

Oracle Financial Services Model Management and Governance

User Guide

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February 2021

ORACLE
Financial Services

OFS Model Management and Governance User Guide

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1 Preface

This preface provides information for the Oracle Financial Services Model Management and Governance application (OFS MMG) User Guide.

Topics:

- [Access to Oracle Support](#)
- [Audience](#)
- [Additional Resources](#)
- [Conventions Used](#)

1.1 Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit:

- <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info>
- <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

1.2 Audience

This document is intended for the system administrators and users configuring the sandbox and models in OFS MMG.

1.3 Additional Resources

This section identifies additional resources for the OFS MMG Application Pack. You can access the online documentation for the OFS AAI 8.1.0.0.0 from the [Oracle Help Center \(OHC\)](#).

- OFS Advanced Analytical Applications Infrastructure (OFS AAAI) Application Pack Installation and Configuration Guide
- OFS Analytical Applications Infrastructure Administration Guide
- OFS Model Management and Governance Release Notes
- OFS Model Management and Governance Installation Guide

To find additional information about how Oracle Financial Services solves real business problems, see our website at www.oracle.com/financialservices.

1.4 Conventions Used

The following table lists the conventions used in this guide.

Table 1: Conventions Used in this Guide

Convention	Meaning
<i>Italics</i>	<ul style="list-style-type: none"> Names of books, chapters, and sections as references Emphasis
Bold	<ul style="list-style-type: none"> The object of an action (menu names, field names, options, button names) in a step-by-step procedure Commands typed at a prompt User input
Monospace	<ul style="list-style-type: none"> Directories and subdirectories File names and extensions Process names Code sample, including keywords and variables within the text and as separate paragraphs, and user-defined program elements within the text
<Variable>	Substitute input value

1.5 Acronyms Used

The following table lists the acronyms used in this guide.

Table 2: Acronyms Used in this Guide

Conventions	Description
IR	Interim Release
ML	Maintenance Level Release
OFSAAI	Oracle Financial Services Analytical Applications Infrastructure
OHC	Oracle Help Center
RHEL	Red Hat Enterprise Linux
OEL	Oracle Enterprise Linux
OS	Operating System
EAR/WAR	Enterprise Archive or Web Archive
J2EE	Java 2 Enterprise Edition
OTN	Oracle Technology Network
JCE	Java Cryptography Extension
Atomic Schema	Database schema where the application data model is uploaded.
Configuration Schema	Database schema which contains setup related configurations and metadata.

2 Getting Started

This section gives an introduction to OFS Model Management and Governance and the requirements to use the application.

Topics:

- [About this Guide](#)
- [Acronyms](#)
- [About Oracle Financial Services Model Management and Governance](#)
- [Oracle Financial Services Model Management and Governance Workflow](#)
- [Components of Oracle Financial Services Model Management and Governance](#)
- [Mapping User Groups](#)
- [Signing into the Oracle Financial Services Model Management and Governance Application](#)
- [Using the Application UI Features](#)
- [Using the OFS MMG Data Studio Application](#)

2.1 About this Guide

This guide has information about configuring and publishing sandboxes using the OFS Model Management and Governance application. The further sections in this guide provide information for the creation and deployment of models into production. Use it for information about sandbox and model management or help with the processes in the application. For other products such as OFS AAI, see the [Additional Resources](#) section.

2.2 Acronyms

The following table describes the acronyms commonly used in this application.

Table 2: Acronyms and its description

Acronyms	Description
BA	Business Analysts
Infodom	Information Domain
Navigation Tree Menu or Navigation Menu	Left-hand side menu
OFS AAI	Oracle Financial Services Analytical Application Infrastructure
OFSAA	Oracle Financial Services Analytical Applications
OFS MMG	Oracle Financial Services Model Management and Governance
Production Infodom	Production Information Domain
Sandbox Infodom	Sandbox Information Domain
SA	System Administrator

Acronyms	Description
URL	Uniform Resource Locator
UI	User Interface

2.3 About Oracle Financial Services Model Management and Governance

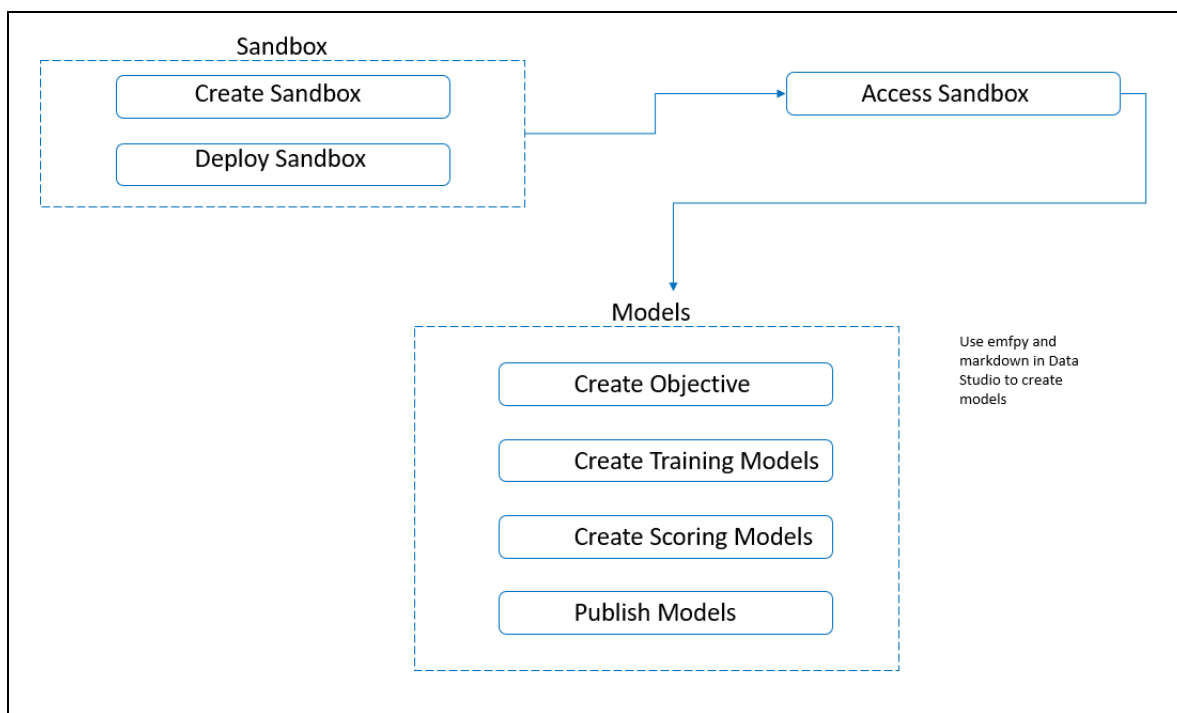
Financial institutions require models that work on traditional statistical techniques, modern machine-learning methods, computational and simulation models. Oracle Financial Services Model Management and Governance leverage the Data Studio environment to develop, deploy, and manage models at the enterprise level.

The OFS Model Management and Governance application enables institutions to implement their IT policies while providing flexibility and freedom that Data Scientists and Statistical Modelers desire. OFS MMG's design facilitates financial institutions to manage external regulatory and internal governance policies by building testing models in a sandbox environment. A sandbox is provisioned and authorized for use (usually by an administrator) before making it available to modelers. Administrative users grant analysts and modelers access to sandboxes along with a subset of production data to build models. Validated and approved models can then be promoted from sandboxes to the enterprise model repository. Models in the repository can then be woven into analytical application flows crafted by mixing data management tasks, model execution, and deterministic business logic.

2.4 Oracle Financial Services Model Management and Governance Workflow

The workflow involves the creation of Sandboxes and the creation of Models mapped to the Sandboxes. Models are then configured as training models that you can use to perform model visualizations and test for the outcomes. You can then publish a model into production and make it available to users after you have determined that the models and the parameters used to construct the models meet the requirements of your business logic.

Figure 1: Oracle Financial Services Model Management and Governance Workflow



2.5 Components of Oracle Financial Services Model Management and Governance

The following are the components of Oracle Financial Services Model Management and Governance application:

- [Sandbox Management](#)
- [Model Management](#)

2.5.1 Sandbox Management

Sandbox Management is where the Sandbox Administrators define datasets and make them available to modelers in Oracle Financial Services Model Management and Governance. It is an environment where the data is prepared for modelers to use in their modeling creation activity.

Sandboxes are provisioned with the data required for modeling by administrators, who configure sandboxes with subsets of production data. The data in the sandbox is made available to modelers using datasets, who then build models with the dataset without any exposure being provided to the physical data tables and columns in the database. In effect, the data is ready for the modelers and they do not have to undergo the arduous task of accessing and querying the database. See the [Using Sandbox Management](#) section for information on how to use Sandbox Management in the application.

2.5.2 Model Management

Modeling refers to the process of designing a prototype based on a structured data model, for statistical analysis and to simulate real events and processes. Models in a sandbox can be created or

modified by a user with access to the sandbox. Model versions are preserved in the sandbox along with execution and output histories. Once a model has been validated in the sandbox and considered fit for use, modelers can request to push the model into the production environment.

[Use Model Management](#) to create models from pre-defined models to predict business trends and validate the existing models with the help of Data Studio.

2.6 Mapping User Groups

Users must be mapped to User Groups that are mapped to the required roles to access OFS MMG. The following subsections provide information about the user groups and roles required in addition to the information about configuring the user groups.

Topics:

- [User Groups](#)
- [User Group - Role Mapping](#)

2.6.1 User Groups

The following table gives details about the User Groups in the Oracle Financial Services Model Management and Governance application. See the [Oracle Financial Services Analytical Applications Infrastructure Administration Guide](#) for more information.

Table 3: User Groups

User Group Name	User Group Description
SANDBOXADM	The Sandbox Administrator Group. Users mapped to this group have access to all the menu items in the OFS MMG application. Additionally, they have authorization rights to create and populate sandboxes.
MDLUSR	The Modeling User Group. Users mapped to this group have access to all the menu items in the OFS MMG application that is related to model creation.
MDLREV	The Modeling Reviewer Group. Users mapped to this group have access to the menu items in the OFS MMG application that are related to model review activities.
MDLAPPR	The Modeling Approver Group. Users mapped to this group have the rights to approve models created by the users.

2.6.2 User Group - Role Mapping

Map the user groups in the application to the roles in the following table to enable access to the OFS MMG application.

NOTE Map the MMGACC role to the User Groups so that the OFS MMG application tile is accessible to users.

Table 4: User Group to Role Mapping

Group Name	Role Name
SANDBOXADM	Sandbox Admin
MDLUSR	Alias Access
MDLUSR	Alias Read Only
MDLUSR	Alias Write
MDLUSR	Atomic excel upload write
MDLUSR	BMM Hierarchy Access
MDLUSR	BMM Hierarchy Read Only
MDLUSR	BMM Hierarchy Write
MDLUSR	BMM Processor Access
MDLUSR	BMM Processor Read Only
MDLUSR	BMM Processor Write
MDLUSR	Batch Access
MDLUSR	Batch Read Only
MDLUSR	Batch Write
MDLUSR	Config excel advanced
MDLUSR	DEFQ Manager
MDLUSR	DEFQ write
MDLUSR	DI Write
MDLUSR	DMM Write
MDLUSR	DQ Access
MDLUSR	DQ Advanced
MDLUSR	DQ Read
MDLUSR	DQ Write
MDLUSR	DT Write
MDLUSR	Dataset Access
MDLUSR	Dataset Read Only
MDLUSR	Dataset Write
MDLUSR	Derived Entity Access
MDLUSR	Derived Entity Read Only

Group Name	Role Name
MDLUSR	Derived Entity Write
MDLUSR	Dimension Access
MDLUSR	Dimension Read Only
MDLUSR	Dimension Write
MDLUSR	ETL Analyst
MDLUSR	Essbase Cube Access
MDLUSR	Essbase Cube Read Only
MDLUSR	Essbase Cube Write
MDLUSR	MDB Write
MDLUSR	Manage Run Access
MDLUSR	Manage Run Read Only
MDLUSR	Manage Run Write
MDLUSR	Measure Access
MDLUSR	Measure Read Only
MDLUSR	Measure Write
MDLUSR	Model Access
MDLUSR	Model Read
MDLUSR	Model Write
MDLUSR	Obj Migration Access
MDLUSR	Obj Migration Read
MDLUSR	ObjectAdmin advanced
MDLUSR	Oracle Cube Access
MDLUSR	Oracle Cube Read Only
MDLUSR	Oracle Cube Write
MDLUSR	Process Access
MDLUSR	Process Read Only
MDLUSR	Process Write
MDLUSR	Rule Access
MDLUSR	Rule Read Only
MDLUSR	Rule Write
MDLUSR	Run Access
MDLUSR	Run Read Only
MDLUSR	Run Write

Group Name	Role Name
MDLUSR	Workflow Access
MDLUSR	Workflow Monitor Access
MDLUSR	Workflow Read
MDLUSR	Workflow Write
MDLREV	Model Access
MDLREV	Model Read
MDLREV	Model Review
MDLAPPR	Alias Access
MDLAPPR	Alias Authorize
MDLAPPR	Alias Read Only
MDLAPPR	Alias Write
MDLAPPR	Atomic excel advanced
MDLAPPR	Atomic excel upload write
MDLAPPR	BMM Hierarchy Access
MDLAPPR	BMM Hierarchy Authorize
MDLAPPR	BMM Hierarchy Read Only
MDLAPPR	BMM Hierarchy Write
MDLAPPR	BMM Processor Access
MDLAPPR	BMM Processor Authorize
MDLAPPR	BMM Processor Read Only
MDLAPPR	BMM Processor Write
MDLAPPR	Batch Access
MDLAPPR	Batch Advanced
MDLAPPR	Batch Authorize
MDLAPPR	Batch Phantom
MDLAPPR	Batch Read Only
MDLAPPR	Config excel advanced
MDLAPPR	DEFQ Manager
MDLAPPR	DEFQ access
MDLAPPR	DEFQ advanced
MDLAPPR	DEFQ authorize
MDLAPPR	DI Write
MDLAPPR	DMM Write

Group Name	Role Name
MDLAPPR	DQ Access
MDLAPPR	DQ Advanced
MDLAPPR	DQ Authorize
MDLAPPR	DQ Read
MDLAPPR	DQ Write
MDLAPPR	DT Write
MDLAPPR	Dataset Access
MDLAPPR	Dataset Authorize
MDLAPPR	Dataset Read Only
MDLAPPR	Dataset Write
MDLAPPR	Derived Entity Access
MDLAPPR	Derived Entity Authorize
MDLAPPR	Derived Entity Read Only
MDLAPPR	Derived Entity Write
MDLAPPR	Dimension Access
MDLAPPR	Dimension Authorize
MDLAPPR	Dimension Read Only
MDLAPPR	Dimension Write
MDLAPPR	ETL Analyst
MDLAPPR	Essbase Cube Access
MDLAPPR	Essbase Cube Authorize
MDLAPPR	Essbase Cube Read Only
MDLAPPR	Essbase Cube Write
MDLAPPR	MDB Write
MDLAPPR	Manage Run Access
MDLAPPR	Manage Run Read Only
MDLAPPR	Manage Run Write
MDLAPPR	Measure Access
MDLAPPR	Measure Authorize
MDLAPPR	Measure Read Only
MDLAPPR	Measure Write
MDLAPPR	Model Access
MDLAPPR	Model Authorize

Group Name	Role Name
MDLAPPR	Model Deployment
MDLAPPR	Model Read
MDLAPPR	Obj Migration Access
MDLAPPR	Obj Migration Advanced
MDLAPPR	Obj Migration Read
MDLAPPR	Obj Migration Write
MDLAPPR	ObjectAdmin advanced
MDLAPPR	Oracle Cube Access
MDLAPPR	Oracle Cube Authorize
MDLAPPR	Oracle Cube Write
MDLAPPR	PR2 Administrator
MDLAPPR	Process Access
MDLAPPR	Process Advanced
MDLAPPR	Process Authorize
MDLAPPR	Process Read Only
MDLAPPR	Process Write
MDLAPPR	Publish Metadata
MDLAPPR	Rule Access
MDLAPPR	Rule Advanced
MDLAPPR	Rule Authorize
MDLAPPR	Rule Read Only
MDLAPPR	Rule Write
MDLAPPR	Run Access
MDLAPPR	Run Advanced
MDLAPPR	Run Authorize
MDLAPPR	Run Read Only
MDLAPPR	Run Write
MDLAPPR	Workflow Access
MDLAPPR	Workflow Advanced
MDLAPPR	Workflow Authorize
MDLAPPR	Workflow Delegation Admin
MDLAPPR	Workflow Monitor Access
MDLAPPR	Workflow Read

Group Name	Role Name
MDLAPPR	Workflow Write

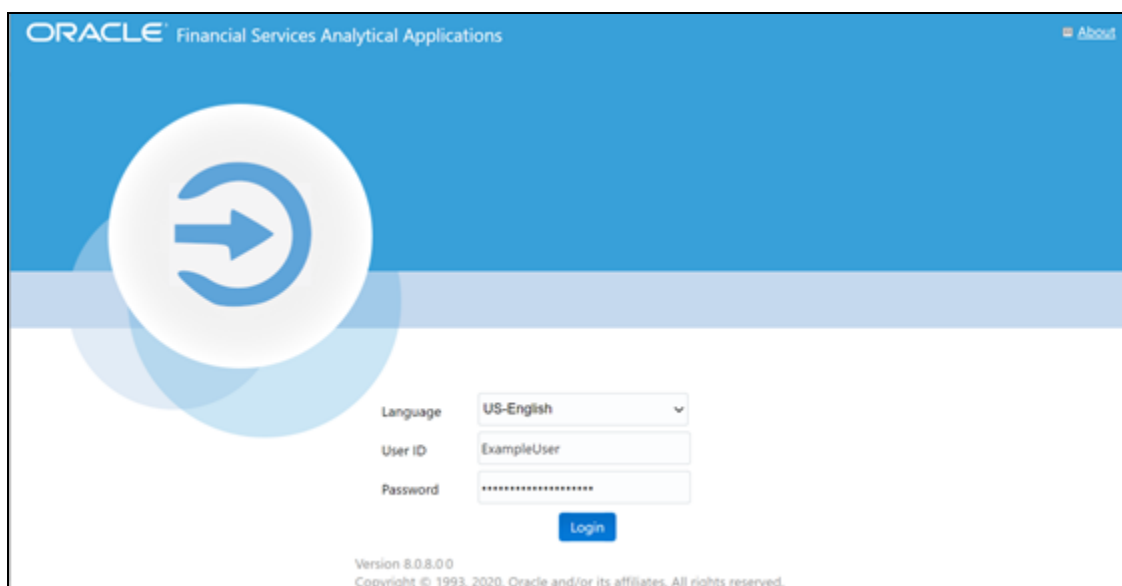
2.7 Signing into the Oracle Financial Services Model Management and Governance Application

After the application is installed and configured, you can access the Oracle Financial Services Model Management and Governance application.

To access Oracle Financial Services Model Management and Governance, follow these steps:

1. Enter the OFSAAI URL in your browser. The **Login** page is displayed.

Figure 2: OFS Model Management and Governance Application Login Page




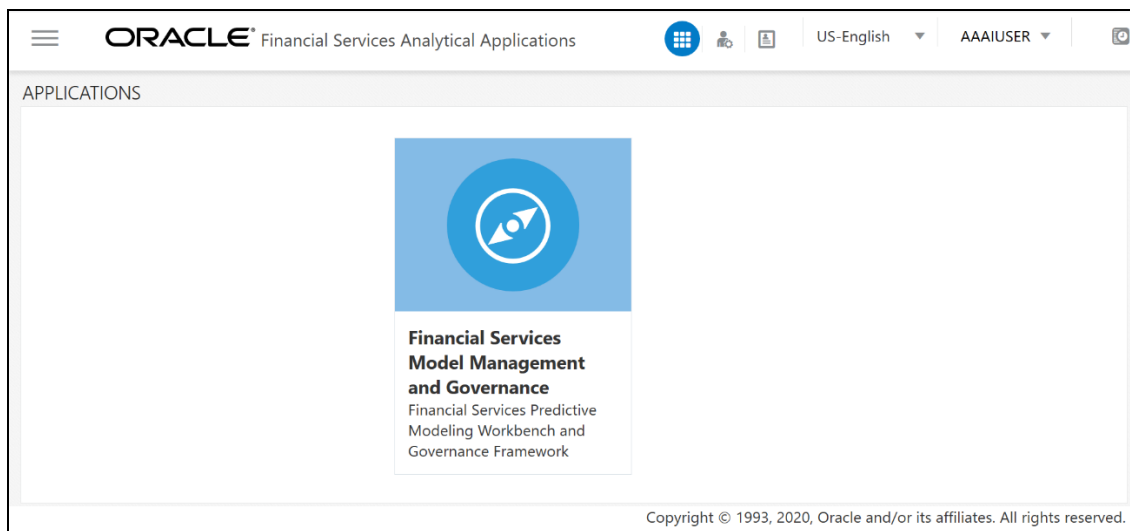
2. Select **Language**.
3. Enter your **User ID** and **Password**.
4. Click **Login**.
5. Click **Applications**  from the **Header** to display the applications in a **Tiles** menu.

Figure 3: Model Management and Governance Application Selection



6. Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page.

2.7.1 Changing Password

The first time you log in to the application, the **Change Password** page is displayed. Alternatively, you can also choose to change the password at any time, but Oracle recommends that you change the password after the first login

To change a password, follow these steps:

1. Click the **User Name** drop down and select **Change Password** from the **Header** at the top to display the **Change Password** page.

Figure 4: Change Password Page

2. Enter the **User ID**.
3. Enter the **Old Password**.

4. Enter **New Password** and re-enter in the **Confirm Password** field.
5. Click **OK**.

2.8 Using the Application UI Features

This section describes the user-interface of the Oracle Financial Services Model Management and Governance application. These are the common features that are found across the modules of Oracle Financial Services Model Management and Governance. It describes the organization of the user interface and provides step-by-step instructions for navigating through the application.

Topics:

- [Home Page Components](#)
- [OFS MMG Data Studio UI](#)

2.8.1 Home Page Components

The Home Page contains the following sections:

- Header
- Applications
- Administration
- Navigation Tree List
- Tab Bar

Figure 5: Home Page

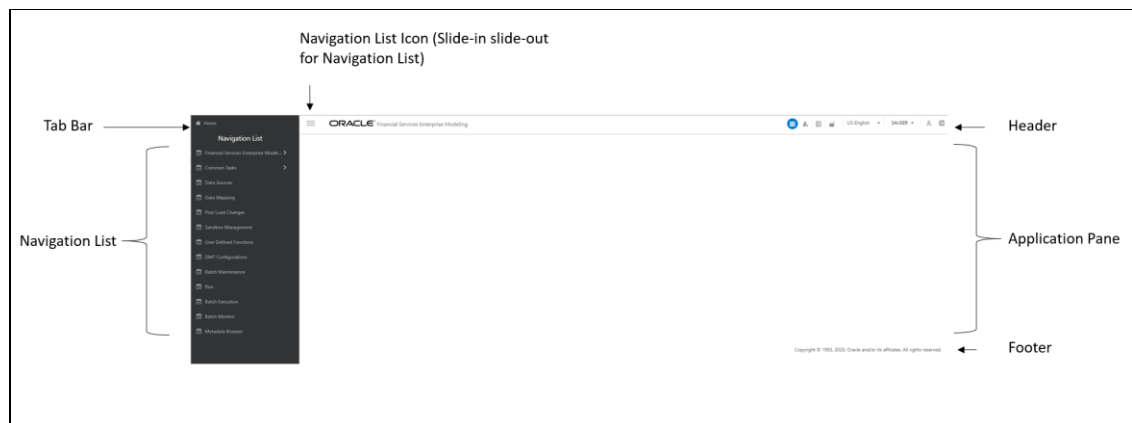
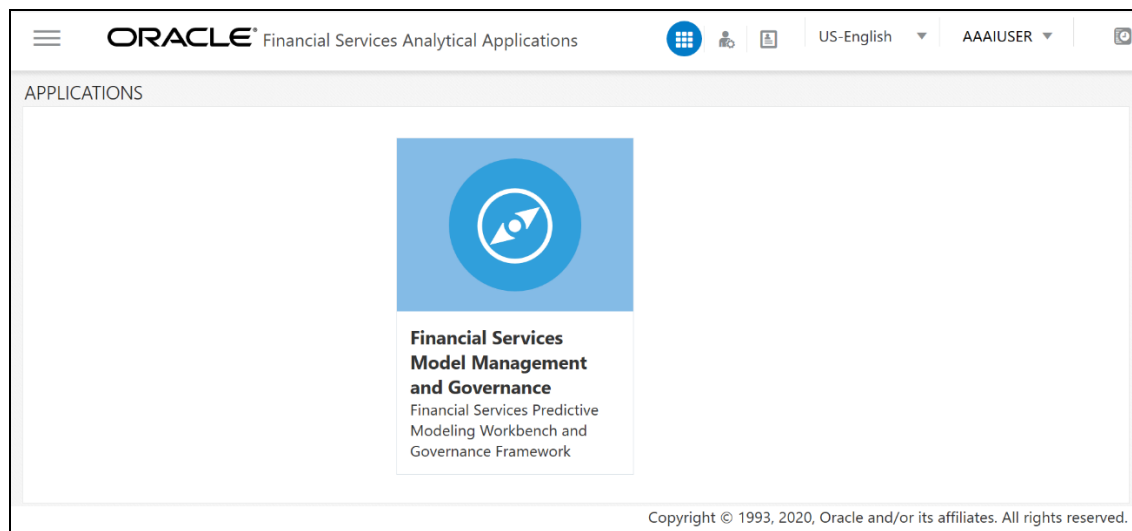




Figure 6: Alternate View of Home Page



2.8.1.1 Header

The Header displays icons, buttons, and text for generic information and access to the OFSAA application's features. The following user-interface elements are displayed for OFS MMG:

- **Applications** : Click this icon to display applications in a **Tiles** menu on the content page.
- **Administration** : Click this icon to display administration tools in a **Tiles** menu on the content page.
- **Language:** Displays the selected language. Click to select from the options in the drop-down list.
- **User Name:** Displays the logged-in user name. Click to select from the following options in the drop down list:
 - **Preferences:** Select to set the Home page.
 - **About:** Select to view the copyrights and third-party information.
 - **Change Password:** Select to change the password on the **Change Password** page.
 - **Logout:** Select to log out of the application.
- **Last login date and time, and last failed login date and time:** Click to view the last login date and time, and the last failed login date and time.
- **Discover/Explore OFSAA Apps:** Click to view the OFSAA applications web page for more details.

2.8.1.2 Applications

The applications available are displayed in a **Tiles** menu on the content page. Click the **Tiles** to open the selected application. For more information on other applications, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

2.8.1.3 Administration

The administration feature displays in the **Tiles** menu. Click the Tiles to navigate further. For more information, see the [Oracle Financial Services Analytical Applications Guides](#).

2.8.1.4 Navigation Tree List

The Navigation Tree List is a slide-in slide-out UI element that appears on clicking the **Menu** (three lines) icon. This element displays a list of links in a menu based on the application selected from the Applications menu and the access rights assigned to the logged-in user. Click on the various links in the list to navigate further and open in the content page. For more details, see the [Oracle Financial Services Analytical Application Infrastructure User Guide](#).

2.8.1.5 Tab Bar

The Tab bar contains icons and text to navigate to specific OFSAA application modules. Click the **Home** button in Tabs to navigate to the Applications page on the content page. The elements displayed in Tabs are dependent on the OFSAA application logged into and the access roles assigned to the user.

2.8.2 OFS MMG Data Studio UI

The model creation uses the Notebook scripting interface from OFS MMG Data Studio, which is based on the OFS FCC Studio application. See the [OFS FCC Studio User Guides](#) for details.

2.9 Using the OFS MMG Data Studio Application

The OFS MMG application displays windows and pages that are interconnected to the OFS AAI and Data Studio. Primarily, you will create Sandboxes and deploy them. Within these Sandboxes, you will create models, compare them for the best fit, and promote one to production.

Use the information in the following topics to create the sandboxes and models:

- [Using Sandbox Management](#)
- [Using Model Management](#)

2.9.1 Prerequisites

The prerequisites for OFS MMG are as follows:

- To create a sandbox, your user profile must be mapped to the Sandbox Administrator role. For more information, see the [User Groups](#) section.
- To use a sandbox to create models, your user profile must be mapped to the Sandbox User role (such as a modeler). For more information, see the [User Group - Role Mapping](#) section.

3 Using Sandbox Management

Sandbox management allows you to create and manage sandboxes in the Financial Services Model Management and Governance application.

Sandboxes can be in the production environment (deployed) or they can exist in a separate instance on their own (on local for testing purposes) with a copy of data that comes from the desired data source (production or external data source).

Topics:

- [Accessing the Sandbox Summary Page](#)
- [Create and Deploy A Sandbox](#)
- [Launch A Sandbox Workspace](#)
- [Populate A Sandbox](#)
- [Delete A Sandbox](#)

3.1 Accessing the Sandbox Summary Page

The Sandbox Summary page gives access to the various sandbox functions such as create and delete.

NOTE Users Groups must be mapped to the SBADMIN role to access the Sandbox Summary page.

To access the Sandbox Summary page, follow these steps:


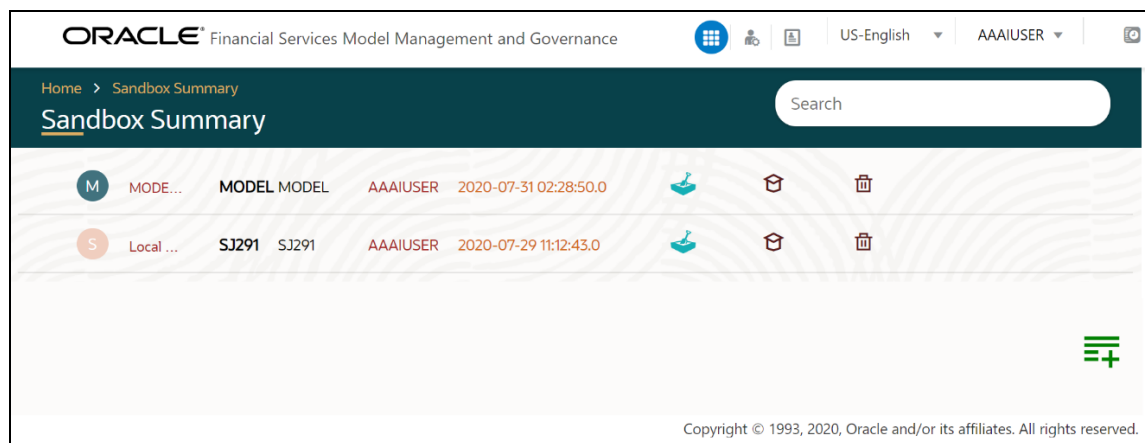




1. Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.
2. Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.

Figure 7: Sandbox Summary Page



The following table provides descriptions for the fields and icons on the **Sandbox Summary** page.

Field or Icon	Description
Search	The field to search for sandboxes. Enter specific terms in the field for which you want to search and press Enter on the keyboard to display the results.
Sandbox	The name of the sandbox.
Description	The description for the sandbox
Infodom	The name of the infodomain where the sandbox is deployed.
Created User	The user ID of the user who created the sandbox.
Created Date	The date on which the sandbox was created.
Launch Sandbox	Select  to display the Sandbox Workspace window with application configuration and model creation menu. See the Launch a Sandbox Workspace section for more information.
Populate Sandbox	Select  to populate the sandbox with dataset data. See the Populate a Sandbox section for more information.
Delete Sandbox	Select  to delete the sandbox. See the Delete A Sandbox section for more information.
Sandbox Creation	Select  to create a sandbox. See the Create and Deploy a Sandbox section for more information.

3.2 Create and Deploy a Sandbox

The Sandbox creation requires entry of the source of dataset, validation, and deployment. Besides, the OFS MMG application may require users of different function groups to create and approve a sandbox. In other words, a user associated with the modeler function group creates a sandbox and the approval and deployment are done by a user associated with the modeling administrator function group. See the [Mapping User Groups](#) section for more information.

To create and deploy a Sandbox, follow these steps:





1. Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.
2. Select the **Financial Services Model Management and Governance** application. The Navigation Tree displays a menu.
3. Click **Sandbox Management** to display the **Sandbox Summary** page. The page displays sandbox records in a table.
4. Select  to create a sandbox in the **Sandbox Creation** window.

Figure 8: Sandbox Creation Window

The screenshot shows a multi-step wizard interface. At the top, a progress bar with six numbered steps is visible: 1. Basic Details (highlighted with a double arrow), 2. Sandbox Schema, 3. Data Sourcing, 4. Metadata Sourcing, 5. Validate, and 6. Summary. Below the progress bar, the 'Basic Details' step is active. It features several input fields: 'Sandbox Name' with the value 'EESB3', 'Purpose' with 'Testing EESB3', and 'User-group'. There is a toggle switch for 'Attach Production Schema' which is turned on. Below that is a dropdown menu for 'OFSAA Data Schema' with 'OFSAAIINFO' selected. To the right of these fields is a dashed rectangular box containing the text 'Import archive file' with a question mark icon. On the far right of the form area is a circular button with a right-pointing arrow, labeled 'Next'.

The window displays a progress indicator at the top that indicates the active window where you are entering details. Click **Previous**  to go back a step and click **Next**  to go to the next step.

The following steps show the various phases from sandbox creation to deployment:

- a. [Configure Basic Details](#)
- b. [Configure Sandbox Schema](#)
- c. [Configure Data Sourcing](#)
- d. [Configure Metadata Sourcing](#)
- e. [Validate Sandbox](#)
- f. [Display Summary of Deployment](#)
- g. [Configure Resource Reference for Data Population](#)

NOTE You may require approval from an approver to validate and deploy the sandbox.

3.2.1 Configure Basic Details

Enter basic configuration details in this window.


Figure 9: Configure Basic Details

The screenshot shows a configuration interface for a sandbox. At the top, there is a navigation bar with six steps: 1. Basic Details, 2. Sandbox Schema, 3. Data Sourcing, 4. Metadata Sourcing, 5. Validate, and 6. Summary. Step 1 is currently active. The main configuration area contains several fields: 'Sandbox Name' with the value 'EESB3', 'Purpose' with 'Testing EESB3', 'User-group' (empty), 'Attach Production Schema' (a green toggle switch turned on), and 'OFSAA Data Schema' with a dropdown menu showing 'OFSAAIINFO'. To the right of these fields is a dashed box labeled 'Import archive file' with a question mark icon. A large right-pointing arrow button is located on the far right of the configuration area.

To configure the basic details for the sandbox, follow these steps:

1. Enter the required details in the **Basic Details** pane as shown in the following table.

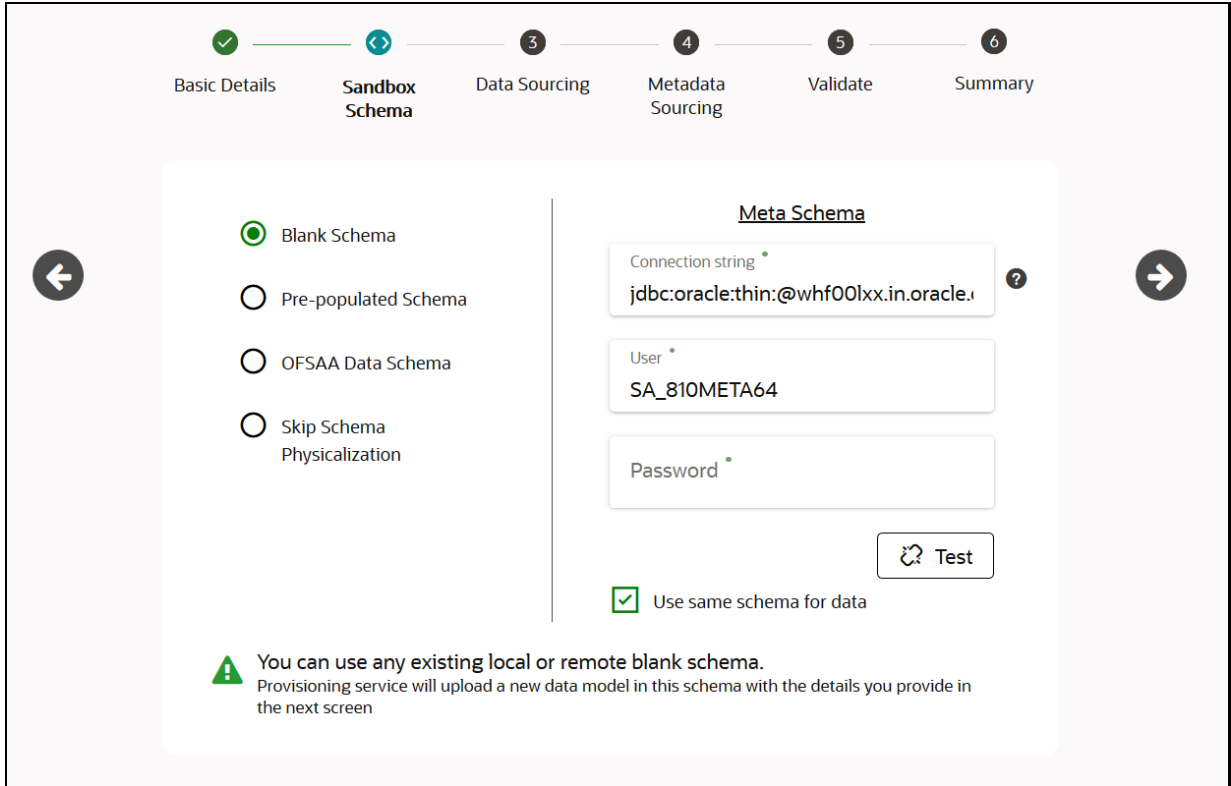
Field	Description
Sandbox Name	Enter the name of the sandbox. This field is limited to five characters.
Purpose	Enter the purpose of the creation of the sandbox.
User-group	Click on this field to display a list of User-group values. Select the required value.
Attach Production Schema	Move the toggle switch to the right to enable this option. Enabling it attaches the production schema, which selects the Sandbox being created for automatic model promotion. Based on the selection of the OFSAA Schema, the model is promoted to the environment.
OFSAA Data Schema	Select the required production schema to attach from the drop-down list. This list is enabled when you enable Attach Production Schema.
Import archive file	Enter the archived file to import for basic details. If you use this feature, the other fields described in the preceding rows are auto-populated. Click on the box to open the file selector dialog and select the required configuration file or drag the file from its directory and drop it in the box.

2. Click  to go to the next step.

3.2.2 Configure Sandbox Schema

Select the schema operation and enter connection details.

Figure 10: Sandbox Schema




To configure the sandbox schema, follow these steps:


1. Select one from the options and enter the required details in the **Sandbox Schema** pane as shown in the following table.

Field	Description
Blank Schema	Select this option to upload a new data model with the details you provide in the Data Sourcing pane.
Meta Schema	
Connection string	Enter the connection URL to the database for the meta schema.
User	Enter the user ID to connect to the database.
Password	Enter the password to connect to the database.
Use same schema for data	Select this check box to use the meta schema for the data schema.
Data Schema	This option is enabled when you deselect the Use same schema for data check box.
Connection string	Enter the connection URL to the database for the data schema.
User	Enter the user ID to connect to the database.

Field	Description
Password	Enter the password to connect to the database.
Pre-populated Schema	Select this option to reuse an existing schema. NOTE: Data Sourcing does not apply to this option. Metadata Sourcing is optional.
Meta Schema	
Connection string	Enter the connection URL to the database for the meta schema.
User	Enter the user ID to connect to the database.
Password	Enter the password to connect to the database.
Use the same schema for data	Select this check box to use the meta schema for the data schema.
Data Schema	This option is enabled when you deselect the Use same schema for data check box.
Connection string	Enter the connection URL to the database for the data schema.
User	Enter the user ID to connect to the database.
Password	Enter the password to connect to the database.
OFSAA Data Schema	Select this option to use the data in an existing OFSAA infodom to create the sandbox. NOTE: Data model upload, infodom creation, segment creation, and so on will be skipped. OFS MMG features will be available in the selected infodom.
Data Schema	Select the required Infodom from the drop-down list.
Skip Schema Physicalization	Select this option to generate and store DDLs in the <code>sandbox.cfg</code> file. A system administrator will create the sandbox using this file as a template.

- Click  to go to the next step.

NOTE

Click  to check the connection. A success message is displayed.

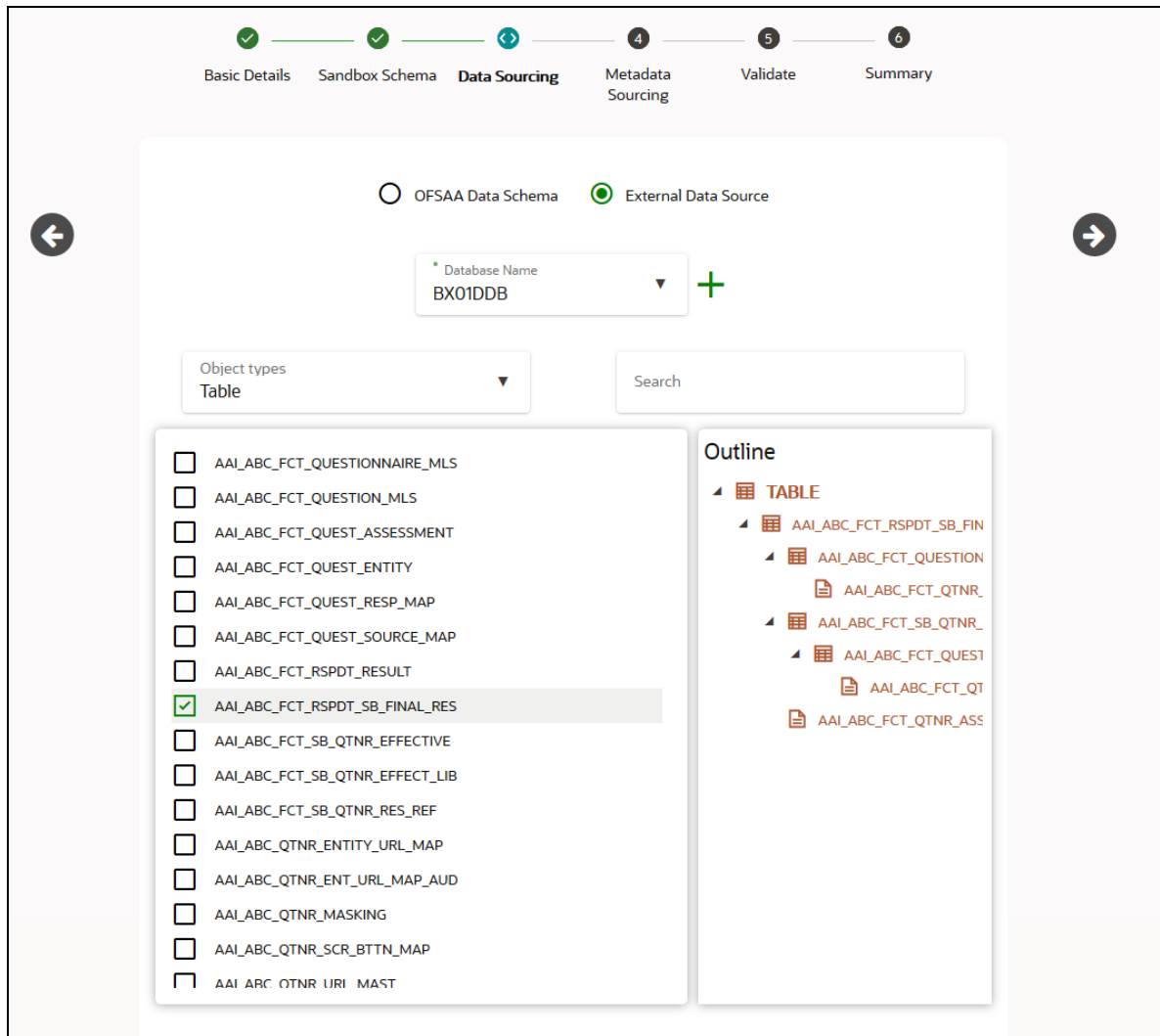
3.2.3 Configure Data Sourcing

The schema type selected in the previous step requires the definition of database objects to be used for model creation. Enter the details in this window.

NOTE

This step does not apply to the prepopulated schema and OFSAA Infodom options in [Sandbox Schema](#).




Figure 11: Data Sourcing - External Data Source




To configure Data Sourcing, follow these steps:

1. Enter the required details in the **Data Sourcing** pane as shown in the following table.

Field	Description
OFSAA Data Schema	Select this option to use an OFSAA Data Schema from your local system.
Data Schema	Select the required schema from the drop-down list.
Datasets	Select the required datasets from the drop-down list.
External Data Source	Select this option to connect to an external source and use its dataset.

Field	Description
Database Name	<p>Select the source of data from the drop-down list.</p> <p>Or click  to display a context window where you can add the details for a new data source as follows:</p> <ol style="list-style-type: none"> 1. Enter a name for the database in Database Name. 2. Select the type of database from Database Type. 3. Select the type of authentication for the connection from Authentication Type. 4. Enter the connection URL to the database for the external data source in Connection String. 5. Enter the user ID to connect to the database in User. 6. Enter the password to connect to the database in Password. 7. Enter a name for the schema in Schema Name. 8. Click  to save the details entered in the context window.
Object Types	<p>Select the type of objects to be displayed in the pane that follows the drop-down list. The following are the options in the drop-down list:</p> <ul style="list-style-type: none"> • Table • View • Synonym
Search	Enter the search term to apply to the object types and further refine the entries being displayed.
	Select the required dataset parameters and the selected items are displayed in the Outline pane.

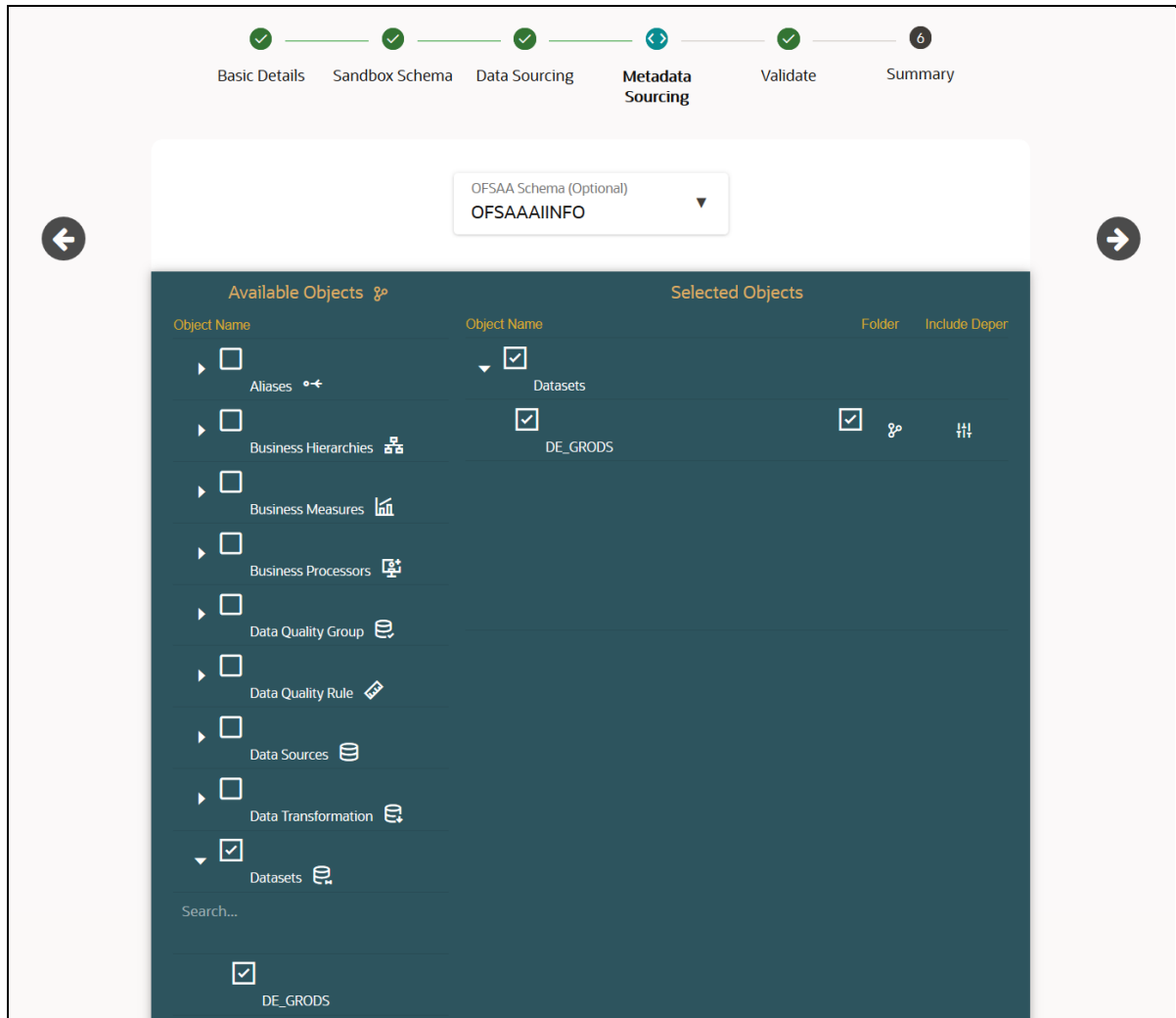
2. Click  to go to the next step.

3.2.4 Configure Metadata Sourcing

The database objects selected in the previous step can be added with metadata for selected objects.

NOTE This step is optional.

Figure 12: Configure Metadata Sourcing



To configure Metadata Sourcing, follow these steps:

1. Select the required schema from the **OFSAA Schema (Optional)** drop-down list. The **Available Objects** and **Selected Objects** pane is displayed.
2. Select **Object Name** from **Available Objects** or use the **Filter Search Criteria** to filter and select.




To use the **Filter Search Criteria**, follow these steps:

- a. Click  from **Available Objects** to display the **Filter Search Criteria** dialog box.

Figure 13: Filter Search Criteria Dialog box

Enter the required details in the **Filter Search Criteria** dialog box as shown in the following table.

Field	Description
Object Types	Enter the object types to search.
Name	Enter the name of the object to filter the search.
Created Date From	In the date editor, select a from date to search the object from the created date.
To	In the date editor, select a to date to search the object from the created date.
Last Modified Date From	In the date editor, select a from date range to search the object from the last modified date.
To	In the date editor, select a to date range to search the object from the last modified date.
Created By	Enter the user ID to search for objects created by a user.
Last Modified By	Enter the user ID to search for objects last modified by a user.

- b. Click **Apply** to search. To remove entered values, click **Clear**. To close the dialog box, click **Close**.
3. Move the selected objects from **Available Objects** to **Selected Objects**. Click  to view the associated dependencies for the selected objects. Click  to view additional parameters.
4. Click  to go to the next step.

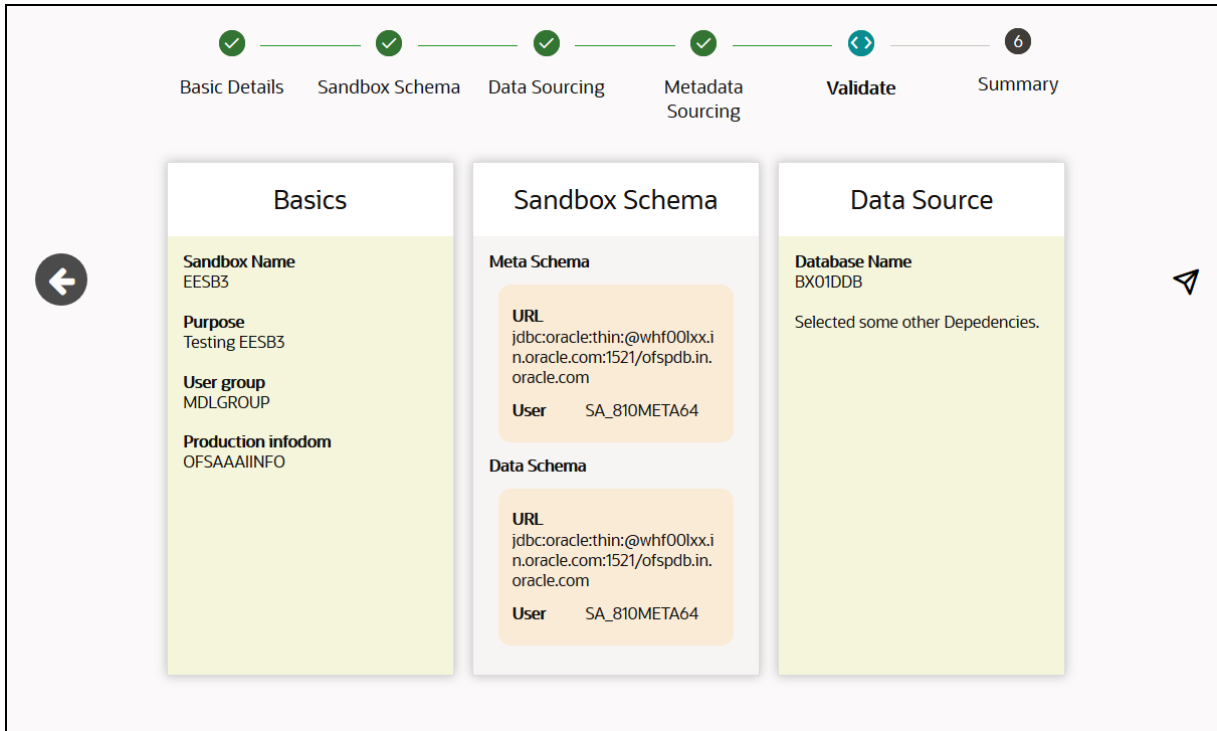
3.2.5 Validate Sandbox

The **Validate** pane displays a preview of the configuration values entered in the previous panes.



NOTE

You may require approval from an approver to deploy a sandbox or only a user with a modeling administrator function role can deploy.

Figure 14: Validate Sandbox



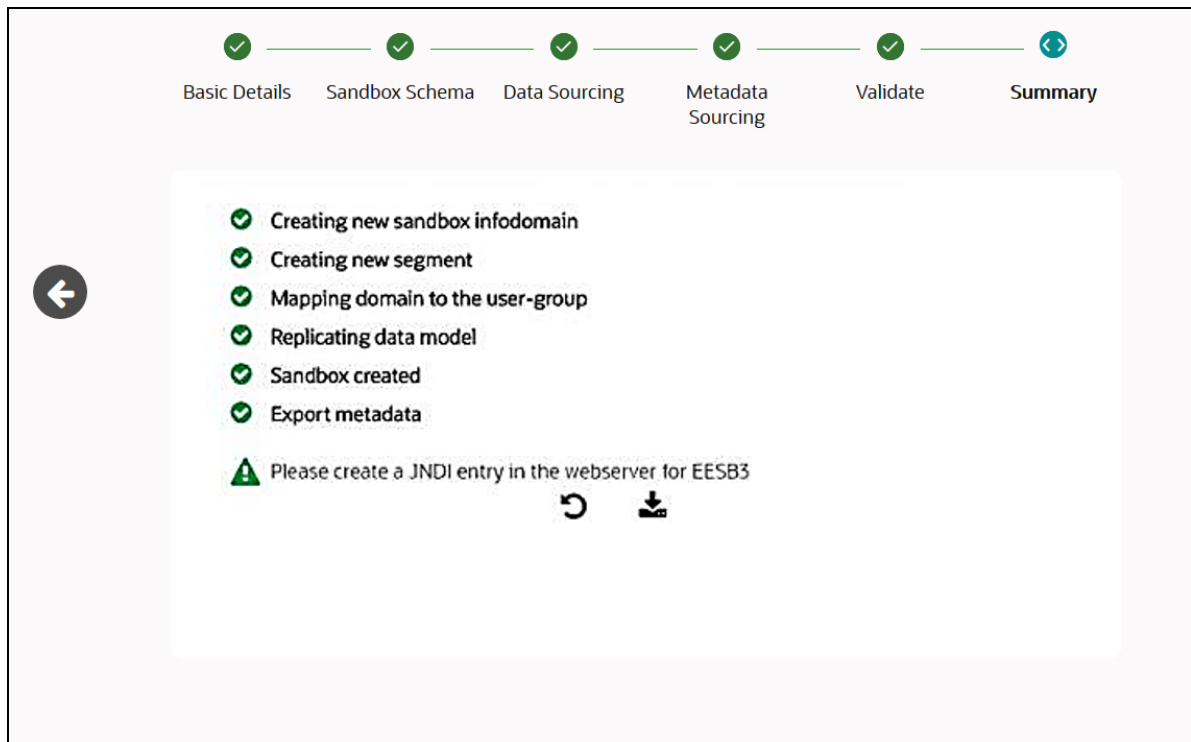
To validate the sandbox and deploy, follow these steps:



1. Review the details in the **Validate** pane.
2. Click **Deploy**  to deploy the Sandbox.
3. Click  to go to the next step.

3.2.6 Display Summary of Deployment

The **Summary** pane displays the status of the sandbox creation.

Figure 15: Sandbox Deployment Summary



- Click  on the **Summary** window to roll back the creation of the Sandbox.
- Click  to download the deployment report.

3.2.7 Configure Resource Reference for Data Population

After the Sandbox deployment, create a JNDI entry in the webserver. See the *Configuring Resource Reference in Web Application Servers* section in the [OFS MMG Installation Guide](#) for details.

3.3 Launch a Sandbox Workspace

The launching of the Sandbox displays the **Sandbox Workspace** window. The workspace displays a menu for Sandboxes and an application configuration and model creation submenu as shown in the following list:

- Data Model Maintenance
- Data Management Framework
- Unified Analytical Metadata
- Model Management
- Process Management Operations

Figure 16: Sandbox Workspace Window

**NOTE**

For information on how to use the features in the submenus other than Model Management, see the [OFS AAI User Guide](#). For information on how to use Model Management, see the [Using Model Management](#) section in this guide.

3.4 Populate a Sandbox

The sandbox is populated with data from the datasets in OFS AAI.

To populate the sandbox, follow these steps:



1. Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.
2. Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.
3. Select  to populate the sandbox with data from a dataset data in the **Populate Sandbox** window.

Figure 17: Populate Sandbox Window

The following table provides descriptions for the fields in the **Populate Sandbox window**.

Field	Description
Sandbox Name	The name of the sandbox.
Sandbox Description	The description for the sandbox.
Sandbox Creation Date	The date on which the sandbox was created.
Data source type	The source of data. The value can be the OFSAA Data Schema or an external data source.
Metasource Infodom	The metasource infodom.
Remarks	Enter a description or reason for the populate request.

4. Click **POPULATE SANDBOX** to start the process.

NOTE

You may require approval from an approver to populate the sandbox.

3.5 Delete a Sandbox

To delete a Sandbox, follow these steps:



1. Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.
2. Select the **Financial Services Model Management and Governance** application. The Navigation Tree displays a menu.
3. Click **Sandbox Management** to display the **Sandbox Summary** page. The page displays sandbox records in a table.
4. Select  to delete the sandbox in the **Delete Sandbox** window.

Figure 18: Delete Sandbox Window

The following table provides descriptions for the fields in the **Delete Sandbox** window.

Field	Description
Sandbox Name	The name of the sandbox.
Sandbox Description	The description for the sandbox.
Sandbox Creation Date	The date on which the sandbox was created.
Remarks	Enter a description or reason to delete the sandbox.

- Click **Delete**. Click **OK** on the confirmation dialog box to confirm or click **Cancel** to cancel.

NOTE You may require approval from an approver to delete a sandbox.

4 Using Model Management

Model management allows you to create and publish models based on the sandboxes created from datasets in the database. The published models are then deployed in production to be consumed by users. Modelers create models by using the Notebooks in the Data Studio. The Notebooks are used to create training models and the iterations of comparison between various models lead to the elimination of undesired models and filters a few robust ones that can be considered for deployment in production. Modelers then use their better judgement to consolidate their choice and fix on one model - the champion model. The champion model is also called the scoring model or the actual model in this document.

Topics:

- [Prerequisites](#)
- [Access the Model Management Window](#)
- [Create, Review, Approve, and Deploy a Model](#)
- [Execute Models in the OFSAA Environment](#)
- [Import a Sandbox Model Data into a New Model](#)
- [Use the Model Audit Window](#)
- [Use Scope](#)
- [Use View Models](#)
- [Edit Models](#)
- [Delete Objectives and Models](#)

4.1 Prerequisites


The prerequisites for model management are as follows:

- To create a model, your user profile must be mapped to the Modeler Group. For more information, see the [Mapping User Groups](#) section.
- To create a model, a Sandbox must be deployed. See the [Create and Deploy a Sandbox](#) Section for more information.
- To approve and deploy a model, your user profile must be mapped to the Modeling Administrator Group. For more information, see the [Mapping User Groups](#) section.

4.2 Access the Model Management Window

The Model Management window allows you to create and publish models.

To access the Model Management window, follow these steps:

1. Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.
2. Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.



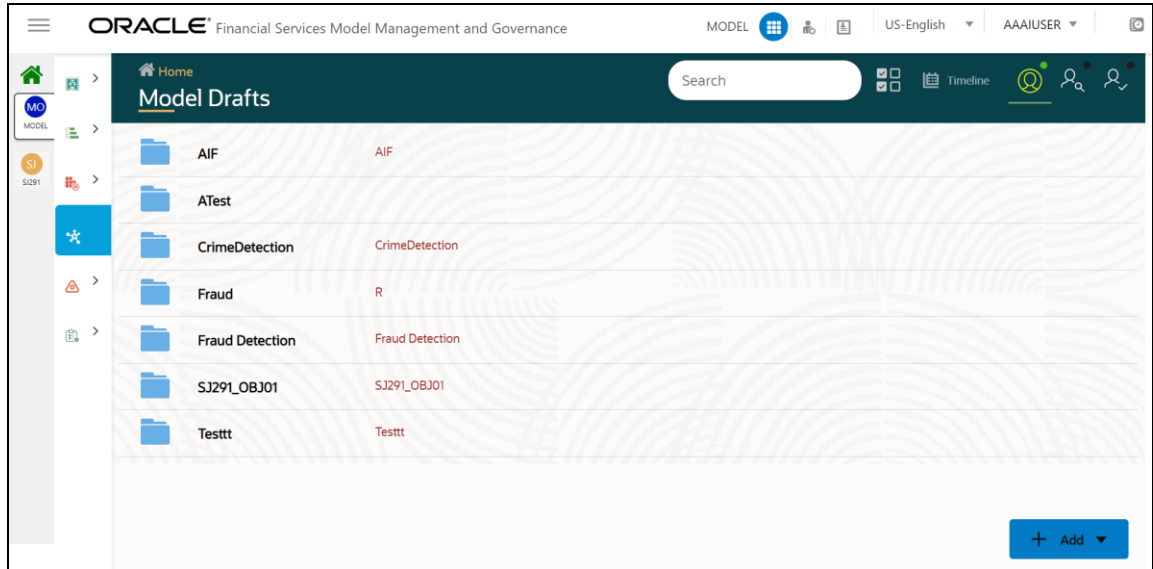
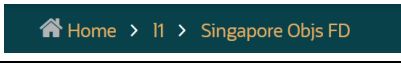













3. Select the required Sandbox and click  to display the **Sandbox Workspace** window with application configuration and model creation menu.
4. Click  to display the **Model Management** window. The window displays folders that contain models and model records in a table.



Figure 19: Model Management Page



The following table provides descriptions for the fields and icons on the **Model Management** page.




Field or Icon	Description
Model Management Page Header	The header that follows the global header in the application.
Breadcrumbs	Indicates the position of the current page in the Model Management hierarchy. Use breadcrumbs locator links to navigate back to higher levels in the hierarchy after you have drilled-down through levels of functions. 
Show Check Box and Hide Check Box	Click  to show or hide the Multi Compare  and Multi Delete  buttons. See the Compare Models and Delete Objectives and Models Sections for more information.
Timeline	Select a Model and click  to view the time of the various actions performed on the model in the Model Audit window. See the Use the Model Audit Window Section for more information.

Field or Icon	Description
Requester	<p>Displays that the logged-in user has the Requester privileges when the status is green.</p>  <p>You can create a model. However, to approve and publish, the model must be reviewed by a user with reviewer privileges and approved by a user with approver privileges.</p>
Reviewer	<p>Displays that the logged-in user has the Reviewer privileges when the status is green.</p>  <p>You can review models. However, to approve and publish, the model must be approved by a user with approver privileges.</p>
Approver	<p>Displays that the logged-in user has the Approver privileges when the status is green.</p>  <p>You can approve models that are created and reviewed.</p>
Model Management Page Table	The table displays the objective and model records on the page.
Objective and Model	<p>Displays the name of the Objective</p>  <p>Or Model.</p> 
Description	Displays the description for the Objective or Model.
Created User	Displays the user ID of the user who created the Model. This information does not display for an Objective.
Tags	<p>Displays the tags associated with the Objective or Model.</p>   <p>This information does not display for an Objective.</p>
Show Versions	<p>Click  to view the various versions of the model. See the Show Model Versions section for more information.</p> <p>This information does not display for an Objective.</p>
Edit Model	<p>Select  to edit the models in Data Studio. See the Edit Models Section for more information.</p> <p>This information does not display for an Objective.</p>

Field or Icon	Description
Delete Model	Select  to delete the model from the Confirmation dialog box. Click OK to process or click Cancel to cancel. This information does not display for an Objective.
Create Objectives and Models	Select  to display a list with the following options: <ul style="list-style-type: none"> • Draft • Objective To create Models, select Draft. To create Objectives, select Objective. See the Create Objective (Folders) and Create Draft Models (Training) sections for more information. However, if you want to know about the cycle of model creation, see the Create, Review, Approve, and Deploy a Model Section.

4.3 Create, Review, Approve, and Deploy a Model

Model creation and deployment undergoes a workflow of Model Governance where the following types of users in the system have privileges that restrict the activities they can do in the model creation and deployment workflow.

Field or Icon	Description
Requester 	You can create a model. However, to approve and publish, the model must be reviewed by a user with reviewer privileges and approved by a user with approver privileges. <ul style="list-style-type: none"> • Model Acceptance • Make Champion – Local NOTE: User Groups must be mapped to the MDLDEPLOY role to access Requester functions.
Reviewer 	You can review models. However, to approve and publish, the model must be approved by a user with approver privileges. <ul style="list-style-type: none"> • Model Acceptance • Model Acceptance + Promote to Production • Promote to Production NOTE: User Groups must be mapped to the MDLREVIEW role to access Reviewer functions.
Approver 	You can approve models that are created and reviewed. You can then promote to production and make the model the champion in the production. <ul style="list-style-type: none"> • Promote to Production • Make Champion – Global NOTE: User Groups must be mapped to the MDLAUTH role to access Approver functions.

The following sections in this topic provide details for the cycle of creation of a model, review, approval, and deployment:

1. [Create Objective \(Folders\)](#)
2. [Create Draft Models \(Training\)](#)
3. [Publish Models \(Scoring\)](#)
4. [Show Model Versions](#)
5. [Compare Models](#)
6. [Understand Model Governance](#)
7. [Request Model Acceptance](#)
8. [Review Models and Move to Approve or Reject](#)
9. [Approve Models and Promote to Production](#)
10. [Deploy Models in Production and Make it a Global Champion](#)

4.3.1 Create Objective (Folders)

Create folders called Objectives within which you can create Models.

To create an Objective, follow these steps:




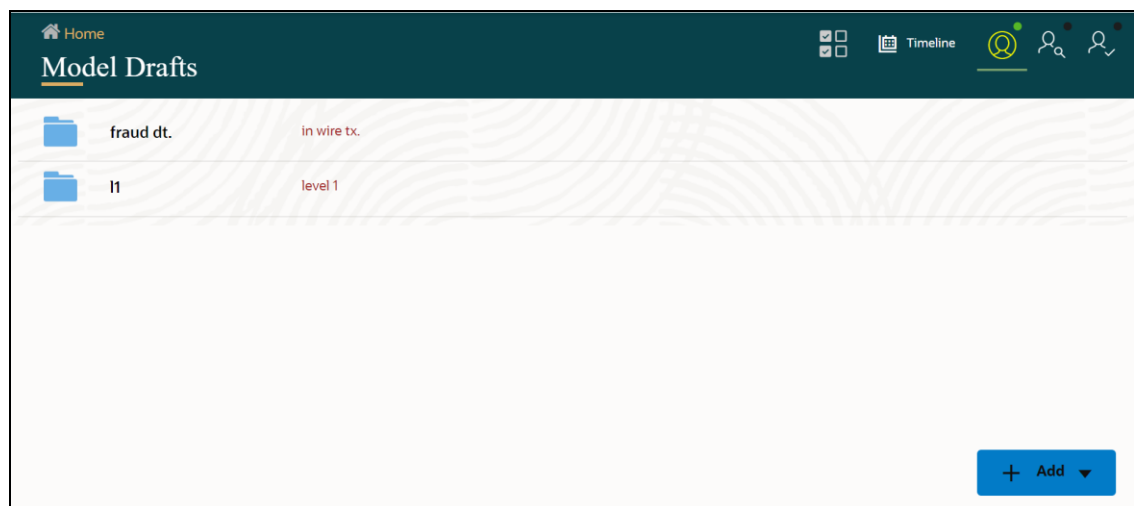
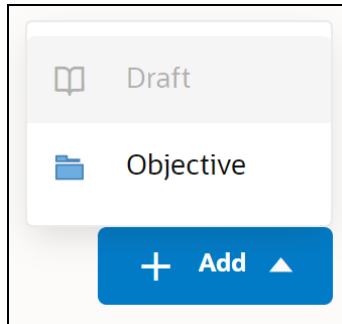
1. Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.
2. Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.
3. Select the required Sandbox and click  to display the **Sandbox Workspace** window with application configuration and model creation menu.
4. Click  to display the **Model Management** window. The window displays folders that contain models and model records in a table.

Figure 20: Create Model Objectives



- Click **Add** and select **Objective** from the list to display the **Objective Details** dialog box.

Figure 21: Select Objective from Add



- Enter details for **Name** and **Description** fields in the **Objective Details** dialog box.

Figure 22: Objective Details Dialog box



 A screenshot of a dialog box titled 'Objective Details' with a close button (X) in the top right corner. The dialog box has a dark red header. Below the header are two text input fields. The first field is labeled 'Name' and contains the text 'ObjTom'. The second field is labeled 'Description' and contains the text 'An objective to create an anti-money laundering alert model.'. At the bottom right of the dialog box is a 'SAVE' button.

- Click **SAVE**.

4.3.2 Create Draft Models (Training)

Create Models that are classified as training models. These models will be reviewed before being sent for Scoring.

To create a Model, follow these steps:

- Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.
- Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.
- Select the required Sandbox and click  to display the **Sandbox Workspace** window with application configuration and model creation menu.


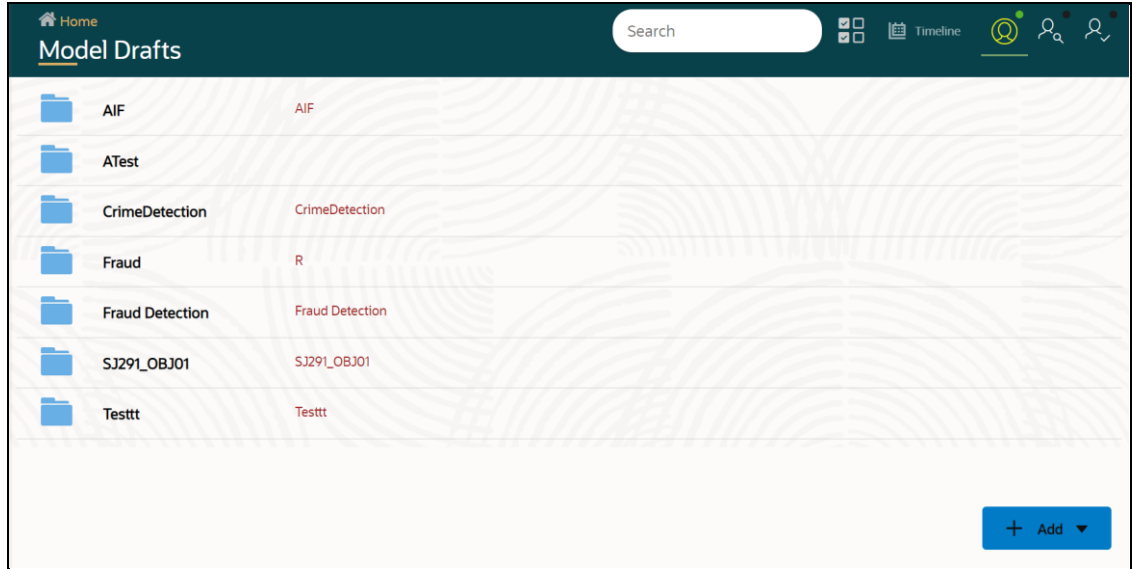
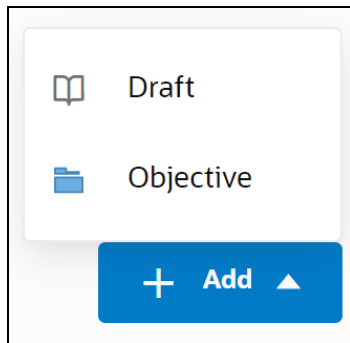
4. Click  to display the **Model Management** window. The window displays folders that contain models and model records in a table.

Figure 23: Create Training Model



5. Click an Objective to open it.
6. Click **Add** and select **Draft** from the list to display the **Objective Details** dialog box.

Figure 24: Create Training Model - Draft



7. **Create New Model** is the default setting in the **Model Details** dialog box. Drag the toggle button to select **Import Dump**. Use Create New Model to start from a blank Notebook in Data Studio. Import Dump lets you drag and drop an existing file with model data and modify it. To import a model data dump from another model, see the [Import a Sandbox Model Data into a New Model](#) section.

To create a new model, follow these steps:

- a. Enter details for **Name** and **Description**.

Figure 25: Model Details - Create New Model

- b. Enter a tag and press the **Enter** key to add it in the **Tags** field.
- c. Select **Default** as the type of scripting language to create the Model in the Data Studio from the options available.


Figure 26: Create New Model - Scripting Language Type

- d. Click **CREATE** to display to launch the Data Studio window for model creation. For more details, see the [Create Paragraphs in Data Studio Notebooks](#) section.

4.3.2.1 Create Paragraphs in Data Studio Notebooks

After creating the Models in the SandBox, create Paragraphs in the Data Studio window. To create Paragraphs, you must have a working knowledge of scripting and Python.

The following types of paragraph creation are supported for model creation:

- Add empty Paragraph:  To create Model building scripts in Python.


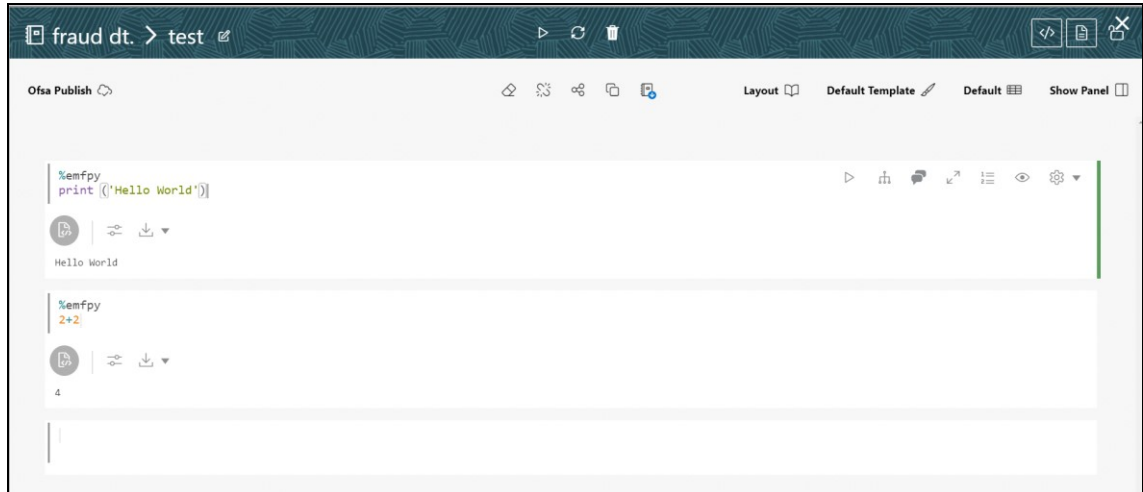

- Add Markdown Paragraph:  To add documentation to provide information for the Python scripts.

Figure 27: Create Training Models in Data Studio Notebooks



To create Paragraphs in the Data Studio Notebooks, follow these steps:

1. Open Data Studio in OFS MMG. Follow the instructions in the [Create Draft Models \(Training\)](#) section to open it.


2. Click  in Data Studio to add a Paragraph in the Notebook and add the scripting instruction to fetch connection objects in the following format. This creates a cx_oracle based connection object to the datadom of the infodom being passed:

```
conn = mmg.getConnection(<infodom name>)
```


NOTE


The fetch connection objects function works only with %Python interpreters and requires an Oracle client installed on the server that runs Data Studio.

Click  to run the script and display the Notebook ID and the Model Objective ID.

3. Click  in Data Studio to add a Paragraph in the Notebook and add in the following format to fetch current Notebook and Model Objective details:


- Notebook Id: **currentNotebookId**
- Model Objective: **objectiveId**

Click  to run the script and display the Notebook ID and the Model Objective ID.

4. Click  in Data Studio to add a Paragraph in the Notebook and fetch the runtime parameters supported in Data Studio runtime as shown in the following example. This is available for all the interpreters.

For example, enter as follows:

```
%python  
print('threshold value is : ${[threshold]}')
```


Click  to run the script and display.

After the Training Models are created, publish the Notebooks to create Scoring Models. See the [Publish Models \(Scoring\)](#) section for more information.

4.3.3 Publish Models (Scoring)

After creating the Training Models, publish the Notebooks which have the Model script.

To create a Scoring Model, follow these steps:

1. Create a Training Model. See the [Create Draft Models \(Training\)](#) section for more information.
2. Click  in the Data Studio Notebooks page to display the **Publish** dialog box.

Publish ✕

Model Name:
Linked Accounts

Objective Name:
Fraud Detection

Model Description:

Technique:

Run Version

Variable Mapping

Script Variable	Dataset	Variables
No data to display.		

Script

	ID	Title	Script	Track Output
<input type="checkbox"/>	dsbBW4la	NA	import pandas as pd data = pd.DataFrame({'group':	<input type="checkbox"/>
<input type="checkbox"/>	dsK3oZjg	NA	ofs.track("Technique", "Regression", "Logistic Reg	<input checked="" type="checkbox"/>

Publish

3. Enter the details as shown in the following table.

Field or Icon	Description
Model Name	The field displays the name of the Model. Modify the name if required.
Objective Name	The field displays the name of the Objective under which the Model exists. Click the drop-down list to display a list of Objectives in the application and select another Objective if required. The Model will be published in the selected Objective.
Model Description	The field displays the description for the Model. Enter or modify the description if required.
Technique	Enter the registered technique to use.
Run Version	Select a run version.
Variable Mapping	The table displays the OFSAA variables and datasets used in the creation of the Training Model.
Script	The table displays the Paragraphs created in the Training Model. Select the Paragraphs that you want to use to create the Scoring Model. Track Output - Select this to track the output of the paragraph.

4. Click **Publish**.

4.3.4 Show Model Versions

Show model versions displays information for deployed models, models that require approval, and so on.

To show model versions, follow these steps:





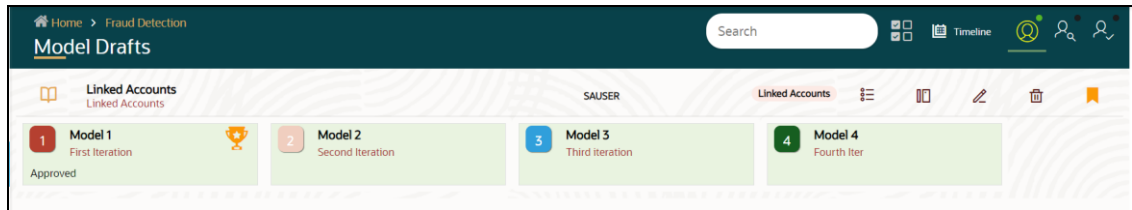
1. Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.
2. Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.
3. Select the required Sandbox and click  to display the **Sandbox Workspace** window with application configuration and model creation menu.
4. Click  to display the **Model Management** window. The window displays folders that contain models and model records in a table.
5. Click  and the record expands to display information for the versions and current status of the model.

Figure 28: Expand to Display Models and their Current Status





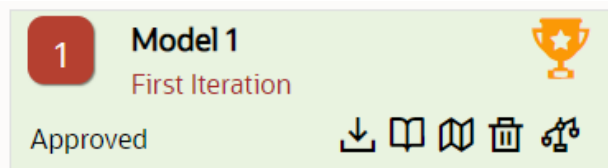





- The  icon in the model record in the Show Versions draw-down indicates that the model is deployed in production.
 - The  icon indicates that Model 1 is the champion
6. Hover over the model records to view the various icons.

Figure 29: Mouse Over the Model



The icon actions are listed in the following:

- a.  Download Model Data. See the [Import a Sandbox Model Data into a New Model](#) section for more details.
- b.  View Model Details - Opens the model scripts in the OFS MMG Data Studio. See the [Use View Models](#) section for more details.

- c.  View Scope Details - Opens the details for the scope of the model in OFS MMG. See the [Use Scope](#) section for more details.
- d.  Delete Model. See the [Delete Objectives and Models](#) section for more details.
- e.  Compares Models (By default, compares with the Champion model if available, or with a model selected by you). See the [Compare Models](#) section for more details.

4.3.5 Compare Models

Compare models that exist within an objective and review the attributes to promote or dissociate a deployed model.

To compare models, follow these steps:







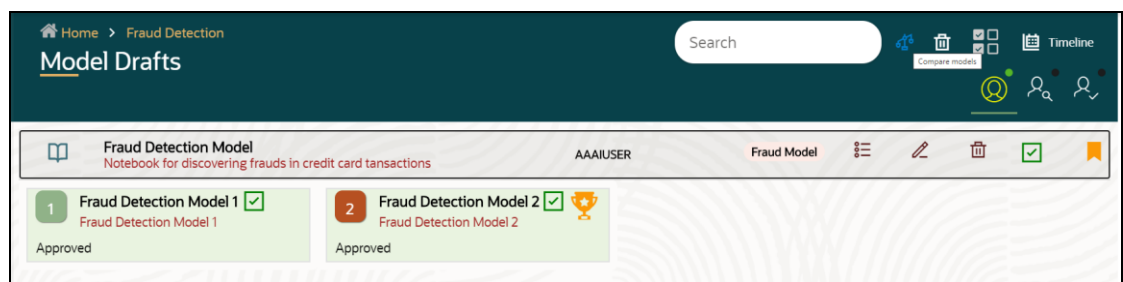
1. Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.
2. Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.
3. Select the required Sandbox and click  to display the **Sandbox Workspace** window with application configuration and model creation menu.
4. Click  to display the **Model Management** window. The window displays folders that contain models and model records in a table.
5. Click **Show Check Box**  to show the **Multi Compare**  button.
6. Select two or more models from the records in the objective to compare. If a model is a champion, the  icon is displayed on it.

Figure 30: Select Records to Compare




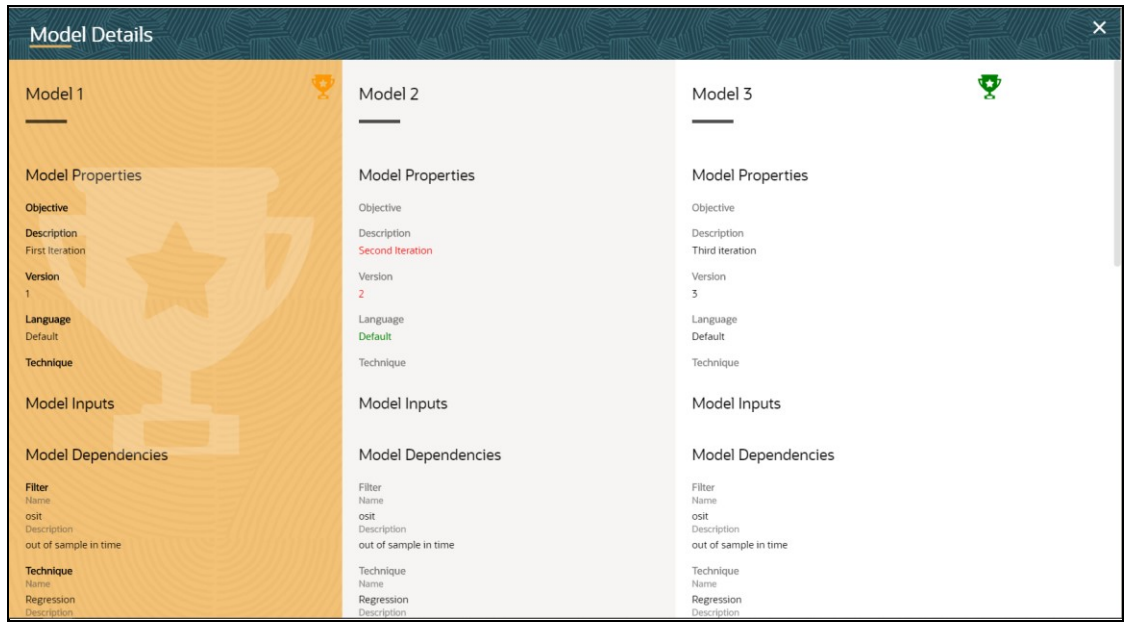
7. Click  from the header to display the **Models Details** window with details for the selected models in side-by-side comparison mode.


Figure 31: Compare Models in Model Details Window



NOTE

To make a model a champion from this window, place the mouse in the selected model columns. and click



If a model is a champion model, the  icon is displayed.

Click X to close the window.

Figure 32: Compare Models in Model Details Window - Graphs

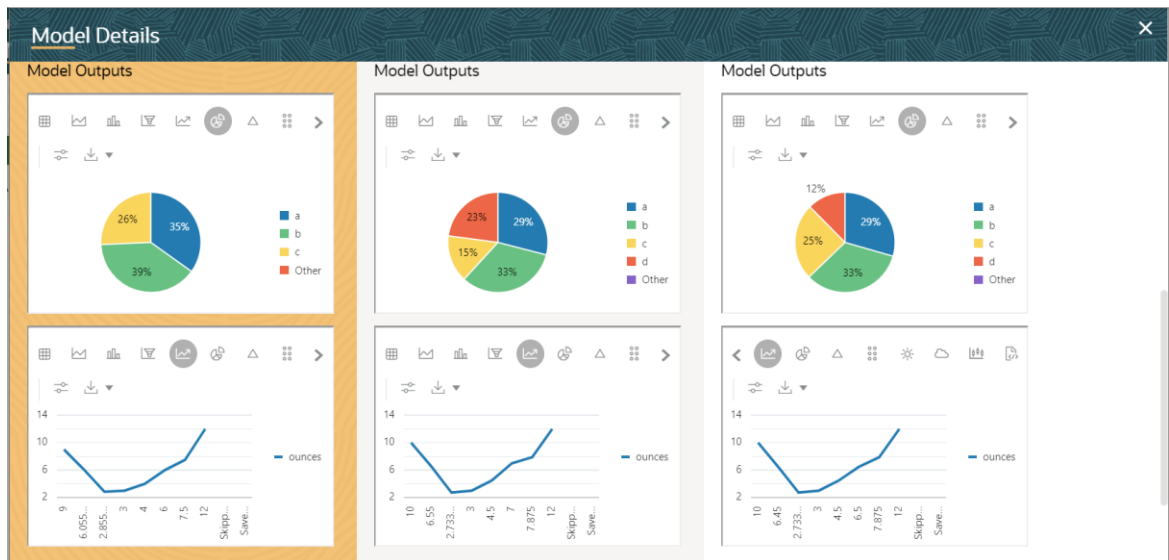
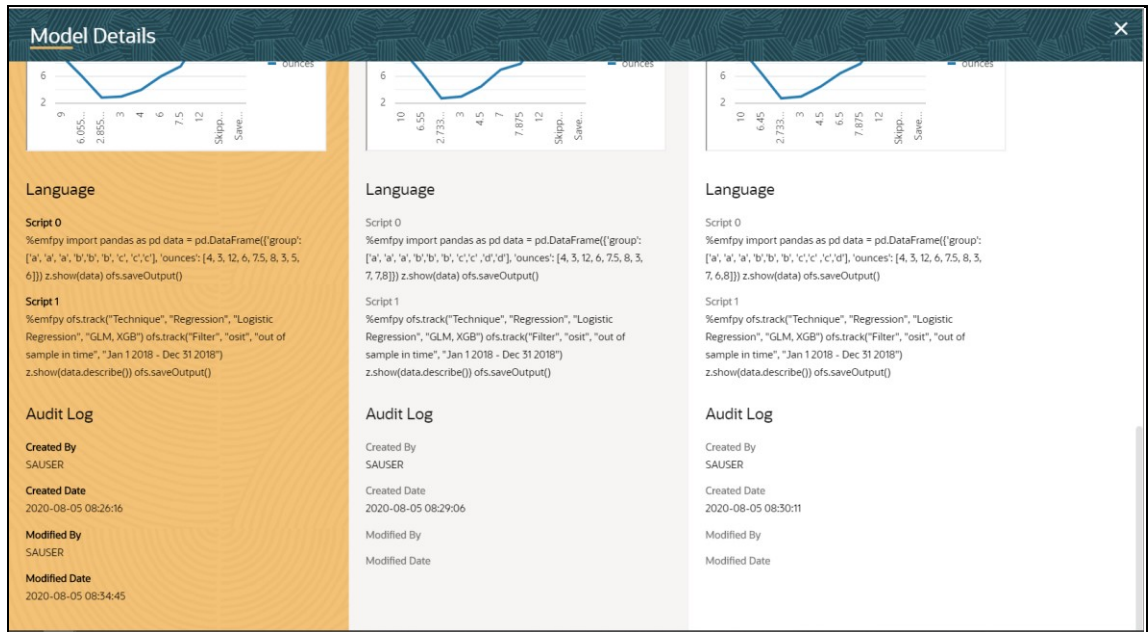


Figure 33: Compare Models in Model Details Window - More Details



8. Compare the models and if required, select a new champion. If you select a new champion, the model.

4.3.6 Understand Model Governance

After [comparing models](#), you must understand the Model Governance system in OFS MMG. The Model Governance has an impact on how the application functions with the various user types and the requests they can place from the Model Details window. You require to understand Model Governance before you request model acceptance, review models, or approve models for production.

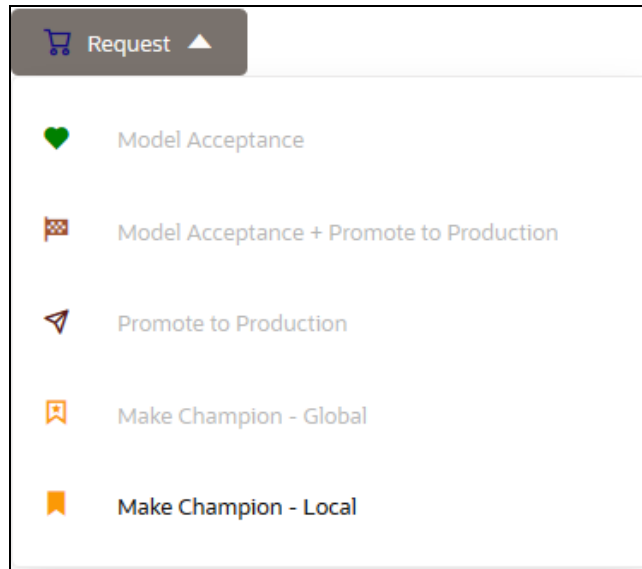
As discussed earlier, the users are of three types:

1. Requester
2. Reviewer
3. Approver

The request consists of the following phases in the Request drop-down list (see the [Request Model Acceptance](#) section for how to access the drop-down list in the Model Details window):

1. Model Acceptance
2. Model Acceptance + Promote to Production
3. Promote to Production
4. Make - Champion - Global
5. Make - Champion - Local

Figure 34: The Request Drop-down List



The values in the drop-down list are active based on the type of user (Requester, Reviewer, or Approver) and the phase that the model is in (accepted, promoted to production, global champion, and so on). Let us look at these with a few examples.

Example 1:

Assume that you are a user with Requester privileges and you create a model. Now you can request for the model to be accepted on the Model Details window from the **Request** drop-down list. The values enabled for selection are **Model Acceptance** and **Model Acceptance + Promote to Production**. Let us proceed and assume that you select Model Acceptance, then a user with Reviewer privileges forwards your model to a user with Approver privileges. At this stage, the Approver can choose to reject or accept your model acceptance request. A rejection would bring the model back to the initial state with comments on the updates required before it can be requested for acceptance again. However, if the Approver accepts your model, then the **Make Champion - Local** selection is enabled when you log in. You can create many models and send them for acceptance. After acceptance, any model that is accepted can be made the champion on your local sandbox at any time replacing the earlier local champion.

Example 2:

Assume that in the previous example, you selected **Model Acceptance + Promote to Production**, then a Reviewer forwards it to the Approver. The Approver, at this stage, chooses to promote the model to production by selecting **Promote to Production**. The model is now available in the production environment and the Approver can choose at any time to select a model from these models in production and select **Make Champion - Global**. If there exists a Champion model in the production environment, then it will be replaced by the new global champion. However, the earlier champion will still be available in the production environment along with other models and the Approver can choose to make it the global champion again at any time or select any of the other models and make one of them the global champion.

4.3.7 Request Model Acceptance

After comparing models, move the selected models to acceptance. Only a user with either Requester or Reviewer roles can request for model acceptance. The model moved to acceptance is then available

to users with the Approver role, who can promote to production. See the [Understand Model Governance](#) section before you start here.

To request a model to promote to production, follow these steps:










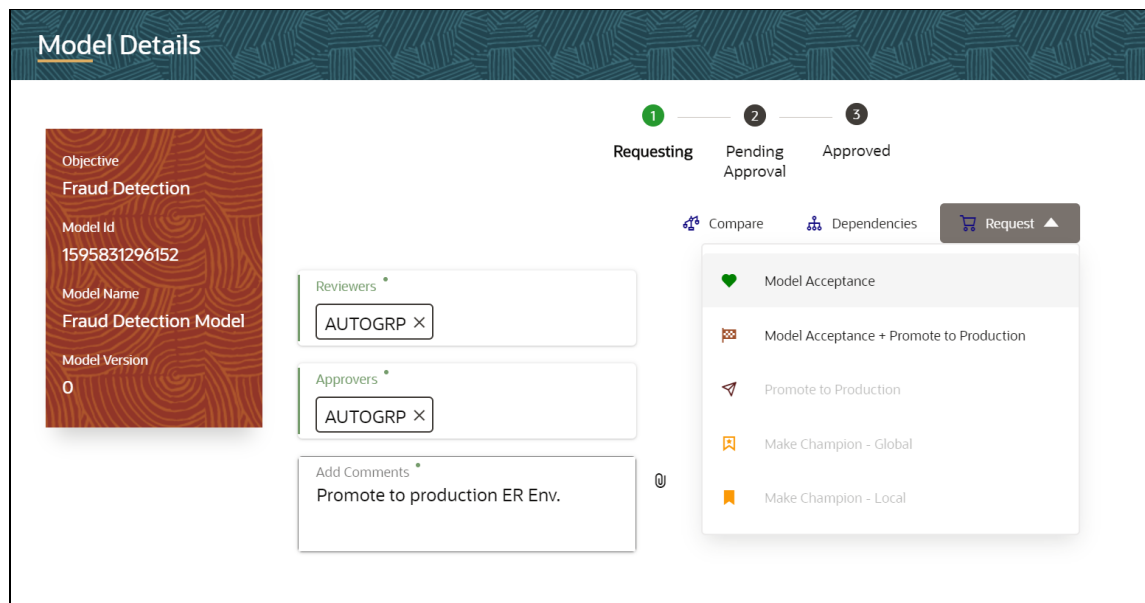
1. Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.
2. Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.
3. Select the required Sandbox and click  to display the **Sandbox Workspace** window with application configuration and model creation menu.
4. Click  to display the **Model Management** window. The window displays folders that contain models and model records in a table.
5. Click **Show Check Box**  to show the **Multi Compare**  button.
6. Select two or more models from the records in the objective to compare. If a model is a champion, the  icon is displayed on it.
7. Click  from the header to display the **Models Details** window with details for the selected models in side-by-side comparison mode.
8. To make a model a champion from this window, place the mouse in the selected model columns. and click  to display the **Model Details** window. If a model is a champion model, the  icon is displayed.

Figure 35: Model Details Window



9. Select the reviewer group from the **Reviewers** drop-down list.
10. Select the reviewer group from the **Reviewers** drop-down list.


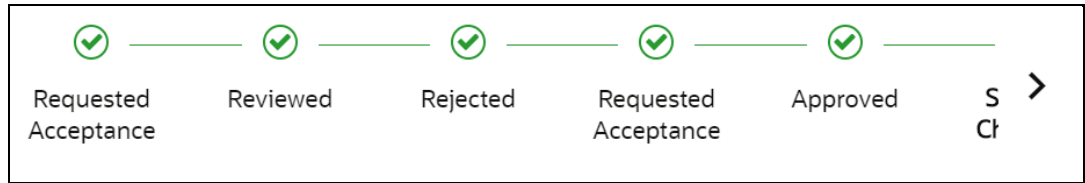
11. Enter comments in **Add Comments** and click  to attach files supporting the comments.
12. Use the following features on the window to perform additional actions.
 - View the model status change in the progress indicator. The Progress Indicator displays the various states of progress that the model has been through. Accordingly, you must request, review, or approve models.

Figure 36: Model Approval Progress Indicator






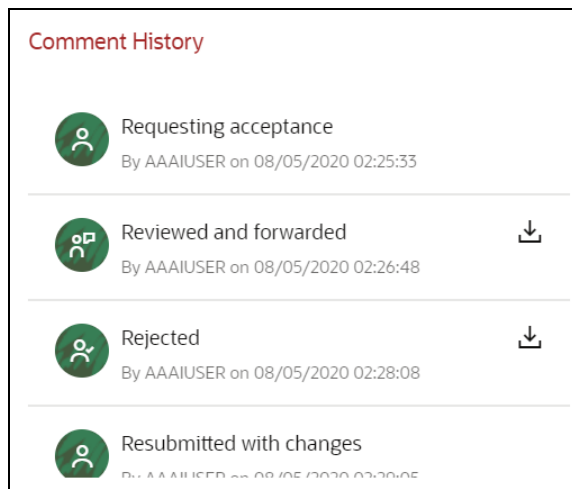
- Click to  compare with the champion model.
- Click  to view the dependencies associated with the model.
- Click  to select a type of request from the drop-down list:
 - Model Acceptance: To review and accept the model creation.
 - Model Acceptance + Promote to Production: To review and promote the model to production.
 - Make Champion - Local: If the model is not the champion model, select to make it the local champion.
 - Promote to Production:
- Comment History: A record of comments entered in the cycle of model creation and approval with the feature to download attachments.

Figure 37: Comment History Pane



The model sent for acceptance or for promotion to production is now displayed to a Reviewer when signed in, who must either accept the request or reject it.

4.3.8 Review Models and Move to Approve or Reject

The Reviewer must either accept or reject the request with comments describing the action. If rejected, the model goes back to the Requester to make changes or to delete it. If approved, the model moves further in the workflow and is displayed to an approver. See the [Understand Model Governance](#) section before you start here.

To review a model, follow these steps:





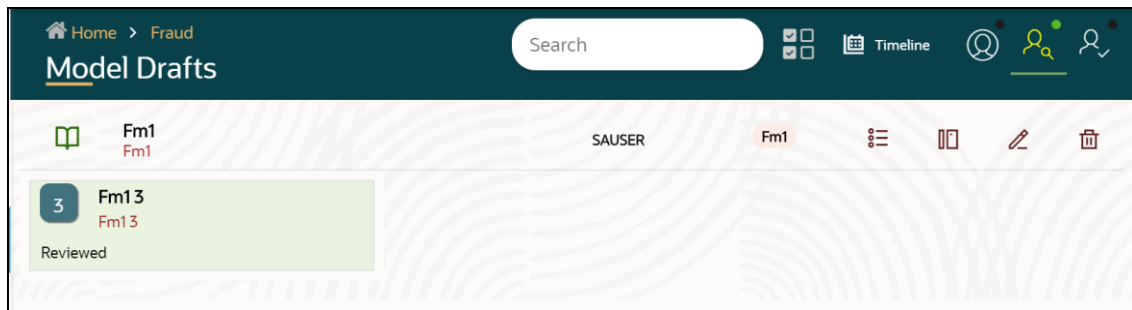

1. Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.
2. Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.
3. Select the required Sandbox and click  to display the **Sandbox Workspace** window with application configuration and model creation menu.
4. Click  to display the **Model Management** window. The window displays folders that contain models and model records in a table.
5. Click  and the record expands to display information for the versions and current status of the model.

Figure 38: Models in the Reviewer View








6. Click  to display the Model Details Window.
7. Review the details and send it back to the Requester for modifications or send it to an Approver.

4.3.9 Approve Models and Promote to Production

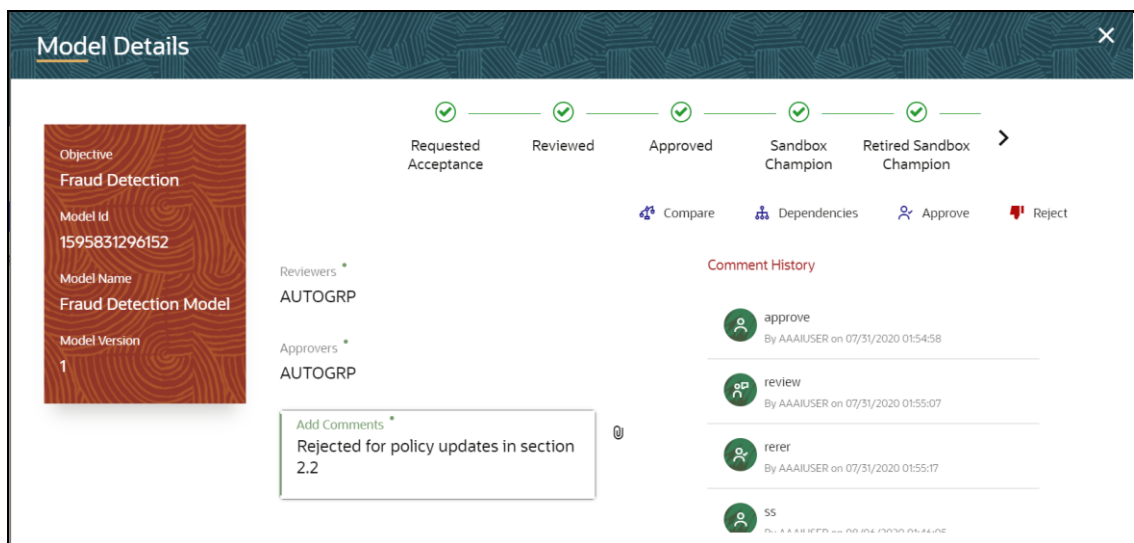
The models reviewed and set to promote to production by either the Requester or Reviewer is displayed to the Approver when signed in. The Approver has to either reject the model and send it back to the requester with supporting comments or approve it for pushing to production. See the [Understand Model Governance](#) section before you start here.

To approve or reject models, follow these steps:

1. Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.
2. Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.

3. Select the required Sandbox and click  to display the **Sandbox Workspace** window with application configuration and model creation menu.
4. Click  to display the **Model Management** window. The window displays folders that contain models and model records in a table.
5. Select a model from the records in the objective.
6. Click  and the record expands to display information for the versions and current status of the model.
7. Click  to display the Model Details Window.

Approver - Approve or Reject Models






8. Click Approve or Reject with appropriate comments.

4.3.10 Deploy Models in Production and Make it a Global Champion

After approving the models, deploy it to the production environment. You must have an Approver function role and privileges to do this activity.

To deploy Models in production, follow these steps:

1. Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.
2. Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.
3. Select the required Sandbox and click  to display the **Sandbox Workspace** window with application configuration and model creation menu.
4. Click  to display the **Model Management** window. The window displays folders that contain models and model records in a table.
5. Select a model from the records in the objective.



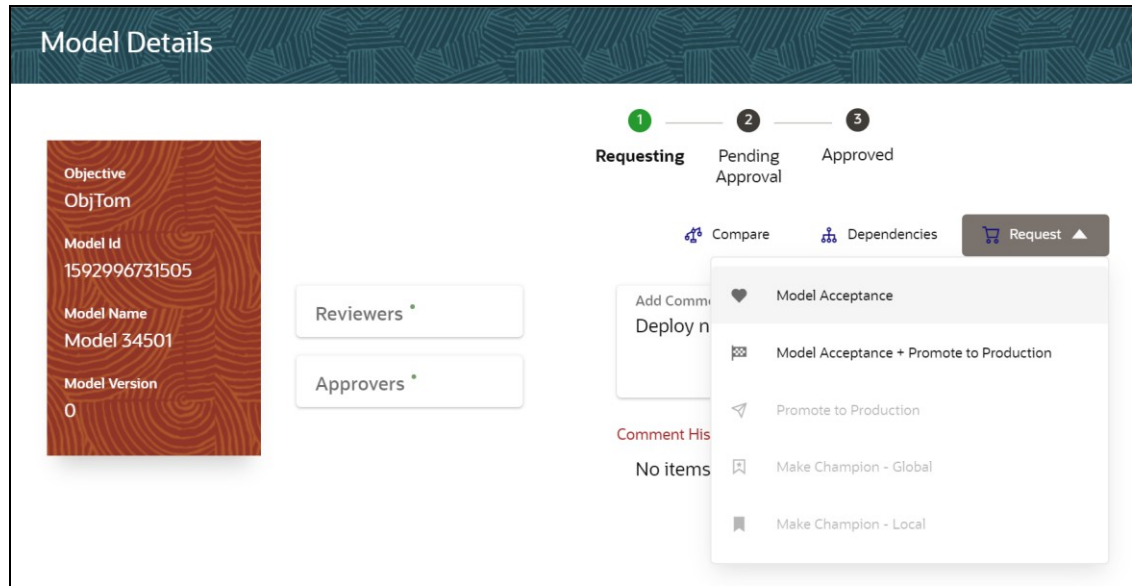
6. Select the model to deploy and click  to display the details of the model. If a model is a champion, the  icon is displayed.

Figure 39: Options in the Request Drop-down List



4.4 Execute Models in the OFSAA Environment

The models that you have created require that they are executed in the OFSAA Environment before they can be available to the users of OFSAA applications. This is accomplished through the Operations and Process Management features in OFSAA. The information in this section describes the execution methods specific to OFS MMG. For more information on how these features function in the OFSAA environment, see the [OFS Analytical Applications Infrastructure User Guide](#).

The following model execution processes are available for OFS MMG:

1. [Model Execution in OFSAA using Process Modeller Framework \(PMF\)](#)
2. [Model Execution in Data Studio using Operations \(ICC\)](#)
3. [Model Execution in Data Studio using Rule Run Framework \(RRF\)](#)

4.4.1 Model Execution in OFSAA using Process Modeller Framework (PMF)

The model execution process is run in OFSAA using the PMF, which has an OFSAA Widget built specifically for this purpose. For more details on PMF, see the [OFSAA Process Modelling Framework Orchestration Guide](#).

To access the Process Modeling Framework, follow these steps:

1. Log in to the OFSAA Application.


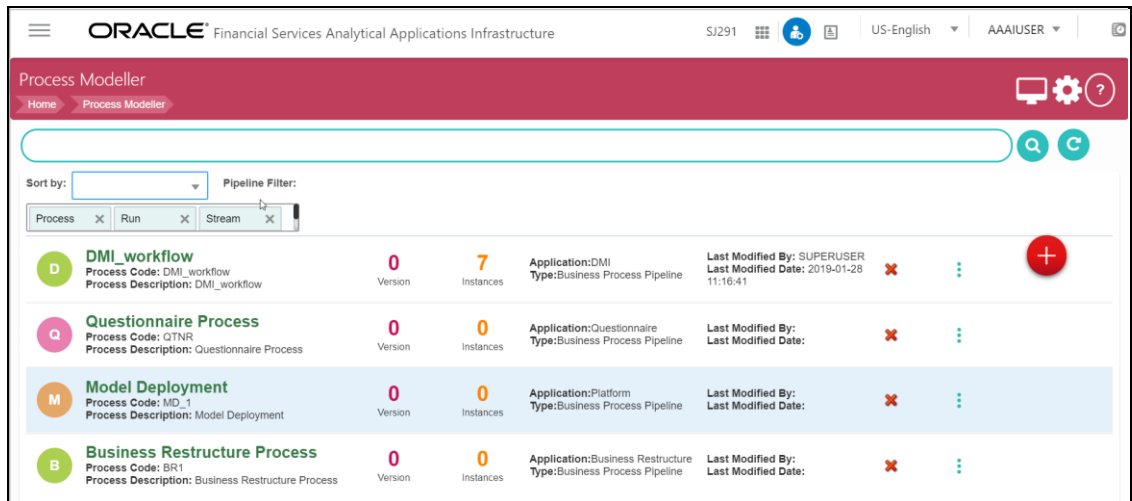
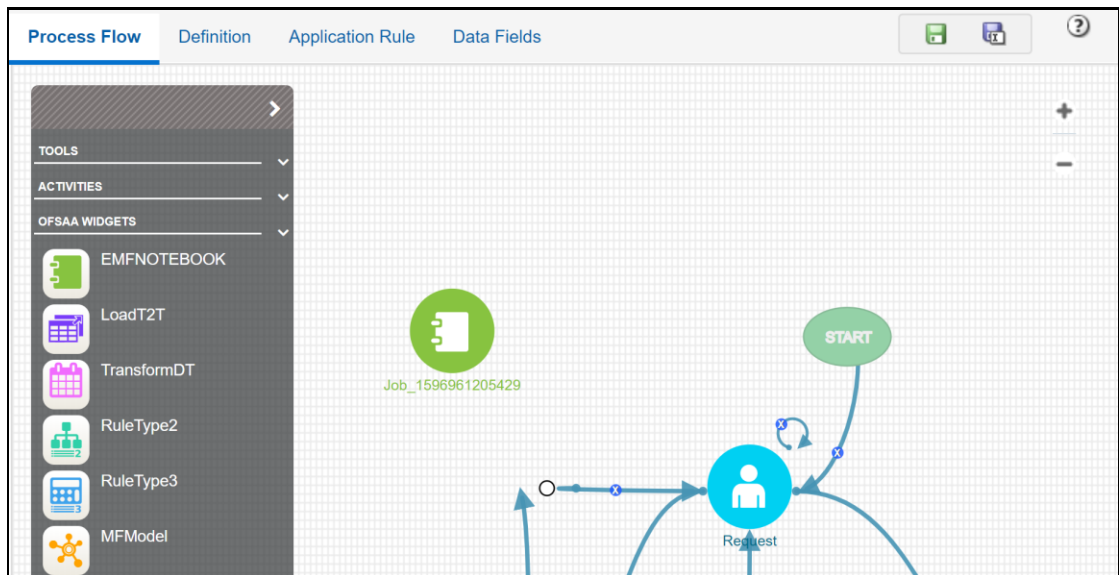
2. Click **Administration**  from the **Header** to display the administration tasks in the **Tiles** menu.
3. Select the required **Information Domain** from the drop-down list.
4. Select **Process Modeling Framework** to display a submenu.
5. Select **Process Modeler** from the submenu to display the **Process Modeler** window.

Figure 40: The Process Modeler Window



6. Select the **Model Deployment** Process from the list to display the PMF Canvas.
7. Select **OFSAA WIDGETS** from the Navigation Tree to expand the menu.
8. Click **EMFNOTEBOOK** from the menu to display the graphical representation of the process on the canvas.

Figure 41: The PMF Canvas




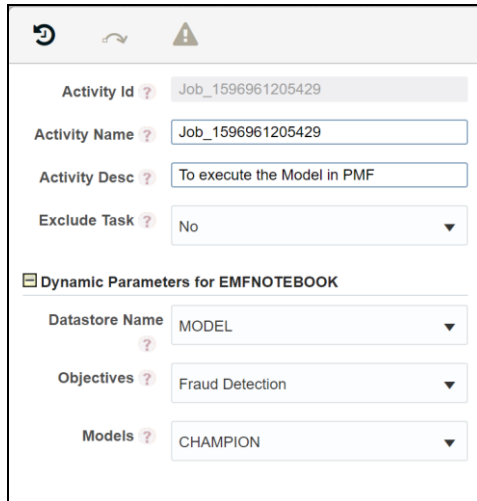
9. Double-click anywhere on the canvas to display the **Job**  icon.
10. Double-click the **Job** icon to display the Activity Details dialog box.

Figure 42: The Activity Details Dialog box



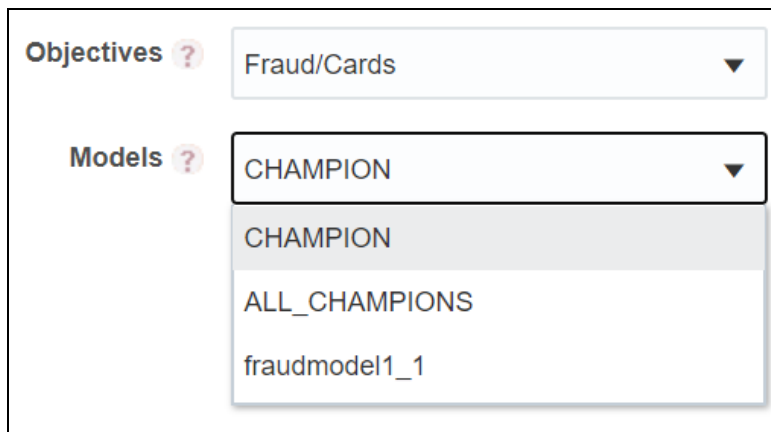
The screenshot shows a dialog box with the following fields and values:

- Activity Id: Job_1596961205429
- Activity Name: Job_1596961205429
- Activity Desc: To execute the Model in PMF
- Exclude Task: No
- Dynamic Parameters for EMFNOTEBOOK:
 - Datastore Name: MODEL
 - Objectives: Fraud Detection
 - Models: CHAMPION

11. Select the required **Datastore Name**.
12. Select the required Objective from the **Objectives** drop-down list.
13. Select the required model to execute from the **Models** drop-down list.

All the models for the selected Objective are displayed in the drop-down list with the values of CHAMPION and ALL_CHAMPION as shown in the example in the following illustration.

Figure 43: The Models Drop-down List in Activity




The screenshot shows the 'Objectives' field set to 'Fraud/Cards' and the 'Models' field expanded to show the following list of options:

- CHAMPION
- CHAMPION
- ALL_CHAMPIONS
- fraudmodel1_1

Let us understand how the selection works by elaborating more on the illustration in the preceding example. There are two objectives: Fraud and Cards. Cards is a child objective of the Fraud objective. There may be models in the Fraud objective and the Cards objective. All the models are displayed in the Models drop-down list with the addition of the CHAMPION and ALL_CHAMPION model selections. Consider that the Fraud objective has a champion model and other models. Similarly, the Cards objective might have a champion model and other models in it.

In the preceding example, if you select the CHAMPION value, the champion model for Cards objective is executed (if you had selected only Frauds in the Objective drop-down list, then the champion model for Frauds would have been executed). If you select the fraudmodel1_1 value, the fraudmodel1_1 model (Models that are not champion models from both the objectives are listed) is executed. If you select ALL_CHAMPIONS, the champion models in both the Fraud and Cards objectives are executed.

14. Click anywhere on the canvas and click  to save the definition.
15. Execute the model from the PMF Summary window. For more details on PMF Process Execution (Test Process Flow and Execute Run), see the [OFSAA Process Modelling Framework Orchestration Guide](#).

4.4.2 Model Execution in Data Studio using Operations (ICC)

The model execution is also available from the Data Studio integrated with OFSAA. This is possible using the Operations feature in OFSAA that is integrated with OFS MMG.

To access the Operations feature in OFS MMG and execute a model, follow these steps:




1. Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.
2. Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.
3. Select the required Sandbox and click  to display the **Sandbox Workspace** window with application configuration and model creation menu.
4. Click  to display the Operations menu.
5. Select **Batch Maintenance** to display the Batch Maintenance window.
6. Select the required batch from the **Batch Name** pane to display the **Task Details** pane.
7. Click **+ Add** to display the **Task Definition** window.

Figure 44: The Task Definition Window

Task Definition

Save Reset Close

Task ID: Task3 Description: Run model in data studio

Components: STUDIOMODEL

Dynamic Parameters List

Property	Value
Datastore Type	EDW
Datastore Name	SJ291
Primary IP For Runtime Processes	whf00pfv
Model Objective	Fraud/Cards
Model	ALL_CHAMPIONS
Optional Parameters	

8. The Task ID is an automatically generated and system assigned value. Enter appropriate comments in the **Description** field.
9. Select **STUDIOMODEL** from the **Components** drop-down list to display the Dynamic Parameters List pane.
10. Select the required **Datastore Type** from the drop-down list.
11. Select the required **Datastore Name** from the drop-down list.
12. Select the appropriate **Primary IP Runtime Processes** from the drop-down list.
13. Select the required objective that contains the models from the **Model Objective** drop-down list.
14. Select the required model to be executed from the **Model** drop-down list.
15. Enter the runtime parameters enclosed in square brackets [] in **Optional Parameters**. See the following for an example in ICC. See step 4 in the [Create Paragraphs in Data Studio Notebooks](#) section to understand how this parameter is used in the Data Studio.
 - Pass ICC runtime parameters as follows:

```
[threshold]=0.5
```

NOTE

The following runtime parameters are supported during run execution:

Batch run id - \$BATCHID

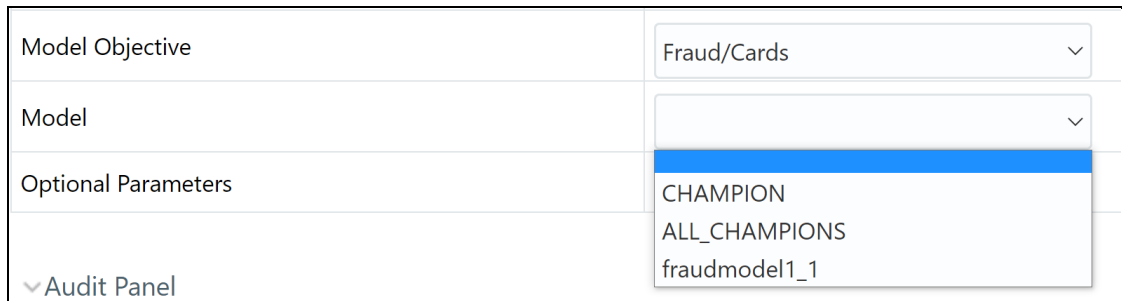
Task ID - \$TASKID

FIC MIS Date - \$MISDATE

Values for the runtime parameters are implicitly passed while executing the Run definition.



- All the models for the selected Objective are displayed in the drop-down list with the values of CHAMPION and ALL_CHAMPION as shown in the example in the following illustration.

Figure 45: The Models Drop-down List in Dynamic Parameters List



Let us understand how the selection works by elaborating more on the illustration in the preceding example. There are two objectives: Fraud and Cards. Cards is a child objective of the Fraud objective. There may be models in the Fraud objective and the Cards objective. All the models are displayed in the Models drop-down list with the addition of the CHAMPION and ALL_CHAMPION model selections. Consider that the Fraud objective has a champion model and other models. Similarly, the Cards objective might have a champion model and other models in it.


In the preceding example, if you select the CHAMPION value, the champion model for Cards objective is executed (if you had selected only Frauds in the Objective drop-down list, then the champion model for Frauds would have been executed). If you select the fraudmodel1_1 value, the fraudmodel1_1 model (Models that are not champion models from both the objectives are listed) is executed. If you select ALL_CHAMPIONS, the champion models in both the Fraud and Cards objectives are executed.



- Click **Save** to save the model definition.
- Click  to display the Operations menu.
- Select **Batch Execution** to display the Batch Execution window.
- Select the batch from the Batch Details pane and click **Execute**. All the tasks configured in the batch are executed. To monitor, click  to display the Operations menu. Select **Batch Monitor** to display the Batch Monitor window.

4.4.3 Model Execution in Data Studio using Rule Run Framework (RRF)

The model execution processes discussed in the previous sections can also be accomplished using the RRF Framework available with the integration with OFSAA. For more information about RRF, see the *Run Rule Framework* section in the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

To access the RRF feature in OFS MMG and execute a model, follow these steps:

- Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.

2. Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.
3. Select the required Sandbox and click  to display the **Sandbox Workspace** window with application configuration and model creation menu.
4. Click  to display the **Process Management** menu. From this menu, select **Process** or **Run** to execute a model as shown in the following sections.

4.4.3.1 Model Execution in RRF using Process

The **Process** menu helps you define a model execution in RRF using the rule-based set up of a process. For more information, see the *Process* section in the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

To execute a model using Process in RRF, follow these steps:









1. Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.
2. Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.
3. Select the required Sandbox and click  to display the **Sandbox Workspace** window with application configuration and model creation menu.
4. Click  to display the **Process Management** menu.
5. Select **Process** to display the **Process** window.
6. Click  **New** to display the **Process Definition** window.
7. Click  in the **Linked to** section to display the **Folder Selector** context window.
8. Select the required folder and click **OK**.
9. Enter an identifier for the process in **Code**.
10. Enter a name for the process in **Name**.
11. Select **Process** from the **Type** drop-down list.
12. Click **Component** tab to display the **Component Selector** context window.
13. Click **Studio** and expand the menu in the **Available Components** pane.
14. Select the model to execute and click **Move** to include the model in the **Tasks** pane. To remove from the **Tasks** pane, click **Remove**. Use the **Ascending** and **Descending** buttons to sort. Click the **Move Up** and **Move Down** buttons to move the sequence of the models selected.

Figure 46: The Component Selector Window in Process



15. Click **OK**.
16. Click **Save** in the **Process Definition** window. A message is displayed with the save details.
17. Click **OK**. The **Process** window displays the process definition.
18. Select the process definition from the list in the **Process** window. The process now requires an execution from the Run window.
19. Click  to display the **Process Management** menu.
20. Select **Run** to display the **Run** window.
21. Click **+ New** to display the **Run Definition** window.
22. Click  in the Linked to section to display the **Folder Selector** context window.
23. Select the required folder and click **OK**.
24. Enter **Code** and **Name** in the **Master Information** section.
25. Select the type of run from the **Type** drop-down list.
26. Click **Selector** from the **List** section to display the submenu.
27. Select **Job** from the submenu to display the **Component Selector** context window.
28. Click **Processes** and expand the menu in the **Available Components** pane.
29. Select the process to execute and click **Move** to include the process in the **Tasks** pane. To remove from the **Tasks** pane, click **Remove**. Use the **Ascending** and **Descending** buttons to sort. Click the **Move Up** and **Move Down** buttons to move the sequence of the processes selected.
30. Click **OK**.
31. Click **Next** in the **Run Definition** window. The **Detail Information** section displays the processes selected for execution in **Jobs**.
32. Click **Save** to display a confirmation message.
33. Click **OK**. The **Run** window displays the run executable.

34. Select the run executable from the list in the **Run** window.
35. Click  **Fire Run** to start the model execution in the RRF in the **Run Definition** window.
36. Select the required type of executable from the **Request Type** drop-down list.
37. Select **Create and Execute** from the **Batch** drop-down list.
38. Click the date-picker and select the required date from the **MIS Date** drop-down list.
39. Select **Yes** from the drop-down list and enter the duration in seconds. This step is optional.
40. Enter the runtime parameters enclosed in square brackets [] in **Parameters**. See step 4 in the [Create Paragraphs in Data Studio Notebooks](#) section to understand how this parameter is used in the Data Studio.
 - Pass RRF runtime parameters as follows:


```
[threshold]=0.5
```

NOTE

The following runtime parameters are supported during run execution:

Batch run id - \$BATCHID

Task ID - \$TASKID

FIC MIS Date - \$MISDATE






Values for the runtime parameters are implicitly passed while executing the Run definition.

41. Click **OK**. The batch execution in progress message is displayed.

4.4.3.2 Model Execution in RRF using Run

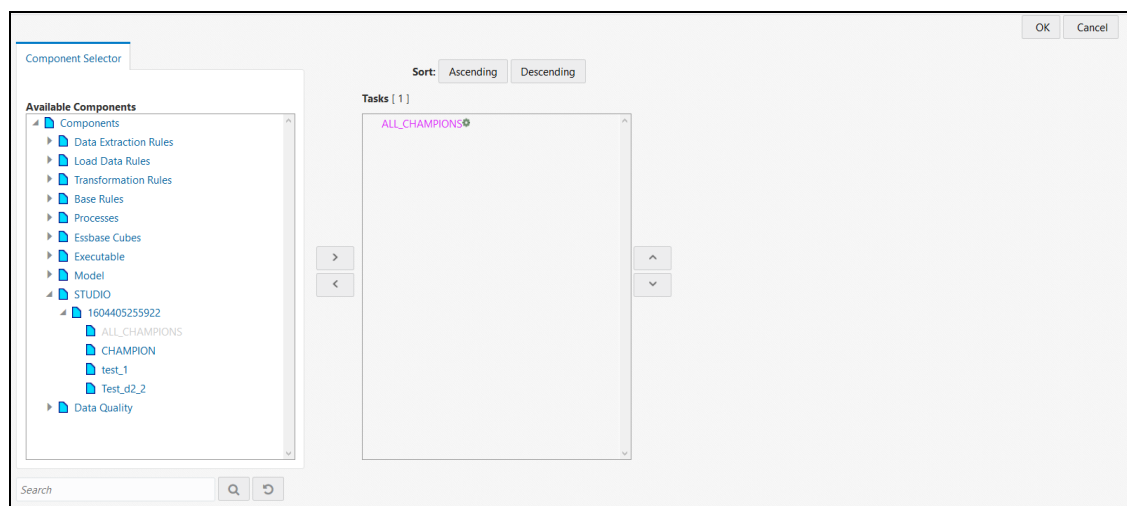
The Run menu helps you execute a model directly from RRF. For more information, see the *Run* section in the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).


To execute a model using Run in RRF, follow these steps:

1. Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.
2. Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.
3. Select the required Sandbox and click  to display the **Sandbox Workspace** window with application configuration and model creation menu.
4. Click  to display the **Process Management** menu.
5. Select **Run** to display the **Run** window.
6. Click  **New** to display the **Run Definition** window.
7. Click  in the Linked to section to display the **Folder Selector** context window.

8. Select the required folder and click **OK**.
9. Enter **Code** and **Name** in the **Master Information** section.
10. Select the type of run from the **Type** drop-down list.
11. Click **Selector** from the **List** section to display the submenu.
12. Select **Job** from the submenu to display the **Component Selector** context window.
13. Click **Studio** and expand the menu in the **Available Components** pane.
14. Select the model to execute and click **Move** to include the model in the **Tasks** pane. To remove from the **Tasks** pane, click **Remove**. Use the **Ascending** and **Descending** buttons to sort. Click the **Move Up** and **Move Down** buttons to move the sequence of the models selected.

Figure 47: The Component Selector Window in Run



15. Click **OK**.
16. Click **Next** in the **Run Definition** window. The **Detail Information** section displays the models selected for execution in **Jobs**.
17. Click **Save** to display a confirmation message.
18. Click **OK**. The **Run** window displays the run executable.
19. Select the run executable from the list in the **Run** window.
20. Click  **Fire Run** to start the model execution in the RRF in the **Run Definition** window.
21. Select the required type of executable from the **Request Type** drop-down list.
22. Select **Create and Execute** from the **Batch** drop-down list.
23. Click the date-picker and select the required date from the **MIS Date** drop-down list.
24. Select **Yes** from the drop-down list and enter the duration in seconds. This step is optional.
25. Enter the runtime parameters enclosed in square brackets [] in **Parameters**. See step 4 in the [Create Paragraphs in Data Studio Notebooks](#) section to understand how this parameter is used in the Data Studio.
 - Pass RRF runtime parameters as follows:

```
[threshold]=0.5
```

NOTE

The following runtime parameters are supported during run execution:

Batch run id - \$BATCHID

Task ID - \$TASKID

FIC MIS Date - \$MISDATE

Values for the runtime parameters are implicitly passed while executing the Run definition.

26. Click **OK**. The batch execution in progress message is displayed.

4.5 Import a Sandbox Model Data into a New Model

The model data from existing models in OFS MMG in .dmp format and the existing model data in Data Studio in .dsnb can be imported during the creation of a new model. The import of model data lets you reuse and extend on model creation. This topic is part of the procedure of creating Training Models and after creating a new model using this method, see the [Create Draft Models \(Training\)](#) section for instructions on how to proceed further.

To import model data, follow these steps:





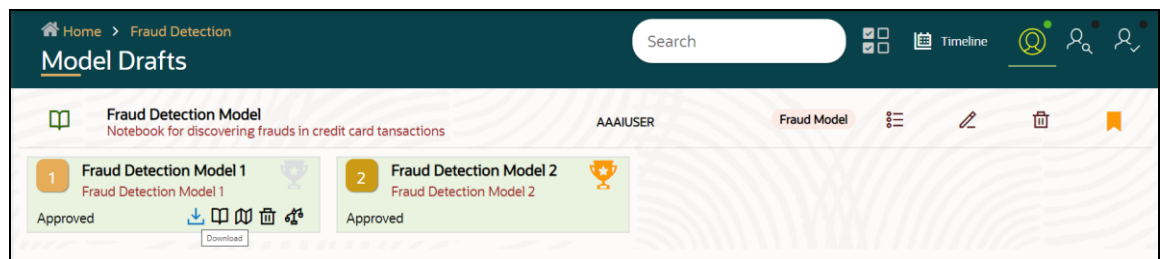
1. Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.
2. Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.
3. Select the required Sandbox and click  to display the **Sandbox Workspace** window with application configuration and model creation menu.
4. Click  to display the **Model Management** window. The window displays folders that contain models and model records in a table.
5. Select an **Objective**.
6. Select a model and click  to display the model versions in the expanded display.

Figure 48: Model Versions



7. Hover over a model and click  to download the model data dump.



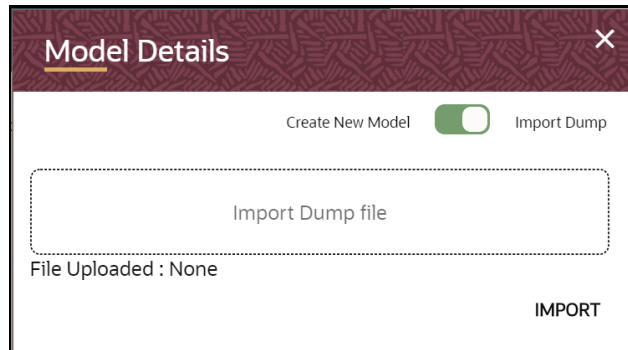
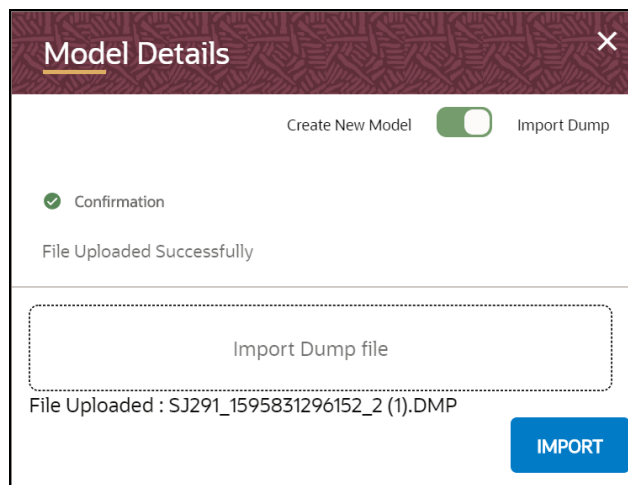
- Click  and  Drafts to display the **Model Details** dialog box for the creation of a new model.

Figure 49: Model Details - Import Dump



- Drag the toggle switch to select **Import Dump**.
- Drag and drop the file into the **Import Dump File** field or click in the box to open the file selector dialog and select a file.





- Click **IMPORT**. A new model is created by importing the model data dump of another model.

4.6 Use the Model Audit Window

At any time, you can audit models from the Model Audit window. The sequence of actions performed in the model lifecycle is listed in the table view and the timeline view (graphical representation).

To audit models, follow these steps:

- Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.
- Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.
- Select the required Sandbox and click  to display the **Sandbox Workspace** window with application configuration and model creation menu.



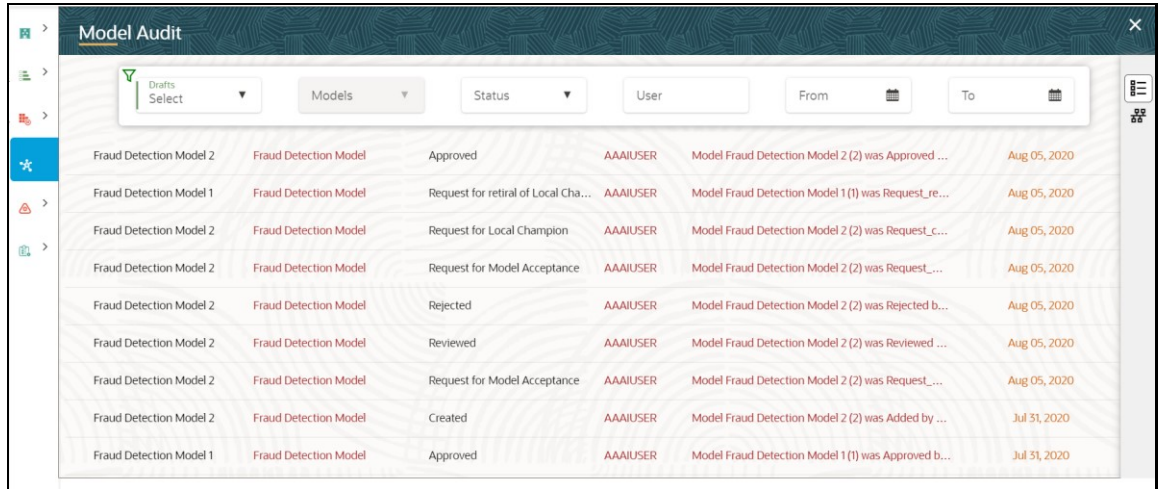
4. Click  to display the **Model Management** window. The window displays folders that contain models and model records in a table.
5. Select a Model and click  to view the time of the various actions performed on the model in the **Model Audit** window.

Figure 50: Model Audit Window



Model Name	Model ID	Status	User	Action Description	Date
Fraud Detection Model 2	Fraud Detection Model	Approved	AAAUSER	Model Fraud Detection Model 2 (2) was Approved ...	Aug 05, 2020
Fraud Detection Model 1	Fraud Detection Model	Request for retir...	AAAUSER	Model Fraud Detection Model 1 (1) was Request_re...	Aug 05, 2020
Fraud Detection Model 2	Fraud Detection Model	Request for Local Champion	AAAUSER	Model Fraud Detection Model 2 (2) was Request_c...	Aug 05, 2020
Fraud Detection Model 2	Fraud Detection Model	Request for Model Acceptance	AAAUSER	Model Fraud Detection Model 2 (2) was Request_...	Aug 05, 2020
Fraud Detection Model 2	Fraud Detection Model	Rejected	AAAUSER	Model Fraud Detection Model 2 (2) was Rejected b...	Aug 05, 2020
Fraud Detection Model 2	Fraud Detection Model	Reviewed	AAAUSER	Model Fraud Detection Model 2 (2) was Reviewed ...	Aug 05, 2020
Fraud Detection Model 2	Fraud Detection Model	Request for Model Acceptance	AAAUSER	Model Fraud Detection Model 2 (2) was Request_...	Aug 05, 2020
Fraud Detection Model 2	Fraud Detection Model	Created	AAAUSER	Model Fraud Detection Model 2 (2) was Added by ...	Jul 31, 2020
Fraud Detection Model 1	Fraud Detection Model	Approved	AAAUSER	Model Fraud Detection Model 1 (1) was Approved b...	Jul 31, 2020



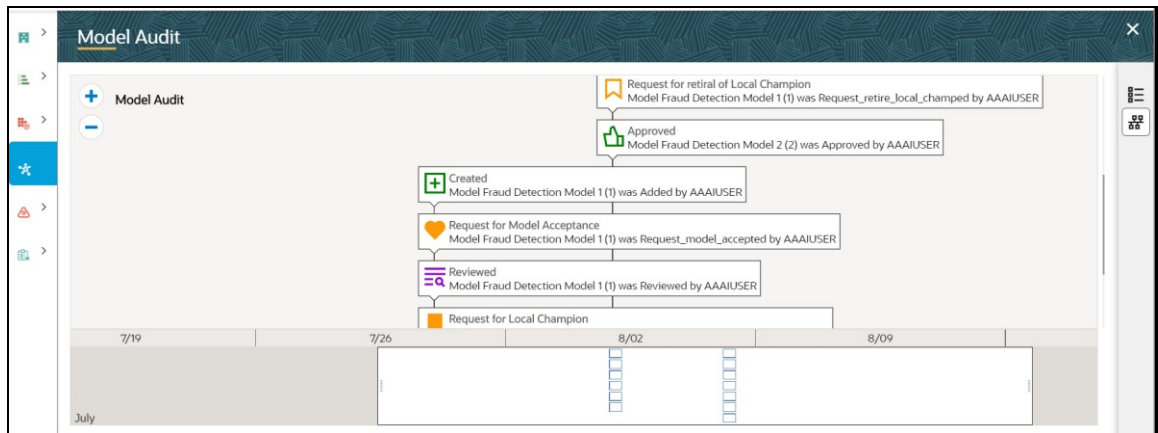
6. Click  for Timeline View. Click  to switch to the regular view. Click **X** to close the window.


Figure 51: Model Audit Window Timeline View with Horizontal Time Axis



4.7 Use Scope

The Scope provides a detailed view of the components of the model in the Scope Details window. The window displays a scrollable system.

To access the Scope Details window, follow these steps:

1. Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.




2. Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.
3. Select the required Sandbox and click  to display the **Sandbox Workspace** window with application configuration and model creation menu.
4. Click  to display the **Model Management** window. The window displays folders that contain models and model records in a table.
5. Click  and the record expands to display information for the versions and current status of the model.
6. Hover over the model records to view the various icons available for the model.

Figure 52: Mouse Over the Model to View Scope Icon




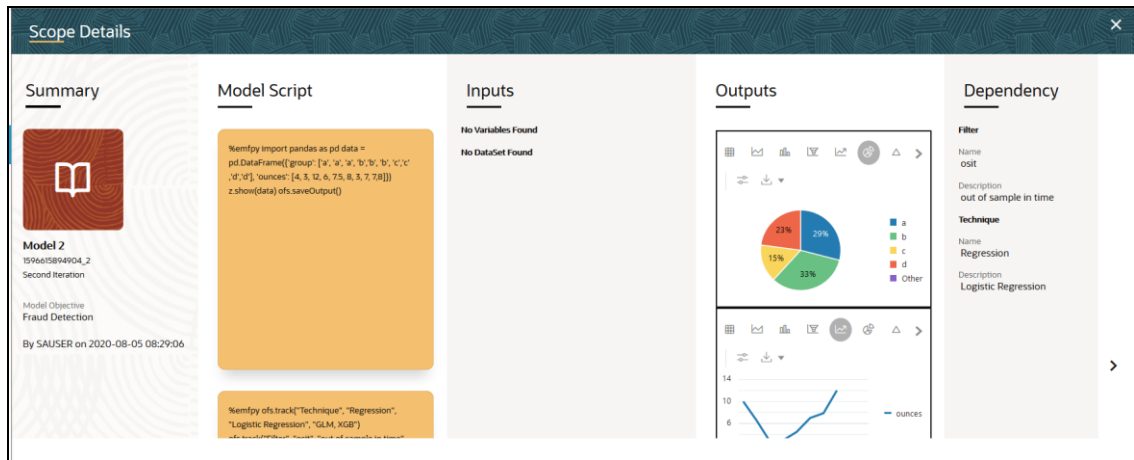
7. Click  to display the Scope Details window.

Figure 53: Mouse Over the Model to View Scope Details window




Use the vertical and horizontal scroll to view the details that make up the model.

4.8 Use View Models

The View Models feature launches the OFS MMG Data Studio window. You can edit models on this window.

To use View Models, follow these steps:

1. Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.
2. Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.




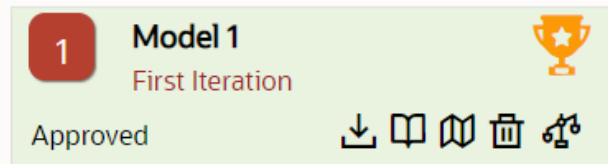

3. Select the required Sandbox and click  to display the **Sandbox Workspace** window with application configuration and model creation menu.
4. Click  to display the **Model Management** window. The window displays folders that contain models and model records in a table.
5. Click  and the record expands to display information for the versions and current status of the model. Hover over the model records to view the various icons available for the model.

Figure 54: Mouse Over the Model to View Scope Icon







6. Click  to display the OFS MMG Data Studio window.
Use the vertical and horizontal scroll to view the details that make up the model. Also, see the [Edit Models](#) section for another option to edit models. See the [Create Paragraphs in Data Studio Notebooks](#) section for details on how to use the OFS MMG Data Studio.

4.9 Edit Models

The editing of models created versions that are different from the previously saved model and the cycle of [Model Governance](#) applies to any edited model. You can edit models from the OFS MMG Data Studio window using Python scripting language.

To edit a model, follow these steps:

1. Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.
2. Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.
3. Select the required Sandbox and click  to display the **Sandbox Workspace** window with application configuration and model creation menu.
4. Click  to display the **Model Management** window. The window displays folders that contain models and model records in a table.
5. Select  to edit the models in Data Studio. Also, see the [Use View Models](#) Section, which provides another option to edit models in OFS MMG Data Studio. See the [Create Paragraphs in Data Studio Notebooks](#) section for details on how to use the OFS MMG Data Studio.

4.10 Delete Objectives and Models

To delete Objectives and Models that exist in the Objectives, follow these steps:

1. Click **Applications**  from the **Header** to display the applications in the **Tiles** menu.





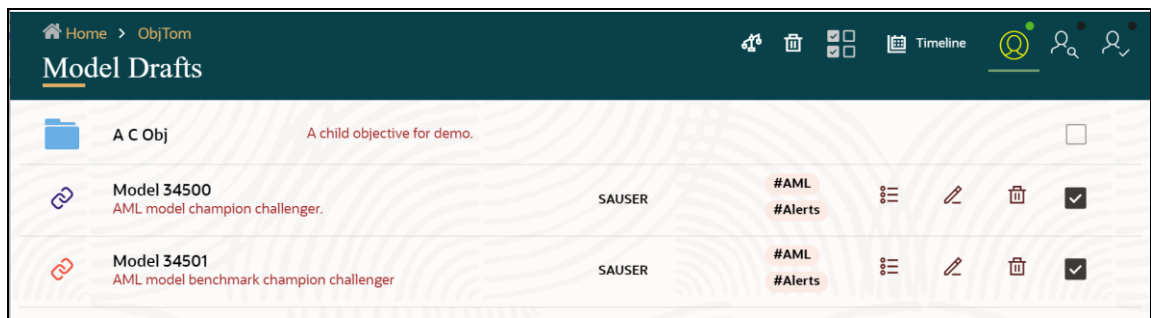

2. Select the **Financial Services Model Management and Governance** application to display the **Sandbox Summary** page. The page displays sandbox records in a table.
3. Select the required Sandbox and click  to display the **Sandbox Workspace** window with application configuration and model creation menu.
4. Click  to display the **Model Management** window. The window displays folders that contain models and model records in a table.
5. Click **Show Check Box**  to show the **Multi Delete**  button.
6. Select two or more objectives or models from the records.

Figure 55: Delete Multiple Objectives or Models



7. Click  to display the **Confirmation** dialog box.
8. Click **OK** to delete or click **Cancel** to cancel.

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