

# **Hyperion Reporting and Analysis Framework**

## **Administrator's Guide**

RELEASE 11.1.2.1

**ORACLE®**

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**ENTERPRISE PERFORMANCE  
MANAGEMENT SYSTEM**

Reporting and Analysis Framework Administrator's Guide, 11.1.2.1

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# About Reporting and Analysis Framework

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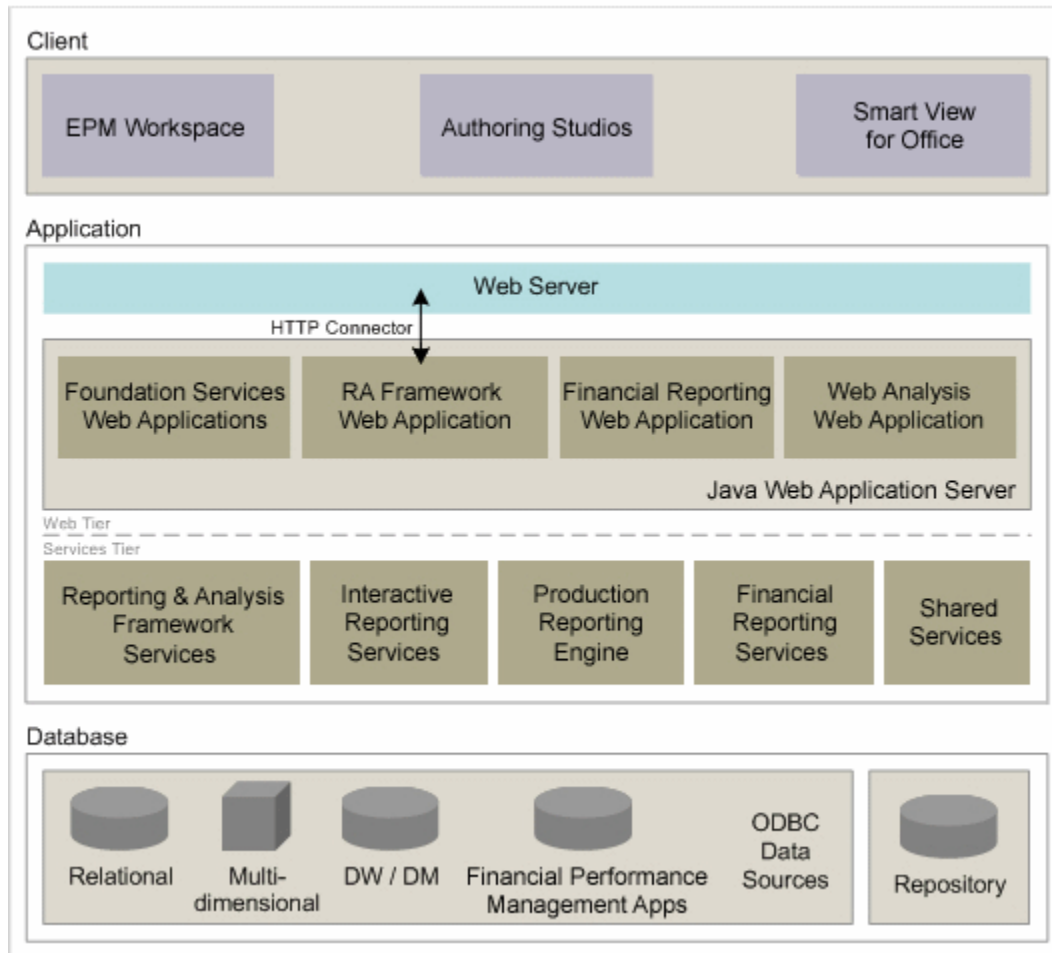
## Reporting and Analysis Architecture

The Oracle's Hyperion Reporting and Analysis environment is organized into three layers:

- “Client Layer” on page 12
- “Application Layer” on page 14
- “Database Layer” on page 19

See Figure 1.

Figure 1 Reporting and Analysis Architecture



## Client Layer

The client layer refers to local interfaces used to author, model, analyze, present, report, and distribute diverse content, and third-party clients, such as Microsoft Office.

- **Oracle Enterprise Performance Management Workspace, Fusion Edition**—Web-based DHTML zero-footprint client that provides the user interface for viewing and interacting with content created by the authoring studios, and enables users to create queries against relational and multidimensional data sources:
  - **Oracle Essbase**—High performance multidimensional modeling, analysis, and reporting
  - **Oracle Hyperion Financial Reporting, Fusion Edition**—Highly formatted financial reporting
  - **Oracle's Hyperion® Interactive Reporting**—Ad hoc query, analysis, and reporting including dashboards
  - **Oracle's Hyperion® SQR® Production Reporting**—High volume enterprise production reporting

- Oracle's Hyperion® Web Analysis—Advanced interactive ad hoc analysis, presentation, and reporting against multidimensional data sources
- **Authoring Studios**
  - Oracle's Hyperion® Interactive Reporting Studio—Highly intuitive and easy-to-navigate environment for data exploration and decision making. A consistent design paradigm and robust formatting tools enable users to easily build free-form, presentation-quality reports for broad-scale publishing across their organization.
  - Oracle's Hyperion® Interactive Reporting Web Client—Web plug-in for viewing Interactive Reporting documents.
  - Oracle Hyperion Financial Reporting Studio, Fusion Edition—Windows client for authoring highly formatted financial reports from multidimensional data sources, which features easy, drag and drop, reusable components to build and distribute HTML, PDF, and hardcopy output.
  - Oracle's Hyperion® Web Analysis Studio—Java applet that enables you to create, analyze, present, and report multidimensional content. The studio offers the complete Web Analysis feature set to designers creating content, including dashboards for information consumers.
  - Oracle's Hyperion® SQR® Production Reporting Studio—Windows client that provides the design environment for creating reports from a wide variety of data sources. Reports can be processed in one pass to produce a diverse array of pixel-perfect output. Processing can be scheduled and independently automated, or designed to use form templates that prompt dynamic user input.
  - Oracle's Hyperion® Dashboard Development Services—Enables creation of dashboards:
    - **Dashboard Studio**—Windows client that utilizes extensible and customizable templates to create interactive, analytical dashboards without the need to code programming logic.
    - **Dashboard Architect**—Windows-based integrated development environment that enables programmers to swiftly code, test, and debug components utilized by Dashboard Studio.
    - **Oracle Hyperion Performance Scorecard, Fusion Edition**—Web-based solution for setting goals and monitoring business performance using recognized scorecarding methodologies. Provides tools that enable users to formulate and communicate organizational strategy and accountability structures:
      - **Key Performance Indicators (KPIs)**—Create tasks and achievements that indicate progress toward key goals
      - **Performance indicators**—Indicate good, acceptable, or poor performance of accountability teams and employees
      - **Strategy maps**—Relate high-level mission and vision statements to lower-level actionable strategy elements
      - **Accountability maps**—Identify those responsible for actionable objectives

- **Cause and Effect maps**—Depict interrelationships of strategy elements and measure the impact of changing strategies and performance
- **Oracle Hyperion Smart View for Office, Fusion Edition**—Oracle-specific Microsoft add-in and toolbar from which users can query Oracle data sources including Essbase, Oracle Hyperion Financial Management, Fusion Edition, and Oracle Hyperion Planning, Fusion Edition. Users can use this environment to interact with Financial Management and Planning forms for data input, and can browse the Reporting and Analysis repository and embed documents in the office environment. Documents are updated by user request.

## Application Layer

The application layer—a middle tier that retrieves requested information and manages security, communication, and integration—contains two components:

- [“Application Layer Web Tier” on page 14](#)
- [“Application Layer Services Tier” on page 14](#)

Because the business intelligence platform is modular, it may consist of various combinations of components, configured in numerous ways. The end result is a comprehensive, flexible architecture that accommodates implementation and business needs.

### Application Layer Web Tier

The application layer relies upon a J2EE application server and Web server to send and receive content from Web clients. An HTTP connector is required to link the Web server and the application server.

The Web tier hosts the following Web applications:

- Foundation Services
- Reporting and Analysis Framework
- Financial Reporting
- Web Analysis

For system requirements and release compatibility, review the *Oracle Hyperion Enterprise Performance Management System Certification Matrix* at <http://www.oracle.com/technology/products/bi/hyperion-supported-platforms.html>. For other information needed to plan a successful installation, review the *Oracle Hyperion Enterprise Performance Management System Installation Start Here*.

### Application Layer Services Tier

The application layer services tier contains services and servers that control functionality of various Web applications and clients:

- [“Reporting and Analysis Framework Services” on page 15](#)

- “Interactive Reporting Services” on page 17
- “SQR Production Reporting Engine” on page 17
- “Financial Reporting Services” on page 17
- “Shared Services” on page 18

Because most of these services are replicable, you may encounter multiple instances of a service in a system.

## Reporting and Analysis Framework Services

Oracle's Hyperion Reporting and Analysis Framework Services are mandatory for authorization, session management, and document publication:

- **Global Service Manager (GSM)**—Tracks system configuration information and monitors registered services in the system. A system can have several GSMs. A GSM can be replicated so that all GSMs have the same comprehensive information about the services registered in the system.
- **Local Service Manager (LSM)**—Created for every instance of a Reporting and Analysis service, including GSM. When system servers start, they register their services and configuration information with GSM, which supplies and maintains references to all other registered services.
- **Service Broker**—Supports GSM and LSM by routing client requests and managing load balancing for services. A system can have multiple Service Brokers.
- **Job Service**—Executes scripts that create reports, which can be prompted by users with permissions or by Event Service. Report output is returned to initiating users or published to the repository. Job Services can be created and configured for every executable.
- **Event Service**—Manages subscriptions to system resources. Tracks user subscriptions, job parameters, events and exceptions, and prompts Job Service to execute scheduled jobs. Event Service is configured to distribute content through e-mail and FTP sites, and to notify users with subscriptions about changing resources. Event Service can be replicated allowing systems to have more than one.
- **Repository Service**—Stores Oracle system data in supported relational database tables, known collectively as the repository. Repository Service is replicable. If replicated, it must be co-located with Publisher Service.
- **Usage Service**—Records the number and nature of processes addressed by entire system. It can track execution of generic files in repository, Production Reporting jobs, database log ins, and modifications of events. Administrators can review usage statistics such as the number of log ins, what the most used files are, what the most selected MIME types are, and what happens to system output. Systems can have multiple Usage Services.
- **Logging Service**—Centralized service for recording system messages to log files. A system can have only one Logging Service.
- **Session Manager Service**—Monitors and maintains the number of simultaneous system users. Monitors all current sessions and terminates sessions that are idle for more than a

specified time period. While Session Manager is replicable, each instance independently manages a set of sessions.

- **Publisher Service**—Handles repository communication for other Reporting and Analysis services and some Web application requests; forwards repository requests to Repository Service and passes replies back to initiating services. Publisher Service is replicable. If replicated, it must be co-located with Repository Service.
- **Authentication Service**—Checks user credentials at log in time and determines whether they can connect; determines group memberships, which, along with roles, affects what content and other system artifacts (*resources*) users can view and modify. Authentication Service is replicable and does not need to be co-located with other services.
- **Authorization Service**—Provides security at the level of resources and actions; manages roles and their associations with operations, users, groups, and other roles. A system must have at least one Authorization Service.
- **Analytic Bridge Service (also known as Extended Access for Hyperion Interactive Reporting)**—Enables users to jointly analyze multidimensional and relational sources in one document. It retrieves flattened OLAP results from Web Analysis documents, Production Reporting job output, or Financial Reporting batch reports in the Reporting and Analysis repository and imports data into Interactive Reporting (BQY) documents as Results sections.
- **Oracle's Hyperion® Impact Management Services**—Reporting and Analysis Framework services that harvest, update, and publish new Interactive Reporting content from old Interactive Reporting repository resources. These services must be used in conjunction with Interactive Reporting services. These services perform automatic load balancing and fault tolerance when multiple instances are running:
  - **Harvester Service**—Harvests metadata from published Interactive Reporting repository documents
  - **Transformer Service**—Updates published and harvested Interactive Reporting documents or publishes new versions to the repository
- **Search Services**—Reporting and Analysis Framework services that enable users to search for and retrieve documents, reports, and dashboards from any repository in EPM Workspace.
  - **Search Indexing**—Indexing and query service at the core of the search framework. It contains the searchable index and provides an API for adding keywords or submitting search queries. Search Indexing is responsible for index optimization and fail-over provisions.
  - **Search Keyword Provider**—A library of specialized parsers for all supported document types (IR, FR, PDF, HTML). These parsers scan documents and extract relevant search keywords. This service is highly configurable and can support additional document types by registering new parsers.
  - **Search Monitor**—An event layer monitoring EPM Workspace and Scorecard repositories for changes. This service provides real-time updates to the searchable index. Any document added, modified, or deleted from these repositories is promptly indexed, re-indexed, or removed from the searchable index.



## Interactive Reporting Services

Interactive Reporting services support Interactive Reporting functionality by communicating with data sources and distributing Interactive Reporting client content:

- **Interactive Reporting Log Service**—Acts as the helper service to all instances of Interactive Reporting Services. Each instance of Interactive Reporting Services posts the log messages to Interactive Reporting Log Services. Interactive Reporting Log Service collects these messages and forwards them to the Logging Service in the Reporting and Analysis Framework Services tier with appropriate loggers created for each instance of Interactive Reporting Services.
- **Interactive Reporting Intelligence Service**—Opens Interactive Reporting documents and delivers interactive HTML content. When actions involving Interactive Reporting documents are requested, this service fulfills the requests by opening and query processing the documents and delivering HTML for display.
- **Interactive Reporting Job Service**—Similar to Interactive Reporting Intelligence Service, which handles only the requests for Interactive Reporting jobs. When a job is scheduled to run, this service receives the job request with job scripts. Then, the Interactive Reporting document associated with the job is opened and the scripts are executed. Finally, the job results are stored in the target directory.
- **Interactive Reporting Data Access Service**—Provides access to relational and multidimensional databases, and carries out database queries for the Interactive Reporting Intelligence Service and Interactive Reporting jobs. Each Interactive Reporting Data Access Service supports connectivity to multiple data sources, using the connection information in one or more Interactive Reporting database connection files, so that one Interactive Reporting Data Access Service can process a document whose sections require multiple data sources. Interactive Reporting Data Access Service maintains a connection pool for database connections.

## SQR Production Reporting Engine

SQR Production Reporting Engine responds to scheduled and on-demand requests by Job Service to run jobs, process data, and generate reports. SQR Production Reporting Engine is optimized for high volume reporting through the use of native drivers, array processing for large data sets, and cursor management. It processes time-saving data manipulation operations in one pass of the data source and produces large quantities of reports in online and printed formats.

## Financial Reporting Services

Financial Reporting services support Financial Reporting functionality by processing batch requests, generating output, and distributing Financial Reporting client content.

- **Oracle Financial Reporting Service**—Generates and formats dynamic report or book results, including specified calculations. Oracle Financial Reporting Services can handle numerous simultaneous requests for report execution from multiple clients because each request is run on its own execution thread. Oracle Financial Reporting Services caches data source connections, so multiple requests by the same user do not require a reconnection.

Financial Reporting servers are replicable—the number necessary depends on the number of concurrent users who want to simultaneously execute reports through the clients. Multiple Financial Reporting servers can be configured to report against one repository.

- **Oracle Financial Reporting Communication Service**—Provides a Java RMI Registry to which other Financial Reporting services are bound.
- **Oracle Financial Reporting Print Service**—Enables Financial Reporting content to be compiled as PDF output. Runs only on supported Windows platforms, but is replicable to provide scalability for PDF generation.
- **Oracle Financial Reporting Scheduler Service**—Responds to Financial Reporting scheduled batch requests. At the specified time, Oracle Financial Reporting Scheduler Service prompts the other Financial Reporting services to fulfill the request.

## Shared Services

Oracle's Hyperion® Shared Services support authentication and user provisioning for all Oracle products. See the Shared Services documentation set.

## Services Tier Summary

Service	Name	Instances
<b>Reporting and Analysis Framework</b>		
	Global Service Manager (GSM)	Multiple
	Local Service Manager (LSM)	Multiple
	Service Broker	Multiple
	Job Service	Multiple
	Event Service	Multiple
	Repository Service	Multiple
	Usage Service	Multiple
	Logging Service	One per system
	Session Manager	Multiple
	Publisher Service	Multiple
	Authentication Service	Multiple
	Authorization Service	Multiple
	Analytic Bridge (Also known as Extended Access for Hyperion Interactive Reporting Service)	Multiple
	Harvester	Multiple

<b>Service</b>	<b>Name</b>	<b>Instances</b>
	Transformer	Multiple
	Search Indexing	One per system
	Search Keyword Provider	One per system
	Search Monitor	One per system
<b>Interactive Reporting</b>		
	Interactive Reporting Log Service	One per system
	Interactive Reporting Intelligence Service	Multiple
	Interactive Reporting Job Service	Multiple
	Interactive Reporting Data Access Service	Multiple
<b>Production Reporting</b>		
	Production Reporting Engine	N/A
<b>Financial Reporting</b>		
	Financial Reporting Service	Multiple
	Financial Reporting Communication Service	Multiple
	Financial Reporting Print Service	Multiple
	Financial Reporting Scheduler Service	Multiple
<b>Shared Services</b>		
	Shared Services	One per system

## Database Layer

Architecturally, databases fall into two fundamental groups: repositories that store Oracle system data; and data sources that are the subject of analysis, presentation, and reporting.

There are two important repositories for information storage:

- **Common repository**—Oracle system data in supported relational database tables
- **Shared Services**—User, security, and project data that can be used across Oracle products

**Data Sources:**

- Relational data sources, for example, Oracle, IBM DB2, and Microsoft SQL Server
- Multidimensional data sources, for example, Essbase
- Oracle's Oracle applications, for example, Oracle Hyperion Financial Management, Fusion Edition and Oracle Hyperion Planning, Fusion Edition

- Data warehouses
- ODBC data sources

For system requirements and release compatibility, review the *Oracle Hyperion Enterprise Performance Management System Certification Matrix* at <http://www.oracle.com/technology/products/bi/hyperion-supported-platforms.html>. For other information needed to plan a successful installation, review the *Oracle Hyperion Enterprise Performance Management System Installation Start Here*.

## Reporting and Analysis Framework and EPM Workspace

You can use EPM Workspace to perform administration tasks for Reporting and Analysis Framework. Content that relates to Reporting and Analysis Framework includes Reporting and Analysis Framework Services, Interactive Reporting Services, Production Reporting Services, Impact Management Services, Search Services, Shared Services, and EPM Workspace pages.

To see Reporting and Analysis Framework content in EPM Workspace, you must first install Reporting and Analysis Framework Services and the Reporting and Analysis Framework Web Application.

The following menu options are specific to Reporting and Analysis Framework:

- Navigate, Workspace Pages
- Navigate, Administer, Reporting and Analysis
- Navigate, Schedule
- Navigate, Impact Manager
- File, Preferences
- Favorites

**Note:** For information on logs, see the *Oracle Hyperion Enterprise Performance Management System Installation and Configuration Troubleshooting Guide*.

# 2

## Administration Tasks

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## Administration Tools for Reporting and Analysis

Topics that describe Reporting and Analysis administration tools are described below. For EPM Workspace, see the *Oracle Enterprise Management Workspace Administrator's Guide*:

- “Administer Module” on page 21
- “Interactive Reporting Services Manager” on page 22
- “Impact Manager Module” on page 22
- “Job Utilities Calendar Manager” on page 22

## Administer Module

The Administer module is accessed from EPM Workspace by selecting **Navigate**, then **Administer**, and then **Reporting and Analysis**. Properties managed using the Administer module include:

- General properties
- Services
- Web Applications
- Agents
- Production Reporting Engines
- Production Reporting Database Servers
- Generic Job Applications
- Pass-through Configuration
- Physical Resources (printers and output directories)
- MIME types

- Notifications
- Change Ownership
- Usage tracking
- Event tracking
- Row Level Security

For detailed information on managing these items, see [Chapter 4, “Using the Administer Module.”](#)

## Interactive Reporting Services Manager

Interactive Reporting Services Manager enhances the process monitoring capabilities for these Interactive Reporting services and processes:

- Hyperion Interactive Reporting Service
- Hyperion Interactive Reporting Data Access Service
- Hyperion Interactive Reporting Job Service
- Hyperion Interactive Reporting Service Helper Process—Manages logging and usage tracking for all Interactive Reporting services

Interactive Reporting Services Manager eliminates the need for using separate process monitors to manage multiple Interactive Reporting services. You configure service type, event, and event threshold information in the Reporting and Analysis section of EPM Workspace. See [“Administering Services” on page 39.](#)

## Impact Manager Module

Impact Manager module enables users to replace Interactive Reporting data models. Changing the data model enables global changes across all Interactive Reporting documents, without requiring that every document which references a data source be edited individually.

See [Chapter 5, “Using Impact Management Services.”](#)

## Job Utilities Calendar Manager

You create, modify, and delete custom calendars using Job Utilities Calendar Manager. You can create calendars to schedule jobs based on fiscal or other internal or organizational calendars.

See [Chapter 7, “Managing Calendars.”](#)

# Starting and Stopping Services for Reporting and Analysis

Review the following topics:

- [Before Starting Services](#)
- [Starting Reporting and Analysis Framework Services](#)
- [Starting Subsets of Services](#)
- [Starting Interactive Reporting Services Manager](#)
- [Stopping Services](#)
- [Service Start-Up Dependencies](#)

## Before Starting Services

Before starting services, ensure that all required network resources are available to the services. For example, Interactive Reporting services may need to create job output on printers or file directories belonging to network hosts other than where the services are running. These connections must be established before Interactive Reporting services can start.

For Windows, a service may need to log on as a user account rather than as the local system account to establish connections to shared resources on the network. ODBC data sources must be configured as *system* data sources rather than user data sources. Consult with the site's network administrators to configure the correct environment.

For UNIX platforms, all necessary environmental settings should be made prior to starting services. Consult with the site's network administrators to create the necessary software configuration.

Regardless of your method for starting Reporting and Analysis services, you must first start the repository database.

## Starting Reporting and Analysis Framework Services

Use one of the following methods to start Reporting and Analysis Framework services:

- [“Windows Methods” on page 24](#)
- [“Start Agent Method” on page 24](#)

**Tip:** For a usable system, all Reporting and Analysis Framework services must be started (see [“Reporting and Analysis Framework Services” on page 15](#))

**Note:** Interactive Reporting Services Manager must be started separately (see [“Starting Interactive Reporting Services Manager” on page 24](#)).

## Windows Methods

On Windows, the preferred method for starting Reporting and Analysis Framework services is from the Start menu or from the Agent.

- ▶ To start Reporting and Analysis Framework services, use one method:
  - Select **Start**, then **Programs**, then **Oracle EPM System**, then **Reporting and Analysis**, and then **Start Reporting and Analysis Agent Services**.
  - In EPM Workspace, select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Services**. Select the **Reporting and Analysis Framework** service, right-click, and select **Start**.

## Start Agent Method

To start all Reporting and Analysis services, run the `startAgent.bat` script in `EPM_ORACLE_INSTANCE\bin`.

- UNIX—`startRAFrameworkAgent.sh`
- Windows—`startRAFrameworkAgent.bat`

## Starting Subsets of Services

You can start subsets of Reporting and Analysis services by inactivating those you do not want to start.

- ▶ To start a subset of Reporting and Analysis services:
  - 1 Inactivate services that you do not want to start:
    - **Interactive Reporting services**—See [“Administering Services” on page 39](#).
    - **Reporting and Analysis services**—In the Services section of EPM Workspace, set **Runttype** to **Hold** for each service.
  - 2 Start Reporting and Analysis Framework services.

## Starting Interactive Reporting Services Manager

You must start Interactive Reporting Services Manager individually. This is true whether the services are installed in an Install Home with the Reporting and Analysis services or alone in its own Install Home.



**Note:** When you connect to a computer to start Interactive Reporting Services Manager on Windows, make sure the color property setting for the display is 16 bits or higher. If the color property setting is less than 16 bits, users may encounter extremely long response times when opening Chart sections of Interactive Reporting documents in EPM Workspace. This is an important prerequisite, especially when starting the services remotely (for example using VNC, Terminal Services, Remote Administrator or Timbuktu) because many remote administration clients connect with only 8-bit colors by default.

► To start Interactive Reporting Services Manager:

- 1 In the **Services** section in EPM Workspace, verify that the **Run Type** for Interactive Reporting Services Manager is set to **Start**.
- 2 Start Reporting and Analysis Framework services.
- 3 Start Interactive Reporting Services Manager.

## Stopping Services

You stop all Reporting and Analysis services and services started individually by stopping their processes. Do so at each service's host computer. In all cases, stopping the services constitutes a hard shutdown and causes the services to stop immediately. In the event of a hard shutdown, all work in progress stops.

The method for stopping a service must match how it was started:

- **Services started with a start script**—Run its stop script.
- **Windows service**—Use the Stop command in the Services tool.

## Service Start-Up Dependencies

Reporting and Analysis Framework services, when launched using Windows Services, try for two minutes to launch; however, Reporting and Analysis Framework services depend on other Oracle Hyperion Enterprise Performance Management System components for normal startup in this order:

- Database
- Shared Services

Because of this order dependency, and because Windows imposes a two-minute maximum time limit for service startup, if your repository database runs on the same computer as Reporting and Analysis Framework services, you may not want to validate service startup to avoid a system shut-down.

If Reporting and Analysis Framework services do not start, check `stdout_console_<module_name>.log` in `diagnostics\logs\ReportingAnalysis` for information to help identify which dependent object is not available.

# Integrating Microsoft Reports with EPM Workspace

EPM Workspace uses the Web services provided by the Microsoft Reports server directly from the Microsoft Internet Explorer browser to list the contents of the Microsoft Reports server repository. It also uses URL API's provided by the Microsoft Reports server to render reports.

► To integrate Microsoft Reports with EPM Workspace:

## 1 Establish single sign-on.

- Set up Microsoft Reporting Services to use Windows Integrated Authentication. This allows Microsoft Internet Explorer to authenticate the user using the Windows Domain credentials used to log on to Windows desktop.
- Ensure that the machine on which Microsoft Internet Explorer is running and the IIS server hosting Microsoft Reporting Web services are in the same Windows domain (similar to an Intranet environment).

## 2 Install and configure EPM Workspace.

## 3 Install Microsoft Reports or use an existing installation.

## 4 On the IIS server hosting the Microsoft Reports Web Services, configure the appropriate IIS Proxy plugins for accessing EPM Workspace.

The IIS Proxy plugins depend on the application server on which EPM Workspace is deployed. See the *Oracle Hyperion Enterprise Performance Management System Manual Deployment Guide* for detailed information.

EPM Workspace should now be accessible through: `http://iisserver/workspace`, where *iisserver* is the server on which the IIS hosting the Microsoft Reports Web service is running.

## 5 In EPM Workspace, select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Web Applications**.

## 6 Right-click **Reporting and Analysis Framework Web Application** and select **Properties**.

## 7 In the **User Interface** tab, under **Configuration**, select **Enable Microsoft Report Server Integration**.

Users with the Content Publisher role should be able to see the **Import** then **Microsoft Reports** option from the context menu for a folder in the Explorer module. All users should be able to double click a URL object in the repository containing a link to a Microsoft report and view it within a tab in EPM Workspace

**Note:** The server from which EPM Workspace is launched must be proxied by the same IIS server as the one hosting the Microsoft Reports Web services for the integration to work. This integration is not supported on Firefox browser.

# Quick Guide to Common Administrative Tasks for Reporting and Analysis

Use this section to quickly locate instructions for some common administrative tasks. [Table 1](#) lists tasks involved in initially configuring and populating your system, and the system component used for each task. [Table 2](#) gives this information for tasks involved in maintaining a system. These tables do *not* include all tasks covered in this guide.

**Table 1** System Configuration Tasks

Task	Component	Reference
Start or stop a server		<a href="#">“Starting and Stopping Services for Reporting and Analysis” on page 23</a>
Provision users, groups, and roles	Oracle's Hyperion® Shared Services Console	<i>Oracle Hyperion Enterprise Performance Management System Security Administration Guide</i>
Configure generated Personal Page	Explore module	<a href="#">“Configuring the Generated Personal Page” on page 31</a>
Configure Broadcast Messages	Explore module	<a href="#">“Configuring Content for Broadcast Messages” on page 32</a>
Provide optional Personal Page content	Explore module	<a href="#">“Providing Optional Personal Page Content to Users” on page 33</a>
Provide graphics for bookmarks	Explore module	<a href="#">“Administering Personal Pages” on page 30</a>
Create custom calendars for scheduling jobs	Calendar Manager	<a href="#">Chapter 7, “Managing Calendars”</a>
Create or modify printers or directories for job output	Administer module	<a href="#">“Managing Physical Resources” on page 67</a>
Define database servers	Reporting and Analysis	<a href="#">“Administering Production Reporting Database Servers” on page 63</a>
Configure services	Reporting and Analysis	<a href="#">“Administering Services” on page 39</a>
Set system properties	Administer module	<a href="#">“Setting General Properties” on page 38</a>

**Table 2** System Maintenance Tasks

Task	Component	Reference
Change which services run in a server		<a href="#">“Administering Services” on page 39</a>
Modify services	Reporting and Analysis	<a href="#">“Administering Services” on page 39</a>
Modify Job Service	Reporting and Analysis	<a href="#">“Administering Services” on page 39</a>
Modify system properties	Administer module	<a href="#">“Setting General Properties” on page 38</a>
Delete services	Installation program	<i>Oracle Hyperion Enterprise Performance Management System Installation and Configuration Guide</i>

<b>Task</b>	<b>Component</b>	<b>Reference</b>
Modify users, groups, or roles	Shared Services Console	<i>Oracle Hyperion Enterprise Performance Management System Security Administration Guide</i>
Inactivate obsolete users,	Oracle's Hyperion® Shared Services Console	<i>Oracle Hyperion Enterprise Performance Management System Security Administration Guide</i>
Create MIME types	Administer module	<a href="#">“Inactivating or Reactivating MIME Types” on page 72</a>
Modify MIME types	Administer module	<a href="#">“Modifying MIME Types” on page 72</a>
Inactivate obsolete MIME types	Administer module	<a href="#">“Inactivating or Reactivating MIME Types” on page 72</a>
Add services	installation program	<i>Oracle Hyperion Enterprise Performance Management System Installation and Configuration Guide</i>

# 3

## Administering Content for Reporting and Analysis

### In This Chapter

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### Organizing Items and Folders

For efficient EPM Workspace functioning, structure folders so users can access items quickly and easily. Within the folder hierarchy, balance folder size against hierarchy depth. Folders should not contain large numbers of items or excessive numbers of levels in the folder hierarchy. Certain folders should not be deleted, for example Shared Workspace Pages. (See “[Maintaining the Shared Workspace Pages Folder](#)” on page 30.)

**Tip:** If you frequently import content into EPM Workspace, run a virus scan regularly on the root folder. Usually, the root folder is located in `<MIDDLEWARE_HOME>/user_projects/epmsystem1/ReportingAnalysis/ data/RM1`.

### Viewing the System Folder

A hidden folder named `System` is designed for administrator use. It is visible only to administrators, and only when hidden items are revealed. Use `System` to store files you do not want users to see, such as icon files for MIME types. You cannot import objects into the `System` folder; however, you can copy, paste, and delete objects. In addition, you can create new versions of existing objects.

➤ To view the `System` folder, in **Explore**, select **View**, then **Show Hidden**.

The `System` folder is now displayed in the folder list.

**Note:** You can rename, delete, or move the `System` folder if desired.

## Maintaining the Shared Workspace Pages Folder

Do not delete or rename the Shared Workspace Pages folder. If this folder is inadvertently deleted, recreate it (with the name of Shared Workspace Pages) in the root of the repository. If the folder is renamed, Shared Workspace Pages are not shown.

The location of the Shared Workspace Pages folder is set in the Web Application User Interface properties. (Select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Web Applications**; then, right-click Reporting and Analysis Framework Web-Application, select Properties, and go to the User Interface tab.) See [“User Interface Properties” on page 60](#).

## Administering Pushed Content

You can push content to add it to users Favorites.

For example, Chris, the marketing manager, wants everyone in marketing to access the marketing schedule document easily. Chris imports the schedule and pushes this item to the marketing group. Now members of the marketing group can view the schedule from Favorites rather than having to navigate through Explore to view the document.

For instructions on how to push items, see the *Oracle Enterprise Performance Management Workspace User's Guide*.

## Administering Personal Pages

Administrators configure the generated Personal Page and content for users' Personal Pages. For information about using Personal Pages, see the *Oracle Enterprise Performance Management Workspace User's Guide*. For details about the configuration properties of the Personal Pages servlet, see [Personal Pages Properties](#) under [“Reporting and Analysis Framework Web Application Properties” on page 57](#).

Tasks involved with administering personal pages:

- [“Configuring the Generated Personal Page” on page 31](#)
- [“Understanding Broadcast Messages” on page 32](#)
- [“Providing Optional Personal Page Content to Users” on page 33](#)
- [“Displaying HTML Files as File Content Windows” on page 33](#)
- [“Configuring Graphics for Bookmarks” on page 34](#)
- [“Configuring Exceptions” on page 34](#)
- [“Viewing Personal Pages” on page 34](#)
- [“Publishing Personal Pages” on page 35](#)
- [“Configuring Other Personal Pages Properties” on page 35](#)

## Configuring the Generated Personal Page

When users first log on to EPM Workspace, a default *generated Personal Page* is listed under Favorites, which EPM Workspace automatically creates and saves the page as part of the user's Personal Pages. Changes the administrator makes do not affect users who have logged on previously. Therefore, the time of the first log on determines the exact content of a user's generated Personal Page.

After logging on initially, users modify their own Personal Pages. They can also create additional Personal Pages.

Due to access permissions, the generated page may differ between users. By carefully setting access permissions on files used for the generated page, you can arrange, for example, for users in the Sales department to see different content on the generated page than users in the Production department.

Items included on the generated Personal Page by default:

- One Broadcast Messages content window with links to all items in /Broadcast Messages
- One Broadcast Messages file content window for each displayable item in Broadcast Messages
- One content window for each of the first two preconfigured folders
- The first (as sorted) displayable HTML item in any preconfigured folder
- My Bookmarks content window
- Exceptions Dashboard content window

You can customize items included by default by setting Generated Personal Page properties in [“Personal Pages Properties” on page 59](#)

➤ To configure the generated Personal Page, do any or all of these tasks:

- Set Generated Personal Page properties in [“Personal Pages Properties” on page 59](#).
- Populate `Broadcast Messages` with combinations of nondisplayable items for which links display on the generated Personal Page, and displayable HTML files or external links, whose content displays there.

All these items appear as links and constitute one content window under the Broadcast Messages heading. Some displayable items may be displayed as file content windows, depending on configuration settings in Generated Personal Page properties.

- In `Broadcast Messages`, create preconfigured subfolders that are displayed when users first log on. Populate these folders with displayable HTML items. Each preconfigured folder has a corresponding content window that contains links to all items in the folder. Each displayable item is displayed as a file content window.

**Tip:** As with any content, only users with required access permissions can see items and folders in *Broadcast Messages* and other preconfigured folders. To tailor the generated page for groups, put folders and items intended for those groups in *Broadcast Messages* and preconfigured folders, and assign access permissions to the target groups. For example, if each group accesses different subsets of preconfigured folders, then users in each group see different content windows when they first log on.

## Understanding Broadcast Messages

The *Broadcast Messages* folder disseminates messages to all system users, except as restricted by access permissions granted on individual content items. Put announcements and documents for wide distribution in this folder.

The terms *Broadcast Messages content windows* and *Broadcast Messages* refer only to the content of the *Broadcast Messages* folder itself, excluding the content of its subfolders (the preconfigured folders).

Broadcast Messages include:

- One content window that displays links to all items in *Broadcast Messages*
- File content windows for each displayable item in *Broadcast Messages*

Unlike other content window types, Broadcast Messages cannot be deleted from users Personal Pages.

If you make another page your default Personal Page, Broadcast Messages remain on the originally generated Personal Page. You can delete the generated page only if you added the *Broadcast Messages* folder to another Personal Page. (You can acquire multiple pages containing Broadcast Messages by copying pushed Personal Pages.)

## Configuring Content for Broadcast Messages

*Broadcast Messages* is your vehicle for customizing what users see according to enterprise or administration needs. By including content for various groups and setting access permissions on each item or folder to ensure that only its intended group has access, you push content to users' browsers.

## Configuring Preconfigured Folders

To configure preconfigured folders for Broadcast Messages, add them to the *Broadcast Messages* folder.

► To add folders to *Broadcast Messages*:

- 1 In **Explore**, select **Broadcast Messages**.

**Tip:** To view the *Broadcast Messages* folder, select **View**, then **Show Hidden**.

- 2 Select **File**, then **New**, and then **Folder**.



- 3 Enter a folder name and click **OK**.

The folder you created is displayed in `Broadcast Messages` in Explore.

## Configuring Folder Items

► To configure folder items:

- 1 In **Explore**, select a folder in `Broadcast Messages`.
- 2 Select **File**, then **Import**, and then *Item*.
- 3 Select **Favorites** and then **Manage Personal Pages**.
- 4 Select **My Personal Page**, and click **Personalize Content**.
- 5 Move the `Broadcast Message` subfolder from **Select Content** to **My Personal Page Content**, and click **Save Settings**.
- 6 Select **Favorites**, and then **My Personal Page** to view the added content.

Follow the directions for adding content to Personal Pages in the *Oracle Enterprise Performance Management Workspace User's Guide*.

## Renaming Broadcast Messages Folders

When you rename the `Broadcast Messages` folder, the changed folder name is displayed in the title bar of the `Broadcast Messages` content window in Explore and on users' Personal Pages. The system property *Folder containing broadcast messages* automatically reflects the changed name. After renaming `Broadcast Messages` or its subfolder, `Personal Page Content`, you must manually change another property, *Location*. The *Location* property is found in the Personal Pages Properties section (see [“Personal Pages Properties”](#) on page 59).

## Providing Optional Personal Page Content to Users

Beyond what you configure for the generated Personal Page, you can configure optional content for users to include on their Personal Pages.

All preconfigured folders are optional content for users and are displayed on the Content page for users to add to Personal Pages. A preconfigured folder is displayed on a Personal Page as a content window when added, with links to the items it contains.

Import all content to preconfigured folders using Explore (see the *Oracle Enterprise Performance Management Workspace User's Guide*).

## Displaying HTML Files as File Content Windows

EPM Workspace allows users to display HTML files on their Personal Pages as file content windows. This means that, rather than having links to HTML files, the file *contents* are displayed

on Personal Pages. By default, the first displayable item in a preconfigured folder automatically displays as a file content window on each user's generated Personal Page.

See the *Oracle Enterprise Performance Management Workspace User's Guide* for information on displaying HTML files as file content windows.

## Configuring Graphics for Bookmarks

To provide graphics that users can use for image bookmarks, do the following:

- Place graphic files in `/media/personalize` in the servlets deployment directory.
- Put the names of new files in the `/media/personalize/personalize.properties` configuration file.

You can add customized icon files for users upon request. Add these image files to `/media` or folders that are within the scope of the Context root (`/raframework`), and give the user a URL that points to that file; for example, `/wsmedia/sqr/vcr.gif`. Custom graphics can also be imported into the repository and then used as custom icon using the bookmark dialog.

**Tip:** The `/media/` folder is located in the `raframework.war` archive located in `EPM_ORACLE_HOME/products/biplus/InstallableApps`. Contact your J2EE Application Service Administrator to modify this archive.

**Note:** Icons do not display on Personal Pages if the file names or directory contain double-byte character set (DBCS) characters.

## Configuring Exceptions

To enable exceptions to be added to the Exceptions Dashboard, select the advanced option *If exceptions are generated, allow users to add to their Exceptions Dashboard* when importing through Explore.

For information on how users can add exception-enabled jobs or items to their Exceptions Dashboard, see the *Oracle Enterprise Performance Management Workspace User's Guide*.

To give jobs exceptions capability, you must design jobs (usually, Production Reporting programs or Interactive Reporting jobs) to write exceptions to the `output.properties` file. See the *Oracle Enterprise Performance Management Workspace User's Guide*.

For programmers' information about supporting exceptions in jobs, see the *Oracle Enterprise Performance Management Workspace User's Guide*.

## Viewing Personal Pages

Content that you defined in Explore is displayed in the Personal Page generated by EPM Workspace for first-time users.

## Publishing Personal Pages

You can publish Personal Pages so that users can copy them to their own Personal Pages, and you can change the default Publish properties for publishing Personal Pages.

When Personal Pages are published, they are added to the Personal Page Content folder in Broadcast Messages (default folder location is root/Broadcast Messages/Personal Page Content).

Users with *modify* access to /Personal Page Content can publish Personal Pages (see the *Oracle Enterprise Performance Management Workspace User's Guide*).

**Note:** Make sure that users understand that even though two users can copy a published page, they are not guaranteed identical results. Access permissions on items included on the published page determine what users see.

## Configuring Other Personal Pages Properties

See [“Personal Pages Properties” on page 59](#) to set Personal Page configuration properties for example:

- Color schemes
- Maximum number of Personal Pages
- Visibility of content window headings (colored bars that resemble title bars)



# 4

## Using the Administer Module

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## Overview

The Administer module, available from the EPM Workspace Navigate menu, enables you to manage EPM Workspace properties and Reporting and Analysis properties. For EPM Workspace administer module properties, see the *Oracle Enterprise Performance Management Workspace Administrator's Guide*. Toolbar buttons represent Administer menu items:

Navigate, then Administer, then Reporting and Analysis Menu Item	Activity
<b>General</b>	Define general system and user interface properties
<b>Services</b>	Monitor and configure properties of deployed Reporting and Analysis services, start and stop services; and add or remove services instances
<b>Web Applications</b>	Monitor and configure properties of deployed Reporting and Analysis web applications
<b>Agents</b>	Monitor and configure properties of deployed Reporting and Analysis agents

<b>Navigate, then Administer, then Reporting and Analysis Menu Item</b>	<b>Activity</b>
<b>Production Reporting Engines</b>	Monitor and configure properties of deployed Production Reporting engines; add, update, or delete Production Reporting engines
<b>Production Reporting Database Servers</b>	Monitor and configure properties of deployed Production Reporting database servers; add, update, or delete Production Reporting database servers
<b>Generic Job Applications</b>	Monitor and configure properties of generic job applications; add or delete generic job applications
<b>Pass-through Configuration</b>	Specify whether to configure pass-through for jobs; and if so, how to configure the pass-through
<b>Physical Resources</b>	Specify printers and output directories for job output
<b>MIME Types</b>	Create, modify, and delete EPM Workspace MIME types
<b>Notifications</b>	Define mail server properties and how end users receive e-mail notifications about jobs
<b>Change Ownership</b>	Change ownership of all objects
<b>Usage Tracking</b>	Track system usage and define related properties
<b>Event Tracking.</b>	Track events, such as document opens, documents closes for selected MIME types, and jobs run
<b>Row-level Security</b>	Manage row-level security settings in data sources used by Interactive Reporting documents

## Setting General Properties

► To set general and user interface properties:

- 1 Select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **General**.
- 2 Modify properties.
- 3 Click **Save Properties**.

## General Properties

- **Broadcast Messages**—Specifies the folder in which to store broadcast messages
- **Enable Priority Ratings**—Sets priority ratings on items imported to the Explore module.  
The default priority rating is *Normal*. *High* displays an exclamation mark next to imported items.
- **Enable Harvesting**—Activates Harvester Service, which enables users to use Impact Manager to extract and save Interactive Reporting metadata to relational data sources for use in other formats (see [Chapter 5, “Using Impact Management Services”](#))

- **Default Open Format for Interactive Reporting**—Specifies whether Interactive Reporting documents open in EPM Workspace (HTML) or Oracle's Hyperion® Interactive Reporting Web Client by default

The default open format setting defined in General Properties is applied only for new users. To change the default open format for the current user, select **File**, then **Preferences**, and then **Interactive Reporting**

## User Interface Properties

- **Display all users/groups/roles in the system**—Lists all available users, groups, and roles when end users set access permissions on repository items. Selecting this option may impact system performance.
- **List up to *n* users/groups/roles**—Number of users, groups, or roles displayed when end users set access permissions on repository items; default is 100. Specifying too low a number may prevent end users from seeing all users, groups, and roles to which they have access.

**Note:** For information on managing users, groups, and roles, see the *Oracle Hyperion Enterprise Performance Management System Security Administration Guide*.

## Administering Services

Administering Reporting and Analysis services involves monitoring and configuring properties, starting and stopping services, and adding or removing service instances. You can monitor, configure, and maintain services across different boxes, and you can run multiple services from one EPM Oracle Home.

Configuration information is stored in the Oracle's Hyperion Shared Services Registry. During initial configuration, Oracle's Hyperion Enterprise Performance Management System Configurator populates the Shared Services Registry with default values for all the properties.

The following services can be configured:

- Analytic Bridge Service (ABS)—Also known as Extended Access for Hyperion Interactive Reporting Service
- Authentication Service (AN)
- Authorization Service (AZ)
- Global Service Manager (GSM)
- Harvester Service (HAR)
- Hyperion Interactive Reporting Intelligence Service (BI)
- Hyperion Interactive Reporting Data Access Service (DAS)
- Hyperion Interactive Reporting Job Service (BI)
- Local Service Manager (LSM)
- Logging Service (LS)

- Publisher Service (PUB)
- Search Indexing
- Search Keyword Provider
- Search Monitor
- Session Manager (SM)
- Super Service (BPS)
- Update (Transformer) Service (TFM)
- Usage Service (UT)

## Configuring Services

► To administer Reporting and Analysis services:

- 1 Log in to EPM Workspace.
- 2 Select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Services**.

The Services tab shows all services registered in the Shared Services Registry.

**Table 3** Service Configuration Information

Field	Description
<b>Agent</b>	Name of the agent
<b>Service Type</b>	Type of service. Supported services include: <ul style="list-style-type: none"> <li>● Reporting and Analysis Framework</li> <li>● Interactive Reporting Log Service</li> <li>● Interactive Reporting Intelligence Service</li> <li>● Interactive Reporting Job Service</li> <li>● Interactive Reporting Data Access Service</li> </ul>
<b>Configuration Name</b>	Name of the service configuration
<b>Enabled</b>	Whether the service is currently enabled
<b>Status</b>	Current service status (Started, Stopped, Startup in Progress, or Shutdown in Progress)

You can perform the following actions:

- Start a service
- Stop a service
- Restart a service
- Delete a service
- Enable a service configuration



- Disable a service configuration
- Review the properties of a service
- Refresh the log configurations
- Stop all services
- Restart all services
- Start the remaining services
- Replicate a service
- Import Interactive Reporting DAS data sources

## Replicating Service Configurations


- To create a copy of a service or group of services (for example, Workspace Common Services):

- 1 In the **Services** tab, select a service and click .
- 2 Enter the name and port range for the new configuration in the dialog box that appears.
- 3 Start the service.

**Note:** The default configuration cannot be deleted; it can only be disabled.

## Relocating the Repository File System

- To relocate the repository file system:

- 1 **Stop all the services. (Use one of the following methods.)**
  - Run a stop script.
  - In EPM Workspace, select Actions, and then Stop All.
  - In EPM Workspace, right-click each service and select Stop.
  - For Windows services, stop the services in the Windows Service panel.
- 2 **Copy all files, folders, and subfolders under `<MIDDLEWARE_HOME>/user_projects/epmsystem1/ReportingAnalysis/data/RM1` to another location.**
- 3 **Log in to EPM Workspace and select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Services**.**
- 4 **Select the **Reporting and Analysis Framework** service and click .**
- 5 **In the **Services** tab, go to the **Repository** section, and enter the new location in the **Home Directory** field.**

For example, `C:\t15755\user_projects\epmsystem1\ReportingAnalysis\data\RM1`.


**Note:** You can relocate your repository to a shared folder. If the new repository location is on another machine, use UNC Path. For example, `\\hostname\sharedfolder\data\RM1`.

6 Restart all the services.

## Importing DAS Data Sources

DAS data source import functionality can be used to transfer data sources stored in `server.xml` from another configuration. The functionality supports transferring data sources from both current and previous versions.

► To import DAS data sources:

- 1 In the **Services** tab, select an Interactive Reporting Data Access service and click .
- 2 Select the **Data Sources** tab and click **Import**.
- 3 Select the source `server.xml` file from the file system and click **OK**.

The location of the source `server.xml` file can differ depending on the source system version.


After you click OK, the new data sources are displayed.

- 4 **Optional.** Add new data sources, or modify or remove existing data sources.
- 5 Click **OK** to exit from the Data Sources tab.

**Note:** See [Data Sources Properties](#) for information on the properties you can configure for DAS data sources.

## Modifying Services Configuration Properties

► To modify Service Configuration properties:

- 1 Select a service and perform an action:
  - Click .
  - Right-click the service and select **Properties**.
- 2 Modify the desired properties and click **OK**.

To modify a property, click the property value and either enter a new value or select a value from the drop-down list that is displayed.

When you select a property, a description of the property is displayed in the Description section of the dialog box.

Services properties include:

- [General Services Configuration Properties](#)
- [Services Properties](#)
- [Data Sources Properties](#)
- [Logs](#)

Not every service has all properties. The properties that appear depend on the service selected.

**Note:** If you change a property, you must restart the services for the change to take affect. Also, for Data Access Services DSNs, you must restart the Data Access Service to pick up any modifications made to the DSNs.

**Note:** If you change log configuration values or add custom log configurations, refresh the log configurations (right-click the service configuration and select Refresh Log Configurations) to apply the changes to the service. You do not need to restart the service for log configuration changes to take affect.

## General Services Configuration Properties

**Table 4** General Service Configuration Property Descriptions

Property	Description
<b>Module Properties</b>	<ul style="list-style-type: none"><li>● <b>Name</b>—Name of the service configuration (Default configurations cannot be removed.)</li><li>● <b>Enabled</b>—Whether the service is enabled</li><li>● <b>Firewall Port</b> (Reporting and Analysis Framework service only)—Firewall Port used by the EPM Workspace service</li><li>● <b>Port Range</b>—Port range used by the Interactive Reporting service. The number of ports defined by the port range should not be less then the managed count.</li><li>● <b>Log Level</b>—Root logging level for the service</li><li>● <b>Temp Location</b>—Directory used to store temporary data</li></ul>

Property	Description
<b>Manage</b>	<ul style="list-style-type: none"> <li>● <b>Managed Count</b>—Number of Interactive Reporting service processes to manage</li> <li>● <b>Monitor Interval</b>—Interval in seconds for monitoring the status of the process. Each poll data mines the process to determine whether it is available, unavailable, starting up, or shutting down.</li> <li>● <b>Monitor Timeout</b>—Interval in seconds to keep polling before declaring a process is unreachable. This value is also used during service startup to data mine the service status.</li> <li>● <b>Hard Shutdown Timeout</b>—Interval in seconds for the service process to live after receiving a stop request from the user interface</li> <li>● <b>Graceful Shutdown Timeout</b>—Interval in seconds for the service process to live after going into standby mode</li> <li>● <b>Spawn Wait</b>—Time in milliseconds before starting a new service instance</li> <li>● <b>IPC Wait</b>—Inter-process communication protocol wait time in milliseconds</li> <li>● <b>IPC Retry Count</b>—Number of retries to obtain an inter-process communication handshake from the newly-started process</li> <li>● <b>Xms (MB)</b>— Initial memory heap size of the Reporting and Analysis Framework</li> <li>● <b>Xmx (MB)</b>—Maximum memory heap size of the Reporting and Analysis Framework</li> <li>● <b>Xrs</b>—Whether to reduce the use of operating system signals by Java/VM in the Reporting and Analysis Framework</li> <li>● <b>JAVA_OPTS</b>—System property name with JVM options in Reporting and Analysis Framework.</li> </ul> <p>These properties are defined by <code>-D[stringkey]=[stringvalue]</code> or <code>-X[stringvalue]</code>. For example, <code>-Djava.compiler=NONE, -Xdebug, and -Xrunjdw:transport=dt_socket,address=4000,server=y,suspend=n</code></p> <p><code>-DPerformance.MaxSTWorkers</code> is the number of job worker threads. It determines the speed at which jobs are built and sent to Job Service. Configure this parameter based on the number of Job Services, schedules, and events; and the size of the connection pool for the repository.</p> <ul style="list-style-type: none"> <li>● <b>Command Args</b>—Additional service command-line arguments</li> <li>● <b>Environment Variables</b>—Environment variables to process</li> </ul> <p>Double-click to access the Values dialog box, where you can enter a value name and a value. The value is the environment variable to apply to the Interactive Reporting Intelligence Service.</p> <ul style="list-style-type: none"> <li>● <b>Library Path</b>—Runtime library path</li> <li>● <b>Use Remote Logger</b> (Interactive Reporting Intelligence Service and Interactive Reporting Job Service only)—Determines whether log messages are written with the Logging service.</li> </ul> <p>If log messages are written with the Logging service, they are remote messages. If log messages are <i>not</i> written with the Logging service, they are local messages.</p> <ul style="list-style-type: none"> <li>● <b>Dynamic Service Properties</b>—Additional properties for the current service configuration</li> </ul> <p>Double-click to access the Values dialog box, where you can enter a value name and a value. The value is the limit to apply to the Interactive Reporting Intelligence Service. To export to Excel, enter <code>EXPORT_TO_EXCEL2=true</code> as the value.</p> <p><b>Note:</b> You can disable keyboard navigation when the screen reader setting is not active. To disable keyboard navigation, add the parameter: <code>DISABLE_KEYBOARD_NAV_IN_NON_508_MODE=true</code> to the Hyperion Interactive Reporting Service (BI) in Dynamic Service properties.</p>
<b>LSM</b>	<ul style="list-style-type: none"> <li>● <b>GSM Sync Time</b>—Frequency in seconds with which LSM synchronizes its information with GSM</li> <li>● <b>Service Test Interval</b>—Frequency in minutes with which LSM checks that the service is running</li> <li>● <b>Service Registration Interval</b>—Frequency in minutes with which LSM registers service in GSM</li> </ul>

Property	Description
<b>Evergreen</b>	<p>Interactive Reporting Services only</p> <ul style="list-style-type: none"> <li>● <b>Enabled</b>—Whether the service is enabled</li> <li>● <b>Maximum Up Time Threshold</b>—Time in minutes that the service will go into standby mode after startup if event monitoring is enabled</li> <li>● <b>Specific Shutdown Time</b>—Time of day (in minutes past midnight) that the service process goes into <code>SHUTDOWN_REQUEST</code> mode and is replaced by a new one</li> <li>● <b>Grace Time</b>—Time window in minutes in which the specific shutdown time will still be in effect</li> <li>● <b>Maximum Documents Threshold</b>—Maximum number of documents opened before the service process is replaced by a new one</li> <li>● <b>Maximum Jobs Threshold</b>—Maximum number of jobs run before the service process is replaced by a new one</li> <li>● <b>Maximum Relational Process Threshold</b>—Maximum number of request to a relational data source (for example, Oracle, SQL Server, Sybase, DB2) before the service process goes into standby mode</li> <li>● <b>Maximum Mdd Process Threshold</b>—Number of requests to the MDD data source (for example, Essbase, MSOLAP, SAP) before the service process is replaced by a new one</li> <li>● <b>Maximum Relational Other Threshold</b>—Number of requests to the relational data source (for example, Oracle, SQL Server, Sybase, DB2), including requests such as stored procedure calls, and get function lists, before the service process is replaced by a new one</li> <li>● <b>Maximum Mdd Other Threshold</b>—Number of requests to the MDD data source (for example, Essbase, MSOLAP, SAP), including requests like build outline, get members, and show values, before the service process is replaced by a new one</li> </ul>

## Services Properties

Services properties include:

- [Reporting and Analysis Framework Services Properties](#)
- [Interactive Reporting Intelligence and Interactive Reporting Job Services Properties](#)
- [Interactive Reporting Data Access Services Properties](#)

## Reporting and Analysis Framework Services Properties

**Table 5** Reporting and Analysis Framework Services Property Descriptions

Reporting and Analysis Framework Service	Property Descriptions
<b>GSM</b>	<ul style="list-style-type: none"> <li>● <b>Enabled</b>—Whether the service is started with other services</li> <li>● <b>Port</b>—Communication port used by the service</li> <li>● <b>Service Test Interval</b>—Frequency in minutes with which the LSM checks that the service is running</li> </ul>
<b>Service Broker</b>	<ul style="list-style-type: none"> <li>● <b>Enabled</b>—Whether the service is started with other services</li> <li>● <b>Port</b>—Communication port used by the service</li> <li>● <b>Home Directory</b>—Directory to store internal data</li> </ul>

Reporting and Analysis Framework Service	Property Descriptions
<b>Job Service</b>	<ul style="list-style-type: none"> <li>● <b>Enabled</b>—Whether the service is started with other services</li> <li>● <b>Port</b>—Communication port used by the service</li> <li>● <b>Home Directory</b>—Directory to store internal data</li> <li>● <b>Acquire Job BI Services</b>—Whether the job service runs as a dedicated job processor or as an interactive processor that processes both Interactive Reporting jobs and interactive reports</li> <li>● <b>Job Limit</b>—Maximum number of concurrent jobs run by the job service. If the job limit is 0 or -1, an unlimited number of concurrent jobs can be run. You can modify the job limit at runtime. Changes to the job limit are dynamically picked up by the job service.</li> <li>● <b>Hold</b>—Whether the job service can accept jobs for processing. When set to <i>true</i>, the job service continues to process jobs that are running, but does not process any new jobs.</li> <li>● <b>Support BQY</b>—Whether the job service can process Interactive Reporting jobs</li> <li>● <b>Parallel Cycle Limit</b>—Number of job cycles that can be executed simultaneously using different Interactive Reporting services</li> </ul>
<b>Event Service</b>	<ul style="list-style-type: none"> <li>● <b>Enabled</b>—Whether the service is started with other services</li> <li>● <b>Port</b>—Communication port used by the service</li> <li>● <b>Home Directory</b>—Directory to store internal data</li> </ul>
<b>Repository</b>	<ul style="list-style-type: none"> <li>● <b>Enabled</b>—Whether the service is started with other services</li> <li>● <b>Port</b>—Communication port used by the service</li> <li>● <b>Home Directory</b>—Directory to store internal data</li> <li>● <b>Disk Space Notification E-mail</b>—E-mail address to which notifications are sent when the specified disk space usage limit is reached. Separate multiple e-mail addresses with semicolons (;)</li> <li>● <b>Disk Space Usage Limit</b>—Determines when the Repository Service should issue warnings about file system storage disk space limit. Enter the value as a percentage.</li> </ul>
<b>Usage, Logging</b>	<ul style="list-style-type: none"> <li>● <b>Enabled</b>—Whether the service is started with other services</li> </ul>
<b>Session Manager</b>	<ul style="list-style-type: none"> <li>● <b>Enabled</b>—Whether the service is started with other services</li> <li>● <b>Session Idle Time</b>—Time period (in seconds) during which, if a user is idle, the session is closed</li> </ul>
<b>Publisher, Authentication, Authorization, and Analytic Bridge</b>	<ul style="list-style-type: none"> <li>● <b>Enabled</b>—Whether the service is started with other services</li> </ul>
<b>Harvester and Transformer</b>	<ul style="list-style-type: none"> <li>● <b>Enabled</b>—Whether the service is started with other services</li> <li>● <b>Max Request Log Time</b>—Maximum time (in hours) to keep request log entries for Impact Manager transformations. Used primarily for the Undo task in Impact Manager. The default value of 336 hours is two weeks. This means that for two weeks you can Undo a transformation. After that, the logs are purged and it is no longer possible to Undo the transformation.</li> <li>● <b>Thread Pool Size</b>—Number of threads used by the service</li> <li>● <b>Polling Interval</b>—Time (in seconds) that the polling thread sleeps between two polls</li> <li>● <b>Max Queue Lock Time</b>—Maximum time (in seconds) that a worker thread can hold a lock before it is considered a stale lock. After this time, the lock is forcibly released allowing another worker thread to process the request.</li> </ul>

Reporting and Analysis Framework Service	Property Descriptions
Search Indexing	<ul style="list-style-type: none"> <li>● <b>Enabled</b>—Whether the service is started with other services</li> <li>● <b>Merge Factor</b>—Affects the size of segments in the searchable index. Valid values are 2 through 10.</li> <li>● <b>Max Optimize Time</b>—Maximum time (in seconds) before the Searchable Index is re-optimized. Optimizing the index is similar in concept to defragmenting a file system.</li> <li>● <b>Max Buffered Docs</b>—Maximum number of documents cached in memory before flushing them to disk</li> <li>● <b>Home Directory</b>—Services home directory to store internal data</li> </ul>
Search Keyword Provider	<ul style="list-style-type: none"> <li>● <b>Enabled</b>—Whether the service is started with other services</li> <li>● <b>Worker Count</b>—Number of threads used by the service</li> <li>● <b>Poll Period Worker</b>—Period (in seconds) for polling the indexing request queue. This defines the longest time before new or updated documents are indexed or re-indexed by Search.</li> </ul>
Search Monitor	<ul style="list-style-type: none"> <li>● <b>Enabled</b>—Whether the service is started with other services</li> <li>● <b>Poll Period</b>—Polling period (in seconds) for monitoring searchable sources</li> <li>● <b>Search Config XML</b>—Location of the search service configuration file</li> </ul>

## Interactive Reporting Intelligence and Interactive Reporting Job Services Properties

**Table 6** Interactive Reporting Intelligence and Interactive Reporting Job Services Property Descriptions

Property	Description
<b>Enabled</b>	Whether the service is started with other services
<b>Cache Location</b>	Directory where the service's temporary files are stored
<b>Maximum Concurrent Job Requests</b>	(IR Jobs only) Maximum number of concurrent jobs running. All other jobs are blocked.
<b>Maximum Concurrent Requests</b>	Maximum number of concurrent requests supported by the service. All other request are blocked.
<b>Minimum Disk Space</b>	Minimum available disk space (MB) required to service a new request
<b>Document Unload Timeout</b>	Inactive time (in seconds) after which documents can be unloaded from memory to conserve resources
<b>Document Unload Threshold</b>	Document unloading mechanism gets activated when the number of open documents exceed this number
<b>Polling Interval</b>	Time (in seconds) that the polling thread sleeps between two polls

## Interactive Reporting Data Access Services Properties

**Table 7** Interactive Reporting Data Access Service Property Descriptions

Property	Description
<b>Enabled</b>	Whether the service is started with other services
<b>Relational Partial Result Cell Count</b>	Maximum number of relational data table cells that a block of results data from a query can contain when sent from Interactive Reporting Data Access Service to the client
<b>Multidimensional Partial Result Row Count</b>	Maximum number of multidimensional data table rows that a block of results data from a query can contain when sent from Interactive Reporting Data Access Service to the client
<b>Result Reap Interval</b>	Frequency in seconds with which Interactive Reporting Data Access Service clears query data from memory when the requesting client seems to be disconnected
<b>Minimum Result Idle Time</b>	Minimum number of seconds to retain query data in memory for client retrieval before assuming that the client is disconnected
<b>Connection Reap Interval</b>	Frequency of checks for unused database connections

## Data Sources Properties

Data Sources properties apply to data sources in the Hyperion Interactive Reporting Data Access Service (DAS). These properties can be used to fine-tune Hyperion Interactive Reporting Data Access Service performance.

- To import a DAS data source, click **Import**, select the source `server.xml` file from file system and click **OK**. (The location of source `server.xml` file can differ depending on source system version.)
- To add a new data source to DAS, click **New**.
- To modify properties of an existing data source in DAS, select the data source and click **Modify**.

**Note:** Connectivity Type, Database Type, and Data Source Name are used only to route requests to Hyperion Interactive Reporting Data Access Service. Database client software to connect to the requested database must be installed and properly configured on each host where Hyperion Interactive Reporting Data Access Services is configured to accept routed requests for database access.

**Table 8** Data Source Properties

Property	Description
<b>Connectivity Type</b>	Data source database driver. Must be installed on the host for Hyperion Interactive Reporting Data Access Service.
<b>Database Type</b>	Database type for the data source



Property	Description
<b>Data Source Name</b>	Name of the data source
<b>Maximum Connections in Pool</b>	Maximum number of unused database connections to keep open for a database user name and Interactive Reporting database connection combination
<b>Maximum Queue Size</b>	Maximum number of requests that can simultaneously wait to obtain a connection to the database server
<b>Maximum Idle Time</b>	Maximum number of seconds to keep open unused database connections
<b>Reap Interval</b>	Frequency in seconds at which the system checks for unused database connections and closes them
<b>Maximum Pool Idle Time</b>	Maximum number of seconds to keep unused connections for a database user name and Interactive Reporting database connection combination in memory
<b>Use Proxy Session</b>	<p><b>For Oracle databases only.</b> Whether to use Oracle Proxy Authentication</p> <p>When you use Oracle Proxy Authentication, users are not authenticated by the Oracle database. The proxy user acts on behalf of the user. This feature can be used in conjunction with pass-through authentication in EPM Workspace so users only need to authenticate to EPM Workspace and can connect to an Oracle database. Connections are kept in a connection pool by the Oracle database connection software to increase efficiency.</p> <p>If you use a proxy session, enter the following information:</p> <ul style="list-style-type: none"> <li>● <b>Proxy User Name</b>—User name of the Oracle database proxy user account</li> <li>● <b>Proxy Password</b>—Password of the Oracle database proxy user account</li> <li>● <b>Proxy Oracle Pool Minimum</b>—Minimum number of database connections available in the Oracle connection pool</li> <li>● <b>Proxy Oracle Pool Increment</b>—Number of additional connections created if a connection is needed, all existing connections in the pool are in use, and the maximum number of connections has not been reached</li> <li>● <b>Proxy Oracle Pool Maximum</b>—Maximum number of connections that can be opened using the data source</li> </ul> <p><b>Note:</b> To use this feature, you must first configure user accounts and Oracle proxy user accounts to use Oracle Proxy Authentication in the Oracle database server.</p>

## Logs

The following logging levels are available:

- All
- Always
- Debug
- Info
- Warn
- Fatal
- Off
- Inherited

- To change the logging level, click the existing logging level and select a new level from the drop-down list.

## Administering Web Applications

Administering Reporting and Analysis web applications involves monitoring and configuring web application properties. You can monitor, configure, and maintain web applications across different boxes. Configuration information is stored in the Shared Services Registry. During initial configuration, EPM System Configurator populates the Shared Services Registry with default values for all the properties.

The following web applications can be configured:

- Web Analysis Web Application
  - Workspace Web Application
- To administer Reporting and Analysis web applications:

- 1 Log in to EPM Workspace.
- 2 Select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Web Applications**.

The Web Applications tab shows all web applications registered in the Shared Services Registry.


**Table 9** Web Application Configuration Information

Field	Description
<b>Name</b>	Name of the web application
<b>Type</b>	Type of web application. Supported web applications include: <ul style="list-style-type: none"><li>● Reporting and Analysis Framework Web Application</li><li>● WebAnalysis Web Application</li></ul>

**Note:** You cannot start and stop web applications in EPM Workspace.

## Modifying Web Application Configuration Properties

- To modify Web Application Configuration properties:

- 1 Select a web application and perform an action:
  - Click .
  - Right-click the web application and select **Properties**.
- 2 Modify the desired properties and click **OK**.

To modify a property, click the property value and either enter a new value or select a value from the drop-down list that is displayed.

When you select a property, a description of the property is displayed in the Description section of the dialog box.

Web Application Configuration properties include:

- [Web Analysis Web Application Properties](#)
- [Reporting and Analysis Framework Web Application Properties](#)

## Web Analysis Web Application Properties

Web Analysis Web Application properties include:

- [Debug Configuration Properties](#)
- [Java Plug-in Configuration Properties](#)
- [Result Set Configuration Properties](#)
- [Essbase Configuration Properties](#)
- [Shared Services Configuration Properties](#)
- [Related Content Configuration Properties](#)
- [Other Web Analysis Properties](#)

### Debug Configuration Properties

**Table 10** Debug Configuration Properties

Property	Description
<b>disableConfigServlet</b>	Whether to disable the Configuration Servlet
<b>Trace Debug Info</b>	Whether to show additional debugging information and stack traces

### Java Plug-in Configuration Properties

**Table 11** Java Plug-in Configuration Properties

Property	Description
<b>JRE Version</b>	JRE version number
<b>JRE ClassID</b>	JRE class ID. Specify which JRE would be used in an Applet.
<b>JRECodeBaseVersion</b>	JRE install.exe file
<b>JREInitHeapSize</b>	The initial heap size of the JRE
<b>JREMaxHeapSize</b>	The maximum heap size of the JRE
<b>ZipJavaOutputContent</b>	Whether to compress server response time on the server before sending it back to the client. Compressing server response time reduces the time spent on network operations and allows handling more clients.

## Result Set Configuration Properties

**Table 12** Result Set Configuration Properties

Property	Description
<b>MaxDataCellLimit</b>	OLAP database connection query result set size
<b>MaxJdbcCellCount</b>	Relational database connection query result set size
<b>MaxChartRowsLimit</b>	Maximum series in charts
<b>MaxMemberQuerySize</b>	<p>Number of members to retrieve at one time when supporting Essbase Cursoring in the Dimension Browser</p> <p>This is useful when some outlines many have too many members at one level, resulting in slow Dimension Browser performance when expanding the node.</p> <p>To improve performance, you can limit the number of children on each call by setting this property to a reasonable value. If there are more children available, a “...” symbol is displayed.</p> <p>For optimal performance, do not set the value above 500. To disable this feature and retrieve all children, set the value to -1.</p>
<b>FetchMemberSize</b>	Number of members retrieved in one metadata query
<b>MaxMemberQueryLimit</b>	Maximum number of members returned by member queries and the preview selection in the Dimension Browser
<b>MaxSubscriptionControlSize</b>	Maximum members returned by subscription control and preview selection calls
<b>AggregatedMemberQuerySize</b>	Member Query batch size. Determines the way Web Analysis performs Essbase member queries. If <code>AggregatedMemberQuerySize=0</code> , Web Analysis resolves OLAP members one-by-one with five TCP connections to Essbase for each member. Otherwise, Web Analysis aggregates a specified number of members into one ALE member query and resolves members in one call to the Oracle Essbase server.

## Essbase Configuration Properties

**Table 13** Essbase Configuration Properties

Property	Description
<b>HFMPlugInSupported</b>	Whether to use the native driver to connect without an HFM client
<b>EESPlugInSupported</b>	<p>Whether to use the native driver to connect without an Essbase run client</p> <ul style="list-style-type: none"> <li>● If yes, ADM uses Essbase Deployment Services to access Essbase.</li> <li>● If no, ADM uses the default JNDI driver.</li> </ul>
<b>EESEmbeddedMode</b>	Whether to use Essbase Deployment Services in an embedded mode (versus a 3-tier mode)
<b>EESDriverName</b>	Essbase Deployment Services driver to ADM
<b>EESServerName</b>	Server running Essbase Deployment Services
<b>EESLocale</b>	Locale for Essbase Deployment Services
<b>EESDomain</b>	Domain for Essbase Deployment Services (do not modify)

Property	Description
<b>EESORBType</b>	ORB type for Essbase Deployment Services (only TCPIP is supported)
<b>EESPort</b>	Essbase Deployment Services communication port
<b>RemoveLink</b>	Whether ADM inserts Essbase <LINK> commands in generated report script
<b>FastSearchDisabled</b>	How the search function retrieves the descendants to search
<b>MaxDimSearchSize</b>	Largest dimension size that can be searched with Web Analysis search logic. For any dimension that is larger in size than this limit, search options "Substring" and "Ending" will be disabled. Default = 1,000,000.
<b>SearchWarningLimit</b>	Number of members after which to display warning messages for long searches (on very large dimensions). Default = 100,000.
<b>EnabledAliasOnDataQuery</b>	Whether Web Analysis retrieves both member names/IDs and aliases during a data query
<b>DimBrowserChildIndicators</b>	Whether to use Essbase pass through for the Dimension Browser. Pass through does not allow access to "hasChildren" for Dimension Browser child indicators.
<b>DisableNonUniqueNames</b>	Whether to query Essbase data sources that have non-unique members
<b>UseUnicodeAdmConnection</b>	Whether to connect to Essbase data sources that are Unicode enabled
<b>ResolveDimSetAliases</b>	Whether to resolve dimension set aliases
<b>FilterRestrictToSingleMember</b>	Whether you can select multiple members in a report object filter  If restricted to a single member, right-click menu options in the Dimension Browser are limited to "Find in Tree" and "Search." If you are only able to select one member at a time, any additional selections overwrite the previous selection.
<b>SSASImpersonate</b>	Configures the authentication for SQL Server Analysis Services (SSAS) 2000 <ul style="list-style-type: none"> <li>● If yes, any user can log into the data source.</li> <li>● If no, Web Analysis uses native MSAS authentication.</li> </ul>
<b>SSASProvider</b>	SSAS Provider value to use in an ADM connection URL. Possible values are: <ul style="list-style-type: none"> <li>● MSOLAP</li> <li>● MSOLAP.3</li> </ul>
<b>ReturnToDrillSource</b>	For drill link reports, what to do after the target report (the report that was opened when drill linking for the source report) is closed <ul style="list-style-type: none"> <li>● If yes, the original source report is opened.</li> <li>● If no, the next report in the order is opened.</li> </ul>
<b>PreloadADM</b>	Whether to create an Essbase connection if Web Analysis is running on OS Linux 4 AS under WAS 6.x configuration

## Shared Services Configuration Properties

Table 14 Shared Services Configuration Properties

Property	Description
<b>Shared.Global.Conn.UserName</b>	If no user name is specified, users are asked for a password when trying to open/import reports with old encrypted passwords.
<b>Shared.Global.Conn.Password</b>	Shared Services connection password
<b>Shared.Global.Conn.Hostname</b>	Shared Services connection host
<b>Shared.Global.Conn.password-encrypted</b>	Whether to use a Shared Services connection encrypted password
<b>Shared.Global.Conn.Port</b>	Oracle's Hyperion® Shared Services connection port

## Related Content Configuration Properties

Table 15 Related Content Configuration Properties

Property	Description
<b>RelatedContent.Server.Name.0</b>	String value displayed in the Add Related Content dialog box
<b>RelatedContent.Server.Description.0</b>	Description displayed in the browser title
<b>RelatedContent.Server.URL.0</b>	URL used to launch the integrated application. For example: <code>http://&lt;host:port&gt;/&lt;webAppURL&gt;?&lt;Application-specific parameters&gt;</code>
<b>RelatedContent.Server.Version.0</b>	Version of the related content
<b>RelatedContent.Alias.Name.0</b>	Name of the Related Content (shown in the Related Content dialog box)
<b>RelatedContent.Alias.Protocol.0</b>	Protocol of the Related Content (shown in the Related Content dialog box)
<b>RelatedContent.Alias.HostName.0</b>	Host name of the Related Content (shown in the Related Content dialog box)
<b>RelatedContent.Alias.Port.0</b>	Port of the Related Content (shown in the Related Content dialog box)

## Other Web Analysis Properties

Table 16 Other Web Analysis Properties

Property	Description
<b>MailServer</b>	Local host where the mail server is located
<b>ThinClientPrintDefault</b>	Print type in EPM Workspace <ul style="list-style-type: none"><li>● <code>ThinClientPrintDefault=PDF</code> launches a browser instance with the output of the Web Analysis document or report object embedded in Adobe Reader.</li><li>● <code>ThinClientPrintDefault=HTML</code> launches a separate browser instance that displays the selected object.</li></ul>

Property	Description
<b>WASstudioMenuControl</b>	Location of the XML file definition that controls the shortcut menu options that users see For example, <code>WASstudioMenuControl=c:/Hyperion/Analyzer/conf/WAMenu.xml</code> .
<b>ModuleName</b>	Module to which the XML file defined with <code>WASstudioMenuControl</code> applies. Default is <code>WebAnalysisStudio</code> .
<b>ShowSelectLayout</b>	Whether a Layout dialog box appears during new document creation
<b>UseSecurityAgentTokenWithoutDomain</b>	Whether <code>HYAURLParamHandler.getSecurityAgentTokenParam</code> cuts off the domain name in a fully-specified user login ID
<b>SSOProviderSessionCookieID</b>	Name of the SSO cookie. Possible value are: <ul style="list-style-type: none"> <li>● <code>SMSESSION</code> (SiteMinder)</li> <li>● <code>OHS&lt;fully qualified host name&gt;&lt;port&gt;</code> (Oracle SSO)</li> <li>● <code>PD-S-SESSION-ID/PD-H-SESSION-ID</code> (WebSeal)</li> </ul>
<b>UseRemoteUser</b>	Whether to search for removed from HTTP request <code>REMOTE_USER</code> header to get Security Agent Token (Applet Parameter) Note: Must be set to yes for Oracle AS SSO
<b>NativeAppServerSSLSupport</b>	Whether to start the Web Analysis application server on a WebLogic server with SSL configuration
<b>EnableTwoWaySSL</b>	Whether to enable two-way SSL authentication When set to <code>true</code> with a protocol of <code>https</code> , users are prompted to enter the client's keystore location, keystore password, and key password. This enables the Java client to establish a two-way SSL connection with the server. The supported keystore type is <code>PKCS12</code> .
<b>ssl.keystore.file</b>	Path to the client's certificate on the Web Analysis server. The certificate is used for establishing a two-way SSL connection from the server to other resources.
<b>ssl.keystore.password</b>	Password to the keystore file defined in <code>ssl.keystore.file</code>
<b>ssl.key.password</b>	Password to the personal key located in the keystore defined in <code>ssl.keystore.file</code> Note: Passwords to the keystore and the personal key can be different in common case, which is why both of them are required.
<b>SessionScopeTimeout</b>	Java session timeout in seconds
<b>FastResolveEssbaseSubscriptions</b>	How to generate dimension member lists for subscription controls <ul style="list-style-type: none"> <li>● If <code>yes</code> pass-through methods are used and Web Analysis performance is improved as long as you are not conducting hybrid analysis</li> <li>● If <code>no</code>, standard Essbase resolve member methods are used to generate dimension member lists for subscription controls.</li> </ul>
<b>ExcelPath</b>	Path where Web Analysis should search for the Microsoft Excel executable file. For example: <code>ExcelPath=c:/my_excel_path/excel.exe</code> .

Property	Description
<b>ShowPathtoExcelDlg</b>	Whether to provide a path to the Excel executable <ul style="list-style-type: none"> <li>● If <i>yes</i>, users must specify the exact path to the executable, and Excel is started with exported data loaded.</li> <li>● If <i>no</i>, a program associated with the exported file extension is started.</li> </ul>
<b>ShowPathtoMSOfficeExecutableDlg</b>	Whether to provide a path to the MS Office executable <ul style="list-style-type: none"> <li>● If <i>true</i>, users must specify the exact path to the executable.</li> <li>● If <i>false</i>, a program associated with exported file extension is started.</li> </ul> <p>This property covers all supported MS applications (Word, Power Point and Excel). If specified, the <code>ShowPathToExcelDlg</code> property specific to Excel takes precedence over this one.</p>
<b>FormatToolTips</b>	Controls the format of data value tooltips. <ul style="list-style-type: none"> <li>● If <i>yes</i>, tooltips display data values in unformatted scientific notation</li> <li>● If <i>no</i>, tooltips display data values in a format that matches the spreadsheet grid</li> </ul>
<b>LogQueries</b>	Whether to redirect the ALE query report and Essbase report specification created by ADM to the Web Analysis output log. Setting this value to <i>no</i> minimizes the amount of logged information.
<b>LoadAllData</b>	Whether to request data for all pages instead of just the current page
<b>ExportDataFullPrecision</b>	Whether to export data values directly from data sources to Microsoft Excel (in lieu of data values with client-based formatting)
<b>SuppressSharedDuplicatesInSearch</b>	Whether the search in the Dimension Browser returns shared (duplicate) members <ul style="list-style-type: none"> <li>● If <i>no</i>, duplicate members are returned and listed in the selected member pane.</li> <li>● If <i>yes</i>, duplicate members are not displayed in the Dimension Browser.</li> </ul>
<b>DisableSparseForSuppressMissing</b>	Whether to disable the sparse extractor when <code>SupressMissing</code> is selected
<b>SQLGrid_DrillOnRow</b>	Drill behavior for rows on a grid <ul style="list-style-type: none"> <li>● If <i>yes</i>, during a drill link from the SQL grid (not relational OLAP), the drill takes place on the entire row for all mapped columns.</li> <li>● If <i>no</i>, the drill is not performed on the selected cell or region of cells.</li> </ul>
<b>AnalyzerBaseURL</b>	The base URL for Web Analysis. For example: <code>AnalyzerBaseURL=http://myserver.hyperion.com:19000/WebAnalysis</code>
<b>XLSeparateColumns</b>	Whether different OLAP spreadsheet generations must appear in different columns during Formatted Export to Excel. Changes the default way spreadsheet columns are formed when exporting to Excel.
<b>Cluster</b>	Whether Web Analysis works in a cluster so additional services will be initialized
<b>atf.messaging.provider-url</b>	Explicitly specifies the JMS provider URL as: <code>protocol://host:port</code> (for example: <code>t3://example.com:16000</code> )
<b>atf.messaging.context-factory</b>	(Optional) JMS initial context factory class name to be used in a cluster



Property	Description
<b>atf.event.broker.idle-time</b>	How often synchronization events are checked by the Web Analysis asynchronous processor. Minimum value is 1001.
<b>WordPath</b>	Path where Web Analysis should search for the Microsoft Word executable file. For example: <code>WordPath=c:/my_word_path/winword.exe.</code>
<b>PPTPath</b>	Path where Web Analysis should search for the Microsoft PowerPoint executable file. For example: <code>PPTPath=c:/my_ppt_path/powerpnt.exe.</code>
<b>DecryptOldPasswords</b>	Whether to disregard older logic so that older passwords are not readable <ul style="list-style-type: none"> <li>● If <i>yes</i>, old passwords are re-encrypted with a new algorithm.</li> <li>● If <i>no</i>, users will be asked for a password when trying to open/import reports with old encrypted passwords.</li> </ul>
<b>HIS PagingBarHide</b>	Whether AIS Drill-Through reports paging is disabled
<b>SQL PagingBarHide</b>	Whether result set paging is disabled for SQL
<b>HIS PagingBarRowsPerPage</b>	Number of rows per page for AIS Drill-Through reports
<b>SQL PagingBarRowsPerPage</b>	Number of rows per page for SQL spreadsheets
<b>DisableQuickDrillUp</b>	Disables attempts of performing the "quick" or "heuristic" drill-up for a set of certain drill-up use cases which are expected to be easy to handle
<b>ExcelExportMaxRows</b>	Maximum rows in a Web Analysis document exported to Excel
<b>ExcelExportMaxColumns</b>	Maximum columns in a Web Analysis document exported to Excel
<b>EnableExpectContinue</b>	Enables the 'Expect: 100-Continue' support for Oracle's Hyperion® Web Analysis applets. This connectivity tuning option is enabled by default.
<b>nosecurecookie</b>	Whether to set the SECURE flag for cookies generated in an application when SSL is used
<b>atf.session.binding.kill-with-prejudice</b>	Whether to make terminating the user session ineffective. <ul style="list-style-type: none"> <li>● If <i>yes</i>, terminating the user session is possible when a "kill" request comes from the server console or when the maximum session inactivity timeout is reached.</li> <li>● If <i>no</i>, terminating the user session is not possible when a "kill" request comes from the server console or when the maximum session inactivity timeout is reached.</li> </ul>

## Reporting and Analysis Framework Web Application Properties

Reporting and Analysis Framework Web Application properties include:

- [Applications Properties](#)
- [Cache Properties](#)
- [Internal Properties](#)

- [Personal Pages Properties](#)
- [User Interface Properties](#)

## Applications Properties

**Table 17** Applications Property Descriptions

Application	Property Description
iHTML	<ul style="list-style-type: none"> <li>● <b>Clear Disk Cache After</b>—Number of seconds after which the disk cache for iHTML documents is cleared</li> <li>● <b>Terminate Idle iHTML Session After</b>—Number of seconds after which Idle iHTML sessions are terminated</li> <li>● <b>iHTML Polling Period</b>—Number of seconds in the iHTML polling time period</li> </ul>
Data Access Servlet	<ul style="list-style-type: none"> <li>● <b>DAS Response Timeout</b>—Number of seconds after which to time out the Data Access Servlet</li> <li>● <b>Enable Zero Administration</b>—Whether to enable zero administration</li> <li>● <b>Hyperion Intelligence Client Polling Time</b>—Polling time in seconds for the Hyperion Intelligence Client</li> <li>● <b>Allow Multiple Browser Windows for Interactive Reporting Web Client</b>—Whether to allow multiple browser windows for the Interactive Reporting Web Client</li> </ul> <p>Use this setting to display multiple instances of one Interactive Reporting document, or to display several Interactive Reporting documents simultaneously. When multiple browser windows are opened for the same Interactive Reporting document, the last saved document is the one saved in the repository.</p>

## Cache Properties

**Table 18** Cache Property Descriptions

Cache Type	Property Description
Objects	<ul style="list-style-type: none"> <li>● <b>Number of Folders Cached</b>—Number of folders to cache</li> <li>● <b>Cache Folders For</b>—Maximum time in seconds to cache folders (The limit for the delay between changes to a folder's contents and Explorer's display of the changes.)</li> <li>● <b>Cache Browse Queries For</b>—Maximum time in seconds for changes to browse queries in EPM Workspace to be reflected in the servlets</li> <li>● <b>Cache Jobs For</b>—Maximum time in seconds for changes to jobs in EPM Workspace to be reflected in the servlets</li> <li>● <b>Cache Parameter Lists For</b>—Maximum time in seconds that the servlets cache job parameter lists</li> <li>● <b>Cache Published Personal Pages For</b>—Maximum time in seconds that the servlets cache the content of the Personal Page content folder. This cache is refreshed whenever a Personal Page is published using the Personal Pages servlet</li> <li>● <b>Cache Content Windows on Personal Pages For</b>—Maximum time in seconds for changes to the Broadcast Messages on a Personal Page to be reflected in the Personal Pages servlet</li> <li>● <b>Cache Content Windows Being Modified For</b>—Maximum time in seconds that the Explore or Administer module caches content while it is being modified</li> <li>● <b>Cache List Items For</b>—Maximum time in seconds to cache item or resource lists</li> <li>● <b>Max Items to Cache For Listings</b>—Maximum number of items in a listing that are cached</li> </ul>
System	<ul style="list-style-type: none"> <li>● <b>Cache System Properties For</b>—Number of seconds to cache system properties</li> </ul>
Notifications	<ul style="list-style-type: none"> <li>● <b>Refresh Notifications Every</b>—Number of seconds before refreshing notifications</li> </ul>

Cache Type	Property Description
Browser	<ul style="list-style-type: none"> <li>● <b>Max IR Job Outputs Listed for Modification</b>—Maximum number of Interactive Reporting job outputs that are listed for modification</li> </ul>

## Internal Properties

**Table 19** Internal Property Descriptions

Property Type	Property Description
General	<ul style="list-style-type: none"> <li>● <b>Custom SmartCut URL</b>—Protocol, host, port, and (optionally) additional context root for smartcuts; for example, <code>http://host/port</code> or <code>http://host/port/path</code>. Changes take effect after restarting EPM Workspace services and EPM Workspace web application. If left blank, default smartcuts are used.  Note: Smartcuts are shortcuts in URL form to imported documents in EPM Workspace.</li> <li>● <b>Pass Data Using Streams Instead of Files</b>—Alters the way data is transmitted between services and the web application <ul style="list-style-type: none"> <li>○ If <i>yes</i>, servlets retrieve files from services using streamed input and output (I/O) and direct connection instead of temporary file system storage. Data is transferred over a separate socket connection between the Repository Services and the servlets.</li> <li>○ If <i>no</i>, data is transferred and stored in a file (or in memory if the data is less than 500 KB) for servlets and the Service Broker.</li> </ul> </li> <li>● <b>Max File Size Allowed for Publish</b>—Maximum file size in megabytes for files that users can import into the repository</li> <li>● <b>Temp Location</b>—Temporary directory for the EPM Workspace web application</li> <li>● <b>Logging Configuration</b>—Logging configuration file</li> </ul>
Redirect	<ul style="list-style-type: none"> <li>● <b>Redirect URLs Using</b>—Controls the way browsers are redirected from page to page</li> </ul>
Cookies	<ul style="list-style-type: none"> <li>● <b>Keep Cookies Between Browser Sessions</b>—Whether to keep cookies between browser sessions</li> <li>● <b>Encrypt Cookies</b>—Whether cookie encryption is enabled</li> </ul>

## Personal Pages Properties

**Table 20** Personal Pages Property Descriptions

Personal Page Property	Property Description
General	<ul style="list-style-type: none"> <li>● <b>Maximum Personal Pages Per User</b>—Maximum number of Personal Pages allowed for every user in the system</li> <li>● <b>Maximum Initial Published Personal Pages</b>—Maximum number of Personal Pages initially published for every user in the system</li> <li>● <b>Show Headings of Content Window on Personal Page</b>—Whether to show the headings of the Content window on Personal Pages</li> </ul>
Publish	<ul style="list-style-type: none"> <li>● <b>Location</b>—Directory where Personal Page content is published. Must be located in the <code>\Broadcast Messages</code> folder.</li> </ul>

Personal Page Property	Property Description
Generated Personal Page	<ul style="list-style-type: none"> <li>● <b>Show my Bookmarks</b>—Whether to show bookmarks on the generated Personal Page</li> <li>● <b>Show Exceptions Dashboard</b>—Whether to show the Exceptions Dashboard on the generated Personal Page</li> <li>● <b>Number of Folders</b>—Number of preconfigured folders (subfolders of the \Broadcast Messages folder) to appear on the generated Personal Page</li> <li>● <b>Number of File Content Windows</b>—Number of file contents windows to appear on the generated Personal Page</li> <li>● <b>Default Color Scheme</b>—Default color scheme to appear on the generated Personal Page</li> </ul>
Color Scheme	<ul style="list-style-type: none"> <li>● <b>Name</b>—Name to identify the color scheme</li> <li>● <b>Headings Color</b>—Color to appear on Personal Page headings</li> <li>● <b>Background Color</b>—Color to appear as the background for Personal Pages</li> <li>● <b>Text Color</b>—Color for the text on Personal Page</li> <li>● <b>Link Color</b>—Color for the links on Personal Pages</li> <li>● <b>Broadcast Messages Color</b>—Color in which broadcast message will appear on Personal Pages</li> <li>● <b>Heading Background Color</b>—Background color for headings on Personal Pages</li> <li>● <b>Footer Background Color</b>—Color to appear on Personal Page footers</li> <li>● <b>Left Column Background Color</b>—Background color for the left column on Personal Pages</li> <li>● <b>Right Column Background Color</b>—Background color for the right column on Personal Pages</li> </ul>

## User Interface Properties

Table 21 User Interface Property Descriptions

User Interface Element	Property Description
Configuration	<ul style="list-style-type: none"> <li>● <b>Enable Microsoft Report Server Integration</b>—Whether to show the Import Microsoft Reports menu in the Explorer module</li> </ul>
Localization	<ul style="list-style-type: none"> <li>● <b>Format Times Using</b>—Whether to display time fields in a 12-hour (am/pm) format or in a 24-hour format (6:30 pm displays as 18:30)</li> <li>● <b>Date Display Order</b>—Whether to display dates in month/day/year order (for example, May 1 2008) or in day/month/year order (for example 1 May 2008)</li> <li>● <b>Time Display Order</b>—Time display order in the system</li> <li>● <b>Default Local Language Code</b>—Lowercase, two-letter code for the most commonly-use language (for example, en for English and fr for French). Used with country codes and local variants to determine the set of templates read when starting up and to determine what language in which to display pages.</li> <li>● <b>Default Local Country Code</b>—Uppercase, two-letter code for the country (for example US for the United States and CA for Canada). Used with the language code and local variants to obtain and display user data.</li> <li>● <b>Default Local Variant</b>—Optional localization property for users with matching language and country codes. For example, a variant of West Coast delivers specialized data (such as the time for the local time zone). Use only if the “Default Local Country Code” is <i>not</i> set to Default.</li> </ul>
Workspace Pages	<ul style="list-style-type: none"> <li>● <b>Folder</b>—Repository location for storing EPM Workspace pages</li> </ul> <p><b>Note:</b> Do not delete or rename the \Shared Workspace Pages folder in the repository</p>

User Interface Element	Property Description
<b>Subscription</b>	<ul style="list-style-type: none"> <li>● <b>Enable Subscription Features</b>—Whether to enable subscription features. If no, users cannot receive notifications when items are modified.</li> </ul>
<b>Job Output</b>	<ul style="list-style-type: none"> <li>● <b>Display HTML Production Reporting Job Output</b>—Whether to display an HTML icon when displaying SQR Production Reporting job output in listing pages</li> <li>● <b>Display SPF Production Reporting Job Output</b>—Whether to display and SPF icon when displaying SQR Production Reporting job output in listing pages</li> <li>● <b>Output Format for Production Reporting Job</b>—Output format to display after an SQR Production Reporting job is run</li> </ul>
<b>SmartCut</b>	<ul style="list-style-type: none"> <li>● <b>Show SmartCut as Link</b>—Whether to display a SmartCut as a link</li> </ul>
<b>Main Frame</b>	<ul style="list-style-type: none"> <li>● <b>Main Frame Background Color</b>—Background color for the main frame. Does not apply to Personal Pages. If left blank, your platform's default background color is used.</li> <li>● <b>Personal Page Wizard Background Color</b>—Background color for the Personal Page Wizard. The Personal Page Wizard is the sequence of pages displayed after a user chooses New Personal Page.</li> <li>● <b>Personal Page Wizard Border Color</b>—Border color for the Personal Page Wizard</li> <li>● <b>Title Underline Color</b>—Color to display for underline titles</li> <li>● <b>Regular Text Color</b>—Color of regular text in the user interface</li> <li>● <b>Link Text Color</b>—Color of links in the user interface</li> </ul>

## Administering Agents

Administering Reporting and Analysis agents involves monitoring and configuring agent properties. You can monitor, configure, and agents across different boxes. Configuration information is stored in the Shared Services Registry. During initial configuration, Oracle's Hyperion Enterprise Performance Management System Configurator populates the Shared Services Registry with default values for all the properties.

➤ To administer Reporting and Analysis agents:

- 1 Log in to EPM Workspace.
- 2 Select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Agents**.

The Agents tab shows all agents registered in the Oracle's Hyperion Shared Services Registry.

**Table 22** Agent Configuration Information

Field	Description
<b>Agent</b>	Name of the agent
<b>Enabled</b>	Whether the agent is currently enabled
<b>Status</b>	Whether the agent is currently started or stopped

You can perform the following actions:


- Enable an agent
- Disable an agent
- Review the properties for an agent
- Stop an individual agent
- Stop all agents

**Note:** You cannot start or restart agents in EPM Workspace. To start or restart an agent, use `stopRAFrameworkAgent.sh/bat`, `startRAFrameworkAgent.sh/bat` found in `EPM_ORACLE_INSTANCE/bin`.

## Modifying Agent Configuration Properties

► To modify Agent Configuration properties:

**1 Select an agent and perform an action:**

- Click .
- Right-click the agent and select **Properties**.

**2 Modify the desired properties and click OK.**

To modify a property, click the property value and either enter a new value or select a value from the drop-down list that is displayed.

When you select a property, a description of the property is displayed in the Description section of the dialog box.

**Table 23** Agent Configuration Property Descriptions

Agent Property	Description
<b>Name</b>	Agent name
<b>Enabled</b>	Whether the agent is enabled
<b>Port</b>	The agent service port used for communication. Clients will communicate with the agent through this port. In case of firewall settings, this port needs to be opened if accessing the agent from outside the machine
<b>RMI Port</b>	The port used for starting an RMI registry. The RMI registry is a lookup service for the agent service. For firewall settings, this port needs to be opened if accessing the agent from outside the machine.

## Administering Production Reporting Engines

Reporting and Analysis uses Production Reporting engines to run Production Reporting jobs.

The Production Reporting Engines tab lists the currently defined Reporting and Analysis Production Reporting engines; and displays the host, type, and location of each engine.

Administering Production Reporting engines involves:

- [Adding or Updating a Production Reporting Engine](#)
- [Deleting a Production Reporting Engine](#)

## Adding or Updating a Production Reporting Engine

➤ To add or update a Production Reporting engine:

- 1 In EPM Workspace, select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Production Reporting Engines**.
- 2 In the **Production Reporting Engines** tab, perform an action:
  - Right-click and select **Create New PR Engine**.
  - Select an existing Production Reporting engine, right-click, and select **Update Production Reporting Engine**.
- 3 Supply or update the following information:
  - **Product Host**—Host of the job service where the Production Reporting engine resides
  - **Engine Type**—Production Reporting engine type that corresponds to the database type; for example, ODBC
  - **Product Location**—Production Reporting engine location
- 4 Click **OK**.

**Note:** When updating Production Reporting engine information, you can only update the location of the server (Product Location).

## Deleting a Production Reporting Engine

➤ To delete a Production Reporting engine:

- 1 In EPM Workspace, select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Production Reporting Engines**.
- 2 Right click the desired Production Reporting engine and select **Delete Production Reporting Engine**.
- 3 When prompted, click **Yes** to confirm database deletion, and click **OK**.

## Administering Production Reporting Database Servers

Reporting and Analysis uses Production Reporting databases to store and manage application metadata.

The Production Reporting Database Servers tab lists the currently defined Reporting and Analysis Production Reporting database servers; and displays the database server host, database server type, and connection for each database server.

Administering Production Reporting database servers involves:

- [Adding or Updating a Production Reporting Database Server](#)
- [Deleting a Production Reporting Database Server](#)

## Adding or Updating a Production Reporting Database Server

► To add or update a Production Reporting database server:

- 1 In EPM Workspace, select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Production Reporting Database Servers**.
- 2 In the **Production Reporting Databases** tab, perform an action:
  - Right-click and select **Create New PR Database Server**
  - Select an existing database server, right-click, and select **Update Production Reporting Database Server**.
- 3 Supply or update the following information:
  - **Job Service Host**—Host where the job service resides
  - **Host Type**—Job service host platform
  - **Database Host**—Host where the database server resides
  - **DB Type**—Type of database server you are using
  - **User**—Default user name used by the Job Service for running Production Reporting programs on the database server. Used if the job owner does not supply a database user name and password when importing a job.
  - **Password**—Valid password for user name
  - **Datasource**—Data source name or connection string that a report will use to connect to the database server
  - **Connection Parameters**—Database connection parameters (also known as database connectivity environment variables). Used to define database information that may be required by Production Reporting; for example, `name= ORACLE_SID,`  
`value=PAYROLL`
- 4 Click **OK**.

## Deleting a Production Reporting Database Server

► To delete a Production Reporting database server:

- 1 In EPM Workspace, select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Production Reporting Database Servers**.
- 2 Right click the desired database server and select **Delete Production Reporting Database Server**.
- 3 When prompted, click **Yes** to confirm database deletion server, and click **OK**.



# Administering Generic Job Applications

Generic jobs are non-Production Reporting or non-Interactive Reporting jobs created using applications through a command-line interface (for example, Oracle or Crystal Reports).

The Generic Job Applications tab lists the currently defined generic job applications; and displays the product name, executable, and host name for each application.

Administering generic jobs involves:

- [Adding or Updating a Generic Job Application](#)
- [Deleting a Generic Job Application](#)

## Adding or Updating a Generic Job Application

► To add or update a generic job application:

- 1 In EPM Workspace, select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Generic Job Applications**.
- 2 In the **Generic Job Applications** tab, perform an action:
  - Right-click and select **Create New Generic Application**
  - Select an existing generic job application, right-click, and select **Update Generic Application**.
- 3 Supply or update the following information:
  - **Product Name**—Name of the generic job application
  - **Product Host**—Host on which the generic job application resides
  - **Command Template**—Command template value. Click a button to insert a value. (See [Command Tokens](#) and [Command String Examples](#).)
  - **Executable**—Location of the executable program for the application (full path and executable name); must be co-located with Job Service
  - **Flags**—Value used in the command line for the token `$EFLAGS`, which represents the flags associated with the program
  - **Variables**—Environment variables associated with the application, for example, `$PATH`.
- 4 Click **OK**.

## Command Tokens

Use command tokens to build command strings to pass to applications when they run:

- `$CMD`—Full path and name of the executable.
- `$PARAMS`—Parameters defined for the program. You can set prompt and default values for individual parameters in program properties.

- `$PROGRAM`—Program to run. Examples of programs include shell scripts, SQL scripts, or Oracle Reports.
- `$BPROGRAM`—Program name with the file extension removed. Use this in combination with hardcoded text to specify a name for an error file, a log file, or another such file. An example would be `log=$BPROGRAM.log`.
- `$FLAGS`—Flags associated with the program.
- `$EFLAGS`—Flags associated with the executable or an instance of it. All jobs associated with this executable use these flags.
- `$DBCONNECT`—Database connect string associated with the program. If set, end users cannot specify a connect string at runtime.
- `$DBUSERNAME`—Database user name associated with the program. If set, end users cannot specify a user name at runtime.
- `$DBPASSWORD`—Database password associated with the program. If set, ends users cannot specify a password at runtime.
- `$BPUSERNAME`—User name. If the user name is required as an input parameter to the job, specifying this token instructs the system to include the user name in the command line automatically, rather than prompting the user.

## Command String Examples

- Command string template to run Oracle Reports

```
$CMD userid=$DBUSERNAME/$DBPASSWORD@$DBCONNECT report=$PROGRAM destype=file desname=$BPROGRAM.html batch=yes errfile=$BPROGRAM.err desformat=html
```

When the tokens in the above command string for Oracle Reports are replaced with values, the command executed in Job Service looks like this:

```
r30run32 userid=scott/tiger@Brio8 report=inventory destype=file
desname=inventory.html batch=yes errfile=inventory.err desformat=html
```

- Command string template to run shell scripts on a Job Service running on UNIX

```
$CMD $PROGRAM $PARAMS
```

When the tokens in the above command string for running shell scripts are replaced with values, the command executed in Job Service looks like this:

```
sh runscript.sh p1 p2 p3
```

- Command string template to run batch files on Job Service running on a Windows system

```
$PROGRAM $PARAMS
```

When the tokens in the above command string for running batch files are replaced with values, the command executed in the Job Service looks like this:

```
Runbat.bat p1 p2 p3
```

## Deleting a Generic Job Application

- To delete a generic job application:
  - 1 In EPM Workspace, select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Generic Job Applications**.
  - 2 Right click the desired database server and select **Delete Generic Application**.
  - 3 When prompted, click **Yes** to confirm job deletion, and click **OK**.

## Managing Pass-through Configuration

Pass-through enables users to log on once to EPM Workspace and access their reports' databases without additional authentication.

As the administrator, you can provide transparent access to databases for foreground jobs and for Interactive Reporting documents by enabling pass-through globally. When pass-through is enabled globally, item owners can enable or disable pass-through for jobs and Interactive Reporting documents.

- To define pass-through settings:
  - 1 In EPM Workspace, select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Pass-through Configuration**.
  - 2 Select an option:
    - Use users' login credentials for pass-through—Enables pass-through using the user's logon credentials which include Password and Confirm Password fields
    - Allow users to specify credentials for pass-through—Enables pass-through using the credentials the user specifies in Preferences

## Managing Physical Resources

Physical resources, such as printers and output directories, are used as destinations for Interactive Reporting and Production Reporting job output.

Managing physical resources involves:

- [Viewing Physical Resources](#)
- [Adding Physical Resources](#)
- [Modifying Physical Resources](#)
- [Deleting Physical Resources](#)
- [Generating Keys for Secure FTP](#)

**Note:** Physical resources must be accessible to each server on which Hyperion Interactive Reporting Service is running.

## Viewing Physical Resources

- To view physical resources defined for EPM Workspace:
  - 1 Select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Physical Resources**.
  - 2 From the **Display** drop down, select **All**, **Only Printer**, or **Only Output Directory** and click **Update List**.

**Tip:** To view the properties for a physical resource, click a resource name.

## Adding Physical Resources


Adding physical resources involves:

- [Adding Printers](#)
- [Adding Output Directories](#)

### Adding Printers

- To add a printer:
  - 1 In EPM Workspace, select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Physical Resources**.
  - 2 Click **Go** next to **Add Printer**.
  - 3 Enter **General Properties**:
    - **Type**—Read-only property; set as *Printer*
    - **Name**—Name for the printer; visible to end users
    - **Description**—Description to help administrators and end users identify the printer
    - **Printer Address**—Network address of the printer (for example, \\f3prt\techpubs); not visible to end users
  - 4 **Set access Permissions**:
    - a. Select the **Users**, **Groups**, or **Roles** tab.

All currently-defined users, groups, or roles are displayed in the corresponding tab.
    - b. **Optional:** Restrict the users, groups, or roles displayed by selecting **begin with**, **contain**, or **are in group**, entering a value, and clicking **Update List**.

For example, to restrict the groups displayed to only those groups beginning with B, select **begin with** from the drop-down list, and enter B as the value.
    - c. Select a user, group, or role and click  to move it to **Selected Users, Groups, and Roles**.
    - d. Assign an access permission by selecting a value from the **Access** drop-down list. Valid access permissions are **No Access**, **View**, and **Full Control**.

e. Optional. Select **Make these the default permissions for all resources I import**.

5 Click **Finish**.

## Adding Output Directories

➤ To add an output directory:

1 In EPM Workspace, select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Physical Resources**.

2 Click **Go** next to **Add Output Directory**.

3 Enter **General Properties**:

- **Type**—Read-only property; set as *Output Directory*
- **Name**—Name for the output directory; visible to end users
- **Description**—Description to help administrators and end users identify the directory
- **Path**—Output directory path (for example, /apollo/Inventory\_Reports)

4 Enter **FTP Properties**:

- **Directory is on FTP Server**—Select if the output directory is located on an FTP server  
FTP protocol is used for distributing outputs generated by BQY jobs (BQY actions give ability to redirect output just after the job runs) and BQY and SQR schedules.
- **Secure FTP**—Select if the output directory is located on a secure FTP server
- **Authenticate with Private Key**—If the output directory is on a secure FTP server, select to authenticate the output directory with a private key. If selected, enter the location of the key in the box next to **Private Key**.
- **FTP server address**—Address of the FTP server where the output directory is located (for example, ftp2.hyperion.com)
- **FTP User Name**—User name to access the FTP output directory
- **FTP Password**—Password for FTP user name
- **Confirm Password**—Retype the FTP password
- **Private Key**—If the output directory is on a secure FTP server, enter the location of the private key used to authenticate the output directory, or click **Browse** to select a location.

**Note:** If the output directory is on a secure FTP server, you can generate a public or private key for authentication by using the `foundation.jar` file. See [“Generating Keys for Secure FTP” on page 70](#).


5 Set access **Permissions**:

a. Select the **Users**, **Groups**, or a **Roles** tab.

All currently-defined users, groups, or roles are displayed in the corresponding tab.

- b. **Optional:** Restrict the users, groups, or roles displayed by selecting **begin with**, **contain**, or **are in group**, entering a value, and clicking **Update List**.

For example, to restrict the roles displayed to only those roles that contain IR in the role name, select **contain** from the drop-down list and enter **IR** as the value.

- c. Select a user, group, or role and click  to move it to **Selected Users, Groups, and Roles**.
- d. Assign an access permission by selecting a value from the **Access** drop-down list. Valid access permissions are **No Access**, **View**, and **Full Control**.
- e. **Optional.** Select **Make these the default permissions for all resources I import**.

**6** Click **Finish**.

## Modifying Physical Resources

► To modify a physical resource:

- 1** Select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Physical Resources**.
- 2** Click **Modify** next to a resource name.
- 3** Make the desired changes and click **OK**.

**Tip:** After you add a printer or an output directory, you are assigned as the owner. When you modify the properties of the printer or output directory, the assigned owner is displayed under **General Properties**. If desired, you can change the assigned owner by clicking **Change Owner** and selecting an owner from the **Change Owner** dialog box.

## Deleting Physical Resources

► To delete a physical resource:

- 1** Select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Physical Resources**.
- 2** Click **Delete** next to a resource name.
- 3** Confirm the deletion when prompted.

## Generating Keys for Secure FTP

If your output directory is located on a secure FTP server, you can generate a public or private key for authentication by using the `foundation.jar` file:

```
java -classpath JARS_LOCATION/foundation.jar;JARS_LOCATION/jsch-0.1.41.jar com.brio.one.utilities.SFTPKeyGen ALGORITHM PUBLIC_FILE PRIVATE_FILE
```

where:

- `JARS_LOCATION`—Location of required `foundation.jar`, `jsch-0.1.41.jar` files. By default, the files are located in `EPM_ORACLE_HOME/common/raframeworkrt/11.1.2.0/lib`.
- `com.brio.one.utilities.SFTPKeyGen`—Name of the java class
- `ALGORITHM`—Required algorithm for key generation. Valid values are `rsa` and `dsa`.
- `PUBLIC_FILE`—Location (path plus name without extension) of the public key. Public keys are generated with a “pub” extension.
- `PRIVATE_FILE`— Location (path plus name without extension) of the private key. Private keys are generated without any extension.

For example:

```
java -classpath D:/Oracle/Middleware/EPMSysstem11R1/common/raframeworkrt/11.1.2.0/lib/foundation.jar;D:/Talleyrand/Oracle/Middleware/EPMSysstem11R1/common/raframeworkrt/11.1.2.0/lib/jsch-0.1.41.jar com.brio.one.utilities.SFTPKeyGen rsa D:/keys/public D:/keys/private
```

## Managing MIME Types

Before you can import items into the repository, their *MIME types* must be defined in EPM Workspace. Although EPM Workspace has many built-in MIME types, you may need to define others.


You can associate a MIME type with multiple file extensions. For example, you can associate the extensions `.txt`, `.bat`, and `.dat` with the *text* MIME type.

Multiple MIME types can use one extension. For example, if your organization uses multiple versions of a program, you can define a MIME type for each version; however, file names of all versions use the same extension. When users opens files with extensions that belong to multiple MIME types, they are prompted to select a program executable.

In the MIME type list, traffic-light icons indicate active (green) or inactive (red); see [“Inactivating or Reactivating MIME Types” on page 72](#).

## Defining MIME Types

➤ To define MIME types:

- 1 Select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **MIME Types**.
- 2 At the bottom of the content pane, click **Go** (to the right of **Add MIME Type**).
- 3 Supply a name and description.
- 4 In the file extensions box, enter an extension and click .


When entering extensions, type only the extension letters. Do not include a period (.

- 5 Select **Active** to make it selectable.
- 6 **Optional:** Under **Advanced Options**, click **Change Icon**, and select from the available images or browse to add an image to the repository, then click **OK**.
- 7 Click **Finish**.

**Note:** Newly defined MIME types are active by default.

## Modifying MIME Types

- To modify MIME types:
  - 1 Select **Navigate** , then **Administer** , then **Reporting and Analysis**, and then **MIME Types**.
  - 2 In the listing of MIME types, click **Modify**.
  - 3 Change properties.

To remove a file extension, select it in the <Extensions> list and click .

- 4 Click **OK**.

## Inactivating or Reactivating MIME Types

To prevent items from being imported to the repository, inactive their MIME types. Although repository items with inactive MIME types are still accessible, end users must specify which programs to use when opening them.

You can re-activate an inactive MIME type at any time.

- To inactivate or re-activate MIME types:
  - 1 Select **Navigate** , then **Administer** , then **Reporting and Analysis**, and then **MIME Types**.
  - 2 In the MIME type list, click **Modify Properties**.
  - 3 Change the **Active** setting:
    - To inactivate a MIME type, clear **Active** and click **OK**. Its traffic-light icon changes to red.
    - To reactivate a MIME type, select **Active** and click **OK**. Its traffic-light icon changes to green.

## Deleting MIME Types

Unlike inactivating MIME types, deletion is permanent and affects associated items. You cannot import files that have extensions associated with a deleted MIME type.



For items associated with a deleted MIME type, the text “unknown file type” is displayed instead of MIME type icons. When users open these items, they are prompted to select a program executable.

You can delete MIME types that you define; however, you cannot delete built-in EPM Workspace MIME types.

➤ To delete MIME types:

- 1 Select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **MIME Types**.
- 2 Click **Delete** next to a MIME type.

## Managing Notifications

Notification properties control how users receive notifications about the jobs and documents to which they subscribe:

- [“Understanding Subscriptions and Notifications” on page 73](#)
- [“Modifying Notification Properties” on page 75](#)

## Understanding Subscriptions and Notifications

Subscriptions and notifications are handled by Event Service.

Topics that discuss how Event Service handles subscriptions and notifications:

- [“Subscription Types” on page 73](#)
- [“How Event Service Obtains Information” on page 74](#)
- [“Notification Mechanisms” on page 74](#)

## Subscription Types

Subscription types that users can subscribe to and receive notifications about:

- New or updated versions of items
- Changed content in folders
- Job completion
- Job exceptions

Independent of subscriptions, Event Service sends notifications to these users:

- Owners of scheduled jobs, when job execution finishes
- Users who run background jobs, when job execution finishes

## How Event Service Obtains Information

When users subscribe to items or folders, EPM Workspace sends subscription information through LSM to Event Service, which adds the subscriptions to its subscriptions list.

Repository Service maintains a list of imported and updated artifacts, which includes all imported items, folders, and job output; modified item properties; updated versions; and artifact metadata.

Repository Service includes in its list both imported or modified items or folders, and the folders that contain them.

Every 60 seconds, Event Service obtains the Repository Service's list of new and modified items, and compares them to the subscription list. Event Service then sends notifications to subscribed users.

Repository Service discards its list after giving it to Event Service, which, in turn, discards the list after it notifies subscribers of changes.

Other services notify Event Service when they complete actions that may trigger subscriptions, such as successful job execution. Event Service checks these events against the subscription list and sends notifications to subscribers.

## Notification Mechanisms

Ways in which Event Service notifies users:

- Send e-mails with embedded SmartCuts to notify users about changes to items, folders, new report output, job completion, or exception occurrences

Optionally, Event Service may send file attachments, based on how users chose to be notified on the Subscribe page.

- Display notifications of completed scheduled jobs or background jobs in the Schedule module
- Display notification of job completion after a job runs in the foreground
- Display a red light icon in Exceptions Dashboard when `output.properties` indicates that exceptions occurred

When exceptions occur, the importer of the file sets properties to indicate the presence of exceptions and to specify exception messages. The importer is usually Job Service, and the file is usually job output.

Exceptions can be flagged by any of these methods:

- Production Reporting code
- Manually by users who import files or job output
- APIs that set exception properties on files or output

Hyperion Interactive Reporting Service does not support exceptions, but you can set exceptions on Interactive Reporting documents using the API or manual methods.

Users choose whether to include the Exceptions Dashboard on Personal Pages and which jobs to include on the Exceptions Dashboard.

## Modifying Notification Properties

➤ To modify Notification properties:

- 1 Select **Navigate** , then **Administer** , then **Reporting and Analysis**, and then **Notifications**.
- 2 **Modify Notification properties and mail server options:**

**Note:** If you change the “Enable email attachment” or “Maximum attachment size” property, you must restart Oracle's Hyperion Reporting and Analysis Framework services for the setting to take effect. For information on starting services, see [“Starting Reporting and Analysis Framework Services” on page 23](#).

- **Notifications**

- **Enable email attachment**—Allows end users to send file attachments with their e-mail notifications. If jobs generate only one output file, that file is attached to the e-mail. If jobs generate multiple output files including PDF files, the PDF files are attached to e-mails; otherwise, no files are attached.
- **Maximum attachment size**—Maximum allowed size for attachments, in bytes.
- **Time to live for entries in the notification log**—Number of minutes after which events are removed from the notification log and are no longer displayed in the Explore module. Expiration times can be specified for both scheduled and background jobs.

- 3 Click **Save Properties**.

**Note:** To change the mail server, an Administrator should use the Configuration Tool.

## Changing Ownership of All Objects

Change Owner enables an administrator to change the owner of all objects from one user to another. For example, if a user leaves the company you can now use this feature to re-assign ownership of all objects previously assigned to this user to a new user. Objects include files, folders, jobs, job outputs, schedules, events, and physical resources.

➤ To change ownership of all objects:

- 1 Select **Navigate**, then **Administer**, the **Reporting and Analysis**, and then **Change Ownership**.
- 2 Select the name of the current owner by selecting **Select User**.
- 3 Select the user from the Change Owner dialog and select **OK**.
- 4 Select the name of the new owner by selecting **Select User**. Repeat previous step.

- 5 Select **OK** to apply changes.

## Tracking System Usage

Usage tracking records information about EPM Workspace activities as they occur and provides a historical view of system usage. This information answers questions like:

- Who logged in yesterday?
- Which EPM Workspace reports are accessed most frequently?

You can configure your system to track numerous activities. For example, you can track opening, closing, and processing Interactive Reporting documents or you can track only opening Interactive Reporting documents.

Activities are recorded as events in the repository database. Events are recorded with pertinent details and information that distinguishes them from each other. Event times are stored in GMT. Events are deleted from the database in a configurable time frame.

Usage Service must be running to track events set in the user interface. Usage Service can be replicated and all Usage Services access one database.

The user name and password to access the usage tracking information may differ from that used for EPM Workspace. Oracle recommends that Usage Tracking use its own schema in the repository database; however, an alternate schema is not required. For more information about configuring Usage Tracking schema, see the *Oracle Hyperion Enterprise Performance Management System Installation and Configuration Guide*.

Topics that provide detailed information about tracking usage and events:

- [“Managing Usage Tracking” on page 76](#)
- [“Tracking Events and Documents” on page 77](#)
- [“Sample Usage Tracking Reports” on page 77](#)

## Managing Usage Tracking

► To manage usage tracking:

- 1 Select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Usage Tracking**.
- 2 Change these properties:
  - **General preferences**
    - **Usage Tracking Active**—Select to turn on usage tracking.
    - **Mark records ready for deletion after\_days**—Number of days after which usage tracking events should be marked for deletion by the garbage collection utility. Default is 30.
    - **Delete records every\_days**—Number of days after which the garbage collection utility should be run. Default is 7.

- **Connectivity preferences**—User name and password are populated from the usage tracking database and should only be changed if the database is moved.

3 **Select Apply.**

## Tracking Events and Documents

Usage Service keeps records about logon instances, document opens, documents closes for select MIME types, jobs run, job output views, and queries processed by Reporting and Analysis. Usage Service must be running to track events. By default, events are not tracked.

► To track events:

1 **Select *Navigate* , then *Administer* , then *Reporting and Analysis*, and then *Event Tracking*.**

2 **Select an event to track it:**

- System Logins
- Database Logins
- Timed Query Event
- Open Interactive Reporting Document
- Process Interactive Reporting Document
- Close Interactive Reporting Document
- Run Interactive Reporting Job
- View Interactive Reporting Job Output
- Run Production Reporting Job
- View Production Reporting Job Output
- Run Generic Job
- View Generic Job Output
- Change ownership Event
- Copy Event

3 **Track documents by moving one or more available MIME types to the *Selected MIME Types* list.**

Tracking occurs each time a document of a selected MIME type is opened.

4 **Click *Apply*.**

## Sample Usage Tracking Reports

Sample usage tracking reports provide immediate access to standard EPM Workspace usage reports. You can modify standard reports or create your own reports.

The Interactive Reporting document, `sample_usage_tracking.bqy`, which generates usage tracking reports, is in the `\Root\Administration\Usage Tracking` folder in Explore.

- To view the Administration folder, from **Explore**, select **View**, then **Show Hidden**.

---

**Caution!** The sample reports could contain sensitive company information when used with your data. Use access permissions when importing the reports so only the intended audience has access.

---

## Usage Tracking with Different Database Schema

Normally, Usage Tracking tables and views are in the same database schema as Reporting and Analysis repository tables. However, Usage Tracking tables can also be configured in a different location. Create base Usage Tracking tables for new schema and views using `CreateUT.sql`, `CreateUTViews.sql`, and `populateUsageEventData.sql` scripts from the installation package.

- To create a Usage Tracking table in a new database schema in a different location:

- 1 Install base tables for new schema using `CreateUT.sql`, `CreateUTViews.sql`, and `populateUsageEventData.sql` scripts from the installation package.
- 2 For base schema table, assign access rights for new user.

**Note:** This is required for next step.

- 3 Provide additional data view required for usage tracking mechanism using the following example:

**Note:** This example is one possible solution for providing data access for a source schema user. A database administrator may want to use their own solution for example, creating alias for tables.

- a. `CREATE view V8_RESOURCE_BUNDLE AS SELECT * from source_schema.V8_RESOURCE_BUNDLE.`
- b. `CREATE view V8_PROP_TYPE AS SELECT * from source_schema.V8_PROP_TYPE`
- c. `CREATE view V8_PROP_VALIDATOR AS SELECT * from source_schema.V8_PROP_VALIDATOR`
- d. `CREATE view V8_PROP_ENUM_VALUE AS SELECT * from source_schema.V8_PROP_ENUM_VALUE`
- e. `CREATE view V8_PROP_DEFN AS SELECT * from source_schema.V8_PROP_DEFN`
- f. `CREATE view V8_PROP_DEFN_CHILD AS SELECT * from source_schema.V8_PROP_DEFN_CHILD`
- g. `CREATE view V8_PROP_DEFN_ATTR AS SELECT * from source_schema.V8_PROP_DEFN_ATTR`
- h. `CREATE view V8_PROP_INTERNAL AS SELECT * from source_schema.V8_PROP_INTERNAL`

- i. `CREATE view V8_PROP_VALUE AS SELECT * from source_schema.V8_PROP_VALUE`
  - j. `CREATE view V8_AUTHEN_CONFIG AS SELECT * from source_schema.V8_AUTHEN_CONFIG`
  - k. `CREATE view V8_CSS_USER AS SELECT * from source_schema.V8_CSS_USER`
- where `Source_schema` is schema used by installed application.

This script is only one example of many possible ways to provide access for a base schema table's data. Usage Tracking mechanism connects to `V8_RESOURCE_BUNDLE` table data using "V8\_RESOURCE\_BUNDLE" alias and new connection.

- 4 **Select *Navigate*** , then **Administer** , then **Reporting and Analysis**, and then **Usage Tracking** to setup new schema connection in Administration module.

## Managing Row-Level Security

Row-level security enables users to view only those records that match their security profile, no matter what their search criteria. It enables administrators to tag data in the row level of a database, thus controlling who has read access to information. Row-level security is critical to applications that display sensitive data such as employee salaries, sales commissions, or customer details. Lack of row-level security could be a big detriment to organizations that want to distribute information to their user community using the Internet and intranets.

If you want to implement row-level security in Reporting and Analysis, keep these points in mind:

- At least one Hyperion Interactive Reporting Data Access Service instance must be configured to access the data source storing your row-level security information.
- The database client library should be installed on the computer where the Hyperion Interactive Reporting Data Access Service is running.
- The data source for the Reporting and Analysis repository that has the row-level security table information should be configured.
- For security reasons, the user name and password to access the data source should differ from that used for the Reporting and Analysis user account.

See the *Hyperion Interactive Reporting Studio User's Guide* for information about implementing row-level security in Interactive Reporting documents.

Row-level security properties are stored in the repository; however, the *rules* about how to give access to the data are stored in the data source.

➤ To modify row-level security properties:

- 1 **Select *Navigate***, then **Administer**, then **Reporting and Analysis**, and then **Row Level Security**.
- 2 **Modify these row-level-security properties:**
  - **Enable Row Level Security**—Row-level security is disabled by default.

- **Connectivity**—Database connectivity information for reports' source data.
- **Database Type**—Type of database that you are using. Database types available depend on connectivity selection.
- **Data Source Name**—Host of the data source database.
- **User Name**—Default database user name used by Job Service for running Oracle's Hyperion® SQR® Production Reporting jobs on this database server; used for jobs that were imported with no database user name and password specified.
- **Password**—Valid password for *user name*.
- **Confirm Password**—reenter password.

**3** Click **Save Properties**.



# 5

## Using Impact Management Services

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## Impact Manager Module

The Impact Manager module enables users to replace Interactive Reporting data models. Changing the data model enables global changes across all Interactive Reporting documents, without requiring that every document which references a data source be edited individually.

## About Impact Management Services

The Impact Manager module consists of two services: [Impact Management Assessment Services](#) and [Impact Management Update Services](#). It also provides three interactive reports: Show Task Status, Manage Task List, and Show Impact of Change.

Impact Management Services are fault tolerant. For example, they detect and finish tasks that were left incomplete following an unplanned system shutdown.

Deployment of Impact Management Services is flexible. For example, the feature can be installed on computers in a Oracle Hyperion Enterprise Performance Management System cluster, or on a computer recently added to the cluster.

Impact Management Services are scalable. For example, they can be run on one computer or on multiple computers to accommodate escalating performance requirements.

## Impact Management Assessment Services

Impact Management Assessment Services parse imported documents to extract and store metadata. Metadata includes sections that are in the document; tables and columns that are used by each data model, query, and results section; and section dependencies (for example, *Results A depends on Query B depends on Data Model C*).

## About Impact Management Metadata

The metadata managed by Impact Management is information about the structure of documents. Examples include the queries in a document, and what tables and columns are used in those queries. This metadata is gathered by the Impact Management Harvester and is stored in a set of tables alongside the repository tables.

The Impact Management Harvester can be set to run automatically or only when scheduled by an administrator. By default it is set to run only when scheduled by an administrator. To set the Impact Management Harvester to run automatically, change the Enable Harvesting setting in Manage General Properties of the Administrator module.

If automatic harvesting is enabled, the Impact Management Harvester examines new and modified files in the background with no manual interaction required. The metadata from these documents is recorded after the document is published or modified.

If automatic harvesting is *not* enabled, then metadata from files published or changed since the last time the harvester was run is not recorded until the Impact Management Harvester has been run again. See [“Synchronize Metadata Feature” on page 87](#) for instructions on how to run the Impact Management Harvester manually.

**Note:** The default Harvester settings (Enabled, Max Request Log Time, Thread Pool Size, Polling Interval, and Max Queue Log Time) are defined in the Services section of EPM Workspace (select Navigate, then, Administer, then Reporting and Analysis, and then Services). See [“Reporting and Analysis Framework Services Properties” on page 45](#) in for detailed information on these settings.

# Impact Management Update Services

Impact Management Update Services are responsible for updating imported documents according to pre-written instructions, referred to as *transformations*.

## Update Data Models Transformation

The Update Data Models transformation is used to replace one or more data model sections with another data model. The transformation is most useful when a database changes, causing the documents that use the database to break. Transformation can also reduce the number of distinct data models in use to accommodate future upgrades.

## Link Between Data Models and Queries

Data model sections are only referred to by query sections. Therefore, as long as the new data model can be attached to the query sections correctly, the rest of the document continues to work as expected.

The coupling between a query section and a data model section is through symbolic references, based on the names for the tables and columns exposed by the data model section. A small number of more complex dependencies exist regarding filters, however coupling basically relies on names. If two data models expose the names required by a query; for example, those names used in the Request and Filter lines, then either data model can support that query. If data model A exposes equivalent or more names than data model B, A is a valid replacement for B.

The concept of logical names is vital. Data model sections translate database table and column names into logical names. The generated names are the database names with spaces replacing underscores. The first letter of each word is capitalized by a default, however, the logical names can be changed by users. If a table is used twice in a data model, the logical name generated for the second instance appends a number. Therefore, if the Dept table is displayed twice in a data model, the second instance is called *Dept2*. The names referenced in a query are always the logical names of the data model.

The Update Data Models transformation leverages symbolic coupling, by using the logical names that are independent of the database names to perform tasks.

## Update Data Models Workflow

1. Original documents are imported.
2. Documents are harvested as part of import or through a synchronize operation.
3. Documents are used to perform daily tasks until the database requires change.
4. Use an Impact of Change report to identify the documents impacted by proposed changes.
5. Create data models to update the impacted imported documents.
6. Documents with replacement data models are harvested as part of import or through a synchronize operation.

7. Transformation parameters are specified.
  - a. Select an example document with a data model impacted by the database change.
  - b. Select a replacement data model.
  - c. The Impact Manager module displays all Interactive Reporting documents with a data model equivalent to the selection made in step 7a. This is the candidate document for transformation.
  - d. A subset of the documents is selected and composed into a task that is queued for transformation.
8. Transformation is applied to all documents of the Impact Manager task.
  - a. Documents are retrieved from the repository.
  - b. Transformation is performed.
  - c. Transformed documents are reimported as new versions of the original documents.
9. Documents are available for use against the new database definition.

## JavaScript Update Workflow

1. Create the documents to be updated.
2. Import the documents into the repository, including the newsections.bqy and the configuration file (if these two files are later versions than the defaults provided).
3. Select the imported documents, including the newsections.bqy and the configuration file, to be updated.
4. Update the documents. The documents are updated to create new versions of the original documents and these are saved in the original folder.

## Custom Update Workflow

Custom updates enable you to customize the update process, therefore the workflow may vary depending on the selected scripts and parameters.

1. Import documents and customized scripts, if applicable.
2. Specify a script. The remainder of the Custom Update is determined by the parameters required by the script.
3. Select and define parameters.
4. Monitor the execution of the scripts with associated parameters.
5. Documents are updated. A version or new document is added for each successfully updated document.

# Impact Manager Module Size and Time Guidelines

The Impact Manager module can only perform data model updates if it is allowed to harvest metadata information out of the Interactive Reporting documents that are imported into the common repository. Information can be harvested as documents are imported, or harvesting can take place when the administrator requests a synch operation. Harvested metadata is placed in a set of 28 tables that start with “V8\_H\_”.

A synch operation causes the [Synchronize Metadata Feature](#) to look at all imported documents. If metadata for a document does not exist in the V8\_H\_ tables, or if the document is more recent than its metadata in the V8\_H\_ tables, then it needs to be harvested.

The time required to harvest an Interactive Reporting document and the amount of space required to store the information, depend on the complexity of the structures in the Interactive Reporting document. As harvesting does not look at data, a very large but simple Interactive Reporting document (say with just a query and a result section) might only require a fraction of the time and space required for a small Interactive Reporting document that contains dozens of queries, results, pivots, charts, reports, and dashboard sections.

The following guidelines are indicative of what has been observed when harvesting a variety of documents.

For a random set of around 800 documents:

- Average time to harvest a document—15 seconds
- Average space for a document—30 KB

For a complex set of documents:

- Average time to harvest a document—60 seconds
- Average space for a document—150 KB

To ensure there are no space shortage problems, it is recommended that 100K per imported document be allocated. Each version is a document, so it is important not to forget these when allocating size.

A synch of a repository with 1,000 documents is likely to take over 4 hours to complete.

## Running the Update Services

The user interface submits tasks to the Impact Management Services. On reception tasks are queued in a central location and then dispatched according to the priority of the running instances of the service. Undoing tasks has a higher priority than all others and they are guaranteed to be executed first. See [“Using the Undo Feature” on page 117](#).

On task submission, the Impact Management Services acknowledge reception in a confirmation dialog displaying an allocated task number.

Dispatch and execution takes place in background and can be monitored using Show Task Status.

A task with many actions (many documents to be transformed) is always executed in parallel with the individual actions dispatched to all available instances of the service.

Impact Management Services stores logging data for each document that is transformed. The logs are available in the server log files and in the User Interface (Show Task Status). The number of messages in the logs is controlled by the Log4J configuration file (server logs) and during task submission (user logs). See [Script Logging Levels](#).

**Note:** For the server logs for Harvester and Transformer services, (files `server_messages_HarvesterService.log` and `server_messages_TransformerService.log`), the Log4J configuration file controls the number and formatting of messages. Whereas, for the user logs (accessed by double-clicking in EPM Workspace), the formatting is fixed. However, the user can change the number of messages.

## Script Logging Levels

Scripts use log messages to communicate with users. In EPM Workspace, logs are accessed through the Show Task Status list. On the desktop, in Interactive Reporting Studio, users view `dds.log`.

There are a number of defined logging levels. For example,

5-debug = many messages

0-Always = few messages

The levels are explained in [Table 24](#).

**Table 24** Logging Levels

Level	Description
Debug	Determines what is happening during script development or to track down problems
Warn	Warns of recoverable problems that require correcting
Error	Indicates the inability to correctly perform the requested processing
Fatal	Indicates the script cannot continue
Always	Messages that are always displayed

There are `env` methods available to log messages at each of these levels. For example, `env.logInfo()` or `env.logDebug()`.

There is also a default logging level associated with the script execution. The `env.log()` method logs messages at that level. The default level is initially debug, but can be changed by using `env.setLogLevel()`.

The `env.logClassName()` method provides information on the type of an object, because values returned by methods are a combination of JavaScript and Java objects.

# Access to Impact Management Services

Only users who are assigned the BI+ Administrator role and that hold appropriate licensing can access Impact Management Services.

After initially logging on to EPM Workspace, select **Navigate**, then **Impact Manager**, and select an option.

## Synchronize Metadata Feature

The Synchronize Metadata feature ensures that metadata kept for Interactive Reporting documents in the repository is up-to-date. Only documents with discrepancies are re-harvested. The synchronize action is not required if **Enable Harvesting** is selected in **Manage General Properties** of the **Administer** module. Select **Navigate**, then **Administer**, then **General**, and select **Enable Harvesting**.

The only option available for the feature is when to perform a synchronization. Request a synchronization to *run now* or *schedule* the operation to occur later. See [“Using the Run Now Option” on page 87](#) and [“Using the Schedule Option” on page 88](#).

**Note:** Scheduling the synchronize operation with a date and time in the past, is equivalent to requesting the operation to run now.

## Using the Run Now Option

This option enables you to process the synchronization at the time of the request.

➤ To run Synchronize Metadata immediately:

**1 In EPM Workspace, perform an action:**

- Import files into EPM Workspace to harvest the metadata
- Access files already imported into EPM Workspace.

**2 Select **Navigate**, then **Impact Manager**, and then **Synchronize Metadata**.**

Synchronize Metadata is displayed.

**3 Select **Run now**.**

**4 Click **Submit**.**

A confirmation dialog box is displayed with a task request number.

**5 Click **OK** to close the dialog box.**

**6 Select **Navigate**, then **Impact Manager**, and then **Show Task Status**.**

Ensure that synchronization is successful, by checking the status of the task request number.

**7 Optional: To verify the status of the task request number, set a filter:**

- a. Select **Task Number**, enter the task request number, and select **Harvester**.

- b. Click **Process**.

Show Task Status displays the task.

- i. If **Waiting** is displayed, click **Refresh**.  
Updating the task from *Waiting* may take time.
- ii. If **Success** is displayed, select **File**, then **Close**, and then **Current**.
- iii. If **Fail** is displayed, double-click the task to check the log.

## Using the Schedule Option

This option enables you to process the synchronization at a specified date and time in the future.

► To schedule the synchronization of the metadata:

**1 In EPM Workspace, perform an action:**

- Import files into EPM Workspace to harvest the metadata
- Access files already imported into EPM Workspace

**2 Select **Navigate**, then **Impact Manager**, and then **Synchronize Metadata**.**

Synchronize Metadata is displayed.

**3 Select **Schedule**.**

The date and time drop-down lists are displayed.

**4 Select a date.**

A calendar control is displayed.

**5 Select a time.**

**6 Click **Submit**.**

A confirmation dialog box is displayed with a task request number.

**7 Click **OK** to close the dialog box.**

**8 To monitor the status of the task request, select **Navigate**, then **Impact Manager**, and then **Show Task Status**.**

**9 Optional: To refine the monitoring process, set a filter:**

- a. Select **Task Number**, enter the task request number, and select **Harvester**.
- b. Click **Process** to monitor the status of the synchronize operation.

Whether the metadata is run immediately or scheduled for the future, clicking Submit causes [Impact Management Assessment Services](#) to receive the request and return a numeric request identifier. The identifier is used to filter the Impact Management Assessment Services task log. See [“Using Show Task Status Interactive Report” on page 115](#).

When Impact Management Assessment Services synchronize the metadata, only documents that have changed since the last synchronization or have no metadata are harvested.



# Update Data Models Feature

The Update Data Models transformation feature enables data models in documents to be updated to reflect changes in underlying databases. You must select which data models are to be updated and supply new data models to replace the original. There are two ways in which you can update data models.

The first option, match the full data model, is restrictive and requires that the replacement data model contain all or more tables than the original data model. This is a complete data model match.

The second option, match only the query request, is more flexible. The replacement data model is only required to satisfy the queries that are associated with the original data model. For this, the replacement data model must only contain the tables and columns referenced in the query request line, query filters and sort columns. If the original data model is a master data model, the replacement must satisfy the request line, filters and sort columns of all the queries associated with the master data model. This is a less stringent requirement than matching the full data model.

## Specifying Data Models

This procedure enables you to specify original and replacement document data models, interactively (using the Impact Manager module screens) or from a pre-generated list.

**Note:** The documents that contain both data models must have been harvested. If a selected document has not been harvested, an error is displayed. See [“Synchronize Metadata Feature” on page 87](#).

► To specify the documents and data models:

**1 Select *Navigate*, then *Impact Manager*, and then *Update Data Models*.**

Specify Data Models is displayed.

**2 Enter a *Task Description*, to identify the task in *Show Task Status*.**

A default description is provided.

**3 Perform an action:**

a. Select **Specify documents and data models interactively**, and select an option.

i. Select **Match the full data model**.

- Click Browse (next to Select file containing original data model), and ensure the file is an imported and synchronized Interactive Reporting document
- Select the original data model from drop-down list (Data model sections are created when a query section is created. Because the data model section is not visible as a unique section, users may not be aware that data models are in separate sections under default names. Use Promote to Master Data Model to make a data model section visible, and enable the data model to be reused

in new queries. To assist with specifying which data model is to be updated, query names are displayed after the data model in the drop-down list. See [“Link Between Data Models and Queries” on page 83](#))

- Click Browse (next to Select file containing replacement data model), and ensure the file is an imported and synchronized Interactive Reporting document
  - Select the replacement data model from the list (For example, select Superset DataModel (Superset Query))
  - Click Next to move to Candidates
- ii. Select **Match on the query request**.
- Click Browse (next to Select file containing replacement data model), and ensure the file is an imported and synchronized Interactive Reporting document
  - Select the replacement data model from the list (For example, select Subset DataModel (Subset Query) or Superset DataModel (Superset Query))
  - Click Next to move to Candidates
- b. Select **Use a pre-generated list of documents and data models**.
- i. Click **Browse** (next to Select a Task Definition File).
- The Task Definition File is a text file, that contains one line per document to transform. Therefore, to update 10 documents, the file would contain 10 lines. Each line contains the raw parameters required to run the script separated by commas, that is; parameter1="value1", parameter2="value2". The values are the UUIDs and data models for the transformation. Most files require many parameters per line. Users wanting to perform batch updates compile a list of documents using an Interactive Reporting document to generate the parameter file. See [“Generating Parameter Files” on page 121](#).
- ii. Click **Next** to move to Schedule.

## Viewing Candidates to Update

This procedure displays the documents and data models that are candidates for the transformation. This is either data models equivalent to the specified original data model (full data model match) or data models supporting queries that are compatible with the replacement data model (query request match).

**Note:** For convenience, the Update Data Models transformation service searches for all compatible data models. Any or all of them can be updated simultaneously.

➤ To use the candidate list to select data models for update:

- 1 Select a document in the list to be updated.

Other options for selecting data models for update are:

- Click **Select All** to update all candidates
- Use **Ctrl+click** or **Shift+click** to highlight and select individual or all documents in the list

At least one data model must be selected before clicking **Next**.

- 2 **Optional:** To activate the sort feature, in the candidate list table, click a column header.

For example, click **Document** to sort candidates by document title. The sort feature reorders the selected candidates to be updated.

- 3 Click **Next** to move to **Schedule**.
- 4 **Optional:** Click **Finish** to complete the update.

## Using Scheduling Options

This procedure enables you to select when the data model update occurs. Request the update to *run now* or *schedule* the operation to occur later. The scheduling process operates in a similar manner to synchronizing metadata.

➤ To update immediately:

- 1 Select **Run now**.
- 2 Select the **Script Logging Level**.

For example, select **Debug**, to receive all script logs. See [“Script Logging Levels” on page 86](#).

- 3 Click **Finish**.

A confirmation dialog box is displayed with a task request number.

- 4 Click **OK** to close the dialog box.
- 5 Select **Navigate**, then **Impact Manager**, and then **Show Task Status**.

Ensure that the update is successful, by checking the status of the task request number.

- a. Select **Task Number**, enter the task request number, and select **Transformer**.
- b. Click **Process**.

Show Task Status displays the task.

- i. If **Waiting** is displayed, click **Refresh**.  
Updating the task from *Waiting* may take time.
- ii. If **Success** is displayed, select **File**, then **Close**, and then **Current**.
- iii. If **Fail** is displayed, double-click the task to check the log.

► To schedule the update:

**1 Select Schedule.**

The date and time drop-down lists are displayed.

**2 Select a date.**

A calendar control is displayed.

**3 Select a time.**

**4 Select the Script Logging Level.**

For example, select Debug, to receive all script logs. See [“Script Logging Levels” on page 86.](#)

**5 Click Finish.**

A confirmation dialog box is displayed with a task request number.

**6 Click OK to close the dialog box.**

**7 To monitor the status of the task request, select **Navigate**, then **Impact Manager**, and then **Show Task Status**.**

**8 Optional: To refine the monitoring process, set a filter:**

- a. Select **Task Number**, enter the task request number, and select **Transformer**.
- b. Click **Process**, to monitor the status of the update.

## Reviewing the Confirmation Dialog Box

The dialog box provides a numeric request identifier or a task request number that can be used to filter the Impact Management Update Services task log. See [“Using Show Task Status Interactive Report” on page 115.](#)

To close the confirmation dialog box, click OK.

## JavaScript Update Feature

The Impact Manager module JavaScript Update feature is equivalent to the Dashboard Development Services Update Utility on the client. JavaScript Update enables users to use the latest dashboard features without having to re-create documents from scratch.

The Impact Manager module includes a configuration file that determines the sections and controls, such as; text labels, drop-down lists and list values, to be updated, added, removed, or transferred to the target file.

An Interactive Reporting document called *newsections.bqy* is available that contains the latest version of the dashboard infrastructure. The JavaScript Update feature opens the nominated target documents and performs a comparison of section names, by examining if sections exist in *newsections.bqy* and the Interactive Reporting document to be updated. If sections exist in both, the sections in the target document are removed and replaced by sections from *newsections.bqy*.

## Using JavaScript Update

There are two options to run JavaScript Update.

1. Specify the parameters interactively.
2. Use a pre-generated definition file.

► To perform a JavaScript update:

- 1 **Select *Navigate*, then *Impact Manager*, and then *JavaScript Update*.**

Control Mode is displayed.

- 2 **Enter a *Task Description*, to identify the task in *Show Task Status*.**

A default description is provided.

- 3 **Select an option:**

a. Select **Specify parameters interactively**, and click **Next** to move to Parameters.

b. Select **Use a definition file**.

- i. Click **Browse** (next to Select a Task Definition File).

The Task Definition File is a text file, that contains one line per document to transform. Therefore, to update 10 documents, the file would contain 10 lines. Each line contains the raw parameters required to run the script separated by commas, that is; parameter1="value1", parameter2="value2". The values are the UUIDs and data models for the transformation. Most files require many parameters per line. Users wanting to perform batch updates compile a list of documents using an Interactive Reporting document to generate the parameter file.

- ii. Click **Next** to move to Schedule.

## Selecting Parameters


If Specify parameters interactively was chosen in Control Mode, Parameters enables you to select the parameters to use in JavaScript Update.

► To select parameters:

- 1 **In *Parameters*, perform an action:**

a. If the JavaScript Configuration file and New Sections file parameters are pre-filled:


- i. Click **Browse** (next to Documents to update).

- ii. From the multi-file picker, select the documents to update, click  to move selected items, and click **OK**.

b. If no parameters are pre-filled or to change the parameters:

- i. Click **Browse** (next to JavaScript Configuration file), navigate to and select JavaScriptUpdateConfig\_dds.js.


The script is located under Administration\Impact Manager\Script Repository.

Optional: To show hidden script files, in Select, click .

- ii. Click **Browse** (next to New Sections file), navigate to and select newsections.bqy.

The file is located under Administration\Impact Manager\Script Repository.

- iii. Click **Browse** (next to Documents to update).

- iv. From the multi-file picker, select the documents to update, click  to move selected items and click **OK**.

- 2 Click **Next** to move to Schedule.

## Using Scheduling Options

This procedure enables you to select when the JavaScript update occurs. Request the update to *run now* or *schedule* the operation to occur later. The scheduling process operates in a similar manner to synchronizing metadata.

- To update immediately:

- 1 Select **Run now**.

- 2 Select the **Script Logging Level**.

For example, select Debug, to receive all script logs. See “[Script Logging Levels](#)” on page 86.

- 3 Click **Finish**.

A confirmation dialog box is displayed with a task request number.

- 4 Click **OK** to close the dialog box.

- 5 Select **Navigate**, then **Impact Manager**, and then **Show Task Status**.

Ensure that the update is successful, by checking the status of the task request number.

- a. Select **Task Number**, enter the task request number, and select **Transformer**.

- b. Click **Process**.

Show Task Status displays the task.

- i. If **Waiting** is displayed, click **Refresh**.

Updating the task from *Waiting* may take time.

- ii. If **Success** is displayed, select **File**, then **Close**, and then **Current**.

- iii. If **Fail** is displayed, double-click the task to check the log.

- To schedule the update:

- 1 Select **Schedule**.

The date and time drop-down lists are displayed.

2 **Select a date.**

A calendar control is displayed.

3 **Select a time.**

4 **Select the **Script Logging Level**.**

For example, select Debug, to receive all script logs. See [“Script Logging Levels” on page 86.](#)

5 **Click **Finish**.**

A confirmation dialog box is displayed with a task request number.

6 **Click **OK** to close the dialog box.**

7 **To monitor the status of the task request, select **Navigate**, then **Impact Manager**, and then **Show Task Status**.**

8 **Optional: To refine the monitoring process, set a filter:**

- a. Select **Task Number**, enter the task request number, and select **Transformer**.
- b. Click **Process**, to monitor the status of the update.

## Verifying Updated JavaScript

When the status of the JavaScript update is Success, verify that the procedure is complete.

➤ To verify the update is complete:

1 **If a single document or a batch of documents were updated, open one document.**

For example, from the Explore module, double-click an updated Interactive Reporting document.

2 **From the top panel, click .**

The document release number is updated to reflect the release specified in the new sections file.

3 **Close the document without saving.**

## Custom Update Feature

The Custom Update feature enables users to perform generic transformations depending on the update script provided. The parameters vary depending on the requirements of the script. SortDataModelTopics.js is included as a sample. It can be found in the repository under Administration\Impact Manager\Script Repository with the two standard Impact Management Services scripts; UpdateDataModels.js and JavaScriptUpdate.js.

See [“Using the SortDataModelTopics Script” on page 96.](#)

## Using the SortDataModelTopics Script

The SortDataModelTopics script enables documents to be updated so the topics in any data models are displayed in EPM Workspace in a user-defined order or alphabetically.

When an Interactive Reporting document is opened in EPM Workspace and a query is visible, a list of topics is displayed in the catalog pane under Tables. The topics are displayed in the order in which they were added to the Interactive Reporting document, which makes locating topics difficult if there are many in the list.

The SortDataModelTopics script enables the user to specify the order in which the topics are displayed in these lists, using three parameters.

There are two ways to specify the sort order:

1. Use the first parameter to select a file containing a list of topic names, in the order preferred by the user.
2. Use the second parameter (true or false) to specify whether topics that are not included in the sorted file should be ordered alphabetically.

Topics that are not mentioned in the sorted file are placed after topics that are mentioned, and are ordered according to the second parameter. Therefore, if you provide an empty file and the second parameter is true, all topics will be ordered alphabetically, making it easy to locate a topic in the list.

**Note:** The empty file should contain a blank line.

The third parameter enables selection from a set of files to be updated, through a multi-file picker.

A version is added for each successfully updated file. Therefore, double-clicking a file in EPM Workspace displays the updated content.

## Performing a Custom Update

► To use the Custom Update feature to sort documents in a user-defined order or alphabetically:

- 1 **Select *Navigate*, then *Impact Manager*, and then *Custom Update*.**

Choose Script is displayed.


- 2 **Enter a *Task Description*, to identify the task in *Show Task Status*.**

A default description is provided.

- 3 **Click *Browse* (next to *Choose a Script*), and select *SortDataModelTopics.js*.**

The script file must be selected from */Administration/Impact Manager/Script Repository/* or a sub-folder.



- 4 **Optional:** To reveal hidden files in the Script Repository, click .
- 5 Select an option:
  - a. Select **Specify parameters interactively**, and click **Next** to move to Parameters.
  - b. Select **Use a definition file**.
    - i. Click **Browse** (next to Select a Task Definition File).

The Task Definition File is a text file. Each line must contain three parameter values, separated by commas; orderings (The UUID of the file containing the sort order listing), sortUnknownTopics (true or false), and document (The UUID of a document to be transformed).

For example,

```
orderings="/order.txt",sortUnknownTopics="true",document="/some.bqy".
```

Users wanting to perform batch updates compile a list of documents using an Interactive Reporting document to generate the parameter file.

- ii. Click **Next** to move to Schedule.

## Selecting Parameters


If Specify parameters interactively was chosen in Choose a Script, Parameters enables you to select the parameters to use in the update.

► To select parameters:

1 In **Parameters**, enter parameter values for the script.

- a. Click **Browse** (next to The file containing the list of topics in the desired ordering).

For example, select the parameters file. See [“Creating a Parameter Text File” on page 97](#).

A multi-file picker is displayed. Select the documents to update, click  to move the selected item, and click OK.

- b. From **Sort unspecified topic names in alphabetical order**, select true or false.
- c. Click **Browse** (next to The documents whose sections should be re-ordered).

For example, select an Interactive Reporting document.

2 Click **Next** to move to Schedule.

## Creating a Parameter Text File

► To create a parameter text file in Notepad:

1 In **Notepad**, create the file.

For example, if you are using the SortDataModelTopics script, list the topic names in the order by which to sort. This list need only determine those names that you prefer to view first.

- 2 **Save the text file.**
- 3 **Import the file into EPM Workspace.**

## Using Scheduling Options

This procedure enables you to select when a custom update occurs. Request the update to *run now* or *schedule* the operation to occur later. The scheduling process operates in a similar manner to synchronizing metadata.

► To update immediately:

- 1 **Select Run now.**
- 2 **Select the Script Logging Level.**

For example, select Debug, to receive all script logs. See [“Script Logging Levels” on page 86.](#)

- 3 **Click Finish.**

A confirmation dialog box is displayed with a task request number.

- 4 **Click OK to close the dialog box.**
- 5 **Select Navigate, then Impact Manager, and then Show Task Status.**

Ensure that the update is successful, by checking the status of the task request number.

- a. Select **Task Number**, enter the task request number, and select **Transformer**.
- b. Click **Process**.

Show Task Status displays the task.

- i. If **Waiting** is displayed, click **Refresh**.  
Updating the task from *Waiting* may take time.
- ii. If **Success** is displayed, select **File**, then **Close**, and then **Current**.
- iii. If **Fail** is displayed, double-click the task to check the log.

► To schedule the update:

- 1 **Select Schedule.**  
The date and time drop-down lists are displayed.
- 2 **Select a date.**  
A calendar control is displayed.
- 3 **Select a time.**
- 4 **Select the Script Logging Level.**

For example, select Debug, to receive all script logs. See [“Script Logging Levels”](#) on page 86.

**5 Click Finish.**

A confirmation dialog box is displayed with a task request number.

**6 Click OK to close the dialog box.**

**7 To monitor the status of the task request, select **Navigate**, then **Impact Manager**, and then **Show Task Status**.**

**8 Optional: To refine the monitoring process, set a filter:**

- a. Select **Task Number**, enter the task request number, and select **Transformer**.
- b. Click **Process** to monitor the status of the update.

## Verifying the Custom Update

When the status of the update is Success, verify that the procedure is complete.

Verify the sort order has been modified, by navigating to the location of your files, and clicking



. If a single document was updated, a duplicate version of the Interactive Reporting document is displayed with information appended. For example, Custom\_Updated\_File(topics reordered).bqy. Double-click to open the document, and select a query. From the catalog pane, expand Tables, and check the order of the topics. Close the document without saving.

If a batch of documents was updated, duplicate versions of the Interactive Reporting documents are displayed. Double-click to open a document, and select a query. From the catalog pane, view the order of the topics. Close the document without saving.

## Advanced Scripting

Advanced scripting involves customizing scripts to update documents in EPM Workspace or on the desktop in Interactive Reporting Studio.

- [EPM Workspace Custom Scripting Environment](#)
- [Script Parameters](#)
- [The Scripting Environment](#)
- [Document Object Model Tree Structure](#)
- [Accessing Properties](#)
- [Accessing the File System](#)
- [General Java Code in Scripts](#)
- [Using Batch Input Files](#)
- [References](#)

## EPM Workspace Custom Scripting Environment

The custom scripting environment of the Impact Management Services provides a mechanism for manipulating the content and structure of an Interactive Reporting document through a Document Object Model (DOM) and JavaScript. Although this environment is similar to the scripting environment in Interactive Reporting Studio, there are differences. For example, the custom scripting environment of the Impact Management Services:

- Does not work in the context of an active Interactive Reporting document
- Provides access to all properties in the document
- Does not perform logical system-level integrity checks
- Is not contained inside the Interactive Reporting document
- Executes a script over multiple documents

The custom scripting environment performs arbitrary, common transformations on one or more documents. This mechanism is used to implement the Update Data Models and Update JavaScript features of the Impact Management Services.

Scripts can be imported into EPM Workspace and then run using the Custom Update feature of the Impact Management Services to make changes to other imported documents. These scripts can also be run on a desktop by the Dashboard Development Services Update Utility. From the desktop, changes can only be made to files on disks visible from that desktop. The desktop is typically a development and test environment.

Scripts in EPM Workspace run under the control of the Impact Management Services and consequently can use the Undo feature. If a change made through scripts is unwanted, the task that used the script can be undone and the documents are returned to the pre-script state.

## Script Parameters

The parameters required by a script are specified using comments in the header. These are similar in format to the JavaDoc comments used to document Java.

**Note:** Starting in Release 9.3, these parameters are only available in EPM Workspace.

The minimum that can be specified to define a parameter is the name, for example, `@param sourceLanguage`.

This assumes that the input is a simple string and displays an (initially empty) text box on the UI.

**Optional:** An `@inputType` line enables more specific data input methods:

- `file_picker_single_value`—Select one file from the repository
- `file_picker_multi_values`—Select multiple files from the repository, all of which constitute one value

- `file_picker_multi_values_parallel_execution`—Select multiple files from the repository, all of which can be processed in parallel by separate instances of the script
- `dropdown`—Select from a predefined set of fixed values

Input types can be given a default value using `@defaultValue`. For file picker input types, the default value must be the UUID of a file in the repository.

Drop-down lists require a separate `@comboValues` line that specifies possible choices, separated by commas.

**Note:** For custom scripts, parameter values are only validated when the script is executed, not at submission time. For example, if an unacceptable value is specified for a script, the user is not informed at the time of task submission. If a script cannot recover from invalid data, it logs a message and throws an exception, causing the status to display as Fail (red) in Show Task Status, alerting the user to the problem.

## The Scripting Environment

Each script has a global variable called `env`, that provides access to the environment within which it runs.

These are frequently used `env` methods:

- `getParameterValue()`—Obtain the value of a single-valued parameter, given the name
- `getParameterValues()`—Obtain all of the values of a multi-valued parameter as an array, given the name
- `isDesktopMode()`—Returns true if the script is being run on the desktop
- `isServerMode()`—Returns true if the script is being run in EPM Workspace
- `createTempFile()`—Create a temporary file that is removed when the script exits
- `getBqyDocument()`—Retrieve a document from the repository, given the UUID
- `getFileLines()`—Retrieve the content of a file from the repository as an array of strings, given the UUID
- `writeBqyDom()`—Write a document to disk to be imported into the repository as a new version of a document or as a new document

`getParameterValue()` and `getParameterValues()` determine how the script retrieves the values the user provided for the parameters.

The two methods `env.isDesktopMode()` and `env.isServerMode()` provide information for the script about the environment it is running inside, for example, in EPM Workspace or on a desktop.

Most scripts require access to documents stored within the repository. A pseudo-repository is implemented on the desktop that provides identical methods, but that uses file system paths as pseudo-UUIDs.

The method `env.getRepository()` returns an object providing access to the repository. These are methods provided by the returned object:

- `retrieveFile()`—Retrieve a file from the repository, given the UUID (This returns a Java File object pointing at a temporary file that contains the content. The temporary file is deleted when the script completes execution)
- `retrieveVersionedDocument()`—Retrieve properties of the document stored in the repository
- `addVersion()`—Add a version of the specified document to the repository
- `publishBqyFile()`—Import a new document into the repository
- `remapOCES()`—Set up the Interactive Reporting database connection (OCE extension) mappings for a document

► To make a change to a document:

**1 Retrieve the document using `repository.retrieveFile()`.**

This writes it to a temporary file, and returns a Java File object pointing to it.

**2 Use `env.getBqyDocument()`, passing the File reference.**

This returns a DOM representing the content of the document.

**3 Modify the DOM.**

**4 To write the DOM back out to the disk, use `env.writeBqyDocument()`.**

**5 Optional: To run in EPM Workspace, further steps are required:**

- To gain access to the properties of the specific version of the document, use `retrieveVersionedDocument()`.
- Use `versionedDocument.sectionOCEPairInfos()`.
- To retrieve the UUID of the parent folder that contains the document, call `versionedDocument.getParentIdentity()`.
- To retrieve section OCEs, use `getSectionOCERMapping()` on the versioned document.
- Optional:** To update the OCEs associated with data models, use `remapOCES()`.
- Upload the modified document to the repository by using `addVersion()` to create a new version of the original document, or `publishBqyFile()` to store it as a new document.

As an example, see [“Using the SortDataModelTopics Script” on page 96](#).

## Document Object Model Tree Structure

Each document manipulated by a script is stored in the form of a Document Object Model (DOM), represented by a tree of nodes, each of which contains a set of associated properties.

The DOM for a document is acquired by retrieving the file and loading the content, for example,

```
var uuid = env.getParameterValue("document");
```

```
var file = repository.retrieveFile(uuid);
var dom = env.getBqyDocument(file, bqReadWriteDom, bqDashboardReportStrategy)
```

The first line retrieves the parameter that contains the document UUID. The second line is used to copy the file from the repository to a temporary file which is deleted when the script ends. The third line loads the content of the file, providing a BqyDocument object that represents the DOM.

**Note:** The second parameter, `bqReadWriteDom`, specifies that the document is to be rewritten. If it is not to be rewritten, specify `bqReadOnlyDom` to reduce the amount of memory required for the DOM. The third parameter is the document conversion strategy, `bqDashboardReportStrategy`. It determines how much of the underlying document structure is accessible to the script.

Using different strategies, the amount of memory required by a script can be reduced, as can the time spent loading the document.

## Document Conversion Strategies

When loading documents, memory can be saved by loading only those portions of the DOM that are required by a given script. For example, if you only want to log a list of section names in a document, you do not need to load the entire tree of nodes that lie beneath the sections.

These strategies are provided:

- `bqDatamodelUpgradeStrategy`—All data model and query sections
- `bqJavascriptUpdateStrategy`—Dashboard sections
- `bqToolbarUpgradeStrategy`—Image resources and all dashboard sections
- `bqDashboardReportStrategy`—All dashboard and report sections, plus the `DocCompMoniker`. Depend of other sections
- `bqTopLevelSectionsStrategy`—All sections and their user value nodes
- `bqIndexingStrategy`—A large subset of the nodes under queries, pivots, charts, reports, and dashboards

To load the entire document, use null for this parameter.

## Traversing the Document Object Model

To manipulate the content of a node in the DOM, you must locate the node.

The top-level nodes that represent the sections of a document can be accessed directly by using the Sections collection. The shapes within a dashboard are accessible through its Shapes collection. However, there is no collection for the children of a node.

Methods are provided to access the children of a node:

- `getChildren()`—Returns a complete list of children of a node

- `getChildrenOfType()`—Returns a list of children of a node that have a specific type
- `addChild()`—Adds a new child to the end of a list of children of a node
- `removeChild()`—Removes the specified node from a list of children of a node
- `setChildren()`—Replaces a list of children of a node with another list
- `dump()`—Dumps the DOM tree, starting at the given node, for debugging

To iterate over all subnodes of a given node, use `getChildren()` to retrieve a list that contains them. Use `getChildrenOfType()` to limit this to the children of a particular type. For example, the `Root.MyDocument` node contains a `Rpt.DocComp` node for each section in the document, which can be located using this line:

```
var sections = root.getChildrenOfType("Rpt.DocComp");
```

A node is added as a child of another by using `addChild()`. Use this to copy a node from one part of the DOM (or the DOM of another document) to another location.

To remove a child node, use `removeChild()`.

**Note:** The list of children returned by `getChildren()` and `getChildrenOfType()` is read-only. If you update the list by assigning a new value to an entry, this does not affect the node. However, the current list of nodes can be replaced using `setChildren()`.

The content of a sub-tree of the document can be written to the log using `dump()`. By default, this dumps the tree to standard output, but by supplying parameters, it can be written to any print stream.

## XPath-Style Searching

While obtaining lists of child nodes enables access to the entire DOM, you can search for nodes that satisfy a set of criteria.

For example, this code can be used to log the names of all shapes within a document:

```
for (var i = 0; i < dom.Sections.length; i++) {
    var section = dom.Sections[i];

    if (section.Type == bqDashboard) {
        env.log("Dashboard " + section.AnnotName + " has shapes");

        var shapes = section.Shapes;

        for (var j = 0; j < shapes.length; j++)
            env.log(shapes[j].Name);
    }
}
```

The DOM provides user-friendly collection names for both the Sections inside a document and the Shapes inside a dashboard. However, in a complex search, for example, looking for all



DataThreshold.DataThreshold nodes inside all ThreshFmt.ThreshFmt nodes, inside all ColColl.Item nodes, inside all table sections, results in multiple nested loops.

The Impact Management Services scripting provides an alternative approach, through XPath-style searches. For example, this is the code to perform for the complex search example:

```
var items = dom.findNodesByPattern("/BQY/Root.MyDocument/Rpt.DocComp"
    + "/ColColl.Item/ThreshFmt.ThreshFmt"
    + "/DataThreshold.Threshold");
```

This single statement provides an array that contains the required nodes. Property matching requirements can be included to narrow down which nodes are to be returned.

For example, to limit the result to those nodes in the column named *Drawn* inside the table named *Rankings*.

```
var items =
dom.findNodesByPattern("/BQY/Root.MyDocument"
    + "/Rpt.DocComp[AnnotName='Rankings']"
    + "/ColColl.Item[Label='Drawn']/ThreshFmt.ThreshFmt"
    + "/DataThreshold.Threshold");
```

Searches need not begin at the root of the DOM. If a variable that contains a section node is searched, use a relative path to find other nodes beneath that section, as illustrated in this example:

```
var table = dom.findNodesByPattern("/BQY/Root.MyDocument"
    + "/Rpt.DocComp[AnnotName='Rankings']");

var items = table.findNodesByPattern("ColColl.Item[Label='Drawn']"
    + "/ThreshFmt.ThreshFmt/DataThreshold.Threshold");
```

Use `getNodeByPattern()` if there is a possibility that a node may not exist (that is, if documents to be processed using a script may not contain this node) or where there can be many of these nodes. In these cases, the length of the returned array is used to determine the situation.

However, if one node matching the pattern is guaranteed, use `getNodeByPattern()` which returns one object, rather than an array.

The search mechanism provides two wildcard facilities. An asterisk (\*) in place of a node name, represents any type of node. A pair of slashes (//) represents any number of intervening nodes.

For example, to find all images in a document, in dashboards or reports (in the body, header, footer, section header, or section footer), use this example code:

```
var pattern = "//Box.Item[RuntimeClassName='PictField']";
var pictures = dom.findNodesByPattern(pattern);
```

## Differences Between the Impact Management Services and Interactive Reporting Studio Document Object Models

The DOMs available in the Impact Management Services scripting differ from those provided to event handlers in Interactive Reporting Studio scripting:

- All collection indices start at zero, rather than one
- The node names and properties match those stored in the underlying document, as displayed in the repository; there are fewer user-friendly names
- The event handlers for sections and shapes cannot be called to effect changes to the document

For example, display the SQL associated with all request line items in all queries by using this code:

```
var pattern = "//BQY/Qry.MyQry/QryCol.MyQryCol";
var nodes = dom.findNodesByPattern(pattern);

for (var i = 0; i < nodes.length; i++)
    env.log(nodes[i].SQL);
```

**Note:** Both loop indices start at zero and access to the name of the section is through `AnnotName`, rather than `Name`.

## Investigating the Impact Management Services DOM Structure

The Dashboard Studio Inspector Utility, included with the Interactive Reporting Studio installation, provides an explorer-style view of the DOM. See “Dashboard Studio Inspector Utility” in the *Hyperion Interactive Reporting Object Model and Dashboard Development Services Developer's Guide Volume 5: Dashboard Studio*.

The left pane displays the nodes contained within the document as a tree. The right pane displays the names of all properties of the selected node, and their current values and associated data types.

Use the Inspector Utility when writing scripts. The user can determine where in the DOM the data resides that must be manipulated to achieve the intended change.

## Accessing Properties

Access properties in Impact Management Services, as you do in Interactive Reporting Studio. The only difference is the DOM exported by Interactive Reporting Studio provides more user-friendly names for frequently used properties.

To learn the names of properties associated with a node in the DOM use the Dashboard Studio Inspector Utility. See “Dashboard Studio Inspector Utility” in the *Hyperion Interactive Reporting Object Model and Dashboard Development Services Developer's Guide Volume 5: Dashboard Studio*.

For example, this code accesses the `IsHidden` property of a dashboard, making the section visible if it is hidden.

```
var dashboard = dom.Sections["Dashboard"];

if (dashboard.IsHidden) {
    env.log("Making section " + dashboard.Name + " visible");

    dashboard.IsHidden = false;
}
```

## Collections

An important difference between the Interactive Reporting Studio scripting DOM and the Impact Management Services DOM is that all collections are zero-based, not one-based. For example, a loop that would have been coded as:

```
for (var i = 1; i <= collection.Count; i++)
    // some processing on collection[i]
```

is now written as:

```
for (var i = 0; i < collection.length; i++)
    // some processing on collection[i]
```

## Property Types

Every property of a DOM node has one of these data types:

- Byte
- DWord
- Long
- String
- Structure
- Word

## Accessing the File System

To access the underlying file system from within a script, for example, where a large amount of configuration information is needed that does not change from execution to execution, use these methods.

- `env.getFileSystem()`—Retrieve an object that provides access to the underlying file system
- `env.createTempFile()`—Create a temporary file that is cleaned up when the script completes
- `fs.getFile()`—Retrieve a Java File object that refers to the file with a given path within EPM Workspace

- `fs.writeBytesToStream()`—Write the contents of a byte array to a file

## General Java Code in Scripts

It can be necessary to construct Java objects as part of processing a script. For example, `RevertImageResources` creates a `FileOutputStream` using the call:

```
var fos = new Packages.java.io.FileOutputStream(imageFile);
```

The call is of the form:

```
var object = new Packages.java.some.package.ClassName(necessary, parameters);
```

## Using Batch Input Files

All parameters for a transformation script can be entered interactively by using the user interface, or you can request the processing of many sets of parameters by providing them as a batch input file.

Each line of a batch input file contains a complete set of parameters, as a comma-separated list of `name="value"` specifications.

For example, to use the `SortDataModelTopics` script to transform the three documents “/some.bqy”, “/some/other.bqy” and “/yet/another/example.bqy”, using the topic orderings in “/order.txt”, and sorting unspecified topic names alphabetically, use this input file:

```
orderings="/order.txt",sortUnknownTopics="true",document="/some.bqy"  
orderings="/order.txt",sortUnknownTopics="true",document="/some/other.bqy"  
orderings="/order.txt",sortUnknownTopics="true",document="/yet/another/example.bqy"
```

**Note:** Each parameter value is quoted and all of them must be included on each line, even where the value does not change.

In EPM Workspace, the values of any parameters that represent files need to be UUIDs. The sample scripts are explicitly coded to enable batch files to specify file paths, by using code similar to this to convert them into UUIDs where necessary:

```
var document = env.getParameterValue("document");  
  
if (document.substring(0, 1) == "/")  
    document = repository.getFileUuid(document);
```

To enable annotation of batch input files, blank lines and any lines beginning with `#` are ignored.

**Note:** The code also works on the desktop, because the UUID of a file is identical to the file system path.

## References

Reference tables for methods and properties include:

- [Reference for env Methods](#)
- [Reference for Repository Methods](#)
- [Reference for Node Methods](#)
- [Reference for Document](#)

### Reference for env Methods

Method	Description
<code>createTempFile()</code>	Create a temporary file that is cleaned up when the script completes
<code>expandRequestAction()</code>	Add a new sub-task for each set of values
<code>getBqyDocument()</code>	Construct a DOM from the content of an Interactive Reporting document
<code>getDescription()</code>	Retrieve the description associated with the script
<code>getFileLines()</code>	Read the lines of a file and construct an array that contains one string per line
<code>getLogLevel()</code>	Retrieve the current default log level that is used when calling <code>log()</code>
<code>getMimeTypeUuid()</code>	Retrieve the UUID of the specified MIME type
<code>getNullUuid()</code>	Retrieve a null UUID constant
<code>getParameterValue()</code>	Retrieve the value of the specified script parameter
<code>getParameterValues()</code>	Retrieve all of the values assigned to a multi-value script parameter
<code>getRepository()</code>	Retrieve an object that can be used to access the content of the repository
<code>isDesktopMode()</code>	Determine whether the script is being run on the desktop
<code>isServerMode()</code>	Determine whether the script is being run in EPM Workspace
<code>loadScript()</code>	Load the content of another script into this script environment
<code>log()</code>	Post a message at the current default logging level
<code>logAlways()</code>	Post a message that is always written to the log
<code>logClassName()</code>	Post a message that contains the specified Java class name of the object
<code>logDebug()</code>	Post a message for debugging
<code>logError()</code>	Post a message associated with a detected error condition
<code>logFatal()</code>	Post a message associated with a detected error condition
<code>logInfo()</code>	Post an informational message

<b>Method</b>	<b>Description</b>
logWarn()	Post a warning message
md5Hash()	Generate an MD5 hash from the specified string
setLogLevel()	Set the default level at which logging is to be performed
setProgress()	Update the progress of the script
updateDescription()	Set a new description for this script invocation
writeBqyDom()	Write the specified DOM out to a file

## Reference for Repository Methods

<b>Method</b>	<b>Description</b>
addVersion()	Add a version of a document
convertBqyFileToUnicode()	Convert the specified document from code page to Unicode
findFiles()	Find all files
getFileUuid()	Retrieve the UUID of the file with a specified path within EPM Workspace
getFolderUuid()	Retrieve the UUID of the folder with a specified path within EPM Workspace
isFile()	Determine whether the specified UUID represents a file
isFolder()	Determine whether the specified UUID represents a folder
publishBqyFile()	Import a file into the repository with the specified content
remapOCEs()	Remap the OCEs of the specified document to the provided set
retrieveFile()	Retrieve the document with the specified UUID as a temporary file
retrieveVersionedDocument()	Retrieve the versioned document associated with the specified UUID

## EPM Workspace-Specific Repository Methods

<b>Method</b>	<b>Description</b>
changeToFolder()	Change the logical position within EPM Workspace to the specified folder path
folderExists()	Determine whether a folder with the specified path exists in EPM Workspace
getCurrentFolder()	Retrieve the path to the current folder where this script is located in EPM Workspace
getFolderContentsFor()	Retrieve the UUIDs of all files in the folder
getPathForUuid()	Get the path in EPM Workspace represented by the specified UUID

Method	Description
getSubfolderPathsFor()	Retrieve the UUIDs of all subfolders of the folder
makeFolder()	Create a subfolder with the specified name

## Reference for Node Methods

Method	Description
addChild()	Add a child under this node
addProperty()	Add the specified property to this node
dump()	Dump the content of the node and the children of the node to standard output
findNodeByPattern()	Find one node that matches the specified pattern
findNodesByPattern()	Find all nodes that match the specified pattern
getChildren()	Retrieve a list of all the children of this node
getChildrenOfType()	Retrieve a list of all the children of this node with the specified node type
getContextualName()	Retrieve the logical name of this node
getNodeType()	Retrieve the type of this node
getPathWithContext()	Retrieve a string that represents the location of this node in the document, including contextual information to make the path unique
getProperties()	Retrieve a list of properties for this node
getProperty()	Retrieve the property of this node with the specified name
getRoot()	Retrieve the root node of the DOM in which this node is stored
hasProperty()	Determine whether this node has a property with the specified name
newNode()	Construct a node
removeChild()	Remove the specified child node
removeProperties()	Remove the specified list of properties from this node
replaceChildNode()	Replace the specified child node with the node provided
setChildren()	Replace the list of children of this node with the provided list

## Reference for Document

A document retrieved by using `env.getBqyDocument()` contains these properties.

<b>Property</b>	<b>Description</b>
DesignPassword	Password required to enter Design mode
DocumentPassword	Password required to open the document
EncryptedScripts	Determines whether scripts in the document are encrypted
EventScripts	Document-level scripts
Name	Document name
Path	Path to the document
Root_MyDocument	Root.MyDocument node
Root_MyResources	Root.MyResources node (or null if the document does not include Resource Manager data)
Sections	All sections contained in the document
Type	Retrieve the runtime class name
Unicode	Determines whether the document string content is in Unicode or code page format

The same document also contains these methods.

<b>Method</b>	<b>Description</b>
copy()	Copy the specified section to the document, rename it, if necessary, to avoid duplicates
getChartSections()	Retrieve a list of all chart sections
getChildrenWithRuntimeClass()	Retrieve all child nodes with a specified RuntimeClassName
getCodePage()	Retrieve the code page used by the document
getDashboardSections()	Retrieve a list of all the dashboard sections
getInitialTCSection()	Retrieve the home section identifier
getPivotSections()	Retrieve a list of all pivot sections
getQuerySections()	Retrieve a list of all query sections
getResultsSections()	Retrieve a list of all results sections
getSource()	Get the path to the Interactive Reporting document from which this document was loaded
getTableSections()	Retrieve a list of all table sections
isBQYPasswordProtected()	Determine whether the document has a password
isBQYProcessable()	Determine whether the document has at least one processable section
load()	Load a document from an Interactive Reporting document on disk
optimizeImages()	Optimize all of the Resource Manager images to remove duplicates



Method	Description
save()	Save the document to an Interactive Reporting document on disk
sectionOCEPairInfos()	Retrieve a list of all the document OCE mappings
setCodePage()	Set the document code page
setEndianness()	Set whether the document should be stored as big- or small-endian
setHeader()	Set the document header
setSource()	Set the path to the source from which this document was loaded

## Connecting Interactive Reports

The Impact Management Services includes a prebuilt interactive report dashboard to report the impact of change. The dashboard queries the Reporting and Analysis platform database tables and must be configured correctly before it can report on the repository.

### Step 1—Configuring Hyperion Interactive Reporting Data Access Service

Use the Services section in EPM Workspace (select Navigate, then Administer, then Reporting and Analysis, and then Services) to configure the Hyperion Interactive Reporting Data Access Service so the service references the database system that contains the Reporting and Analysis repository tables. The configuration must match the way that business reporting data sources are configured.

For example, if the repository is implemented using MS SQL Server, the Hyperion Interactive Reporting Data Access Service configuration is displayed in the Add Data Source to DAS screen with the parameters:

Connectivity Type: ODBC

Database Type: MS SQL Server

Select the name of the data source: metadata

**Note:** The data source name is *metadata*, as created in the ODBC configuration, and references the database instance in MS SQL Server.

### Step 2—Creating Interactive Reporting Database Connections

Use Interactive Reporting Studio to create an Interactive Reporting database connection (OCE extension) that references repository tables using a matching data source name (for example, *metadata*) as selected in the Hyperion Interactive Reporting Data Access Service configuration.


## Step 3—Importing Interactive Reporting Database Connections into EPM Workspace

Import the Interactive Reporting database connection created in Step 2.

- To import an Interactive Reporting database connection into EPM Workspace:
  - 1 Log in to EPM Workspace.
  - 2 In the **Explore** module view the Root folder.
  - 3 **Optional:** Select **View** , then **Show Hidden** to display the Administration folder.
  - 4 Expand **Administration**.
  - 5 Expand **Impact Manager**.
  - 6 Import the Interactive Reporting database connection created in the Step 2—Creating Interactive Reporting Database Connections procedure.
  - 7 Name the imported file.  
For example, name the file *metadata.oce*.
  - 8 Specify a default user identification and name to connect reports to the repository tables.  
The user identification requires select access to the repository tables.

## Step 4—Associating Interactive Reporting Database Connections with Interactive Reports

Associate the Interactive Reporting database connection imported in Step 3.

- To associate the Interactive Reporting database connection:
  - 1 From the Explore module, select **Administration** , then **Impact Manager**, and select the document named *Show Impact of Change*.
  - 2 Right-click and select **Properties**.  
Properties is displayed.
  - 3 Select  .
  - 4 From **Connection**, for each Query/DataModel Name, select **metadata.oce**.
  - 5 From **Options**, select **Use Default User Name & Password**.
  - 6 Click **OK**.
  - 7 Repeat steps 1–6 for the document named *Show Task Status*.

The Interactive Reporting documents are ready to deliver output.

# Using Show Task Status Interactive Report

Show Task Status is an Impact Manager module option that displays the status of tasks performed by Impact Management Services. The interactive report is based on the logging tables. Logging tables provide a list of logs of Impact Management Assessment Services and Impact Management Update Services tasks that have been processed or are currently processing within Impact Management Services.

► To use Show Task Status:

**1 Select *Navigate*, then *Impact Manager*, and then *Show Task Status*.**

Show Task Status is displayed.

**2 In *Status of Tasks*, from *Time Zone*, select an option:**

- *Browser*—Displays the user browser time zone
- *UTC*—Displays the time zone set as Coordinated Universal Time (See “[UTC Offset Option](#)” on page 116)

**3 To apply filters, perform an action:**

a. Select **From Time** to set a start time filter.

Date and time drop-down lists are displayed.

- i. Select a date from the calendar control.
- ii. Select a time.

b. Select **To Time** to set an end time filter.

Date and time drop-down lists are displayed.

- i. Select a date from the calendar control.
- ii. Select a time.

c. Select **Owner**, and select the requester name.

d. Select **Task Number**, to filter by the task request number displayed in the confirmation dialog box.

- i. Enter the task number.
- ii. Select an option:
  - *Transformer*—Update task requests
  - *Harvester*—Synchronization task requests

**4 Click *Process*.**

**5 Optional:** After processing, click **Refresh** to update the filtered data in the *Status of Tasks* table.

**6 Optional:** Select a task, and double-click or right-click to display the task log.

Tasks are displayed in a table.

**Table 25** Show Task Status Interactive Report Column Descriptions

Column Name	Description
Status	Color-coded status: Green—Success Gray—Waiting Red—Fail Pink—Cancel Orange—Partially Successful
Submit Time	Local submit date and time for the task
Description	Task description
Task	Task reference number
Action	Numeric order of process
Owner	Requester name
Completed Time	Local complete date and time for the task
Duration	Performance time in seconds to complete the request
Service Id	Processor name

## UTC Offset Option

The Coordinated Universal Time is based on the time zone of the application server. The UTC offset is a computed item that extracts the time zone offset from a time string. The offset is used to translate the display of the Submit Time and Completed Time columns into local time. The assumption is that the server and client share a time zone. If this is not the case, the computed item can be edited to reflect the time zone difference between server and clients.

A UTC Offset option has been added to the Show Task Status interactive report that enables users in a different location to the thin client application server to manually select a time zone. Selecting a time zone interprets dates and times in the log entries accordingly.

**Note:** Users in the locality of the application server are not required to change this setting.

## Managing Tasks

The Manage Task List is an Impact Manager module option that enables you to manage task requests. The interactive report is based on the logging tables, and includes a function to undo a request that has run.

- To use the Manage Task List:
  - 1 **Select *Navigate*, then *Impact Manager*, and then *Manage Task List*.**  
Manage Task List is displayed.
  - 2 **In Task List, from *Time Zone*, select an option:**
    - *Browser*—Displays the user browser time zone
    - *UTC*—Displays the time zone set as Coordinated Universal Time (See [“UTC Offset Option” on page 116](#))
  - 3 **To apply filters, perform an action:**
    - a. Select **From Time** to set a start time filter.  
Date and time drop-down lists are displayed.
      - i. Select a date from the calendar control.
      - ii. Select a time.
    - b. Select **To Time** to set an end time filter.  
Date and time drop-down lists are displayed.
      - i. Select a date from the calendar control.
      - ii. Select a time.
    - c. Select **Owner**, and select the requester name.
  - 4 **Click *Process*.**
  - 5 **Optional:** After processing, click **Refresh** to update the filtered data in the Task List table.

**Table 26** Manage Task List Column Descriptions

Column Name	Description
Submit Time	Local submit date and time for the task
Description	Task description
Task	Task reference number
Owner	Requester name
Success	Successful tasks
Failure	Failed tasks
Waiting	Pending tasks
Cancelled	Cancelled requests

## Using the Undo Feature

The Undo feature is a part of the Manage Task List interactive report that enables the user to retrieve a request made to run a script. As the script executes, all documents that are modified

are saved as new versions and this is tracked in a task log. If a user requests to undo a task, the log is used to identify all documents changed by the task and the latest version of those documents is removed, revealing the original documents.

Undo only reverts to versions of files associated with the task being undone. If the Undo feature discovers that the latest version of a file is not the same as the version it created, then that part of the undo is skipped, and a message is displayed. The undo process continues with other documents in the log.

To use the Undo feature, Show Actions for Task must be displayed.

► To Show Actions for Task:

- 1 In **Manage Task List**, from **Task List**, select a task.
- 2 Double-click to view the task actions.

Show Actions of a Task is displayed.

## Using Show Actions of a Task

Show Actions of a Task provides information about the selected task from Manage Task List. The table at the top displays a summation of the task. Selecting that task and clicking Undo performs a *roll back* process. The other table provides options that are applicable to the task. From this table, you can undo a task request or view an action log for the task.

An example of a task to undo is to revert Interactive Reporting documents that the JavaScript Update transformation has updated. For example, JavaScript Update replaces earlier sections in a set of Interactive Reporting documents that contain JavaScript with later (new) sections. The property settings from the earlier sections are transferred to the later sections, so the new code can work with old properties. The JavaScriptUpdate script enables users to use the latest dashboard features without having to re-create documents from scratch.

The task information is presented in Show Actions of a Task. If As Specified is selected, information about the folder that contains the original Interactive Reporting documents to be updated is displayed. These documents are displayed if Folder Expansion is selected. The resulting output is displayed in Files Changed, which when selected displays the updated documents that contain the later sections. When Undo is clicked, the feature removes the updated documents to reveal the initial documents.

The table columns change depending on the selected action.

**Table 27** As Specified and Folder Expansion Columns

Column Name	Description
Status	Color-coded status: Green—Success Gray—Waiting Red—Fail Pink—Cancel Orange—Partially Successful
Submit Time	Local submit date and time for the task
Description	Task description
Action	Numeric order of process
Completed Time	Local complete date and time for the task
Duration	Performance time in seconds to complete the request
Service Id	Processor name

**Table 28** Files Changed Columns

Column Name	Description
Undo Status	Color-coded status: Gray—N/A (Before the undo process) or Waiting Green—Success Red—Fail
Description	Task description
Action	Numeric order of process
Command	Explanation of the task (For example, add version)
File, (Version)	File used in the task and version number
Undo Description	Explanation of the undo process (For example, Version was successfully removed)

**Note:** Right-click a selected task in the table to Show Log For Action. The log file is displayed.

➤ To use the Undo feature:

**1 Optional: From Time Zone, select an option:**

- Browser—Displays the user browser time zone
- UTC—Displays the time zone set as Coordinated Universal Time (See [“UTC Offset Option” on page 116](#))

**2 From Actions, select an option:**

- As Specified—Provides an overview of the task input (For example, displays a folder)
- Folder Expansion—Provides a view of the contents of the As Specified input (For example, files within a folder)
- Files Changed—Displays the output of the task request (For example, a list of the updated files resulting from a JavaScript Update)

**3 Select the task, and click Undo.**

A dialog box is displayed to verify that Task number *nn* and associated actions are to be undone.

**4 Click OK.**

A confirmation dialog box is displayed with a task request number.

**5 Click OK to close the dialog box.**

**6 Navigate to Show Task Status to monitor the undo process.**

**7 In Show Task Status, select Task Number.**

**8 Enter the task request number, and select Transformer.**

**9 Click Process.**

Show Task Status displays the task. The task Description is Undo task *nn*. The task request number is appended.

**Note:** If a task is selected that has undergone the undo process, a dialog box is displayed that states there is no action to undo for task number *nn*. The task is not submitted.

## Using Show Impact of Change Interactive Report


Show Impact of Change is an Impact Manager module option that displays the tables, columns, and joins that are used in documents on the Query Panel. Selected values display the effects on the documents of changes to selected items.

**Note:** The example uses Microsoft Access database software and the Sample Database. The Interactive Reporting database connection must be configured, see [“Connecting Interactive Reports” on page 113](#).

► To use Show Impact of Change:

**1 Select Navigate, then Impact Manager, and then Show Impact of Change.**

The Query Panel of the Show Impact of Change interactive report is displayed.

**2 From the lists, select items, and click  to apply the selections.**



For example, if MSAccess and the Sample Database are used, from Rdbms Table Name, select PCW\_CUSTOMERS and PCW\_SALES. Selections are displayed in Currently Selected Query Limits.

- 3 Click  to process the query.

The items selected in the Query Panel are displayed. For example, the table tabs in Document with RDBMS tables selected display PCW\_CUSTOMERS and PCW\_SALES.

The Show Impact of Change interactive report contains information that helps identify what to do in anticipation of a change to a schema:

- **Documents with RDBMS tables selected**—Impacted documents that use the selected tables and columns
- **RDBMS/Topic column mappings**—Interactive Reporting document topics or items mapped to RDBMS tables or columns
- **Topic/RDBMS column mappings**—Reverse map of RDBMS tables or columns to Interactive Reporting document topics or items
- **Data Models with topics in common**—Common data models where impacted tables or columns are used (For example, how many Interactive Reporting documents are updated with one replacement data model)
- **RDBMS table usage details**—Documents and sections in which tables and columns are used
- **Custom request items**—Custom SQL in request items that Update Data Models, JavaScript Update, or a Custom Update may impact
- **Custom query limits**—Custom SQL in filter items that Update Data Models, JavaScript Update, or a Custom Update may impact

## Generating Parameter Files


A parameter file for updating data models can be created by any convenient mechanism, for example, in the Show Impact of Change interactive report. To generate a parameter file, click



, from the top panel of the dashboard.

There are two scenarios to create a parameter file, dependent upon in which environment the Show Impact of Change interactive report is running.

- To generate a parameter file in EPM Workspace:

- 1 In Show Impact of Change, from the top panel, click .
- EPM Workspace Export is displayed.
- 2 From **Section Names**, select IM\_DMU\_PARAM\_FILE.
- 3 From **File format**, select Text (tab-delimited).
- 4 Click **Export**.


Another Web browser window is activated displaying the tab separated parameter file.

**5 Select File , then Save As.**

Save Web Page is displayed.

**6 Name the parameter file *IM\_DMU\_PARAM\_FILE.txt*, and click Save.**

➤ To generate a parameter file on the desktop or a Web plug-in:

**1 In Show Impact of Change, from the top panel, click .**


A drop-down list is displayed.

**2 Select Export as Impact Manager parameter file.**

Export Section is displayed.

**3 In File name, enter *IM\_DMU\_PARAM\_FILE.txt*.**

**4 From Save as type:, select Text (tab-delimited) (\*.txt), and click Save.**

**5 Click  again, to hide the drop-down list.**

The generated parameter file contains these three entries per row that you must edit, (there are six altogether). Replace the entries to suit your requirements.

- **replacementDmName=' \$RDN\$'**—Replace \$RDN\$ with the name of the new data model section that replaces the old data model
- **replacementDocUuid=' \$RDU\$'**—Replace \$RDU\$ with the UUID of the document that contains the new data model section
- **replacementDocVersion=' \$RDV\$'**—Replace \$RDV\$ with the version of the document that contains the new data model section

## Creating New Data Models

You must create a new data model and ensure that it exposes all internal table and column names which are exposed by the replaced data model. Creating a new data model involves:

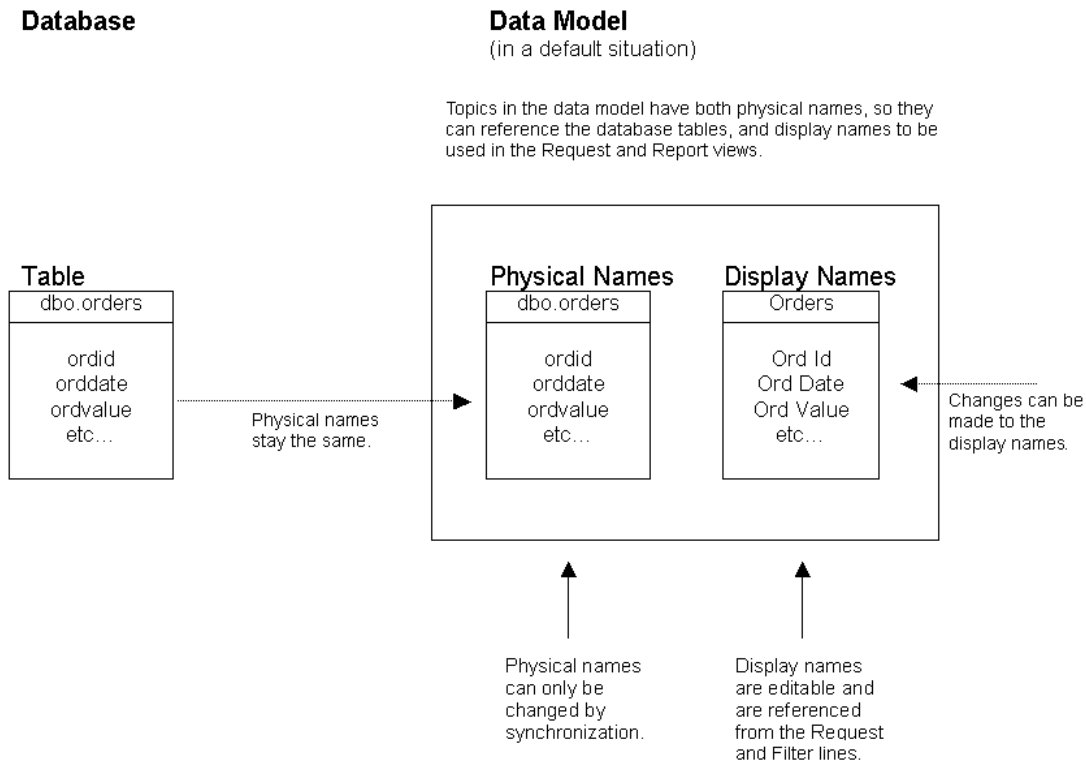
- [Renaming Tables or Columns](#)
- [Using Normalized and Denormalized Data Models](#)
- [Deleting Columns](#)

## Renaming Tables or Columns

To build a new data model, you re-create or synchronize the existing data model against the new database, and change the name of the tables or columns in the new data model to match those in the existing data model.

For example, a column *orders.orddate* is renamed *orders.order\_date* (physical name). The original data model exposed this column as *Orders.Orddate* (display name). The new data model gives the column a default name of *Orders.Order Date* (display name). To replace the original data model with the new one, edit the properties of the column and change the display name to *Orders.Orddate*. An example, changing physical and display names is provided in [Figure 2](#).

Figure 2 Physical and Display Names Example



## Example: Renaming Tables and Columns

Microsoft Access database software and Interactive Reporting Studio are used as examples in these procedural steps.

➤ To copy a table and make initial changes to the column names:

1 In a database, for example MSAccess, open the Sample Database.

2 Right-click a table, and select **Copy**.

For example, select PCW\_CUSTOMERS.

3 Right-click again, and select **Paste**.

4 In **Paste Table As**, enter a **Table Name**.

For example, type *Outlets*. Ensure that Structure and Data is selected.

5 Click **OK**.

A copy of PCW\_CUSTOMERS called *Outlets* is created.

**6 Right-click *Outlets*, and select **Design View**.**

The table is opened in design mode.

**7 Overwrite **Field Name** to change the column names.**

For example, overwrite STORE\_ID with outlet\_id, STORE with outlet, and STORE\_TYPE with outlet\_type.

**8 Close the *Outlets* table, and click **Yes** to save changes.**

► To change the physical name of a table:

**1 Open Interactive Reporting Studio, select **Sample.oce**, and click **OK**.**

**2 On the **Sample.oce** Host User and Host Password dialog box, click **OK**, without entering any text.**

**3 From the catalog pane, expand **Tables**, and drag a topic onto the content area.**

For example, select PCW\_CUSTOMERS.

**4 Right-click the topic header, and select **Properties**.**

Topic Properties is displayed.

**5 Enter a new **Physical Name**.**

For example, type *outlets* to replace PCW\_CUSTOMERS.

**6 Click **OK**.**

► To synchronize the data model with the database:

**1 In Interactive Reporting Studio, select the topic with the new physical name, for example **Pcw Customers**, and select **DataModel**, then **Sync with Database**.**

Data Model Synchronization is displayed. If Show Detail Information is selected, this dialog box provides information on changes that were made with the synchronization.

**2 Click **OK**.**

► To change the display names of columns:

**1 In Interactive Reporting Studio, using the topic in the content area, right-click a column name, and select **Properties**.**

Topic Item Properties is displayed.

**2 Change the column name, and click **OK**.**

For example, change Outlet Id to Store Id.

**3 Repeat steps 1–2 to change the other column names.**

For example, change Outlet to Store and Outlet Type to Store Type.

The display names of the columns are renamed.

**4 **Optional:** Alternatively, to achieve an equivalent end result of changing the display names, perform these actions:**

- a. Drag a topic, for example Orders, onto the Interactive Reporting Studio content area.
- b. Rename the display names of the renamed columns and the topic.

For example, a data model is created that can replace another data model that uses only the Pcw Customers topic. The edited topic now exposes names matching the original topic and is a valid replacement.

## Using Normalized and Denormalized Data Models

If a data model requires change because tables are being consolidated or divided, the creation of the new data model involves additional steps. To create a data model that is a superset of the original table structure use metatopics. You must give metatopics and the columns correct names, so the new data model is a *true* superset of the original data model. When names are correct, use the new data model in place of the original.

See “Metatopics” in the *Hyperion Interactive Reporting Studio User's Guide*.

## Deleting Columns

Deleted columns are replaced by a computed item with a constant value. For example, string columns may return *n/a*, and numeric columns may return *0*. These replacements enable reports to continue working and display the constant value (for example, *n/a*) for the deleted columns.

**Note:** If an entire table is deleted, it is treated as if the table has all columns deleted.

These procedures describe creating a computed item to mask the deletion of columns. Before creating the computed item, a series of processes; such as copying tables, changing names, and synchronizing data models, must be performed.

► To copy a table and make initial changes to the column names:

**1** In a database, for example MSAccess, open the Sample Database.

**2** Right-click a table, and select **Copy**.

For example, select PCW\_Items.

**3** Right-click again, and select **Paste**.

**4** In **Paste Table As**, enter a **Table Name**.

For example, type *Goods*. Ensure that Structure and Data is selected.

**5** Click **OK**.

A copy of PCW\_Items called *Goods* is created.

**6** Right-click **Goods**, and select **Design View**.

The table is opened in design mode.

**7** Select a row, for example **Dealer Price**, and delete it.

## 8 Save and close the database.

► To change the physical name of a table:

- 1 Open Interactive Reporting Studio, select **Sample.oce**, and click **OK**.
- 2 In the **Sample.oce Host User and Host Password** dialog box, click **OK**, without entering any text.
- 3 From the catalog pane, expand **Tables**, and drag a topic onto the content area.

For example, select and drag **PCW\_ITEMS**.

- 4 Right-click the topic header, and select **Properties**.

Topic Properties is displayed.

- 5 Enter a new **Physical Name**.

For example, type *Goods* as the physical name.

- 6 Click **OK**.

► To synchronize the data model with the database:

- 1 In Interactive Reporting Studio, select a topic, for example **Pcw Items**, and select **DataModel**, then **Sync with Database**, to perform a synchronization.

Data Model Synchronization is displayed. If **Show Detail Information** is selected, the dialog box provides information on synchronization changes. For example, **Dealer Price** was deleted from the *Goods* topic.

- 2 Click **OK**.

► To use a computed item to mask deletion of columns:

- 1 In Oracle's Hyperion® Interactive Reporting Studio, right-click a topic header, for example **Pcw Items**, and select **Promote to Meta Topic**.

Another topic is added to the content area. For example, the new topic is called *Meta Pcw Items*.

- 2 Right-click the original topic header, for example **Pcw Items**, and select **Properties**.

Topic Properties is displayed.

- 3 Change the topic name, and click **OK**.

For example, change the name to *Pcw Items topic*. Two topics are now displayed. For example, the topics are *Pcw Items topic* and *Meta Pcw Items*.

- 4 Right-click a topic header, for example **Meta Pcw Items**, and select **Properties**.

Topic Properties is displayed.

- 5 Remove *Meta* from **Topic Name**, and click **OK**.

- 6 Select the topic from step 5, for example **Pcw Items**, and select **DataModel**, then **Add Meta Topic Item**, then **Server**.

Modify Item is displayed.

- 7 Enter the **Name** of the row that was deleted in the database, and enter a definition.

For example, type *Dealer Price* in Name, and type *0* as the Definition.

- 8 Click **OK**.

The computed item is added to the topic. For example, Dealer Price is added to Pcw Items.

- 9 Select the topic with the computed item added, for example Pcw Items, and select **DataModel** , then **Data Model View** , then **Meta**.

The selected topic is displayed in Meta View, and other topics are removed.

## Changing Column Data Types

Changes to a database schema may result in changes to the data types of columns. For example, strings become integers, or conversely integers become strings. When this occurs additional actions may be required to complete the migration of an Interactive Reporting document to the new schema.

If the type change affects a filter, the data type of the data model column is applied to the filter in the Interactive Reporting document. The filter type in an Interactive Reporting document is copied from the data model when it is created and cannot be accessed by developers or users.

Some data type changes require no action and are unaffected. Those changes are marked as *OK* in Table 29. The changes marked as *Warn* require attention because values cached in the Interactive Reporting document may not be migrated correctly.

**Table 29** Data Type Changes

Data Types						
From/To	string	int	real	date	time	timestamp
string	OK	Warn	Warn	Warn	Warn	Warn
int	OK	OK	OK	Warn	Warn	Warn
real	OK	Warn	OK	Warn	Warn	Warn
date	Warn	Warn	Warn	OK	Warn	OK
time	Warn	Warn	Warn	Warn	OK	Warn
timestamp	Warn	Warn	Warn	Warn	Warn	OK

If the type change affects a Request line item, no action is taken because request item data types are accessed by clicking Option in Item Properties. If the Impact Manager module changes the data types, unforeseen effects in results, tables, charts, pivots, or reports may occur—especially if computations are applied to the column that is returned.

# Compatible Replacement Data Model and Document Character Sets

When updating a data model, both Interactive Reporting documents defined in the update process must contain compatible character sets. For example, a data model in a Latin 1 document can be used to update a data model in a Latin 1 or Unicode Interactive Reporting document, but not a Latin 2 document. A data model in a Unicode document can only replace a data model in another Unicode document as Unicode documents can contain multiple character sets.

For example, in [Table 30](#), searching for bqy\_a and Dm\_1 to be replaced with bqy\_b and Dm-33, provides these possibilities.

**Table 30** Replacement Data Models and Interactive Reporting Documents

Case	Search For	Replace With	Comment
1	Unicode (U)	Unicode (U)	Only Unicode interactive reports are listed for selection
2	Unicode (U)	Code Page 1 (CP1)	Both Unicode and CP1 interactive reports are listed for selection
3	Code Page 1 (CP1)	Code Page 1 (CP1)	Both Unicode and CP1 interactive reports are listed for selection
4	Code Page 2 (CP2)	Code Page 1 (CP1)	Error Message: The documents and the replacement data model must contain compatible character sets
5	Code Page 1 (CP1)	Code Page 2 (CP2)	Error Message: The documents and the replacement data model must contain compatible character sets
6	Code Page 1 (CP1)	Unicode (U)	Error Message: The documents and the replacement data model must contain compatible character sets

## Changing User Names and Passwords for Interactive Reporting Documents

An Interactive Reporting document can be imported to obtain credentials for the queries used to connect to the data source in a variety of ways:

- Credentials are specified for the Interactive Reporting document
- Credentials are obtained from the Interactive Reporting database connection
- A prompt for credentials is displayed

No action is required where credentials from queries are obtained from the Interactive Reporting database connection or where a prompt occurs for the credentials. The queries that are replaced continue to prompt or to reference the Interactive Reporting database connection for the credentials.

Explicitly configured credentials may require changes as these credentials may stop working against the new data source. By changing the way the queries are imported in the replacement Interactive Reporting document, you can alter how credentials are handled in the updated Interactive Reporting document. [Table 31](#) illustrates what happens to an Interactive Reporting



document that was originally imported to connect to a data source with some explicit credentials, for example, user name=scott and password=tiger.

**Table 31** Interactive Reporting Document Before And After Update

<b>Imported Replacement Interactive Reporting Document</b>	<b>Oracle's Hyperion® Interactive Reporting Document After Update</b>
Explicit Credentials	Connects the query to the data source using new credentials, user name=sa and password=secret, and processes without asking the user for values and without regard to the contents of the Interactive Reporting database connection
Prompt User	Displays a log on dialog box and the user supplies a user name and password to connect
Use Interactive Reporting database connection Default	Connects the query to the data source using the definition in the Interactive Reporting database connection at the time the connection is attempted

## Service Configuration Parameters

Oracle's Hyperion® Impact Management Services contain several service configuration parameters that can be changed in the Services section of EPM Workspace.

The following properties affect the behavior of Impact Manager:

- [Polling Interval](#)
- [Max Request Log Time](#)

### Polling Interval

Determines the frequency at which the service scans the requests queue. The user experiences this interval as the greatest possible delay between initiating an action and the service starting the action.

### Max Request Log Time

Can affect the Task Status report of the Impact Manager module functions. Actions older than the value of the parameter may be purged from the repository. The Undo feature can only operate using information found in the log. Actions with purged log entries cannot be undone. See [“Using the Undo Feature” on page 117](#).

**Note:** For additional information, see [“Reporting and Analysis Framework Services Properties” on page 45](#).

## Using the Impact of Change Report

Impact Manager uses an Interactive Reporting document to report which documents are affected if tables, columns or hierarchies change. This report identifies Interactive Reporting and Web Analysis documents. The Impact of Change Report is deployed as a hidden file in `workspace / Administration/Impact Manager/Impact of Change.bqy`. As with all Interactive Reports that are imported to EPM Workspace, a four step process is required before the report can retrieve metadata from the data source.

1. Define the data source in the EPM Workspace Data Access Service (DAS).

In the Services section of EPM Workspace (select **Navigate**, then **Administer**, then **Reporting and Analysis**, and then **Services**), select the DAS service and use the Data Sources tab to add a new service.

2. Create a connection file (OCE) that references the data source in DAS.

Use the Interactive Reporting Designer to create a connection file that references the Hostname/Provider of the DAS data source.

3. Publish the connection file in EPM Workspace.

Log onto EPM Workspace with an Administrator role and publish the connection file

4. Associate the Impact of change dashboard's data model sections with the published connection file.

Set your View options to show hidden folders and files. Navigate to `/Administration/Impact Manager` and select `Impact of Change.bqy`. Select the Interactive Reporting options and set every Query / Data Model use of the connection file imported later.

**Note:** To make running the Impact of Change report easier, configure the connections to use a default user id and provide a password for automatic logon. If automatic logon is not enabled, users will have to supply the database user id and password every time they run the report.

# 6

## Integrating Search Services with External Applications

### In This Chapter

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Configuring Hyperion Connector and Identity Plug-ins for Oracle Secure Enterprise Search .....	131
Configuring Google OneBox to Use Search Service Data in its Results .....	134

### About Search Services

Search Services enables users to search for and retrieve documents, reports, and dashboards from any repository in EPM Workspace. The search operation returns a list of results based on locating the user's keywords in document-specific metadata; for example, document name, date created or author (for Oracle Hyperion Financial Reporting, Fusion Edition Word or PDF documents only), and extracting content-based information from documents.

Search Services can integrate with external applications and services. Connectors are available for Oracle Secure Enterprise Search and Google OneBox.

For detailed information on using Search Services, see "Using Search Services" in the *Oracle Enterprise Performance Management Workspace User's Guide*.

### Configuring Hyperion Connector and Identity Plug-ins for Oracle Secure Enterprise Search

See the following topics covered in this section:

["Deploying Plug-in JAR Files" on page 131](#)

["Configuring the Identity Plug-in" on page 132](#)

["Configuring the Connector Plug-in" on page 132](#)

["Searching" on page 133](#)

### Deploying Plug-in JAR Files

► To deploy the plug-in .jar files for Oracle Secure Enterprise Search:

- 1 Do a default installation of Oracle Secure Enterprise Search.

**2 Create the following directory:**

ORACLE\_HOME/search/lib/plugins/System9

**3 Copy all the files from EPM Oracle home/common/Search/11.1.2.0/lib/SES to the directory created above.**

## Configuring the Identity Plug-in

► To configure the Identity Plug-in:

**1 Log in to the Oracle Secure Enterprise Search Administration page.**

**2 Select Global Settings.**

**3 Select Identity Management Setup.**

**4 Select Register new Identity Plugin.**

**5 Enter the following details:**

Class name—

`com.hyperion.wsearch.ses.identity.WorkspaceIdentityPluginManager`

Jar file name—`workspace-identity.jar`

**6 Click Finish.**

`WorkspaceIdentityPluginManager` is displayed in the list.

**7 Select WorkspaceIdentityPluginManager and click Activate.**

**8 Enter the following details and click Finish.**

Connection Protocol—`http` or `https`

Workspace Host—Hostname or IP address of the machine running EPM Workspace

Workspace Port—Port for EPM Workspace

## Configuring the Connector Plug-in

► To configure the Connector Plug-in:

**1 Log in to the Oracle Secure Enterprise Search Administration page.**

**2 Select Global Settings.**

**3 Select Source Types.**

**4 Click Create and enter the following details:**

Name—EPM Workspace

Description—EPM Workspace Crawler Plug-in

Class name—

`com.hyperion.wsearch.ses.crawler.WorkspaceCrawlerPluginManager`

Jar name—System9/workspace-connector.jar

5 Click **Next**, then click **Finish**.

6 Click **Home**, then click **Sources**.

7 Select **EPM Workspace**, click **Create**, and enter the following details:

Source name—Name for this instance

Start Crawling Immediately—*Uncheck* this option

Gsm Username—Username with Global Administrator privileges in EPM Workspace

Gsm Password—Password for this user

Workspace Host—Hostname or IP address of the machine running EPM Workspace

Workspace Port—Port for EPM Workspace

8 Click **Create & Customize**.

9 Select **Authorization**.

10 Check **ACLs Controlled by the Source**.

11 Under **Authorization Manager**, enter the following details:

Class name—

com.hyperion.wsearch.ses.crawler.filter.WorkspaceAuthorizationManager

Jar file—System9/workspace-connector.jar

12 Select **Get Parameters** and enter the following details:

Workspace Host—Hostname or IP address of the machine running Workspace

Workspace Port—Port for EPM Workspace

13 Click **Apply**.

14 Select **Crawling Parameters** and modify the following details:

Number of Crawler Threads—1

Crawler Timeout Threshold (seconds)—300

15 Click **Apply**.

The EPM Workspace SES Connector is now set up. You can modify the schedule in the Schedules tab, and you can use the SES Connector to manually launch a crawl.

16 Click **Start** and review the log file available after the scheduled crawl to verify that the documents are indexed.

## Searching

► To do a search:

1 Go to the search address given after the installation.

- 2 Log in using your EPM Workspace user name and password.
- 3 Search for the desired information.

## Configuring Google OneBox to Use Search Service Data in its Results

The OneBox module allows a Google Search Appliance to return search results from the data gathered by the Search Service. The OneBox module comprises a servlet running as part of the EPM Workspace Web application.

### Overview of Operation

The OneBox module is configured as an external module for the Google Search Appliance. When a user issues a search request to the Google Search Appliance, asking for secure as well as public content, the Google Search Appliance calls each configured external module, asking for authentication credentials where required. Each module performs its own search based on the given credentials and query values and returns the results to the Google Search Appliance in a standard format including a name and a URL that can display the search result.

When the OneBox module receives a search request, it authenticates the user submitting the request, then checks if that user already has a session open. If not, a session is created. The OneBox module then submits the search request to the Search Service and sends the results back to the Google Search Appliance in the standard format. The module includes the user's single-sign-on token so the documents returned in the results can be opened from the search results without having to log in again.

## Configuring the Google Search Appliance to Call the OneBox Module

A OneBox Module must be created and added to an existing or new front end. See the on-line help in the Google Search Appliance administrative pages for detailed information on this process.

► To configure the Google Search Appliance to call the OneBox module:

- 1 Log in to the Google Search Appliance administrative interface.

`http:<gsa host>:8000/EnterpriseController`

- 2 From the menu on the left of the page, select **Serving**, then select **OneBox Modules**.
- 3 In **OneBox Name**, enter a name for the OneBox module and click **Create Module Definition**.

A new page is displayed where you can enter the rest of the module information.

- 4 In **Provider**, click **External Provider** and enter the URL of the OneBox Module as follows:

`https://<workspace host>:<secure workspace port>/workspace/onebox`

- 5 Still in **Provider**, go to **Search-User Access Control** and select **Basic**.
- 6 Click **Save OneBox Definition**.
- 7 Find the OneBox module in the list of modules and click **Edit**.
- 8 In **OneBox Stylesheet Template**, click **Edit XSL**, and click **Import** to import `System9-onebox.xsl`.  
This file is automatically installed and can be found in `EPM Oracle home/common/Search/11.1.2.0/lib/OneBox`.
- 9 Click **Save XSLT Stylesheet**.

You must now decide whether to add the OneBox module to an existing front end or create a new front end.

➤ To create a new front end:

- 1 From the menu on the left of the page, select **Front Ends**.
- 2 In **Front End Name**, enter a name for the new front end and click **Create New Front End**.
- 3 To the right of the new front end, click **Edit**.

A new page is displayed where you can enter the rest of the front end information.

- 4 Click **OneBox Modules**.
- 5 In **Available Modules**, select the OneBox module and transfer it to **Selected Modules**.
- 6 Click **Save Settings**.

➤ To add the module to an existing front end, follow the steps above. In Step 3, select **Edit** next to the desired front end.

**Note:** The configuration items for Format, KeyMatch, Related Queries, Filters, and Remove URLs are beyond the scope of these instructions. You do not need to change any of them for the Google Search Appliance to use the OneBox module. See the Google Search Appliance documentation for more information on these items.

## Configuring the OneBox Module

The OneBox module works as installed, but has some parameters that may be tuned if required by a particular installation. These parameters are all servlet initialization parameters in:

```
MIDDLEWARE_HOME/user_projects/epmsystem1/domains/EPMSystem/servers/  
RAFramework/webapps/raframework/WEB-INF/web.xml
```

The parameters are all included in the OneBoxServlet definition.

**Table 32 OneBox Module Parameters**

Parameter	Description
MaxResults	<p>Maximum number of search results returned to the Google Search Appliance.</p> <p>Increasing the number only works until the OneBox module runs out of time retrieving results.</p>
ResultChunk	<p>Size of the chunk returned within the hard-limit timeout of the Google Search Appliance.</p> <p>To ensure at least some results are returned within the Google Search Appliance's hard-limit timeout, the results are retrieved from the Search service in smaller chunks regardless of the setting of the MaxResults parameter</p> <p>For example, if MaxResults=150 and ResultChunk=10, the OneBox module progressively asks for results 1-10, 11-20, ..., 141-150. This way it will always have some results to return before getting all 150..</p>
ResponseTimeout	<p>Time for the OneBox Module to finish the current call to the Search service, format the retrieved results, and return them to the Google Search Appliance.</p> <p>The Google Search Appliance allows each external module up to three seconds to return its results, after which it assumes there are no results. The OneBox module works by retrieving small chunks of results until either all available results are retrieved, the configured maximum number of results are retrieved, or there is a danger of the Google Search Appliance assuming the OneBox module is taking too long and ignoring its results.</p> <p>Slow or busy networks might require adjustments to ResponseTimeout.</p> <p>The value of ResponseTimeout is in 1000s of a second (milliseconds).</p>
SessionTimeout	<p>How long automatically-created sessions can be idle before timing out and closing.</p> <p>The OneBox module creates a session for each user who submits a search request, so any returned document can be opened without having to log in again.</p> <p>The value of SessionTimeout is in 1000s of a second (milliseconds).</p>



# 7

## Managing Calendars

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## Viewing Calendars

► To launch Calendar Manager:

1 **Run the `JobUtilities` bat file located in `EPM_ORACLE_HOME\products\biplus\bin`.**  
On UNIX, run `JobUtilities.sh`.

2 **From the Job Utilities toolbar, click .**

3 **At the Job Utilities Logon screen, supply a user name, password, Reporting and Analysis host, and port number.**

After the system confirms these values, Calendar Manager is displayed. It lists the default calendar and custom calendars with the years for each calendar in subfolders. You choose a calendar name or year to modify or delete it.

Selecting Calendars displays a blank Calendar Property tab. Selecting a calendar name displays the Calendar Properties tab with the selected calendar record. Selecting a year displays the calendar Periods and Years tab with the selected calendar and year.

**Note:** You need the Job Manager role (see the *Oracle Hyperion Enterprise Performance Management System Security Administration Guide*) to create, modify, or delete calendars.

## Creating Calendars

► To create a custom calendar:

- 1 In **Calendar Manager**, select **Calendars** from the left navigation pane.
- 2 Enter a name for the calendar.
- 3 Enter information as requested; click **Save** on each dialog box.

You must select **New Year** and enter a year before you can save the calendar.

**Note:** Calendar Manager uses the standard Gregorian calendar.


## Modifying Calendars

► To modify or add years to calendars:

- 1 In **Calendar Manager**, navigate to a calendar.
  - Select a calendar name to view calendar properties.
  - Select a year to modify periods or years and non-working days.  
When modifying periods or years be sure the dates for weeks or periods are consecutive.
- 2 Select **New Year** to add a year to this calendar, and modify properties.
- 3 In the **Periods and Year** tab, click **Save**.

## Deleting Calendars

► To delete whole calendars or individual years:

- 1 In **Calendar Manager**, navigate to a calendar or year.
- 2 Click .
- 3 When prompted, verify deletion of the calendar or year.

You cannot delete the calendar last year. To delete the calendar last year, you must delete the entire calendar.

## Calendar Manager Properties

Topics that present properties available in Calendar Manager:

- [Calendar Properties](#)
- [Custom Calendar Periods and Years Properties](#)

- [Custom Calendar Non-Working Days Properties](#)

## Calendar Properties

- **Calendar Name**—Name of the calendar.
- **User Defined Weeks**—Enables selection of week start day. The default week contains seven days and is not associated with other time periods. User-defined weeks can be associated with periods, quarters, or months, but cannot span multiple periods. Start and end dates cannot overlap and must be sequential.
- **Week Start**—If using user-defined weeks, select a starting day for the week.

**Note:** Calendar properties cannot be changed after a calendar is created.

## Custom Calendar Periods and Years Properties

- **New Year**—Any year is valid if no other years are defined. If this is not the first year defined, the year entered must be sequential.
- **Quarter/Period/Week**—The system automatically assigns sequential numbers to quarters, periods, and weeks. All calendars contain 4 quarters, 12 periods, and 52 weeks.
- **Start and End**—Enter initial Start and End dates. The system automatically populates the start and end dates for periods or weeks and assigns quarters or periods logically. After the fields are populated, you can edit start and end dates, which cannot overlap and must be sequential.

## Custom Calendar Non-Working Days Properties


- **Days of the week**—Selecting days of a week populates the calendar automatically.  
You can select non-working days by *day* or by *day of the week*.
- **Calendar**—The calendar reflects the day starting the week as previously selected. Clicking the arrows moves the calendar forward or back one month. You indicate working and non-working days on a day-by-day basis by selecting and deselecting dates.

## Viewing the Job Log

Calendar Manager keeps a job log in text format that contains information about schedule execution including job names, start and stop times, names of users who executed jobs, reasons why jobs were executed, whether output was viewed, and directories where output is located. Jobs that are not complete have no stop time value.

A scheduled Interactive Reporting job generates an HTML log file rather than a text file.

► To view the Job Log:

- 1 Click  (View Job Execution Log Entries).

The Job Log Retrieval Criteria dialog box is displayed.

- 2 **Optional: Specify start and end dates and user information.**

You can choose to view all log entries or only those for specific dates or users.

- 3 Click **OK** to retrieve the log.

## Job Log Retrieval Criteria

► To limit Job Log entries:

- 1 **Select Start Date or End Date.**

A calendar is displayed from which you can select a date.

If you omit a start date, Calendar Manager retrieves those entries with the defined end date, and vice versa.

- 2 **Select All users or select User and enter a user name.**

- 3 Click **OK**.

## Job Log Entries

The Job Log Entries window contains information about the execution of schedules, including schedule name, job name, start time, and user name who executed the job.

Users can view only those log portions that pertain to their schedules. Administrators can view all log entries, but can limit their log view by requesting to view only those entries related to specific users.

Log entries are initially sorted in ascending order by *schedule name*. You can sort by columns (Schedule Name, Job Name, Start Time, User, Mark for Deletion) by selecting a column heading. To sort a column in descending order, press Shift+click on a column heading.

To change the column display order, select a column heading and drag it to the desired location.

## Job Log Entry Details

► To view Job Log entry details, select a log entry and click **Detail**.

Information displayed includes schedule name, job name, output artifact, start time, stop time, user, and times executed.

## Deleting Job Log Entries

► To delete job log entries:

- 1 In **Job Log Entries**, select a log entry, and select **Mark for Deletion**.

To select multiple log entries, use the Shift or Ctrl key.

- 2 Click **Yes** when prompted to confirm the deletion.

Entries marked for deletion are not deleted until the next EPM Workspace server cycle, which is a recurring event where Oracle's Hyperion Reporting and Analysis performs routine maintenance tasks.





# Checking Access Privileges for Reporting and Analysis Artifacts

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## Overview

Users, documents, jobs, and printers are all items within EPM Workspace. When a user logs in to EPM Workspace, the user's access to these items is determined. EPM Workspace allows users to access the documents or jobs at specified levels, such as Modify, which allows users to modify the item or Full Control, which allows the user to delete the item. To determine what access privileges the user has to resources and items, EPM Workspace goes through an access privilege checking routine, which is described in this section. This process occurs at login for each item in EPM Workspace

**Note:** For information on managing users, groups, and roles, see the *Oracle Hyperion Enterprise Performance Management System Security Administration Guide*.

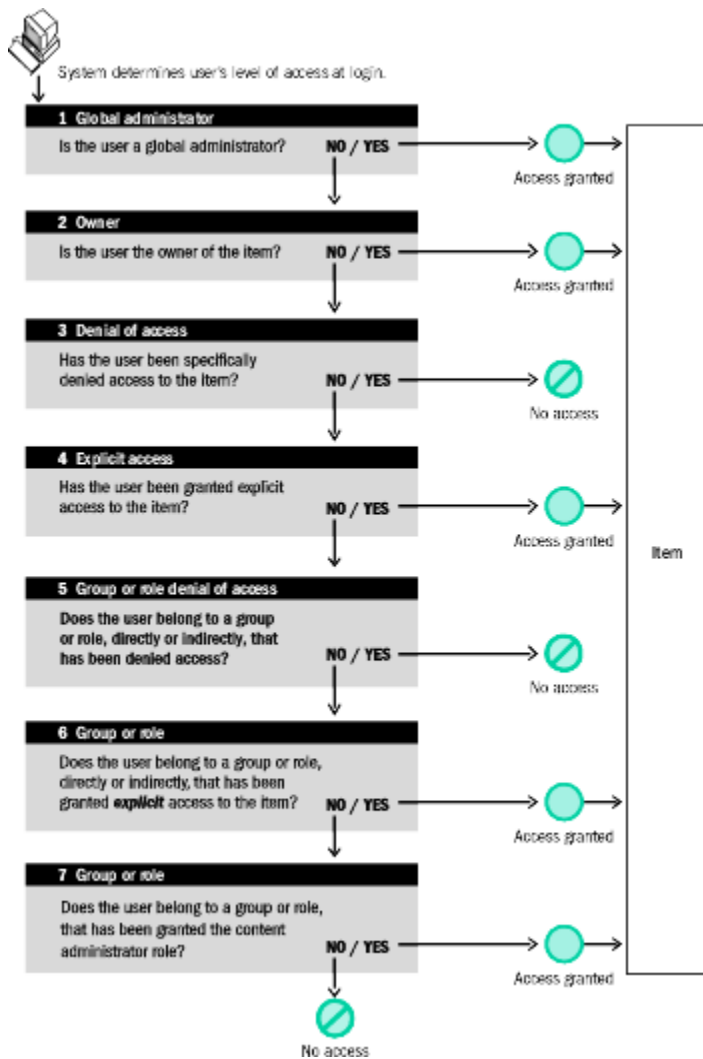
## Access Privilege Checking for Items

A user gets access privileges to an item through the set of groups of which the user is a member, or through the set of roles assigned to that user. Access privilege checking for items is implemented in the following order:

1. User has the global administrator role? If the answer is yes, access is granted and checking stops.
2. User is the owner of the item? If the answer is yes, access is granted and checking stops.
3. User is denied access to the item? If the answer is yes, access is denied and checking stops.
4. User is granted specific access to the item? If the answer is yes, access is granted and checking stops.

5. User belongs to a group or role that has been denied access? If the answer is yes, access is denied and checking stops.
6. User belongs to a group or role that has been granted access to the item? If the answer is yes, access is granted and checking stops.
7. User belongs to a group or role that has been granted the content administrator role? If the answer is yes, access is granted and checking stops.

For steps 4 and 6, if the access privilege granted is at the same level or higher than required, then access is granted.



## Access Privilege Checking on Services

Access privilege checking for access to services is implemented in the following order:

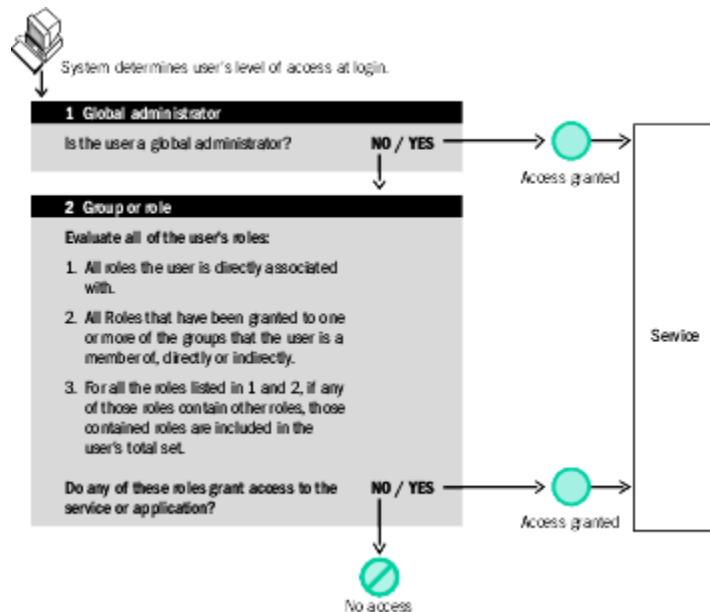
1. Has the global administrator role?



2. Access privilege granted directly or indirectly through an assigned role; that is, either the user is directly assigned the role, or a group that the user belongs to either directly or indirectly is assigned that role?

If the response is:

- Yes, then access is granted and checking stops.
- No to the first question, then checking continues.
- No to the second question, then access is denied.



## Denying Access

EPM Workspace allows the global administrator, item owner, or a user with full control privileges on an item to deny access to the item by assigning No Access to the item. No Access applies to users, groups, or roles and works. For example, Bob needs to publish a document for viewing by the sales group which includes Jane and John. Jane is a contractor and should not be able to view the document. John is the sales group's administrative assistant and may need to modify the item. Bob publishes the document with the following access privileges:

- Sales group gets view access
- Jane gets no access
- John gets modify access

In the example above, if Jane had the global administrator role or was the owner of the document, even though Bob gave her no access, she would still have full control access on the document.

Oracle Enterprise Performance Management Workspace, Fusion Edition determines no access using the following rules:

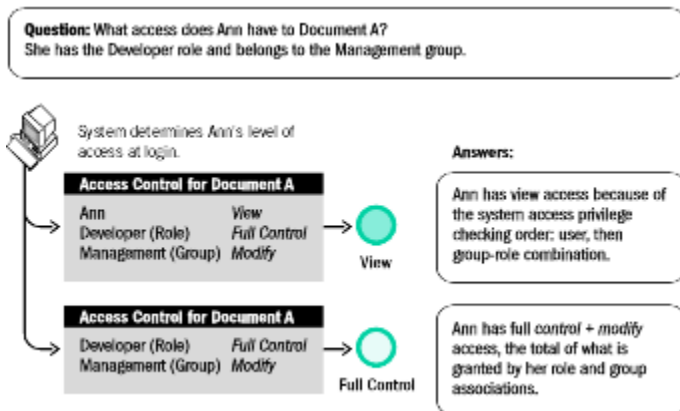
1. If an individual user is denied access, then the user cannot access the item in any way, unless the user is the owner or a global administrator
2. If the No Access is assigned to a group or role, a user that is in that group will have access to the item, if either:
  - a. The user is the owner of the item.
  - b. The user is granted access privileges to the item at the user level.
  - c. The user has the global administrator role.

## Additional Access Privilege Checking Examples

Look at the following examples to further your understanding of how access privilege checking works.

### Example: Role Precedences

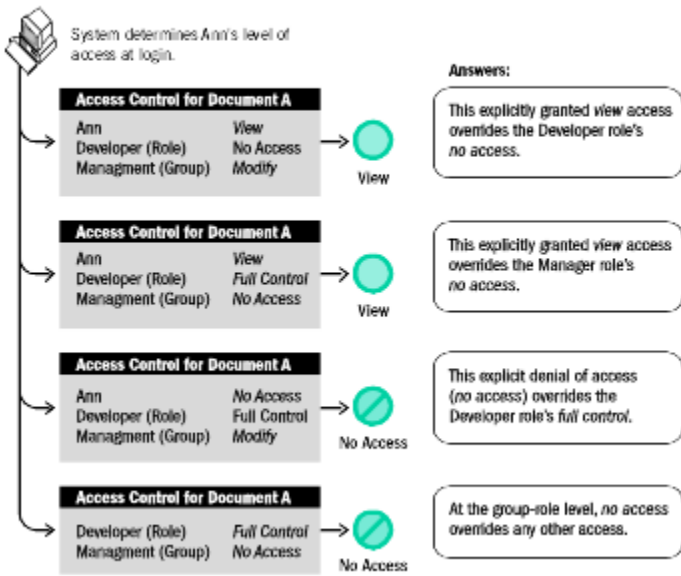
The following figure shows the access privilege that Ann has, considering order of access privilege checking and total of role and group associations. What access does Ann have to Document A if she has the Developer role and belongs to the Management group?



### Example: Overriding Access-Privileges Granted

The following figure shows an example of how access-privilege overrides work. What access does Ann have to Document A if she has the Developer role and belongs to the Management group?

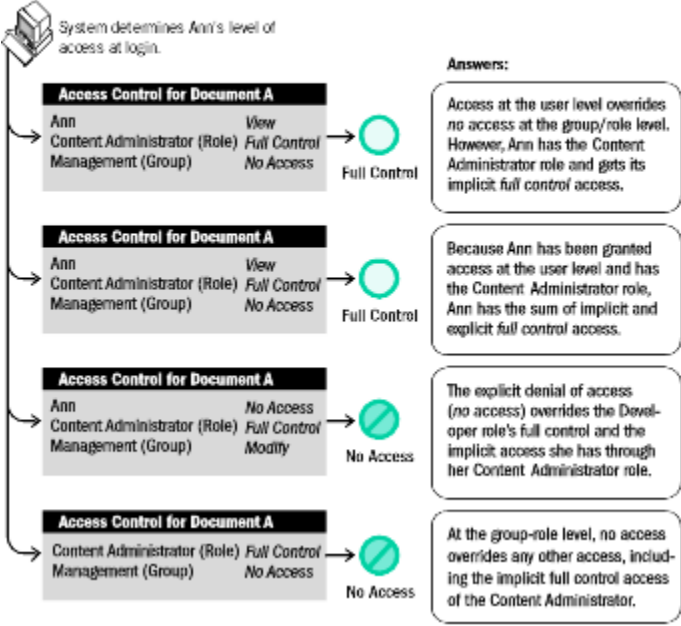
**Question:** What access does Ann have to Document A?  
She belongs to the Developer role and the Management group.



**Example: Full Control and No Access Overrides**

The following figure shows examples of full control access privilege and no access overrides. What access does Ann have to Document A if she has the Content Administrator Role and belongs to the Management group?

**Question:** What access does Ann have to Document A?  
She has the Content Administrator role and belongs to the Management group.





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# Glossary

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! See bang character.

**#MISSING** See missing data.

**access permissions** A set of operations that a user can perform on a resource.

**accessor** Input and output data specifications for data-mining algorithms.

**account blocking** The process by which accounts accept input data in the consolidated file. Blocked accounts do not receive their value through the additive consolidation process.

**account eliminations** Accounts which have their values set to zero in the consolidated file during consolidation.

**account type** A property that determines how an account's value flows over time and its sign behavior. Account type options can include expense, income, asset, liability, and equity.

**accountability map** A visual, hierarchical representation of the responsibility, reporting, and dependency structure of the accountability teams (also known as critical business areas) in an organization.

**active service** A service whose Run Type is set to Start rather than to Hold.

**active-active high availability system** A system in which all the available members can service requests, and no member is idle. An active-active system generally provides more scalability options than an active-passive system. Contrast with active-passive high availability system.

**active-passive high availability system** A system with active members, which are always servicing requests, and passive members that are activated only when an active member fails. Contrast with active-active high availability system.

**activity-level authorization** Defines user access to applications and the types of activities they can perform on applications, independent of the data that will be operated on.

**ad hoc report** An online analytical query that an end user creates dynamically.

**adapter** Software that enables a program to integrate with data and metadata from target and source systems.

**adaptive states** Interactive Reporting Web Client level of permission.

**adjustment** See journal entry.

**Advanced Relational Access** The integration of a relational database with an Essbase multidimensional database so that all data remains in the relational database and is mapped to summary-level data in the Essbase database.

**agent** An Essbase server process that starts and stops applications and databases, manages connections from users, and handles user-access security. The agent is referred to as ESSBASE.EXE.

**aggregate cell** A cell comprising several cells. For example, a data cell that uses Children(Year) expands to four cells containing Quarter 1, Quarter 2, Quarter 3, and Quarter 4 data.

**aggregate function** A type of function, such as sum or calculation of an average, that summarizes or performs analysis on data.

**aggregate limit** A limit placed on an aggregated request line item or aggregated metatopic item.

**aggregate storage database** The database storage model designed to support large-scale, sparsely distributed data which is categorized into many, potentially large dimensions. Upper level members and formulas are dynamically calculated, and selected data values are aggregated and stored, typically with improvements in overall aggregation time.

**aggregate view** A collection of aggregate cells based on the levels of the members within each dimension. To reduce calculation time, values are pre-aggregated and stored as aggregate views. Retrievals start from aggregate view totals and add up from there.

**aggregation** The process of rolling up and storing values in an aggregate storage database; the stored result of the aggregation process.

**aggregation script** In aggregate storage databases only, a file that defines a selection of aggregate views to be built into an aggregation.

**alias table** A table that contains alternate names for members.

**alternate hierarchy** A hierarchy of shared members. An alternate hierarchy is based upon an existing hierarchy in a database outline, but has alternate levels in the dimension. An alternate hierarchy allows the same data to be seen from different points of view.

**ancestor** A branch member that has members below it. For example, the members Qtr2 and 2006 are ancestors of the member April.

**appender** A Log4j term for destination.

**application** 1) A software program designed to run a specific task or group of tasks such as a spreadsheet program or database management system. 2) A related set of dimensions and dimension members that are used to meet a specific set of analytical requirements, reporting requirements, or both.

**application administrator** A person responsible for setting up, configuring, maintaining, and controlling an application. Has all application privileges and data access permissions.

**application currency** The default reporting currency for the application.

**Application Migration Utility** A command-line utility for migrating applications and artifacts.

**application server cluster** A loosely joined group of application servers running simultaneously, working together for reliability and scalability, and appearing to users as one application server instance. See also vertical application cluster and horizontal application cluster.

**area** A predefined set of members and values that makes up a partition.

**arithmetic data load** A data load that performs operations on values in the database, such as adding 10 to each value.

**artifact** An individual application or repository item; for example, scripts, forms, rules files, Interactive Reporting documents, and financial reports. Also known as an object.

**assemblies** Installation files for EPM System products or components.

**asset account** An account type that stores values that represent a company's assets.

**assignment** The association of a source and destination in the allocation model that controls the direction of allocated costs or revenue flow.

**attribute** A characteristic of a dimension member. For example, Employee dimension members may have attributes of Name, Age, or Address. Product dimension members can have several attributes, such as a size and flavor.

**attribute association** A relationship in a database outline whereby a member in an attribute dimension describes a characteristic of a member of its base dimension. For example, if product 100-10 has a grape flavor, the product 100-10 has the Flavor attribute association of grape. Thus, the 100-10 member of the Product dimension is associated with the Grape member of the Flavor attribute dimension.

**Attribute Calculations dimension** A system-defined dimension that performs these calculation operations on groups of members: Sum, Count, Avg, Min, and Max. This dimension is calculated dynamically and is not visible in the database outline. For example, using the Avg member, you can calculate the average sales value for Red products in New York in January.

**attribute dimension** A type of dimension that enables analysis based on the attributes or qualities of dimension members.

**attribute reporting** A reporting process based on the attributes of the base dimension members. See also base dimension.

**attribute type** A text, numeric, Boolean, date, or linked-attribute type that enables different functions for grouping, selecting, or calculating data. For example, because the Ounces attribute dimension has the type numeric, the number of ounces specified as the attribute of each product can be used to calculate the profit per ounce for that product.

**authentication** Verification of identity as a security measure. Authentication is typically based on a user name and password. Passwords and digital signatures are forms of authentication.

**authentication service** A core service that manages one authentication system.

**auto-reversing journal** A journal for entering adjustments that you want to reverse in the next period.

**automated stage** A stage that does not require human intervention; for example, a data load.

**axis** (1) A straight line that passes through a graphic used for measurement and categorization. (2) A report aspect used to arrange and relate multidimensional data, such as filters, pages, rows, and columns. For example, for a data query in Simple Basic, an axis can define columns for values for Qtr1, Qtr2, Qtr3, and Qtr4. Row data would be retrieved with totals in the following hierarchy: Market, Product.

**backup** A duplicate copy of an application instance.

**balance account** An account type that stores unsigned values that relate to a particular time.

**balanced journal** A journal in which the total debits equal the total credits.

**bang character (!)** A character that terminates a series of report commands and requests information from the database. A report script must be terminated with a bang character; several bang characters can be used within a report script.

**base currency** The currency in which daily business transactions are performed.

**base dimension** A standard dimension that is associated with one or more attribute dimensions. For example, assuming products have flavors, the Product dimension is the base dimension for the Flavors attribute dimension.

**base entity** An entity at the bottom of the organization structure that does not own other entities.

**batch calculation** Any calculation on a database that is done in batch; for example, a calculation script or a full database calculation. Dynamic calculations are not considered to be batch calculations.

**batch file** An operating system file that can call multiple ESSCMD scripts and run multiple sessions of ESSCMD. On Windows-based systems, batch files have BAT file extensions. On UNIX, batch files are written as a shell script.

**Batch Loader** An FDM component that enables the processing of multiple files.

**batch POV** A collection of all dimensions on the user POV of every report and book in the batch. While scheduling the batch, you can set the members selected on the batch POV.

**batch processing mode** A method of using ESSCMD to write a batch or script file that can be used to automate routine server maintenance and diagnostic tasks. ESSCMD script files can execute multiple commands and can be run from the operating system command line or from within operating system batch files. Batch files can be used to call multiple ESSCMD scripts or run multiple instances of ESSCMD.

**block** The primary storage unit which is a multidimensional array representing the cells of all dense dimensions.

**block storage database** The Essbase database storage model categorizing and storing data based on the sparsity of data values defined in sparse dimensions. Data values are stored in blocks, which exist only for sparse dimension members for which there are values.

**Blocked Account** An account that you do not want calculated in the consolidated file because you want to enter it manually.

**book** 1) In Financial Reporting, a container that holds a group of similar documents. Books may specify dimension sections or dimension changes. 2) In Data Relationship Management, a collection of exports that can be run together as a group. Export results can be combined together or output separately.

**book POV** The dimension members for which a book is run.

**bookmark** A link to a reporting document or a Web site, displayed on a personal page of a user. The types of bookmarks are My Bookmarks and image bookmarks.

**bounding rectangle** The required perimeter that encapsulates the Interactive Reporting document content when embedding Interactive Reporting document sections in a personal page, specified in pixels for height and width or row per page.

**broadcast message** A simple text message sent by an administrator to a user who is logged on to a Planning application. The message details information such as system availability, notification of application refresh, or application backups.

**build method** A method used to modify database outlines. Choice of a build method is based on the format of data in data source files.

**business process** A set of activities that collectively accomplish a business objective.

**business rules** Logical expressions or formulas that are created within an application to produce a desired set of resulting values.

**cache** A buffer in memory that holds data temporarily.

**calc script** A set of commands that define how a database is consolidated or aggregated. A calculation script may also contain commands that specify allocation and other calculation rules separate from the consolidation process.

**Calculated Accounts** Accounts with formulas that you cannot alter. These formulas are fixed to maintain the accounting integrity of the model that you are building. For example, the formula for Net Income, a Calculated Account, is modeled into Strategic Finance and cannot be changed in historical or forecast periods.

**calculated member in MaxL DML** A member designed for analytical purposes and defined in the optional WITH section of a MaxL DML query.

**Calculation Manager** A module of Enterprise Performance Management Architecture (EPMA) that Planning and Financial Management users can use to design, validate, and administrate business rules in a graphical environment. c

**calculation status** A consolidation status that indicates that some values or formula calculations have changed. You must reconsolidate to get the correct values for the affected entity.

**calendar** User-defined time periods and their relationship to each other. Q1, Q2, Q3, and Q4 comprise a calendar or fiscal year.

**cascade** The process of creating multiple reports for a subset of member values.

**Catalog pane** An area that displays a list of elements available to the active section. If Query is the active section, a list of database tables is displayed. If Pivot is the active section, a list of results columns is displayed. If Dashboard is the active section, a list of embeddable sections, graphic tools, and control tools are displayed.

**categories** Groupings by which data is organized. For example, Month.

**cause and effect map** A map that depicts how the elements that form your corporate strategy relate and how they work together to meet your organization's strategic goals. A Cause and Effect map tab is automatically created for each Strategy map.

**CDF** See custom-defined function.

**CDM** See custom-defined macro.

**cell** (1) The data value at the intersection of dimensions in a multidimensional database; the intersection of a row and a column in a worksheet. (2) A logical group of nodes belonging to one administrative domain.

**cell note** A text annotation for a cell in an Essbase database. Cell notes are a type of LRO.

**CHANGED status** Consolidation status that indicates data for an entity has changed.

**chart template** A template that defines the metrics to display in Workspace charts.

**child** A member with a parent above it in the database outline.



**choice list** A list of members that a report designer can specify for each dimension when defining the report's point of view. A user who wants to change the point of view for a dimension that uses a choice list can select only the members specified in that defined member list or those members that meet the criteria defined in the function for the dynamic list.

**clean block** A data block in which the database is fully calculated, if a calculation script calculates all dimensions at once, or if the SET CLEARUPDATESTATUS command is used in a calculation script.

**cluster** An array of servers or databases that behave as a single resource which share task loads and provide failover support; eliminates one server or database as a single point of failure in a system.

**cluster interconnect** A private link used by a hardware cluster for heartbeat information, to detect node failure.

**cluster services** Software that manages cluster member operations as a system. With cluster services, you can define a set of resources and services to monitor through a heartbeat mechanism between cluster members and to move these resources and services to a different cluster member as efficiently and transparently as possible.

**clustered bar charts** Charts in which categories are viewed side-by-side; used only with vertical bar charts.

**code page** A mapping of bit combinations to a set of text characters. Different code pages support different sets of characters. Each computer contains a code page setting for the character set requirements of the language of the computer user. In the context of this document, code pages map characters to bit combinations for non-Unicode encodings. See also encoding.

**column** In Data Relationship Management, a field of data associated with an import source or the results of a query, compare, validation, or export.

**committed access** An Essbase Kernel Isolation Level setting that affects how Essbase handles transactions. Under committed access, concurrent transactions hold long-term write locks and yield predictable results.

**computed item** A virtual column (as opposed to a column that is physically stored in the database or cube) that can be calculated by the database during a query, or by Interactive Reporting Studio in the Results section. Computed items are calculations of data based on functions, data items, and operators provided in the dialog box and can be included in reports or reused to calculate other data.

**connection file** See Interactive Reporting connection file (.oce)

**consolidated file (Parent)** A file into which all of the business unit files are consolidated; contains the definition of the consolidation.

**consolidation** The process of aggregating data from dependent entities to parent entities. For example, if the dimension Year consists of the members Qtr1, Qtr2, Qtr3, and Qtr4, its consolidation is Year.

**consolidation file (\*.cns)** A graphical interface that enables you to add, delete, or move Strategic Finance files in the consolidation process using either a Chart or Tree view. It also enables you to define and modify the consolidation.

**consolidation rule** The rule that is executed during the consolidation of the node of the hierarchy. This rule can contain customer-specific formulas appropriate for the correct consolidation of parent balances. Elimination processing can be controlled within these rules.

**content** Information stored in the repository for any type of file.

**content browser** A component that enables users to browse and select content to be placed on a Workspace Page.

**context variable** A variable that is defined for a particular task flow to identify the context of the taskflow instance.

**contribution** The value added to a parent from a child entity. Each child has a contribution to its parent.

**controls groups** Groupings used in FDM to maintain and organize certification and assessment information, especially helpful for meeting Sarbanes-Oxley requirements.

**conversion rate** See exchange rate.

**cookie** A segment of data placed on your computer by a Web site.

**correlated subqueries** Subqueries that are evaluated once for every row in the parent query; created by joining a topic item in the subquery with a topic in the parent query.

**critical business area (CBA)** An individual or a group organized into a division, region, plant, cost center, profit center, project team, or process; also called accountability team or business area.

**critical success factor (CSF)** A capability that must be established and sustained to achieve a strategic objective; owned by a strategic objective or a critical process and is a parent to one or more actions.

**crosstab reporting** Reporting that categorizes and summarizes data in table format. The table cells contain summaries of the data that fit within the intersecting categories. For example, a crosstab report of product sales information could show size attributes, such as Small and Large, as column headings and color attributes, such as Blue and Yellow, as row headings. The cell in the table where Large and Blue intersect could contain the total sales of all Blue products that are sized Large.

**cube** A block of data that contains three or more dimensions. An Essbase database is a cube.

**cube deployment** In Essbase Studio, the process of setting load options for a model to build an outline and load data into an Essbase application and database.

**cube schema** In Essbase Studio, the metadata elements, such as measures and hierarchies, representing the logical model of a cube.

**currency conversion** A process that converts currency values in a database from one currency into another. For example, to convert one U. S. dollar into the European euro, the exchange rate (for example, 0.923702) is multiplied by the dollar ( $1 \times 0.923702$ ). After conversion, the European euro amount is .92.

**Currency Overrides** A feature allowing the selected input method for any input period to be overridden to enable input of that period's value as Default Currency/Items. To override the input method, enter a pound sign (#) before or after the number.

**currency partition** A dimension type that separates local currency members from a base currency, as defined in an application. Identifies currency types, such as Actual, Budget, and Forecast.

**custom calendar** Any calendar created by an administrator.

**custom dimension** A dimension created and defined by users. Channel, product, department, project, or region could be custom dimensions.

**custom property** A property of a dimension or dimension member that is created by a user.

**custom report** A complex report from the Design Report module, composed of any combination of components.

**custom-defined function (CDF)** Essbase calculation functions developed in Java and added to the standard Essbase calculation scripting language using MaxL. See also custom-defined macro.

**custom-defined macro (CDM)** Essbase macros written with Essbase calculator functions and special macro functions. Custom-defined macros use an internal Essbase macro language that enables the combination of calculation functions and they operate on multiple input parameters. See also custom-defined function.

**cycle through** Perform multiple passes through a database while calculating it.

**dashboard** A collection of metrics and indicators that provide an interactive summary of your business. Dashboards enable you to build and deploy analytic applications.

**data cache** A buffer in memory that holds uncompressed data blocks.

**data cell** See cell.

**data file cache** A buffer in memory that holds compressed data (PAG) files.

**data form** A grid display that enables users to enter data into the database from an interface such as a Web browser, and to view and analyze data or related text. Certain dimension member values are fixed, giving users a specific view into the data.

**data function** Function that computes aggregate values, including averages, maximums, counts, and other statistics that summarize groupings of data.

**data load location** In FDM, a reporting unit responsible for submitting source data into the target system. Typically, one FDM data load location exists for each source file loaded to the target system.

**data load rules** A set of criteria that determines how to load data from a text-based file, a spreadsheet, or a relational data set into a database.

**data lock** A feature that prevents changes to data according to specified criteria, such as a period or scenario.

**data mining** The process of searching through an Essbase database for hidden relationships and patterns in a large amount of data.

**data model** A representation of a subset of database tables.

**data value** See cell.

**database connection** A file that stores definitions and properties used to connect to data sources and enables database references to be portable and widely used.

**date measure** In Essbase, a member tagged as Date in the dimension where measures are represented. The cell values are displayed as formatted dates. Dates as measures can be useful for analysis types that are difficult to represent using the Time dimension. For example, an application may need to track acquisition dates for a series of capital assets, but the acquisition dates span too large a period to allow for feasible Time dimension modeling. See also typed measure.

**Default Currency Units** The unit scale of data. For example, If you select to define your analysis in thousands and enter 10, this unit is interpreted as 10,000.

**dense dimension** In block storage databases, a dimension likely to contain data for every combination of dimension members. For example, time dimensions are often dense because they can contain all combinations of all members. Contrast with sparse dimension.

**dependent entity** An entity that is owned by another entity in the organization.

**derived text measure** In Essbase Studio, a text measure whose values are governed by a predefined rule expressed as a range. For example, a derived text measure, called "Sales Performance Index," based on a measure Sales, could consist of the values "High," "Medium," and "Low." This derived text measure is defined to display "High," "Medium," and "Low" depending on the range in which the corresponding sales values fall. See also text measure.

**descendant** Any member below a parent in the database outline. In a dimension that includes years, quarters, and months, the members Qtr2 and April are descendants of the member Year.

**Design Report** An interface in Web Analysis Studio for designing custom reports, from a library of components.

**destination** 1) In Business Rules, a block of the database where calculated values are stored; 2) In Profitability and Cost Management, the association of a source and destination in the allocation model that controls the direction of allocated costs or revenue flow.

**destination currency** The currency to which balances are converted. You enter exchange rates and convert from the source currency to the destination currency. For example, when you convert from EUR to USD, the destination currency is USD.

**detail chart** A chart that provides the detailed information that you see in a Summary chart. Detail charts appear in the Investigate Section in columns below the Summary charts. If the Summary chart shows a Pie chart, then the Detail charts below represent each piece of the pie.

**dimension** A data category used to organize business data for the retrieval and preservation of values. Dimensions usually contain hierarchies of related members grouped within them. For example, a Year dimension often includes members for each time period, such as quarters and months.

**dimension build** The process of adding dimensions and members to an Essbase outline.

**dimension build rules** Specifications, similar to data load rules, that Essbase uses to modify an outline. The modification is based on data in an external data source file.

**dimension tab** In the Pivot section, the tab that enables you to pivot data between rows and columns.

**dimension table** (1) A table that includes numerous attributes about a specific business process. (2) In Essbase Integration Services, a container in the OLAP model for one or more relational tables that define a potential dimension in Essbase.

**dimension type** A dimension property that enables the use of predefined functionality. Dimensions tagged as time have a predefined calendar functionality.

**dimensionality** In MaxL DML, the represented dimensions (and the order in which they are represented) in a set. For example, the following set consists of two tuples of the same dimensionality, because they both reflect the dimensions (Region, Year): { (West, Feb), (East, Mar) }

**direct rate** A currency rate that you enter in the exchange-rate table. The direct rate is used for currency conversion. For example, to convert balances from JPY to USD, in the exchange-rate table, enter a rate for the period/scenario where the source currency is JPY and the destination currency is USD.

**dirty block** A data block containing cells that have been changed since the last calculation. Upper-level blocks are marked as dirty if their child blocks are dirty (that is, if they have been updated).

**display type** One of three Web Analysis formats saved to the repository: spreadsheet, chart, and pinboard.

**dog-ear** The flipped page corner in the upper-right corner of the chart header area.

**domain** In data mining, a variable representing a range of navigation within data.

**drill-down** Navigation through the query result set using the dimensional hierarchy. Drilling down moves the user perspective from aggregated data to detail. For example, drilling down can reveal hierarchical relationships between years and quarters or quarters and months.

**drill-through** The navigation from a value in one data source to corresponding data in another source.

**driver** In Profitability and Cost Management, an allocation method that describes the mathematical relationship between the sources that use the driver and the destinations to which those sources allocate cost or revenue. For Business Modeling, see also cost driver and activity driver.

**duplicate alias name** A name that occurs more than once in an alias table and can be associated with more than one member in a database outline. Duplicate alias names can be used with duplicate member outlines only.

**duplicate member name** Multiple occurrences of a member name in a database, with each occurrence representing a different member. For example, a database has two members named New York. One member represents New York state and the other member represents New York city.

**duplicate member outline** A database outline containing duplicate member names.

**Dynamic Calc and Store members** Members in a block storage outline that Essbase calculates only upon the first retrieval of the value. Essbase then stores the calculated value in the database. Subsequent retrievals do not require calculating.

**Dynamic Calc members** Members in a block storage outline that Essbase calculates only at retrieval time. Essbase discards calculated values after completing the retrieval request.

**dynamic calculation** In Essbase, a calculation that occurs only when you retrieve data on a member that is tagged as Dynamic Calc or Dynamic Calc and Store. The member's values are calculated at retrieval time instead of being precalculated during batch calculation.

**dynamic hierarchy** In aggregate storage database outlines only, a hierarchy in which members are calculated at retrieval time.

**dynamic member list** A system-created named member set that is based on user-defined criteria. The list is refreshed automatically whenever it is referenced in the application. As dimension members are added and deleted, the list automatically reapplies the criteria to reflect the changes.

**dynamic reference** A pointer in the rules file to header records in a data source.

**dynamic report** A report containing data that is updated when you run the report.

**Dynamic Time Series** A process that performs period-to-date reporting in block storage databases.

**dynamic view account** An account type indicating that account values are calculated dynamically from the data that is displayed.

**Eliminated Account** An account that does not appear in the consolidated file.

**elimination** The process of zeroing out (eliminating) transactions between entities within an organization.

**employee** A user responsible for, or associated with, specific business objects. Employees need not work for an organization; for example, they can be consultants. Employees must be associated with user accounts, for authorization purposes.

**encoding** A method for mapping bit combinations to characters for creating, storing, and displaying text. Each encoding has a name; for example, UTF-8. Within an encoding, each character maps to a specific bit combination; for example, in UTF-8, uppercase A maps to HEX41. See also code page, locale.

**ending period** A period enabling you to adjust the date range in a chart. For example, an ending period of "month" produces a chart showing information through the end of the current month.

**Enterprise View** An Administration Services feature that enables management of the Essbase environment from a graphical tree view. From Enterprise View, you can operate directly on Essbase artifacts.

**entity** A dimension representing organizational units. Examples: divisions, subsidiaries, plants, regions, products, or other financial reporting units.

**EPM Oracle home** A subdirectory of Middleware home containing the files required by EPM System products. The EPM Oracle home location is specified during installation with EPM System Installer.

**Equity Beta** The riskiness of a stock, measured by the variance between its return and the market return, indicated by an index called "beta." For example, if a stock's return normally moves up or down 1.2% when the market moves up or down 1%, the stock has a beta of 1.2.

**essbase.cfg** An optional configuration file for Essbase. Administrators may edit this file to customize Essbase Server functionality. Some configuration settings may also be used with Essbase clients to override Essbase Server settings.

**EssCell** A function entered into a cell in Essbase Spreadsheet Add-in to retrieve a value representing an intersection of specific Essbase database members.

**ESSCMD** A command-line interface for performing Essbase operations interactively or through batch script files.

**ESSLANG** The Essbase environment variable that defines the encoding used to interpret text characters. See also encoding.

**ESSMSH** See MaxL Shell.

**exceptions** Values that satisfy predefined conditions. You can define formatting indicators or notify subscribing users when exceptions are generated.

**exchange rate type** An identifier for an exchange rate. Different rate types are used because there may be multiple rates for a period and year. Users traditionally define rates at period end for the average rate of the period and for the end of the period. Additional rate types are historical rates, budget rates, forecast rates, and so on. A rate type applies to a specific time.

**expense account** An account that stores periodic and year-to-date values that decrease net worth if they are positive.

**Extensible Markup Language (XML)** A language comprising a set of tags used to assign attributes to data that can be interpreted between applications according to a schema.

**external authentication** Logging on to Oracle EPM System products with user information stored outside the application. The user account is maintained by the EPM System, but password administration and user authentication are performed by an external service, using a corporate directory such as Oracle Internet Directory (OID) or Microsoft Active Directory (MSAD).

**externally triggered events** Non-time-based events for scheduling job runs.

**Extract, Transform, and Load (ETL)** Data-source-specific programs for extracting data and migrating it to applications.

**extraction command** An Essbase reporting command that handles the selection, orientation, grouping, and ordering of raw data extracted from a database; begins with the less-than (<) character.

**fact table** The central table in a star join schema, characterized by a foreign key and elements drawn from a dimension table. This table typically contains numeric data that can be related to all other tables in the schema.

**failover** The ability to switch automatically to a redundant standby database, server, or network if the primary database, server, or network fails or is shut down. A system that is clustered for failover provides high availability and fault tolerance through server redundancy and fault-tolerant hardware, such as shared disks.

**Favorites gadget** A gadget that contains links to Reporting and Analysis documents and URLs. See also gadget.

**file delimiter** A character, such as a comma or tab, that separates fields in a data source.

**filter** A constraint on data sets that restricts values to specific criteria; for example, to exclude certain tables, metadata, or values, or to control access.

**flow account** An unsigned account that stores periodic and year-to-date values.

**footer** Text or images at the bottom of report pages, containing dynamic functions or static text such as page numbers, dates, logos, titles or file names, and author names.

**format string** 1) In Essbase, a method for transforming the way cell values are displayed. 2) In FDM, a parameter of a Format or Formatted Date derived property that indicates the format in which a property value should be returned.

**formula** In Data Relationship Management, business logic used by a derived property to dynamically calculate a property value.

**frame** An area on the desktop. Two main areas: the navigation and workspace frames.

**free-form grid** An object for presenting, entering, and integrating data from different sources for dynamic calculations.

**free-form reporting** Creating reports by entering dimension members or report script commands in worksheets.

**function** In Data Relationship Management, a syntactic element of a derived property formula that accepts parameters and returns dynamic values.

**gadget** A simple, specialized, lightweight application that provides easy viewing of EPM content and enables access to core Reporting and Analysis functionality.

**geneology data** Additional data that is optionally generated after allocation calculations. This data enables reporting on all cost or revenue flows from start to finish through all allocation steps.

**generation** A layer in a hierarchical tree structure that defines member relationships in a database. Generations are ordered incrementally from the top member of the dimension (generation 1) down to the child members. Use the unique generation name to identify a layer in the hierarchical tree structure.

**generic jobs** Non-SQR Production Reporting or non-Interactive Reporting jobs.

**global report command** A command in a running report script that is effective until it is replaced by another global command or the file ends.

**grid POV** A means for specifying dimension members on a grid without placing dimensions in rows, columns, or page intersections. A report designer can set POV values at the grid level, preventing user POVs from affecting the grid. If a dimension has one grid value, you put the dimension into the grid POV instead of the row, column, or page.

**group** A container for assigning similar access permissions to multiple users.

**GUI** Graphical user interface

**hardware cluster** a collection of computers that provides a single view of network services (for example, an IP address) or application services (such as databases and Web servers) to clients of these services. Each node in a hardware cluster is a standalone server that runs its own processes. These processes can communicate with one another to form what looks like a single system that cooperatively provides applications, system resources, and data to users.

**high availability** A system attribute that enables an application to continue to provide services in the presence of failures. This is achieved through removal of single points of failure, with fault-tolerant hardware, as well as server clusters; if one server fails, processing requests are routed to another server.

**Historical Average** An average for an account over a number of historical periods.

**holding company** An entity that is part of a legal entity group, with direct or indirect investments in all entities in the group.

**horizontal application server cluster** A cluster with application server instances on different machines.



**host** A server on which applications and services are installed.

**host properties** Properties pertaining to a host, or if the host has multiple Oracle EPM homes, to an Oracle EPM home.

**Hybrid Analysis** An analysis mapping low-level data stored in a relational database to summary-level data stored in Essbase, combining the mass scalability of relational systems with multidimensional data.

**hyperlink** A link to a file, a Web page, or an intranet HTML page.

**Hypertext Markup Language (HTML)** A programming language specifying how Web browsers display data.

**identity** A unique identification for a user or group in external authentication.

**image bookmarks** Graphic links to Web pages or repository items.

**IMPACTED status** A status that indicates changes in child entities consolidating into parent entities.

**implied share** A member with one or more children but only one that is consolidated, so the parent and child share a value.

**import format** In FDM, the definition of the structure of the source file that enables the loading of a source data file to an FDM data-load location.

**inactive group** A group for which an administrator has deactivated system access.

**INACTIVE status** A status that indicates entities deactivated from consolidation for the current period.

**inactive user** A user whose account was deactivated by an administrator.

**income account** An account storing periodic and year-to-date values that, if positive, increase net worth.

**index** (1) A method where Essbase uses sparse-data combinations to retrieve data in block storage databases. (2) The index file.

**index cache** A buffer containing index pages.

**index entry** A pointer to an intersection of sparse dimensions. Index entries point to data blocks on disk and use offsets to locate cells.

**index file** An Essbase file storing block storage data retrieval information, residing on disk, and containing index pages.

**index page** A subdivision in an index file. An index page contains pointers to data blocks.

**input data** Data loaded from a source rather than calculated.

**installation assemblies** Product installation files that plug in to EPM System Installer.

**integration** A process that is run to move data between Oracle's Hyperion applications using Shared Services. Data integration definitions specify the data moving between a source application and a destination application, and they enable the data movements to be grouped, ordered, and scheduled.

**intelligent calculation** A calculation method tracking updated data blocks since the last calculation.

**Interactive Reporting connection file (.oce)** Files encapsulating database connection information, including the database API (ODBC, SQL\*Net, and so on), database software, the database server network address, and database user name. Administrators create and publish Interactive Reporting connection (.oce) files.

**intercompany elimination** See elimination.

**intercompany matching** The process of comparing balances for pairs of intercompany accounts within an application. Intercompany receivables are compared to intercompany payables for matches. Matching accounts are used to eliminate intercompany transactions from an organization's consolidated totals.

**intercompany matching report** A report that compares intercompany account balances and indicates whether the accounts are in balance.

**interdimensional irrelevance** A situation in which a dimension does not intersect with other dimensions. Because the data in the dimension cannot be accessed from the nonintersecting dimensions, the nonintersecting dimensions are not relevant to that dimension.

**intersection** A unit of data representing the intersection of dimensions in a multidimensional database; also, a worksheet cell.

**inrastage assignment** An assignment in the financial flow to an object within the same stage.

**introspection** A deep inspection of a data source to discover hierarchies based on the inherent relationships in the database. Contrast with scraping.

**Investigation** See drill-through.

**isolation level** An Essbase Kernel setting that determines the lock and commit behavior of database operations. Choices are: committed access and uncommitted access.

**iteration** A pass of the budget or planning cycle in which the same version of data is revised and promoted.

**Java application server cluster** An active-active application server cluster of Java Virtual Machines (JVMs).

**Java Database Connectivity (JDBC)** A client-server communication protocol used by Java-based clients and relational databases. The JDBC interface provides a call-level API for SQL-based database access.

**job output** Files or reports produced from running a job.

**jobs** Documents with special properties that can be launched to generate output. A job can contain Interactive Reporting, SQR Production Reporting, or generic documents.

**join** A link between two relational database tables or topics based on common content in a column or row. A join typically occurs between identical or similar items within different tables or topics. For example, a record in the Customer table is joined to a record in the Orders table because the Customer ID value is the same in each table.

**journal entry (JE)** A set of debit-credit adjustments to account balances for a scenario and period.

**JSP** Java Server Page.

**KeyContacts gadget** A gadget that contains a group of Smart Space users and provides access to Smart Space Collaborator. For example, you can have a KeyContacts gadget for your marketing team and another for your development team. See also gadget.

**latest** A spreadsheet keyword used to extract data values from the member defined as the latest time period.

**layer** (1) The horizontal location of members in a hierarchical structure, specified by generation (top down) or level (bottom up). (2) Position of objects relative to other objects. For example, in the Sample Basic database, Qtr1 and Qtr4 are in the same layer, so they are also in the same generation, but in a database with a ragged hierarchy, Qtr1 and Qtr4 might not be in same layer, though they are in the same generation.

**layout area** An area on a Workspace Page where content can be placed.

**legend box** A box containing labels that identify the data categories of a dimension.

**level** A layer in a hierarchical tree structure that defines database member relationships. Levels are ordered from the bottom dimension member (level 0) up to the parent members.

**level 0 block** A data block for combinations of sparse, level 0 members.

**level 0 member** A member that has no children.

**liability account** An account type that stores "point in time" balances of a company's liabilities. Examples: accrued expenses, accounts payable, and long-term debt.

**lifecycle management** The process of migrating an application, a repository, or individual artifacts across product environments.

**line item detail** The lowest level of detail in an account.

**lineage** The relationship between different metadata elements showing how one metadata element is derived from one or more other metadata elements, ultimately tracing the metadata element to its physical source. In Essbase Studio, a lineage viewer displays the relationships graphically. See also traceability.

**link** (1) A reference to a repository object. Links can reference folders, files, shortcuts, and other links. (2) In a taskflow, the point where the activity in one stage ends and another begins.

**link condition** A logical expression evaluated by the taskflow engine to determine the sequence of launching taskflow stages.

**linked data model** Documents that are linked to a master copy in a repository



**linked partition** A shared partition that enables you to use a data cell to link two databases. When a user clicks a linked cell in a worksheet, Essbase opens a new sheet displaying the dimensions in the linked database. The user can then drill down those dimensions.

**linked reporting object (LRO)** A cell-based link to an external file such as cell notes, URLs, or files with text, audio, video, or pictures. (Only cell notes are supported for Essbase LROs in Financial Reporting.) Contrast with local report object.

**load balancer** Hardware or software that directs the requests to individual application servers in a cluster and is the only point of entry into the system.

**load balancing** Distribution of requests across a group of servers, which helps to ensure optimal end user performance.

**local currency** An input currency type. When an input currency type is not specified, the local currency matches the entity's base currency.

**local report object** A report object that is not linked to a Financial Reporting report object in Explorer. Contrast with linked reporting object.

**local results** A data model's query results. Results can be used in local joins by dragging them into the data model. Local results are displayed in the catalog when requested.

**locale** A computer setting that specifies a location's language, currency and date formatting, data sort order, and the character set encoding used on the computer. Essbase uses only the encoding portion. See also encoding, ESSLANG.

**locale header record** A text record at the beginning of some non-Unicode-encoded text files, such as scripts, that identifies the encoding locale.

**location alias** A descriptor that identifies a data source. The location alias specifies a server, application, database, user name, and password. Location aliases are set by DBAs at the database level using Administration Services Console, ESSCMD, or the API.

**locked** A user-invoked process that prevents users and processes from modifying data.

**locked data model** A data model that cannot be modified by a user.

**LOCKED status** A consolidation status indicating that an entity contains data that cannot be modified.

**Log Analyzer** An Administration Services feature that enables filtering, searching, and analysis of Essbase logs.

**logic group** In FDM, one or more logic accounts generated after a source file is loaded into FDM. Logic accounts are calculated accounts derived from the source data.

**logical Web application** An aliased reference used to identify the internal host name, port, and context of a Web application. In a clustered or high-availability environment, this is the alias name that establishes a single internal reference for the distributed components. In EPM System, a nonclustered logical Web application defaults to the physical host running the Web application.

**LRO** See linked reporting object.

**managed server** An application server process running in its own Java Virtual Machine (JVM).

**manual stage** A stage that requires human intervention.

**Map File** A file that stores the definition for sending data to or retrieving data from an external database. Map files have different extensions (.mps to send data; .mpr to retrieve data).

**Map Navigator** A feature that displays your current position on a Strategy, Accountability, or Cause and Effect map, indicated by a red outline.

**Marginal Tax Rate** The rate used to calculate the after-tax cost of debt; represents the tax rate applied to the last earned income dollar (the rate from the highest tax bracket into which income falls) and includes federal, state, and local taxes. Based on current level of taxable income and tax bracket, you can predict marginal tax rate.

**Market Risk Premium** The additional rate of return paid over the risk-free rate to persuade investors to hold "riskier" investments than government securities. Calculated by subtracting the risk-free rate from the expected market return. These figures should closely model future market conditions.

**master data model** An independent data model that is referenced as a source by multiple queries. When used, "Locked Data Model" is displayed in the Query section's Content pane; the data model is linked to the master data model displayed in the Data Model section, which an administrator may hide.

**mathematical operator** A symbol that defines how data is calculated in formulas and outlines. Can be any of the standard mathematical or Boolean operators; for example, +, -, \*, /, and %.

**MaxL** The multidimensional database access language for Essbase, consisting of a data definition language (MaxL DDL) and a data manipulation language (MaxL DML). See also MaxL DDL, MaxL DML, and MaxL Shell

**MaxL DDL** The data definition language used by Essbase for batch or interactive system-administration tasks.

**MaxL DML** The data manipulation language used in Essbase for data query and extraction.

**MaxL Perl Module** A Perl module (essbase.pm) that is part of Essbase MaxL DDL. This module can be added to the Perl package to provide access to Essbase databases from Perl programs.

**MaxL Script Editor** A script-development environment in Administration Services Console. MaxL Script Editor is an alternative to using a text editor and the MaxL Shell for administering Essbase with MaxL scripts.

**MaxL Shell** An interface for passing MaxL statements to Essbase Server. The MaxL Shell executable file is located in the Essbase bin directory (UNIX: essmsh; Windows: essmsh.exe).

**MDX (multidimensional expression)** A language used for querying and calculation in multidimensional-compliant databases.

**measures** Numeric values in an OLAP database cube that are available for analysis. Measures are margin, cost of goods sold, unit sales, budget amount, and so on. See also fact table.

**member** A discrete component within a dimension. A member identifies and differentiates the organization of similar units. For example, a time dimension might include members Jan, Feb, and Qtr1.

**member list** A named system- or user-defined group that references members, functions, or member lists within a dimension.

**member load** In Essbase Integration Services, the process of adding dimensions and members (without data) to Essbase outlines.

**member selection report command** A type of Report Writer command that selects member ranges based on outline relationships, such as sibling, generation, and level.

**member-specific report command** A type of Report Writer formatting command that is executed as it is encountered in a report script. The command affects only its associated member and executes the format command before processing the member.

**merge** A data load option that clears values only from the accounts specified in the data load file and replaces them with values in the data load file.

**metadata** A set of data that defines and describes the properties and attributes of the data stored in a database or used by an application. Examples of metadata are dimension names, member names, properties, time periods, and security.

**metadata elements** Metadata derived from data sources and other metadata that is stored and cataloged for Essbase Studio use.

**metadata sampling** The process of retrieving a sample of members in a dimension in a drill-down operation.

**metadata security** Security set at the member level to restrict users from accessing certain outline members.

**metaoutline** In Essbase Integration Services, a template containing the structure and rules for creating an Essbase outline from an OLAP model.

**Middleware home** A directory that includes the Oracle WebLogic Server home and can also include the EPM Oracle home and other Oracle homes. A Middleware home can reside on a local file system or on a remote shared disk that is accessible through NFS.

**migration audit report** A report generated from the migration log that provides tracking information for an application migration.

**migration definition file (.mdf)** A file that contains migration parameters for an application migration, enabling batch script processing.

**migration log** A log file that captures all application migration actions and messages.

**migration snapshot** A snapshot of an application migration that is captured in the migration log.

**MIME Type** An attribute that describes the data format of an item, so that the system knows which application should open the object. A file's MIME (Multipurpose Internet Mail Extension) type is determined by the file extension or HTTP header. Plug-ins tell browsers which MIME types they support and which file extensions correspond to each MIME type.

**mining attribute** In data mining, a class of values used as a factor in analysis of a set of data.

**minireport** A report component that includes layout, content, hyperlinks, and the query or queries to load the report. Each report can include one or more minireports.

**minischema** A graphical representation of a subset of tables from a data source that represents a data modeling context.

**missing data (#MISSING)** A marker indicating that data in the labeled location does not exist, contains no value, or was never entered or loaded. For example, missing data exists when an account contains data for a previous or future period but not for the current period.

**model** 1) In data mining, a collection of an algorithm's findings about examined data. A model can be applied against a wider data set to generate useful information about that data. 2) A file or content string containing an application-specific representation of data. Models are the basic data managed by Shared Services, of two major types: dimensional and nondimensional application objects. 3) In Business Modeling, a network of boxes connected to represent and calculate the operational and financial flow through the area being examined.

**multidimensional database** A method of organizing, storing, and referencing data through three or more dimensions. An individual value is the intersection point for a set of dimensions. Contrast with relational database.

**Multiload** An FDM feature that allows the simultaneous loading of multiple periods, categories, and locations.

**My Workspace Page** Customizable Workspace Pages created by users. They are marked specially so that they can be easily accessed from one single place without having to navigate the repository.

**named set** In MaxL DML, a set with its logic defined in the optional WITH section of a MaxL DML query. The named set can be referenced multiple times in the query.

**native authentication** The process of authenticating a user name and password from within the server or application.

**nested column headings** A report column heading format that displays data from multiple dimensions. For example, a column heading that contains Year and Scenario members is a nested column. The nested column heading shows Q1 (from the Year dimension) in the top line of the heading, qualified by Actual and Budget (from the Scenario dimension) in the bottom line of the heading.

**NO DATA status** A consolidation status indicating that this entity contains no data for the specified period and account.

**non-dimensional model** A Shared Services model type that includes application objects such as security files, member lists, calculation scripts, and Web forms.

**non-unique member name** See duplicate member name.

**null value** A value that is absent of data. Null values are not equal to zero.

**numeric attribute range** A feature used to associate a base dimension member that has a discrete numeric value with an attribute that represents a value range. For example, to classify customers by age, an Age Group attribute dimension can contain members for the following age ranges: 0-20, 21-40, 41-60, and 61-80. Each Customer dimension member can be associated with an Age Group range. Data can be retrieved based on the age ranges rather than on individual age values.

**ODBC** Open Database Connectivity. A database access method used from any application regardless of how the database management system (DBMS) processes the information.

**OK status** A consolidation status indicating that an entity has already been consolidated, and that data has not changed below it in the organization structure.

**OLAP Metadata Catalog** In Essbase Integration Services, a relational database containing metadata describing the nature, source, location, and type of data that is pulled from the relational data source.

**OLAP model** In Essbase Integration Services, a logical model (star schema) that is created from tables and columns in a relational database. The OLAP model is then used to generate the structure of a multidimensional database. See also online analytical processing (OLAP).

**online analytical processing (OLAP)** A multidimensional, multiuser, client-server computing environment for users who analyze consolidated enterprise data in real time. OLAP systems feature drill-down, data pivoting, complex calculations, trend analysis, and modeling.

**Open Database Connectivity (ODBC)** Standardized application programming interface (API) technology that allows applications to access multiple third-party databases.

**Oracle home** A directory containing the installed files required by a specific product, and residing within the directory structure of Middleware home. See also Middleware home.

**organization** An entity hierarchy that defines each entity and their relationship to others in the hierarchy.

**origin** The intersection of two axes.

**outline** The database structure of a multidimensional database, including all dimensions, members, tags, types, consolidations, and mathematical relationships. Data is stored in the database according to the structure defined in the outline.

**outline synchronization** For partitioned databases, the process of propagating outline changes from one database to another database.

**P&L accounts (P&L)** Profit and loss accounts. P&L refers to a typical grouping of expense and income accounts that comprise a company's income statement.

**page** A display of information in a grid or table often represented by the Z-axis. A page can contain data from one field, derived data from a calculation, or text.

**page file** An Essbase data file.

**page heading** A report heading type that lists members represented on the current page of the report. All data values on the page have the members in the page heading as a common attribute.

**page member** A member that determines the page axis.

**palette** A JASC-compliant file with a .PAL extension. Each palette contains 16 colors that complement each other and can be used to set the dashboard color elements.

**parallel calculation** A calculation option. Essbase divides a calculation into tasks and calculates some tasks simultaneously.

**parallel data load** In Essbase, the concurrent execution of data load stages by multiple process threads.

**parallel export** The ability to export Essbase data to multiple files. This may be faster than exporting to a single file, and it may resolve problems caused by a single data file becoming too large for the operating system to handle.

**parent adjustments** The journal entries that are posted to a child in relation to its parent.

**parents** The entities that contain one or more dependent entities that report directly to them. Because parents are entities associated with at least one node, they have entity, node, and parent information associated with them.

**partition area** A subcube within a database. A partition is composed of one or more areas of cells from a portion of the database. For replicated and transparent partitions, the number of cells within an area must be the same for the data source and target to ensure that the two partitions have the same shape. If the data source area contains 18 cells, the data target area must also contain 18 cells to accommodate the number of values.

**partitioning** The process of defining areas of data that are shared or linked between data models. Partitioning can affect the performance and scalability of Essbase applications.

**pattern matching** The ability to match a value with any or all characters of an item entered as a criterion. Missing characters may be represented by wild-card values such as a question mark (?) or an asterisk (\*). For example, "Find all instances of apple" returns apple, but "Find all instances of apple\*" returns apple, applesauce, applecranberry, and so on.

**percent consolidation** The portion of a child's values that is consolidated to its parent.

**percent control** The extent to which an entity is controlled within the context of its group.

**percent ownership** The extent to which an entity is owned by its parent.

**performance indicator** An image file used to represent measure and scorecard performance based on a range you specify; also called a status symbol. You can use the default performance indicators or create an unlimited number of your own.

**periodic value method (PVA)** A process of currency conversion that applies the periodic exchange rate values over time to derive converted results.

**permission** A level of access granted to users and groups for managing data or other users and groups.

**persistence** The continuance or longevity of effect for any Essbase operation or setting. For example, an Essbase administrator may limit the persistence of user name and password validity.

**personal pages** A personal window to repository information. You select what information to display and its layout and colors.

**personal recurring time events** Reusable time events that are accessible only to the user who created them.

**personal variable** A named selection statement of complex member selections.

**perspective** A category used to group measures on a scorecard or strategic objectives within an application. A perspective can represent a key stakeholder (such as a customer, employee, or shareholder/financial) or a key competency area (such as time, cost, or quality).

**pinboard** One of the three data object display types. Pinboards are graphics composed of backgrounds and interactive icons called pins. Pinboards require traffic lighting definitions.

**pins** Interactive icons placed on graphic reports called pinboards. Pins are dynamic. They can change images and traffic lighting color based on the underlying data values and analysis tools criteria.

**pivot** Alter the perspective of retrieved data. When Essbase first retrieves a dimension, it expands data into rows. You can then pivot or rearrange the data to obtain a different viewpoint.

**planner** A user who can input and submit data, use reports that others create, execute business rules, use task lists, enable e-mail notification for themselves, and use Smart View. Planners comprise the majority of users.

**planning unit** A data slice at the intersection of a scenario, version, and entity; the basic unit for preparing, reviewing, annotating, and approving plan data.

**plot area** The area bounded by X, Y, and Z axes; for pie charts, the rectangular area surrounding the pie.

**plug account** An account in which the system stores any out-of-balance differences between intercompany account pairs during the elimination process.

**post stage assignment** Assignments in the allocation model that are assigned to locations in a subsequent model stage.

**POV (point of view)** A feature for setting data focus by selecting members that are not already assigned to row, column, or page axes. For example, selectable POVs in FDM could include location, period, category, and target category. In another example, using POV as a filter in Smart View, you could assign the Currency dimension to the POV and select the Euro member. Selecting this POV in data forms displays data in Euro values.

**precalculation** Calculating the database before user retrieval.

**precision** Number of decimal places displayed in numbers.

**predefined drill paths** Paths used to drill to the next level of detail, as defined in the data model.

**presentation** A playlist of Web Analysis documents, enabling reports to be grouped, organized, ordered, distributed, and reviewed. Includes pointers referencing reports in the repository.

**preserve formulas** User-created formulas kept within a worksheet while retrieving data.

**primary measure** A high-priority measure important to your company and business needs. Displayed in the Contents frame.

**Process Monitor Report** A list of locations and their positions within the FDM data conversion process. You can use the process monitor report to monitor the status of the closing process. The report is time-stamped. Therefore, it can be used to determine to which locations at which time data was loaded.

**product** In Shared Services, an application type, such as Planning or Performance Scorecard.

**Production Reporting** See SQR Production Reporting.

**project** An instance of Oracle's Hyperion products grouped together in an implementation. For example, a Planning project may consist of a Planning application, an Essbase cube, and a Financial Reporting Server instance.

**provisioning** The process of granting users and groups specific access permissions to resources.

**proxy server** A server acting as an intermediary between workstation users and the Internet to ensure security.

**public job parameters** Reusable named job parameters created by administrators and accessible to users with requisite access privileges.

**public recurring time events** Reusable time events created by administrators and accessible through the access control system.

**PVA** See periodic value method.

**qualified name** A member name in a qualified format that differentiates duplicate member names in a duplicate member outline. For example, [Market].[East].[State].[New York] or [Market].[East].[City].[New York].

**query governor** An Essbase Integration Server parameter or Essbase Server configuration setting that controls the duration and size of queries made to data sources.

**reciprocal assignment** An assignment in the financial flow that also has the source as one of its destinations.

**reconfigure URL** A URL that is used to reload servlet configuration settings dynamically when users are already logged on to the Workspace.

**record** In a database, a group of fields making up one complete entry. For example, a customer record may contain fields for name, address, telephone number, and sales data.

**recurring template** A journal template for making identical adjustments in every period.

**recurring time event** An event specifying a starting point and the frequency for running a job.

**redundant data** Duplicate data blocks that Essbase retains during transactions until Essbase commits updated blocks.

**regular journal** A feature for entering one-time adjustments for a period. A regular journal can be balanced, balanced by entity, or unbalanced.

**Related Accounts** Accounts related to the main account and grouped under the same main account number. The account structure groups all main and related accounts under the same main account number. The main account is distinguished from related accounts by the first suffix of the account number.

**relational database** A type of database that stores data in related two-dimensional tables. Contrast with multidimensional database.

**replace** A data load option that clears existing values from all accounts for periods specified in the data load file and loads values from the data load file. If an account is not specified in the load file, its values for the specified periods are cleared.

**replicated partition** A portion of a database, defined through Partition Manager, used to propagate an update to data mastered at one site to a copy of data stored at another site. Users can access the data as though it were part of their local database.

**Report Extractor** An Essbase component that retrieves report data from the Essbase database when report scripts are run.

**report object** In report designs, a basic element with properties defining behavior or appearance, such as text boxes, grids, images, and charts.

**report script** A text file containing Essbase Report Writer commands that generate one or more production reports.

**Report Viewer** An Essbase component that displays complete reports after report scripts are run.

**reporting currency** The currency used to prepare financial statements, and converted from local currencies to reporting currencies.



**repository** Storage location for metadata, formatting, and annotation information for views and queries.

**resources** Objects or services managed by the system, such as roles, users, groups, files, and jobs.

**restore** An operation to reload data and structural information after a database has been damaged or destroyed, typically performed after shutting down and restarting the database.

**restructure** An operation to regenerate or rebuild the database index and, in some cases, data files.

**result frequency** The algorithm used to create a set of dates to collect and display results.

**review level** A Process Management review status indicator representing the process unit level, such as Not Started, First Pass, Submitted, Approved, and Published.

**Risk Free Rate** The rate of return expected from "safer" investments such as long-term U.S. government securities.

**role** The means by which access permissions are granted to users and groups for resources.

**roll-up** See consolidation.

**root member** The highest member in a dimension branch.

**runtime prompt** A variable that users enter or select before a business rule is run.

**sampling** The process of selecting a representative portion of an entity to determine the entity's characteristics. See also metadata sampling.

**saved assumptions** User-defined Planning assumptions that drive key business calculations (for example, the cost per square foot of office floor space).

**scaling** Scaling determines the display of values in whole numbers, tens, hundreds, thousands, millions, and so on.

**scenario** A dimension for classifying data; for example, Actuals, Budget, Forecast1, or Forecast2.

**schema** In relational databases, a logical model that represents the data and the relationships between the data.

**scope** The area of data encompassed by any Essbase operation or setting; for example, the area of data affected by a security setting. Most commonly, scope refers to three levels of granularity, where higher levels encompass lower levels. The levels, from highest to lowest: the entire system (Essbase Server), applications on Essbase Server, or databases within Essbase Server applications. See also persistence.

**score** The level at which targets are achieved, usually expressed as a percentage of the target.

**scorecard** A business object that represents the progress of an employee, strategy element, or accountability element toward goals. Scorecards ascertain this progress based on data collected for each measure and child scorecard added to the scorecard.

**scrapping** An inspection of a data source to derive the most basic metadata elements from it. Contrast with introspection.

**secondary measure** A low-priority measure, less important than primary measures. Secondary measures do not have Performance reports but can be used on scorecards and to create dimension measure templates.

**security agent** A Web access management provider (for example, Oracle Access Manager, Oracle Single Sign-On, or CA SiteMinder) that protects corporate Web resources.

**security platform** A framework enabling Oracle EPM System products to use external authentication and single sign-on.

**serial calculation** The default calculation setting. Divides a calculation pass into tasks and calculates one task at a time.

**services** Resources that enable business items to be retrieved, changed, added, or deleted. Examples: Authorization and Authentication.

**servlet** A piece of compiled code executable by a Web server.

**shared disks** See shared storage.

**shared member** A member that shares storage space with another member of the same name, preventing duplicate calculation of members that occur multiple times in an Essbase outline.

**Shared Services Registry** The part of the Shared Services repository that manages EPM System deployment information for most EPM System products, including installation directories, database settings, computer names, ports, servers, URLs, and dependent service data.

**shared storage** A set of disks containing data that must be available to all nodes of a failover cluster; also called shared disks.

**Shared Workspace Pages** Workspace Pages shared across an organization that are stored in a special System folder and can be accessed by authorized users from the Shared Workspace Pages Navigate menu.

**sibling** A child member at the same generation as another child member and having the same immediate parent. For example, the members Florida and New York are children of East and each other's siblings.

**silent response files** Files providing data that an installation administrator would otherwise be required to provide. Response files enable EPM System Installer or EPM System Configurator to run without user intervention or input.

**single point of failure** Any component in a system that, if it fails, prevents users from accessing the normal functionality.

**single sign-on (SSO)** The ability to log on once and then access multiple applications without being prompted again for authentication.

**smart tags** Keywords in Microsoft Office applications that are associated with predefined actions available from the Smart Tag menu. In Oracle EPM System products, smart tags can also be used to import Reporting and Analysis content and to access Financial Management and Essbase functions.

**SmartCut** A link to a repository item, in URL form.

**snapshot** Read-only data from a specific time.

**source currency** The currency from which values originate and are converted through exchange rates to the destination currency.

**sparse dimension** In block storage databases, a dimension unlikely to contain data for all member combinations when compared to other dimensions. Contrast with dense dimension. For example, not all customers have data for all products.

**SPF files** Printer-independent files created by an SQR Production Reporting server, containing a representation of the actual formatted report output, including fonts, spacing, headers, footers, and so on.

**Spotlighter** A tool that enables color coding based on selected conditions.

**SQL spreadsheet** A data object that displays the result set of a SQL query.

**SQR Production Reporting** A specialized programming language for data access, data manipulation, and creating SQR Production Reporting documents.

**stage** 1) A task description that forms one logical step within a taskflow, usually performed by an individual. A stage can be manual or automated. 2) For Profitability, logical divisions within the model that represent the steps in the allocation process within your organization.

**stage action** For automated stages, the invoked action that executes the stage.

**staging area** A database that you create to meet the needs of a specific application. A staging area is a snapshot or restructured version of one or more RDBMS.

**staging table** A database that you create to meet the needs of a specific application. A staging area is a snapshot or restructured version of one or more RDBMSs.

**standard dimension** A dimension that is not an attribute dimension.

**standard journal template** A journal function used to post adjustments that have common adjustment information for each period. For example, you can create a standard template that contains the common account IDs, entity IDs, or amounts, and then use the template as the basis for many regular journals.

**Status bar** The bar at the bottom of the screen that displays helpful information about commands, accounts, and the current status of your data file.

**stored hierarchy** In aggregate storage databases outlines only, a hierarchy in which the members are aggregated according to the outline structure. Stored hierarchy members have certain restrictions; for example, they cannot contain formulas.



**strategic objective (SO)** A long-term goal defined by measurable results. Each strategic objective is associated with one perspective in the application, has one parent, the entity, and is a parent to critical success factors or other strategic objectives.

**Strategy map** Represents how the organization implements high-level mission and vision statements into lower-level, constituent strategic goals and objectives.

**structure view** Displays a topic as a simple list of component data items.

**Structured Query Language** A language used to process instructions to relational databases.

**Subaccount Numbering** A system for numbering subaccounts using nonsequential whole numbers.

**subscribe** Flags an item or folder to receive automatic notification whenever the item or folder is updated.

**Summary chart** In the Investigates Section, a chart that rolls up detail charts shown below in the same column, plotting metrics at the summary level at the top of each chart column.

**supervisor** A user with full access to all applications, databases, related files, and security mechanisms for a server.

**supporting detail** Calculations and assumptions from which the values of cells are derived.

**suppress rows** A setting that excludes rows containing missing values and underscores characters from spreadsheet reports.

**symmetric multiprocessing (SMP)** A server architecture that enables multiprocessing and multithreading. Performance is not significantly degraded when a large number of users simultaneously connect to an single instance.

**sync** Synchronization of Shared Services and application models.

**synchronized** The condition that exists when the latest version of a model resides in both the application and in Shared Services. See also model.

**system extract** A feature that transfers data from application metadata into an ASCII file.

**tabs** Navigable views of accounts and reports in Strategic Finance.

**target** Expected results of a measure for a specified period of time (day, quarter, and so on).

**task list** A detailed status list of tasks for a particular user.

**taskflow** The automation of a business process in which tasks are passed from one taskflow participant to another according to procedural rules.

**taskflow definition** Business processes in the taskflow management system that consist of a network of stages and their relationships; criteria indicating the start and end of the taskflow; and information about individual stages, such as participants, associated applications, associated activities, and so on.

**taskflow instance** A single instance of a taskflow including its state and associated data.

**taskflow management system** A system that defines, creates, and manages the execution of a taskflow, including definitions, user or application interactions, and application executables.

**taskflow participant** The resource that performs the task associated with the taskflow stage instance for both manual and automated stages.

**Taxes - Initial Balances** Strategic Finance assumes that the Initial Loss Balance, Initial Gain Balance, and Initial Balance of Taxes Paid entries have taken place in the period before the first Strategic Finance time period.

**TCP/IP** See Transmission Control Protocol/Internet Protocol.

**text measure** In Essbase, a member tagged as Text in the dimension where measures are represented. The cell values are displayed as predefined text. For example, the text measure Satisfaction Index may have the values Low, Medium, and High. See also typed measure, text list, derived text measure.

**time dimension** The time period that the data represents, such as fiscal or calendar periods.

**time events** Triggers for job execution.

**time scale** A scale that displays metrics by a specific time span, such as monthly or quarterly.

**time series reporting** A process for reporting data based on a calendar date (for example, year, quarter, month, or week).

**Timeline Viewer** An FDM feature that enables users to view dates and times of completed process flow steps for specific locations.

**Title bar** A bar that displays the Strategic Finance name, the file name, and the scenario name Version box.

**toast message** A message that fades in the lower-right corner of the screen.

**token** An encrypted identification of one valid user or group on an external authentication system.

**top and side labels** Column and row headings on the top and sides of a Pivot report.

**top-level member** A dimension member at the top of the tree in a dimension outline hierarchy, or the first member of the dimension in sort order if there is no hierarchical relationship among dimension members. If a hierarchical relationship exists, the top-level member name is generally the same as the dimension name.

**trace allocations** A Profitability feature that enables you to visually follow the flow of financial data, either forwards or backwards, from a single intersection throughout the model.

**trace level** The level of detail captured in a log file.

**traceability** The ability to track a metadata element to its physical source. For example, in Essbase Studio, a cube schema can be traced from its hierarchies and measure hierarchies to its dimension elements, date/time elements, measures, and, ultimately, to its physical source elements. See also lineage.

**traffic lighting** Color-coding of report cells, or pins based on a comparison of two dimension members, or on fixed limits.

**transformation** 1) A process that transforms artifacts so that they function properly in the destination environment after application migration. 2) In data mining, the modification of data (bidirectionally) flowing between the cells in the cube and the algorithm.

**translation** See currency conversion.

**Transmission Control Protocol/Internet Protocol (TCP/IP)** A standard set of communication protocols linking computers with different operating systems and internal architectures. TCP/IP utilities are used to exchange files, send mail, and store data to various computers that are connected to local and wide area networks.

**transparent login** A process that logs in authenticated users without launching the login screen.

**transparent partition** A shared partition that enables users to access and change data in a remote database as though it is part of a local database.

**triangulation** A means of converting balances from one currency to another through a third common currency. In Europe, this currency is the euro for member countries. For example, to convert from the French franc to the Italian lira, the common currency is defined as the European euro. Therefore, to convert balances from the French franc to the Italian lira, balances are converted from the French franc to the European euro and from the European euro to Italian lira.

**triggers** An Essbase feature whereby data is monitored according to user-specified criteria that, when met, cause Essbase to alert the user or system administrator.

**trusted user** Authenticated user.

**tuple** MDX syntax element that references a cell as an intersection of a member from each dimension. If a dimension is omitted, its top member is implied. Examples: (Jan); (Jan, Sales); ( [Jan], [Sales], [Cola], [Texas], [Actual] ).

**two-pass** An Essbase property that is used to recalculate members that are dependent on the calculated values of other members. Two-pass members are calculated during a second pass through the outline.

**unary operator** A mathematical indicator (+, -, \*, /, %) associated with an outline member. The unary operator defines how the member is calculated during a database roll-up.

**Unicode-mode application** An Essbase application wherein character text is encoded in UTF-8, enabling users with computers set up for different languages to share application data.

**unique member name** A nonshared member name that exists only once in a database outline.

**unique member outline** A database outline that is not enabled for duplicate member names.

**upgrade** The process of replacing a software release with a newer release. The term upgrade does not apply to installing a maintenance release. See also maintenance release, migration.

**upper-level block** A type of data block wherein at least one of the sparse members is a parent-level member.

**user directory** A centralized location for user and group information, also known as a repository or provider. Popular user directories include Oracle Internet Directory (OID), Microsoft Active Directory (MSAD), and Sun Java System Directory Server.

**user variable** A variable that dynamically renders data forms based on a user's member selection, displaying only the specified entity. For example, a user variable named Department displays specific departments and employees.

**user-defined attribute (UDA)** An attribute, associated with members of an outline to describe a characteristic of the members, that can be used to return lists of members that have the specified associated UDA.

**user-defined member list** A named, static set of members within a dimension defined by the user.

**validation** The process of checking a business rule, report script, or partition definition against the outline to ensure that the object being checked is valid.

**validation rules** Rules used in FDM to enforce data integrity. For example, in FDM, validation rules ensure that certain conditions are met after data is loaded from FDM to the target application.

**value dimension** A dimension that is used to define input value, translated value, and consolidation detail.

**variance** The difference between two values (for example, between planned and actual values).

**version** A possible outcome used within the context of a scenario of data. For example, Budget - Best Case and Budget - Worst Case where Budget is scenario and Best Case and Worst Case are versions.

**vertical application server cluster** A cluster with multiple application server instances on the same machine.

**view** A year-to-date or periodic display of data.

**visual cue** A formatted style, such as a font or a color, that highlights specific data value types. Data values may be dimension members; parent, child, or shared members; dynamic calculations; members containing a formula; read-only data cells; read-and-write data cells; or linked objects.

**WebLogic Server home** A subdirectory of Middleware home containing installed files required by a WebLogic Server instance. WebLogic Server home is a peer of Oracle homes.

**weight** A value assigned to an item on a scorecard that indicates the relative importance of that item in the calculation of the overall scorecard score. The weighting of all items on a scorecard accumulates to 100%. For example, to recognize the importance of developing new features for a product, the measure for New Features Coded on a developer's scorecard would be assigned a higher weighting than a measure for Number of Minor Defect Fixes.

**wild card** Character that represents any single character (?) or group of characters (\*) in a search string.

**WITH section** In MaxL DML, an optional section of the query used for creating reusable logic to define sets or members. Sets or custom members can be defined once in the WITH section and then referenced multiple times during a query.

**workbook** An entire spreadsheet file with many worksheets.

**workflow** The steps required to process data from start to finish in FDM. The workflow consists of Import (loading data from the GL file), Validate (ensures that all members are mapped to a valid account), Export (loads the mapped members to the target application), and Check (verifies accuracy of data by processing data with user-defined validation rules).

**Workspace Page** A page created with content from multiple sources including documents, URL, and other content types. Enables a user to aggregate content from Oracle and non-Oracle sources.

**write-back** The ability for a retrieval client, such as a spreadsheet, to update a database value.

**ws.conf** A configuration file for Windows platforms.

**wscnf\_platform** A configuration file for UNIX platforms.

**XML** See Extensible Markup Language.

**XOLAP** An Essbase multidimensional database that stores only the outline metadata and retrieves all data from a relational database at query time. XOLAP supports aggregate storage databases and applications that contain duplicate member names.

**Y axis scale** A range of values on Y axis of charts displayed in Investigate Section. For example, use a unique Y axis scale for each chart, the same Y axis scale for all Detail charts, or the same Y axis scale for all charts in the column. Often, using a common Y axis improves your ability to compare charts at a glance.

**Zero Administration** A software tool that identifies version number of the most up-to-date plug-in on the server.

**ZoomChart** A tool for viewing detailed information by enlarging a chart. A ZoomChart enables you to see detailed numeric information on the metric that is displayed in the chart.

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