes. Verify the Note to Supplier attribute is in the list.
8. Click Export.
9. In the Opening PurchasingNotificationDM dialog box, select Save File and click OK.
10. Save the PurchasingNotificationDM_.xml file to a local drive.

Download the Report Layout Template

In this task, you create a copy of the report layout template in the Custom folder, and download a copy of the template to your local drive to modify it.

1. Sign in to the Oracle Business Intelligence Publisher server with the BI Administrator role to open the Oracle Business Intelligence Home page.
2. Click Catalog.
3. On the Catalog page, in the Folders section, expand Shared Folders > Procurement > Purchasing to display the templates in the right pane.
5. On the Catalog page, in the Folders section, expand Shared Folders > Custom > Procurement > Purchasing.
7. On the Purchase Order Notification Report page, next to Data Model, click the Select Data Model icon.
8. On the Select Data Model dialog, expand Custom > Procurement > Purchasing.
9. Select the Purchase Order Notification Data Model, and click Open.
10. Under **Purchase Order Approval Notification Layout**, click **Edit**.

11. On the **Opening PurchaseOrderApprovalNotificationLayout.rtf** dialog box, select **Save File** and click **OK** to save the document to your local drive. Save the template with the name **UpdatedPurchaseOrderApprovalNotificationLayout.rtf** to distinguish it from the original template.

### Adding Data Model Attributes to the Template

To modify the purchase order approval email notification, you edit a local copy of the RTF report layout template in Microsoft Word. In this task, you add the **Note to Supplier** data model attribute to the report template.

> **Note:** The exact steps can vary depending on your version of Microsoft Word.

1. On your local drive, open the **UpdatedPurchaseOrderNotification.rtf** template in Microsoft Word, with the Template Builder installed.
2. Select the BI Publisher tab.
3. In the Load Data section, click **Sample XML**.
4. In the dialog box to select XML data that appears, browse to open the **PurchasingNotificationDM_.xml** file you saved in the Exporting the Data Model XML File task. Then click **Open**.
5. In the **Data loaded successfully** dialog box, click **OK**.
6. Scroll to the **TSRHLines** section of the notification.
7. Place the cursor after the **C UnitPriceEC** line and press the Enter key.
8. On the new line, enter **Note to Supplier:**, and place the cursor at the end of the text you entered.
9. On the BI Publisher tab, in the Insert section, click the **123 Field** button.
10. On the Field dialog box, locate and select the **NoteToSupplier** attribute.
11. Click **Insert**.
12. Click **Close** to return to the **UpdatedPurchaseOrderNotification.rtf** template.
13. Save and close the document.

14. Before uploading the RTF files to the business intelligence (BI) catalog, you should preview the output with the changes you made. You can avoid uploading a broken report that displays an error in the emails sent to users.

15. Proceed to the task **Uploading the Modified Report Layout to the Oracle BI Publisher Catalog**.

### Uploading the Modified Report Layout to the Oracle BI Publisher Catalog

You must perform this task to use the modified report layout for notifications.

1. Sign in to the Oracle Business Intelligence Publisher server with the BI Administrator Role to open the Oracle Business Intelligence Home page.
2. Click **Catalog**
3. On the Catalog page, in the Folders section, expand **Shared Folders > Custom > Procurement > Purchasing**.
4. Under the **Purchase Order Notification Report**, click **Edit**.
5. On the Purchase Order Notification Report page, on the right side of the page, click **Add New Layout** to open the page with the Create Layout and Upload or Generate Layout sections.
6. In the Upload or Generate Layout section, click the **Upload** icon.
7. In the **Upload Template File** dialog box, in the **Layout Name** field, enter **Updated Purchase Order Notification Report**.
8. In the **Template File** field, browse for the modified **UpdatedPurchaseOrderNotificationLayout.rtf** template on your local drive, select the template, and click **Open**.
9. In the **Upload Template File** dialog box, from the **Type** list, select **RTF Template**.
10. From the **Locale** list, select **English (United States)**.
11. Click **Upload** to open the **Processing** dialog box and return to the Purchase Order Notification Report page.
12. On the right side of the page, click **View a list** to open the Layout page.
13. In the row for the **Updated Purchase Order Notification Report**, select the **Default Layout** check box.
14. On the right side of the page, click the **Save Report** icon.
Configuring Sourcing Notifications Using Reports: Worked Example

This example shows how to configure workflow email notifications for the Sourcing business process using Oracle Business Intelligence (BI) Publisher reports. You use Microsoft Word to edit the .rtf template used for notifications.

The following table summarizes key decisions for this scenario.

<table>
<thead>
<tr>
<th>Decisions to Consider</th>
<th>This Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which template do I update?</td>
<td>Negotiation Invitation Email Report</td>
</tr>
<tr>
<td>Do I want to add prompts and headers to the layout template?</td>
<td>Yes</td>
</tr>
<tr>
<td>Do I want to add data model attributes to the layout template?</td>
<td>BUYERCOMPANY</td>
</tr>
<tr>
<td>Which language do I use for the RTF template?</td>
<td>English</td>
</tr>
</tbody>
</table>

Summary of the Tasks

Configure the Negotiation Invitation Email Report by:

1. Adding an Attribute to the Data Model.
2. Exporting the data model XML file.
3. Downloading the report layout template.
4. Editing email body information in the template.
5. Adding data model attributes to the template.
6. Uploading the modified report layout to the BI Publisher catalog.

Prerequisites

1. Download and install the Oracle BI Publisher Desktop: http://www.oracle.com/technetwork/middleware/bi-publisher/downloads/index.html. The Template Builder for Microsoft is included in the BI Publisher.
2. To preview the configured templates, download a local copy of the subtemplate that applies to your own report layout template:
   a. In BI Publisher, click Catalog.
   b. In the BI catalog, go to Shared Folders > Common Content > Templates for the predefined subtemplate.
   c. Click More for the Workflow Notification Subtemplate and then click Copy.
   d. In the Folders section, expand Shared Folders > Custom > Procurement > Sourcing.
   e. Click the Paste Resource icon.
   f. Click More for the Workflow Notification Subtemplate and then click Download.
   g. Save the subtemplate to the local drive on your computer.

Adding an Attribute to the Data Model

In this task, you add attributes to a data model.

1. Sign in to the Oracle Business Intelligence Publisher server to open the Oracle Business Intelligence Home page.
2. Click Catalog.
3. On the Catalog page, in the Folders section, expand Shared Folders > Procurement > Sourcing.
4. For Negotiation Invitation Email Report, click More, and then click Customize.
5. In the Negotiation Invitation Email Report, click the Sourcing Notifications Data Model.
6. On the Diagram tab, select the header to which you want to add an attribute and then click the Edit Selected Data Set icon.
7. Add the required attribute and click OK.

Exporting the Data Model XML File
In this task, you export the XML file that includes the data model attributes predefined for the notifications. Perform this task to enable previewing your modified template. This task is also required to add data model attributes to the template.

1. Sign in to the Oracle Business Intelligence Publisher server to open the Oracle Business Intelligence Home page.
2. Click Catalog.
3. On the Catalog page, in the Folders section, expand Shared Folders > Custom > Procurement > Sourcing.
4. For Negotiation Invitation Email Report, click Edit.
5. In the Negotiation Invitation Email Report, click the Sourcing Notifications Data Model to open the Diagram tab.

**Note:** To ensure that all data sets include requested elements with null values in the output XML data, do the following:
- In the Data Model section, select Properties.
- In the Properties section, select Include Empty Tags for Null Elements.
- In the Data Model section, select Data Sets.

6. Click the Data tab.
7. Click View to see the sample data in the report, and all the available attributes.
8. Click Export and select Save File and then click OK.
9. Save the SourcingNotificationsDM_.xml file to a local drive.

Downloading the Report Layout Template
In this task, from the Custom folder you download a copy of the template to your local drive to modify it.

1. Sign in to the Oracle Business Intelligence Publisher server to open the Oracle Business Intelligence Home page.
2. Click Catalog.
3. On the Catalog page, in the Folders section, expand Shared Folders > Custom > Procurement > Sourcing.
4. Select Negotiation Invitation Email Report, click Edit.
5. For Negotiation Invitation Email Body Layout, click Edit.
6. In the NegotiationInvitationEMailBodyReport.rtf dialog box, select Save File and then click OK to save the file with the name UpdatedNegotiationInvitationEMailBodyLayout.rtf to distinguish it from the original template.

Editing Email Body Information in the Template
To modify email content, you edit a local copy of the .rtf report layout templates in Microsoft Word.

**Note:** The exact steps can vary depending on your version of Microsoft Word.

1. Open the UpdatedNegotiationInvitationEMailBodyLayout.rtf template in Microsoft Word with the Template Builder installed, if not already open.
2. Scroll to the buyer name.
3. Place your curser at the end of the BUYER_NAME and press enter.
4. Enter the attribute BUYERCOMPANY.
5. Save the document.
Adding Data Model Attributes to the Template

In this task, you add to the report template attributes that exist in the predefined data model.

Note: The exact steps can vary depending on your version of Microsoft Word.

1. Open the UpdatedNegotiationInvitationEMailBodyLayout.rtf template in Microsoft Word with the Template Builder installed, if not already open.
2. Select the BI Publisher tab.
3. In the Load Data section, click Sample XML.
4. In the dialog box to select XML data that appears, browse to open the SourcingNotificationsDm_.xml file you saved in the Exporting the Data Model XML File task. Then click Open.
5. In the Data loaded successfully dialog box, click OK.
6. Add the required data model attributes.
7. Save and close the document.
8. Proceed to the task Uploading the Modified Report Layout to the Oracle BI Publisher Catalog.

Uploading the Modified Report Layout to the Oracle BI Publisher Catalog

You must perform this task to use the modified report layout for notifications.

1. Sign in to the Oracle Business Intelligence Publisher server to open the Oracle Business Intelligence Home page.
2. Click Catalog.
3. On the Catalog page, in the Folders section, expand Shared Folders > Custom > Procurement > Sourcing.
4. For the Negotiation Invitation Email Report, click Edit.
5. For Negotiation Invitation Email Body Layout, click Properties.
6. For Templates, click the Upload icon.
7. In the Template File field, browse for the modified UpdatedNegotiationInvitationEMailBodyLayout.rtf template on your local drive, select the template, and click Open.
8. In the Upload Template File dialog box, from the Template Type list, select RTF Template.
9. From the Locale list, select English.
10. Click OK to open the Processing dialog box and return to the Negotiation Invitation Email Report Data Model page.
11. Click Save.
12. On the right side of the page, click View a list to open the Layout page.
13. In the row for the UpdatedNegotiationInvitationEmailReport Template, select the Default Layout check box.
14. On the right side of the page, click the Save Report icon.

Procurement Reports Modification

Configuring Purchasing Document Reports: Procedure

As a procurement application administrator with the data model developer role, you can copy and configure new versions of the delivered purchasing document report templates. Use the report creation capabilities of Oracle Business Intelligence Publisher Enterprise (Oracle BI Publisher), and Oracle BI Publisher Desktop.

Aspects of copying and configuring delivered purchasing document report templates that are explained in this topic include:

- Report templates.
- Data models.
- General steps to copy and configure a report.
Report Templates
Two predefined purchasing document report templates are delivered: Purchase Order PDF Report and Purchase Agreement PDF Report.

The reports have two main elements:

- Procurement data source.
- Report layout template.

Obtain the delivered report templates in Oracle BI Publisher, using the following path: Catalog/Shared Folders/Procurement.

You can configure new versions of the delivered reports by adding fields to the report layout, to include reporting attributes not shown in the delivered versions, such as:

- Attributes from the delivered data model.
- Additional attributes from tables not available in the delivered data model.

Data Models
Two data models are delivered, one for each purchasing document report: Purchase Order Data Model, and Purchase Agreement Data Model. Obtain them from Oracle BI Publisher, using the following path: Catalog/Shared Folders/Procurement.

Use the data models to:

- See all of the fields that can be included in a report.
- Retrieve fields from other tables that aren’t included in the delivered data models.
- Make changes to the data models for the two purchasing document types independent of each other.

Copy and Configure a Purchasing Document Report
To copy and configure a purchasing document report follow these general steps.

1. Use Oracle BI Publisher to:
   a. Obtain the delivered data model and report template appropriate to the purchasing document type.
   b. Make a copy of them to configure into a new version, preserving the delivered versions unchanged.
   c. Edit the data model and export the XML.
   d. Download the report template.

2. Use Oracle BI Publisher Desktop, in Microsoft Word, to:
   a. Import the data model to the copy of the report template.
   b. Modify the report template to add fields to the report that are not a part of the delivered report.

3. Use Oracle BI Publisher to:
   a. Upload the modified report template to the catalog, making it available to other users.

The modified report template displays in the Configure Procurement Business Function task. You can find the task in the Setup and Maintenance work area, Procurement offering, Procurement Foundation functional area. For each affected business unit, you can associate the modified report template with the appropriate purchasing document type.

For more information refer to the white paper available on My Oracle Support (MOS): Document Publishing and Communication in Oracle Fusion Purchasing (document ID 1610339.1). The document:

- Provides detailed procedures for using Oracle BI Publisher to copy and configure reports.
• Includes a copy of the delivered XML data model.

Related Topics

• What’s a purchasing document report template
• Purchasing Document Report
Managing Folders

Create Folders

You manage analyses and reports in the business intelligence catalog, where you create folders to organize them.

Creating Folders

Follow these steps:

1. In the catalog, navigate to the desired location of the new folder in the Folders pane.
2. In the catalog toolbar, click **New**, and select **Folder**.
3. In the New Folder dialog box, enter the folder name, and click **OK**.

Addressing Automatically Created Folders

If conflicts are detected during upgrade, folders named backup_nnn are automatically created in the catalog. After reviewing and resolving any conflicts, Oracle recommends that you manually delete the backup folders from the catalog. You can contact your help desk to request an automated removal if you have a large number of folders to delete.

Set Folder Permissions and Attributes

Business intelligence catalog folder properties control folder permissions and other attributes. You can access the properties of user objects or the Custom folder and any of its subfolders in the catalog to perform tasks such as viewing system information or changing attributes or ownership. All other users can only access and modify the properties of the objects that they create or own.

Setting Folder Properties

Follow these steps:

1. In the catalog, select the Shared Folders > Custom folder or its subfolder you want to assign properties to.

   **Caution:** Don't modify permissions on predefined catalog objects. Saving content in the Custom folder is the only way to ensure that the content is maintained upon upgrade.

2. In the Tasks pane, click **Properties**.
3. In the Properties dialog box, select any of the options in the Attributes section:
   - Hidden: Specifies that the object is hidden.
   - System: Specifies that the object is a system object.
   - Read Only: Specifies that the object is read-only.
Do Not Index: Excludes the object from the index used by the full-text catalog search. Excluded objects do not display in the results of any full-text catalog search; the object can still be found using the basic catalog search.

4. Use the Ownership section to take ownership of a folder or object in the catalog. This area displays only if the proper privileges were assigned to the user, group, or role. Note that the owner of an object or folder can't automatically access the object or folder.
   - Set ownership of this item: Click to become the owner of the folder or object.
   - Set ownership of this item and all sub items: Click to become the owner of the folder and any sub folders or sub items contained within the item. For example, if you click this link for a dashboard folder, then you take ownership of all of the dashboard’s components.

Related Topics

- What happens to modified analytics and reports when an update is applied?

Set Folder Permissions

You can assign permissions on folders and other objects.

Accessing and Setting Permissions

You can set permissions or change ownership for any catalog object or folder. Nonadministrative users can access and modify the permissions of the objects that they create or own.

To set folder permissions:

1. In the catalog, select the folder or object.
2. In the Tasks pane click Permissions.
3. In the Permissions dialog box, the owner and any other users, roles, or groups with permissions are listed in the Permissions list. To add a user or role, click Add users/roles in the toolbar and search for users or roles to add them to the Selected Members list in the Add Application Roles, Catalog Groups and Users dialog box. To delete a user or role, select the account or role in the Permissions list and click Delete selected users/roles.
4. In the Permissions list, to set ownership for a user, select Custom in the Permissions list for the account, then select Set Ownership in the Custom Permissions dialog box and click OK. You can also select the Owner option for the user or role.
5. Use the Permissions list to set permissions for the object. Object permissions vary by object.
6. Use the Apply permissions to sub-folders option to assign permissions to the folder’s subfolders, and the Apply permissions to items within a folder to assign them to objects in the folder but not to subfolders.

Using Briefing Books

Create Briefing Books

A briefing book is a collection of updatable or static analyses or dashboard pages (which can contain reports). The static snapshots give you a picture of what’s going on at the time that the analysis or dashboard page is added to the briefing book. You can download briefing books as PDF or MHTML for viewing or printing, and share them with others. The PDF file includes a table of contents for the book. Like analytics and reports, briefing books are stored in the business intelligence (BI) catalog.
Adding Content to New Briefing Books

Follow these steps:

1. Open the Reports and Analytics work area.
2. Click the Browse Catalog button.
3. Select your analysis, then click More and select Add to Briefing Book.

Or, find your dashboard and click Open.

   a. Go to the dashboard page you want to add.
   b. Click the Page Options button and select Add to Briefing Book.

4. Indicate if you want the analysis or dashboard results to change (Updatable) or not (Snapshot) whenever the briefing book is downloaded or rerun.

5. Click Browse.

Adding Content to Existing Briefing Books

Follow these steps:

1. Open the Reports and Analytics work area.
2. Click Browse Catalog.
3. Select your analysis, then click More and select Add to Briefing Book.

Or, find your dashboard and click Open.

   a. Go to the dashboard page you want to add.
   b. Click the Page Options button and select Add to Briefing Book.

4. Indicate if you want the analysis or dashboard results to change (Updatable) or not (Snapshot) whenever the briefing book is downloaded or rerun.

Downloading and Editing Briefing Books

Follow these steps:

1. Open the Reports and Analytics work area.
2. Click Browse Catalog to locate your briefing book.

   You can find briefing books only in the BI catalog.

Related Topics

- Reports and Analytics Work Area and Panel Tab

Scheduling Analytics and Reports

How You Set Up Reports to Run as Scheduled Processes

You can create a job definition for predefined or modified reports so that users can run them as scheduled processes. Use the Define Custom Enterprise Scheduler Jobs task in the Setup and Maintenance work area to create job definitions.
Otherwise, users can open reports (which are set up to be run online) through the Reports and Analytics work area or panel tab, or open and schedule them from the business intelligence catalog.

**General Job Definition Information**

This table describes the general information to enter for your job definition.

<table>
<thead>
<tr>
<th>Field</th>
<th>What You Enter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Type</td>
<td>BIPJobType</td>
</tr>
<tr>
<td>Report ID</td>
<td>The path to the report in the catalog, starting with the folder beneath Shared Folders, for example: Custom/&lt;Family Name&gt;/Product Name/Report File Name.xdo. Make sure to include the .xdo extension for the report definition.</td>
</tr>
<tr>
<td>Default Output</td>
<td>A default output format.</td>
</tr>
</tbody>
</table>

**Parameters**

You can define parameters to be available to users when they submit scheduled processes based on your job definition. When users run the scheduled process, the values they enter for the parameters:

- Are passed to the data model that the report is using.
- Determine the data to be included in the report.

The parameters that you define must be in the same order as parameters in the data model. For example, the data model has parameters in this order:

- P_START_DATE
- P_END_DATE
- P_CURRENCY

You create parameters as follows:

- Start Date
- End Date
- Currency

> **Note:** Because you define parameters using the list of values sources from the Define Custom Enterprise Scheduler Jobs task, you should not define lists of values in the data model.

**User Property**

The only user property you must define is `EXT_PortletContainerWebModule`. Only lists of values associated with the application that you select are made available for parameters in this job definition.

**Related Topics**

- Modify Data Models
- Create Reports
Set Up Reports for Scheduling

You can set up reports as scheduled processes, which means users can submit them from the Scheduled Processes and other work areas. If you want users to also submit these scheduled processes from the Reports and Analytics work area and panel tab, then you must configure properties for the corresponding reports.

Enabling a Report for Scheduling

To enable scheduling in the Reports and Analytics work area and panel tab:

1. In the Reports and Analytics work area or panel tab, edit the report in the business intelligence catalog.
2. Click Properties.
3. On the General tab in the Properties dialog box, enter the following fields:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise Scheduler Job Package Name</td>
<td>The path for the job definition, for example: / oracle/ apps/ ess/&lt;product family&gt;/ &lt;product&gt;/ &lt;business area&gt;/ Jobs</td>
</tr>
<tr>
<td>Enterprise Scheduler Job Definition Name</td>
<td>The job definition name (not display name), for example: ABCDEFG</td>
</tr>
</tbody>
</table>

Related Topics

- Set Up the Reports and Analytics Panel Tab
- How You Access and Modify Report Components

Schedule Analytics and Briefing Books

Analytics and briefing books can run based on a schedule that you define. You can set up other automated tasks, for example to deliver results to specific recipients, send notifications, or to generate a list of changes implemented today using the CURRENT_DATE repository variable. You create what's called an agent to set this all up for an analysis, dashboard, or briefing book. The agent itself is saved as an object in the business intelligence (BI) catalog. Agents can

Creating an Agent

1. Open the Reports and Analytics work area, or the Reports and Analytics panel tab if available in other work areas.
2. Click the Browse Catalog button.
3. Click New and select Agent in the Actionable Intelligence section.
4. Ensure that you enter information on the Delivery Content tab to specify the analysis, dashboard, or briefing book to run.
5. Save the agent in My Folders.

Note: To edit an agent, browse the BI catalog to find the agent.
Schedule Reports

Reports can run based on a schedule that you define. You can set up other automated tasks, for example to deliver results to specific recipients or send notifications. You submit a report with the schedule and criteria for other automated tasks defined. If a report is set up as a scheduled process, you submit the process as you would any scheduled process. You can schedule them from:

- Any work area where there is a link to the report.
- The Scheduled Processes work area, where you can submit all processes that you have access to.
- The Reports and Analytics work area or panel tab, if the report is set up for submission from there.

Submitting a Report or Scheduled Process

Follow these steps:

1. Open the Reports and Analytics work area, or the Reports and Analytics panel tab if available in other work areas where you can find the report.
2. Click the name of your report.
3. Click Schedule if the option is there. The report is set up as a scheduled process.
   a. Enter any parameters to avoid unnecessarily large results.
   b. Click Advanced to enter a schedule, deliver results to a specific destination (including e-mail or printer), or define criteria for sending notifications.
4. If you don’t see Schedule, then click View.
   a. Click the Actions button for the report and select Schedule.
   b. Enter information similar to step 3.

Related Topics

- Scheduled Processes: Explained
- Reports and Analytics Work Area and Panel Tab
- Managing Submitted Processes and Viewing Output: Points to Consider
- Submitting Scheduled Processes and Process Sets: Procedure

Adding Analyses to Application Pages

Creating a Supplier Purchase Order Analysis: Worked Example

This example demonstrates how to create an analysis that shows details of the purchase orders for a specific supplier. The following table summarizes key decisions for this scenario.
Creating The Analysis

1. Navigate to the Reports and Analytics work area.
2. On the Create Analysis: Select Columns page, expand the Procurement - Purchasing Real Time folder.
3. Click Create and select Analysis if not already selected.
4. In the Select Subject Area window, select the Procurement - Purchasing Real Time subject area.
5. Expand the Time - Approved Date folder.
6. Select Year and click the Add button to move the column to the Selected Columns area.
7. Expand the Procurement BU folder.
8. Select Business Unit and move it to the Selected Columns area.
9. Expand the Supplier Profile folder.
10. Select Supplier and move it to the Selected Columns area.
11. Expand the Supplier Contact folder.
12. Select Name and move it to the Selected Columns area.
13. Expand the Payment Terms folder.
14. Select Payment Terms Name and move it to the Selected Columns area.
15. Expand the Purchase Order Header Detail folder.
16. Select Order and move it to the Selected Columns area.
17. Expand Purchase Order Lines, then expand the Purchase Order Line Detail folder.
18. Select UOM and move it to the Selected Columns area.
19. In the same folder select Line move it to the Selected Columns area.
20. Expand Purchase Order Lines, then expand the Purchase Order Line folder.
21. Select Ordered Quantity and move it to the Selected Columns area.
22. Expand Purchase Order Distributions, then expand the Purchase Order Distribution folder.
23. Select Purchase Order Distribution Amount and move it to the Selected Columns area.
24. Click Next.
25. On the Create Analysis: Select Views page, enter “Supplier Purchase Order Analysis” in the Title field.
26. Next to the Table field, click None to open the Table menu.
27. Select Table (recommended).
28. Check the box for Preview.
29. Click Next.
30. On the Create Analysis: Edit Table page, click Next.
31. On the Create Analysis: Edit Graph page, in the Sort region click Add Sort.
32. Select Order, then Ascending.
33. In the Filter region click Add Filter.
34. Select Supplier, then Allied Manufacturing in the Value column.
35. Click Next.
36. Open the choice list for Add Column Format and select Ordered Quantity.
37. Now enter 20 for the first Threshold and 1000 for the second Threshold.
38. Click Next.
39. On the Create Analysis: Save page, Save In region, enter “PO Details for Allied Manufacturing” in the Analysis Name field, enter a description, and then select My Folders.
40. Click Submit.
41. In the Confirmation window, click OK.
42. Expand My Folders to locate your analysis.
43. Select your report and click View.
44. Review your analysis.

Add an Analysis to a Dashboard

This example shows how to add an analysis to a dashboard. You can add analyses to some of the pages that you can edit.

⚠️ Caution: Make sure that the analysis isn’t querying against a large volume of records. If it is, then the page can take a long time to open after you add the analysis.

The following table summarizes key decisions for this scenario.

<table>
<thead>
<tr>
<th>Decisions to Consider</th>
<th>In This Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which analysis do you want to add?</td>
<td>Any analysis that you choose</td>
</tr>
<tr>
<td>Do you have to change the layout of the page?</td>
<td>No.</td>
</tr>
<tr>
<td>Do you want all or only one view of the analysis?</td>
<td>All views.</td>
</tr>
</tbody>
</table>

Adding an Analysis

1. Open the dashboard to which you want to add the analysis.
2. Click your user image or name in the global area, and select Edit Pages.
3. With the Add Content tab open in the page editor, click the Add Content button where you want the analysis to go.
   The Reports and Analytics folder in the Add Content dialog box contains what’s in the BI catalog.
4. Click through the folders in the catalog until you see the name of the analysis, and click Add to include all views of the analysis.
   If you instead click Open or the name of the analysis, you can select a specific view to add.
5. Click Close after you see the analysis added to the dashboard.
6. Click Close to save your changes and close the editor.

Analysis and Report Limits
Analysis and Report Limits

Limits on analysis and reports prevent long-running queries.

Examples include:
- Analytics row limits
- Query time limits
- Report Memory Guard limits

Note that when you are reporting on HTML content, for example, Message Body of an SR Message is a report column, you can observe that HTML tags are displayed in the report, in addition to the desired content. In order to display the content correctly without the tags, set the Column Properties > Data Format to **Treat Text as HTML** for the column. Select **Save** as the system-wide default for that particular column (not the default for this data type). Once you do this, any time a report is created that contains this column, it will automatically display HTML content correctly.

This table describes the limits that constrain queries.

<table>
<thead>
<tr>
<th>Application</th>
<th>Context</th>
<th>Limit</th>
<th>Description</th>
<th>Limit Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Answers</td>
<td>Analysis</td>
<td>Query Time Limit - Minutes</td>
<td>Time (in minutes) allowed for a query to return from the database.</td>
<td>10</td>
</tr>
<tr>
<td>Answers</td>
<td>Analysis</td>
<td>Rows Retrieved By SQL Query</td>
<td>Maximum rows retrieved by a logical SQL query.</td>
<td>75,000</td>
</tr>
<tr>
<td>Answers</td>
<td>Analysis</td>
<td>Rows Exported - CSV/Tab/XML - All Data - Export On Demand</td>
<td>Maximum data rows exported from the analysis into CSV, Tab Delimited and XML formats. This limit is enforced when the user exports directly from the analysis.</td>
<td>65,000</td>
</tr>
<tr>
<td>Answers</td>
<td>Analysis</td>
<td>Rows Exported - CSV/Tab/XML - All Data - Export Through Agent</td>
<td>Maximum data rows exported from the analysis into CSV, Tab Delimited and XML formats. This limit is enforced when you export using a scheduled agent.</td>
<td>25,000</td>
</tr>
<tr>
<td>Answers</td>
<td>Table</td>
<td>Maximum Rows Used To Populate Table</td>
<td>Maximum rows that can returned from an analysis query when populating the table. Anything higher than this results in failure to render the table.</td>
<td>75,000</td>
</tr>
<tr>
<td>Answers</td>
<td>Table</td>
<td>Rows Exported - Excel/ PDF - Per View - Export On Demand</td>
<td>Maximum rows exported from a view to formats like PDF, Excel and Powerpoint. This limit is</td>
<td>25,000</td>
</tr>
<tr>
<td>Application</td>
<td>Context</td>
<td>Limit</td>
<td>Description</td>
<td>Limit Setting</td>
</tr>
<tr>
<td>-------------</td>
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</tr>
<tr>
<td>Answers</td>
<td>Table</td>
<td>Rows Exported - Excel/ PDF - Per View - Export Through Agent</td>
<td>Maximum rows exported from a view to formats like PDF, Excel and Powerpoint. This limit is enforced when you export using a scheduled agent.</td>
<td>25,000</td>
</tr>
<tr>
<td>Answers</td>
<td>Table</td>
<td>Cells</td>
<td>Maximum number of data cells in a table view.</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Answers</td>
<td>Table</td>
<td>Sections</td>
<td>Maximum number of sections available for the view.</td>
<td>25</td>
</tr>
<tr>
<td>Answers</td>
<td>Table</td>
<td>Default Rows Per Page In View</td>
<td>Default rows displayed per page in the view. This can be increased in the view properties.</td>
<td>25</td>
</tr>
<tr>
<td>Answers</td>
<td>Table</td>
<td>Maximum Rows Per Page In View</td>
<td>Maximum rows that can be displayed per page in the view.</td>
<td>500</td>
</tr>
<tr>
<td>Answers</td>
<td>Table</td>
<td>Prompt Values</td>
<td>Maximum number of values allowed in Table Prompt. Exceeding this value results in 'Exceeded configured maximum number' error.</td>
<td>1,000</td>
</tr>
<tr>
<td>Answers</td>
<td>Pivot Table</td>
<td>Maximum Rows Used To Populate Pivot Table</td>
<td>Maximum number of rows that can be returned from an analysis query when populating the pivot table. Anything higher than this results in failure to render the pivot table.</td>
<td>40,000</td>
</tr>
<tr>
<td>Answers</td>
<td>Pivot Table</td>
<td>Rows Exported - Excel/ PDF - Per View - Export On Demand</td>
<td>Maximum rows exported from a view to formats like PDF, Excel and Powerpoint. This limit is enforced when the user exports directly from the analysis.</td>
<td>25,000</td>
</tr>
<tr>
<td>Answers</td>
<td>Pivot Table</td>
<td>Rows Exported - Excel/ PDF - Per View - Export Through Agent</td>
<td>Maximum rows exported from a view to formats like PDF, Excel and Powerpoint. This limit is enforced when the user exports directly from the analysis.</td>
<td>25,000</td>
</tr>
<tr>
<td>Application</td>
<td>Context</td>
<td>Limit</td>
<td>Description</td>
<td>Limit Setting</td>
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</tr>
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<td>Pivot Table</td>
<td>Cells</td>
<td>Maximum populated cells of data in the view.</td>
<td>1,000,000</td>
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<td>Answers</td>
<td>Pivot Table</td>
<td>Sections</td>
<td>Maximum sections available for the view.</td>
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<tr>
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<td>Pivot Table</td>
<td>Default Rows Per Page In View</td>
<td>Default rows displayed per page in the view. This can be increased in the view properties.</td>
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<td>Answers</td>
<td>Pivot Table</td>
<td>Maximum Rows Per Page In View</td>
<td>Maximum rows that can be displayed per page in the view.</td>
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<tr>
<td>Answers</td>
<td>Pivot Table</td>
<td>Prompt Values</td>
<td>Maximum number of values that can be returned in a Pivot prompt. Exceeding this value results in 'Exceeded configured maximum number' error.</td>
<td>1,000</td>
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<tr>
<td>Answers</td>
<td>Pivot Table</td>
<td>Columns In Export</td>
<td>Maximum exportable columns.</td>
<td>300</td>
</tr>
<tr>
<td>Answers</td>
<td>Chart</td>
<td>Sections</td>
<td>Maximum sections available for the view.</td>
<td>25</td>
</tr>
<tr>
<td>Answers</td>
<td>Chart</td>
<td>Slider Values</td>
<td>Maximum amount of values available on the slider.</td>
<td>150</td>
</tr>
<tr>
<td>Answers</td>
<td>Chart</td>
<td>Rows Displayed</td>
<td>Maximum amount of data points available on the chart.</td>
<td>2,000</td>
</tr>
<tr>
<td>Answers</td>
<td>Chart</td>
<td>Prompt Values</td>
<td>Maximum number of values listed in the view prompt. Exceeding this value results in 'Exceeded configured maximum number' error.</td>
<td>1,000</td>
</tr>
<tr>
<td>Answers</td>
<td>Simple Trellis</td>
<td>Maximum Rows Used To Populate Simple Trellis</td>
<td>Maximum rows that can returned from an analysis query when populating the simple trellis. Anything higher than this results in failure</td>
<td>40,000</td>
</tr>
<tr>
<td>Application</td>
<td>Context</td>
<td>Limit</td>
<td>Description</td>
<td>Limit Setting</td>
</tr>
<tr>
<td>------------</td>
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<td>-----------------------------------------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Answers</td>
<td>Simple Trellis</td>
<td>Cells</td>
<td>Maximum populated cells of data in the view.</td>
<td>1,000</td>
</tr>
<tr>
<td>Answers</td>
<td>Simple Trellis</td>
<td>Sections</td>
<td>Maximum sections available for the view.</td>
<td>10</td>
</tr>
<tr>
<td>Answers</td>
<td>Simple Trellis</td>
<td>Default Rows Per Page In View</td>
<td>Default rows displayed per page in the view. This can be increased in the view properties.</td>
<td>10</td>
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<tr>
<td>Answers</td>
<td>Simple Trellis</td>
<td>Maximum Rows Per Page In View</td>
<td>Maximum rows that can be displayed per page in the view.</td>
<td>100</td>
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<tr>
<td>Answers</td>
<td>Simple Trellis</td>
<td>Column In Export</td>
<td>Maximum exportable columns.</td>
<td>75</td>
</tr>
<tr>
<td>Answers</td>
<td>Simple Trellis</td>
<td>Prompt Values</td>
<td>Maximum number of values listed in the view prompt. Exceeding this value results in 'Exceeded configured maximum number' error.</td>
<td>1,000</td>
</tr>
<tr>
<td>Answers</td>
<td>Simple Trellis</td>
<td>Rows Exported - Excel/ PDF - Per View - Export On Demand</td>
<td>Maximum rows exported from a view to formats like PDF, Excel and Powerpoint. This limit is enforced when the user exports directly from the analysis.</td>
<td>6,500</td>
</tr>
<tr>
<td>Answers</td>
<td>Simple Trellis</td>
<td>Rows Exported - Excel/ PDF - Per View - Export Through Agent</td>
<td>Maximum rows exported from a view to formats like PDF, Excel and Powerpoint. This limit is enforced when you export using a scheduled agent.</td>
<td>100</td>
</tr>
<tr>
<td>Answers</td>
<td>Advanced Trellis</td>
<td>Maximum Rows Used To Populate Advanced Trellis</td>
<td>Maximum rows that can returned from an analysis query when populating the advanced trellis. Anything higher than this results in failure to render the advanced trellis.</td>
<td>40,000</td>
</tr>
<tr>
<td>Answers</td>
<td>Advanced Trellis</td>
<td>Cells</td>
<td>Maximum populated cells of data in the view.</td>
<td>5,000</td>
</tr>
<tr>
<td>Application</td>
<td>Context</td>
<td>Limit</td>
<td>Description</td>
<td>Limit Setting</td>
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<td>Advanced Trellis</td>
<td>Sections</td>
<td>Maximum sections available for the view.</td>
<td>25</td>
</tr>
<tr>
<td>Answers</td>
<td>Advanced Trellis</td>
<td>Default Rows Per Page In View</td>
<td>Default rows displayed per page in the view. This can be increased in the view properties.</td>
<td>10</td>
</tr>
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<td>Answers</td>
<td>Advanced Trellis</td>
<td>Maximum Rows Per Page In View</td>
<td>Maximum rows that can be displayed per page in the view.</td>
<td>100</td>
</tr>
<tr>
<td>Answers</td>
<td>Advanced Trellis</td>
<td>Columns In Export</td>
<td>Maximum exportable columns.</td>
<td>150</td>
</tr>
<tr>
<td>Answers</td>
<td>Advanced Trellis</td>
<td>Prompt Values</td>
<td>Maximum number of values listed in the view prompt. Exceeding this value results in 'Exceeded configured maximum number' error.</td>
<td>1,000</td>
</tr>
<tr>
<td>Answers</td>
<td>Advanced Trellis</td>
<td>Rows Exported - Excel/ PDF - Per View - Export On Demand</td>
<td>Maximum rows exported from a view to formats like PDF, Excel and Powerpoint. This limit is enforced when the user exports directly from the analysis.</td>
<td>10,000</td>
</tr>
<tr>
<td>Answers</td>
<td>Advanced Trellis</td>
<td>Rows Exported - Excel/ PDF - Per View - Export Through Agent</td>
<td>Maximum rows exported from a view to formats like PDF, Excel and Powerpoint. This limit is enforced when you export using a scheduled agent.</td>
<td>100</td>
</tr>
<tr>
<td>Answers</td>
<td>Treemap</td>
<td>Prompt Values</td>
<td>Maximum number of values listed in the view prompt. Exceeding this value results in 'Exceeded configured maximum number' error.</td>
<td>1,000</td>
</tr>
<tr>
<td>Answers</td>
<td>Treemap</td>
<td>Cells</td>
<td>Maximum populated cells/tiles of data in the view.</td>
<td>5,000</td>
</tr>
<tr>
<td>Answers</td>
<td>Treemap</td>
<td>Sections</td>
<td>Maximum sections available for the view.</td>
<td>50</td>
</tr>
<tr>
<td>Answers</td>
<td>Narrative</td>
<td>Rows</td>
<td>Maximum records available in the view.</td>
<td>40,000</td>
</tr>
<tr>
<td>Application</td>
<td>Context</td>
<td>Limit</td>
<td>Description</td>
<td>Limit Setting</td>
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<td>---------------</td>
</tr>
<tr>
<td>Answers</td>
<td>Ticker</td>
<td>Rows</td>
<td>Maximum records available in the view.</td>
<td>40,000</td>
</tr>
<tr>
<td>Answers</td>
<td>Dashboard</td>
<td>Rows Exported - Excel/ PDF - Per View - Export On Demand</td>
<td>For tables, pivot tables and trellis views, if the view is set to &quot;Fixed headers with scrolling content&quot;, rows visible on the dashboard are exported, and no more. For example, if a table is showing five rows before scrolling, five rows are exported, even if the table has more rows. If the view is set to &quot;Fixed headers with scrolling content&quot;, an export of the number of rows specified in the view’s “Rows Per Page” parameter is attempted. This setting doesn’t override other row or cell limits, so setting this to a very high row limit only guarantees the standard view’s export limits are honored when exporting from a dashboard. The “Rows Per Page” setting can be higher than the actual limit of rows that can be viewed per page in Answers. Even if the higher row limit doesn’t apply at runtime, it applies at export. For example, if the table limit is 500 rows per page, but you set it to 25,000, an attempt is made to export 25,000 rows.</td>
<td></td>
</tr>
<tr>
<td>Answers</td>
<td>Dashboard</td>
<td>Rows Exported - Excel/ PDF - Per View - Export Through Agent</td>
<td>The same rules apply as for Export on Demand, but the exports are subject to limits enforced when exporting data through agents.</td>
<td></td>
</tr>
<tr>
<td>BI Publisher</td>
<td>Memory Guard</td>
<td>Maximum report data size for online reports</td>
<td>Maximum data size allowed for online report viewing. When a report data size exceeds the value, the report receives an &quot;XML Output generated exceeds 300MB&quot; error.</td>
<td>300MB</td>
</tr>
<tr>
<td>Application</td>
<td>Context</td>
<td>Limit</td>
<td>Description</td>
<td>Limit Setting</td>
</tr>
<tr>
<td>------------------</td>
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<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>BI Publisher</td>
<td>Memory Guard</td>
<td>Maximum report data size for offline (scheduled) reports</td>
<td>Maximum data size allowed for scheduled reports. When a report data size exceeds the value, the report receives an XML Output generated exceeds specified file size limit error.</td>
<td>500MB</td>
</tr>
<tr>
<td>BI Publisher</td>
<td>Memory Guard</td>
<td>Free memory threshold</td>
<td>Minimum value for free JVM space. If the report data size exceeds the threshold, then the report is paused to wait for free memory to become available. The report waits for the time specified in the property Maximum Wait Time for Free Memory to Come Back Above Threshold Value. If the free memory does not rise back above the minimum in the wait period specified, the report request is rejected.</td>
<td>500MB</td>
</tr>
<tr>
<td>BI Publisher</td>
<td>Memory Guard</td>
<td>Maximum report data size under the free memory threshold</td>
<td>Maximum single report data size allowed when free JVM memory is under the specified threshold value set in Free memory threshold. For example, assuming the default setting of 500MB, if the data generated for a single report exceeds one-tenth of the value set for Free memory threshold, or 50MB, then processing is terminated.</td>
<td>Free memory threshold/10</td>
</tr>
<tr>
<td>BI Publisher</td>
<td>Memory Guard</td>
<td>Maximum Wait Time for Free Memory to Come Back Above the Threshold</td>
<td>Maximum time in seconds that a request to run a report waits for free JVM memory to exceed the threshold value. If the free memory becomes available within the time specified, the request proceeds immediately. If free memory is still below the threshold value after the time specified, the request is rejected.</td>
<td>30</td>
</tr>
<tr>
<td>Application</td>
<td>Context</td>
<td>Limit</td>
<td>Description</td>
<td>Limit Setting</td>
</tr>
<tr>
<td>--------------</td>
<td>------------</td>
<td>-------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>BI Publisher</td>
<td>Memory Guard</td>
<td>Process timeout for online report formatting</td>
<td>For online requests, the larger this property value, the longer the browser will wait for a request to run.</td>
<td>600</td>
</tr>
<tr>
<td>BI Publisher</td>
<td>Data Model</td>
<td>Maximum data size limit for data generation</td>
<td>Maximum XML data size that can be generated from the execution of a data model. This setting applies to both online and scheduled report requests. When the size of the file generated exceeds the value, execution of the data model is terminated and an exception is generated.</td>
<td>500MB</td>
</tr>
<tr>
<td>BI Publisher</td>
<td>Data Model</td>
<td>Maximum sample data size limit</td>
<td>Maximum file size of a sample data file that can be uploaded to the data model editor.</td>
<td>1MB</td>
</tr>
<tr>
<td>BI Publisher</td>
<td>Data Model</td>
<td>DB fetch size</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>BI Publisher</td>
<td>Data Model</td>
<td>SQL Query Timeout (in seconds)</td>
<td></td>
<td>600</td>
</tr>
</tbody>
</table>
8 Maintenance and Migration

How to Tune Performance for Analytics and Reports

When you create analytics and reports, don’t use blind queries and include sufficient filters when creating analytics or reports with hierarchies.

Blind Queries
Avoid blind queries because they are performed without filters and therefore fetch large data sets. Performance could be an issue with these queries and can easily overload the application. All Transactional Business Intelligence queries on large transaction tables must be time bound. For example, include a time dimension filter and additional filters to restrict by key dimensions such as worker. In addition, apply filters to columns that have database indexes in the transaction tables. This ensures a good execution plan is generated for the Business Intelligence query.

Hierarchies and Trees in Transactional Business Intelligence
Queries on trees and hierarchical dimensions such as manager can have an impact on performance. Transactional Business Intelligence uses a column-flattening approach to quickly fetch data for a specific node in the hierarchy. Still, because there is no pre-aggregation for the different levels of the hierarchy, carefully craft any query involving hierarchies to ensure that sufficient filters are applied to keep the result set small.

Review SQL Statements Used in Analyses
You can review logical and physical SQL statements using either of the following procedures.

Logical and Physical SQL
Logical SQL is non-source specific SQL that is issued to the Oracle BI Server for an analysis. Logical queries use column names from the Presentation Layer in the repository (RPD) metadata. Based on the logical request, the BI Server issues optimized source-specific SQL to the actual data sources in the Physical Layer of the repository metadata. If you have proper administrative privileges, you can review both logical and physical SQL for analyses.

Using Analysis in Edit Mode
1. Open the analysis in Edit mode and click the Advanced tab.
2. In the SQL Issued section, review the logical SQL statement.

Using Administration Page
1. On the Administration page, in the Session Management section, click the Manage Sessions link.
Note: You must be a Business Intelligence Administrator to access the Administration and Manage Sessions page.

2. On the Manage Sessions page, in the Action column, click the View Log link to review the SQL statement.

Move Analyses and Reports

You can archive to bundle the entire catalog, specific folders, or multi component objects as a .catalog file and upload the .catalog file to unarchive the data to another location in the catalog. Use the archive process to transfer specific data across environments, for example from a development environment to a production environment.

Creating an Archive

To create an archive file:

1. Locate the object in the catalog.
2. Select More and then select Archive.
3. In the Archive dialog box, select one or more of the following options:
   - Keep Permissions: Maintain the object or folder’s existing permissions. If you do not select this option, then the archiving process does not include any permissions. Upon unarchiving, the parent folder’s permissions are assigned to all of the objects and folders.
   - Keep Time stamps: Maintain the Creation Time, Last Modified, and Last Accessed times assigned to the object or folder. Upon unarchiving, the LastModified time is updated to indicate the time at which the object or folder is unarchived. If you select this option, the Old option in the Paste Overview area of the Preferences dialog box is available when unarchiving. You use the Old option to overwrite existing catalog items that are older than the catalog items in the archive.
   - If you do not select this option, then the archiving process does not include time information and the Old option in the Paste Overview area of the Preferences dialog box is not available.
4. Click OK to download the archive file.

Moving a File to a New Location

To unarchive a file:

1. Select the folder in the catalog where you want to upload the archived file.
2. In the Tasks pane click Unarchive.
3. In the Unarchive dialog box, browse for and select the archive file.
4. Use the Replace option to specify whether to replace an existing folder or object with the same name.
   - All: Select this option to replace any existing folders or objects with the same names as folders or objects included in the archive file that you are uploading.
   - Old: Select this option to replace folders or objects except those folders or objects that exist, unless they are older than the source.
   - None: Select this option to add any new folders or objects, but preserve any existing folders or objects.
   - Force: Select this option to add and replace all folders or objects.
5. Use the ACL option to specify how the folders or objects are assigned permissions using Access Control Lists (ACLs) when unarchived.
   - Inherit: Inherits the folder or object’s permissions (ACL) from its new parent folder.
   - Preserve: Preserves the folder or object’s permissions (ACL) as it was in the original, mapping accounts as necessary.
   - Create: Preserves the folder or object’s permissions (ACL) as it was in the original, creating and mapping accounts as necessary.

6. Click **OK**.

### About Warehouse Column Errors in Transactional Analyses

In some OTBI analyses and dashboards, users may encounter errors on some columns in their analyses in cases where non-transactional data sources are being queried.

Some subject areas and analyses in the OTBI catalog for offerings including Oracle Customer Experience include analyses which query subject area columns which map to data warehouse data, which is part of Oracle BI Applications and Oracle Transactional Business Intelligence Enterprise (OTBI-E) and is used for historical analysis. In cases where historical warehouse data is included in transactional analyses, users may encounter errors on these columns if the warehouse is not set up and configured.

In some cases, but not all, these conditions are managed by Business Intelligence repository (RPD) metadata which supports switching from warehouse to transactional sources using variables.
analysis
A selection of data displayed in one or more views, such as a table or chart, to provide answers to business questions.

analytics
Business intelligence objects such as analyses and dashboards that provide meaningful data to help with decision making.

briefing book
A collection of static or updatable analyses or dashboard pages that you can download, print, and share with others.

business intelligence catalog
The repository where all business intelligence objects, including analyses, reports, briefing books, and agents, are stored. The catalog contains separate folders for personal, shared, and modified objects.

business intelligence repository
The metadata that determines all of the columns, or pieces of data, that you can include in analytics. You can also use the repository as a source of data for reports.

dashboard
A collection of analyses and other content, presented on one or more pages to help users achieve specific business goals. Each page is a separate tab within the dashboard.

data model
The metadata that determines where data for a report comes from and how that data is retrieved.

EDI
Abbreviation for electronic data interchange.

EFT
Acronym for Electronic Funds Transfer. A direct transfer of money from one account to another, such as an electronic payment of an amount owed a supplier by transferring money from a payer’s disbursement bank account into the supplier’s bank account.

flexfield
A flexible data field that you can configure such that it contains one or more segments or stores additional information. Each segment has a value and a meaning.
flexfield segment
An extensible data field that represents an attribute and captures a value corresponding to a predefined, single extension column in the database. A segment appears globally or based on a context of other captured information.

global header
The uppermost region in the user interface that remains the same no matter which page you’re on.

infolet
A small, interactive widget on the home page that provides key information and actions for a specific area, for example social networking or your personal profile. Each infolet can have multiple views.

job definition
The metadata that determines what a job does and what options are available to users when they submit the scheduled process. A job is the executable for a scheduled process.

prompt
A parameter that you set when you use analytics, limiting the data in the analysis or in all analyses on the dashboard or dashboard page (tab).

report
An output of select data in a predefined format that’s optimized for printing.

role
Controls access to application functions and data.

scheduled process
A program that you run to process data and, in some cases, generate output as a report.

Style template
An .rtf template containing style information that’s applied to report layout templates to achieve a consistent look and feel across reports.

subject area
A set of columns, or pieces of data, related to a specific business object or area.

Subtemplate
An .rtf or .xsl format that is defined once and used multiple times within a single report layout template or across multiple layout template files.

view
A specific way to present the results of an analysis, for example as a table or graph. Other types of views, such as the title view, show other components of the analysis.
work area
A set of pages containing the tasks, searches, and other content you need to accomplish a business goal.

workflow
An automated process that passes a task from one user (or group of users) to another to view or act on. The task is routed in a logical sequence to achieve an end result.