# Oracle® Financial Service
# Inline Processing Engine User Guide

Release 8.0.9.0.0
G27549-01
February 2025

ORACLE®

# Contents

# 6   Managing Expressions

# 7   Managing Post Processing Actions

# 8    Managing Profiles

# 9    Managing Virtual Profiles

# 10    Managing Evaluations

# List of Figures

# List of Tables

# 1

# Preface

This guide explains the concept behind the Inline Processing Engine (IPE) and step-by-step instruction to use the framework.

This preface includes the following topics:

- Audience
- Related Documents
- Conventions
- Acronyms

## Audience

This guide is intended for the following users:

- Business Users and Administrators who are instrumental in solution designing and creation of statistical models using historical data and also to maintain and execute batches, make the Infrastructure Application secure and operational.

## Related Documents

For more information about the Inline Processing Engine, refer to the following documents.

- OFS Inline Processing Engine Configuration Guide 8.0.9.0.0
- OFS Inline Processing Engine Sample Application Installation Guide 8.0.9.0.0
- OFS Advanced Analytical Applications Infrastructure Application Pack Installation and Configuration Guide 8.0.9.0.0
- OFS Analytical Applications Environment Check Utility Guide 8.0.9.0.0
- OFS Advanced Analytical Applications Infrastructure User Guide 8.0.9.0.0

The above documents are available at the OHC Documentation Library.

## Conventions

**Table 1-1    Conventions Used in this Guide**

| Convention | Meaning |
|---|---|
| *Italics* | <ul><li>Names of books, chapters, and sections as references</li><li>Emphasis</li></ul> |
| **Bold** | <ul><li>Object of an action (menu names, field names, options, button names) in a step-by-step procedure</li><li>Commands typed at a prompt</li><li>User input</li></ul> |

**Table 1-1    (Cont.) Conventions Used in this Guide**

| | |
|---|---|
| Monospace | • Directories and sub-directories<br>• File names and extensions<br>• Process names<br>• Code sample, including keywords and variables within text and as separate paragraphs, and user-defined program elements within text |
| <Variable> | Substitute input value |

# Acronyms

**Table 1-2    Acronyms**

| Acronyms | Meaning |
|---|---|
| HTML | Hyper Text Markup Language |
| HTTP | Hypertext Transfer Protocol |
| Infodom | Information Domain |
| IP | Internet Protocol |
| IPE | Inline Processing Engine |
| OFSAA | Oracle Financial Services Analytical Applications |
| OFSAAA | Oracle Financial Services Advanced Analytical Applications |
| LHS menu | Left hand side menu |
| OFSAAI | Oracle Financial Services Analytical Applications Infrastructure |
| PDF | Portable Data Format |
| URL | Uniform Resource Locator |
| XML | Extensible Markup Language |

# 2

# Inline Processing Engine (IPE)

The Inline Processing Engine supports the ability to rapidly provide knowledge of related suspicious behavior back to individual business units, and even alert customers about any unpredicted activity.

This capability helps to identify events earlier, avert more losses, and minimize customer service and retention issues. This combination of real-time detection and interdiction, real-time alert correlation, and sophisticated behavior detection provided by the application, will result in a competitive fraud prevention offering.

The system uses cases from risk and performance OFSAA Applications, where real time monitoring is required.

The Oracle Financial Services Inline Processing Engine application creates an infrastructure for real time monitoring of incoming messages. This capability will enable you to identify fraud events earlier, avert more losses, and minimize customer service and retention issues.

This chapter covers the following topics:

- Key Features
- Workflow of Inline Processing Engine application
- Users and User Groups

## Key Features
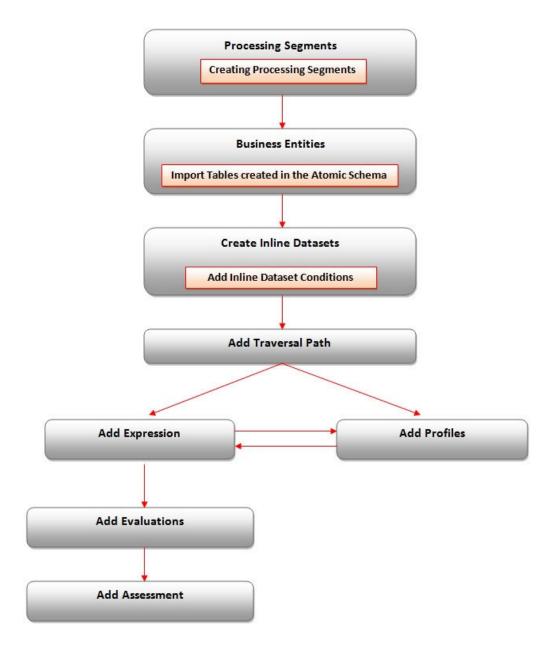
The Inline Processing Application has the following key features:

- **Association and Configuration**: The Association and Configuration menu has the following sections:
  - Processing Segments
  - Business Entities
  - Inline Datasets
  - Traversal Path
- **Expressions**: Expressions are used in Evaluation scoring and Filters.
- **Post Processing Actions**: Post Processing Actions are the actions which can be triggered by the outcome of the Assessment.
- **Profiles**: A profile is an aggregation of information. Profiles can be based on different grouping entities (for example, account, customer, and so on). This can be filtered to only look at particular kinds of transactions. Profiles can be based on time (last three months) or transaction counts (last 100 transactions).
- **Evaluations**: An assessment is made up of multiple individual evaluations. These evaluations start with information on the incoming transaction and check logical conditions.
- **Assessments**: When a transaction is received, an Assessment is performed. The assessment is a collection of individual evaluations, each of which can return a score.

# Workflow of Inline Processing Engine application

The process flow of the Inline Processing Engine application is shown below.

**Figure 2-1    IPE Workflow**



# Users and User Groups

The Inline Processing Engine application consists of the following users and their actions:

- **Users**: IPE Administrators who maintain and execute batches, make the Infrastructure Application secure and operational, and configure users and security.

- **User Groups**: The user group IPEADMN must be mapped to the user to access IPE.

# 3

# General Features

This chapter explains the general features of Inline Processing Engine application UI. These are the common features that are found across the modules of Inline Processing Engine. It describes the organization of the user interface and provides step-by-step instructions for navigating through the application.

This chapter includes the following topics:

- Home Page Components
- Using Common Buttons in IPE
- Acronyms

## Home Page Components

The Home Page contains the following sections

- Header
- Navigation List
- Tab Bar
- Content
- Footer

**Figure 3-1    Homepage**



## 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 EMF:

- **Applications**: Click this icon to display applications in a Tiles menu on the content window.

- **Administration**: Click this icon to display administration tools in a Tiles menu on the content window.
- **Sandbox**: Click this icon to display Sandboxes in a Tiles menu on the content window.
- **Language**: Displays the selected language. Click to select from the options in the drop down.
- **User Name**: Displays the logged in user name. Click to select from the following options in the drop down:
    - **Preferences**: Select to set the Home page.
    - **About**: Select to view the copyrights and third-party information.
    - **Change Password**: Select to change the password in the Change Password window.
    - **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.

**Applications**

The applications available are displayed in a Tiles menu on the content window. Click the Tiles to open the selected application. For IPE, the following applications are available:

- **Financial Services Inline Processing Engine**
    - Inline Processing
    - Inline Processing Reports
    - Data Management: For more information, see the Oracle Financial Services Analytical Applications Infrastructure User Guide.
    - Data Management Framework: For more information, refer to the Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide.
    - IPE Execution: This module allows the user to execute an assessment in IPE. For more information, refer to the Rules Run Framework module and Operation module in Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide. To execute the assessment in batch mode for IPE, refer Executing an Assessment Batch.
    - Metadata Browser: For more information, refer to the Oracle Financial Services Adcanced Analytical Applications Infrastructure User Guide.
- **Common Tasks**: For more information, see the Oracle Financial Services Analytical Applications Infrastructure User Guide.
    - Data Model Management
    - Unified Analytical Metadata
    - Utilities
    - Object Administration

**Administration**

The administration feature displays on Tiles menu. Click the Tiles navigate further. For more information, see the Oracle Financial Services Analytical Applications Infrastructure User Guide. For EMF, the following applications are available:

- Translation Tools

- Processing Modeling Framework

**Sandbox**

The Sandbox icon from the header displays options in Tiles menu. Click on the menu to display the following menu items:

- Modeling

- Model Creation

- Model Execution Status

- Model Output Model Deployment

**Navigation List**

The Navigation 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 window. For more details, see the Oracle Financial Services Analytical Application Infrastructure User Guide.

**Tab Bar**

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

# Using Common Buttons in IPE

This topic describes the common buttons used in the IPE application.

| Button | Description |
| --- | --- |
| | To create a function. |
| | To view the details of a function. |
| | To edit the details of a function. |
| | To clear the fields and reset to default values. |
| | To select a new member. |
| | To select a filter / run condition/ define sub process. |
| | To select a source / component / job. |
| | To select a hierarchies / measures / job condition. |
| | To set precedence for members. |
| | To execute a Run definition. |
| | To select hierarchical members |
| | To delete a function. |
| | To select the entities. |
| | To validate grid data. |
| | To save the details. |
| | To view the properties. |
| | To Refresh the grid details. |
| | To erase a specific value. |

| Button | Description |
| --- | --- |
| | To define an expression. |
| | To generate source model. |
| | To add attributes / add Source Configuration / Authorize a function. |
| | To generate Source Models. |
| | To generate a logic and view the SQL query / check syntax of the stored procedure. |
| | To add the source database configuration details. |
| | To view the dependencies of the selected Object. |
| | To Export data. |
| | To trace a definition details. |
| | To receive instant on-window help. |
| | To view the log. |
| | To specify a date using calendar. |
| | To View Dependencies. |
| | To run the object migration rule. |
| | To interrupt the object migration rule. |
| | To add and view the source database configuration details |
| / | To authorize or reject a function / definition. |
| / | |
| / | To map / un-map source tables to columns. |
| | To view the time dependencies. |
| | To view the pagination option. |
| / | To view SQL statement. |
| | To view and enter the details in the *Expression* window. |
| | To create a Rule function. |
| | To open and view the rule details. |
| | To save a Rule function. |
| / / | To search / find a member. |
| | To Save with customized details. |
| | To view the rule properties. |
| | To map between hierarchies. |
| | To select a member. |
| | To deselect a member. |
| | To sort in ascending order. |
| | To sort in descending order. |
| or | To access the documentation resources. |

(Required) <Enter introductory text here, including the definition and purpose of the concept.>

# Acronyms

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

**Table 3-1    Acronyms**

| Acronyms | Description |
| --- | --- |
| BA | Business Analysts |
| Infodom | Information Domain |
| LHS menu | Left hand side menu |
| OFSAAI | Oracle Financial Services Analytical Application Infrastructure |
| OFSAA | Oracle Financial Services Analytical Applications |
| Production Infodom | Production Information Domain |
| RHS menu | Right hand side menu |
| Sandbox Infodom | Sandbox Information Domain |
| SA | System Administrator |
| URL | Uniform Resource Locator |
| UI | User Interface |

# 4

# Getting Started

This chapter explains different steps to login to the Inline Processing Engine application.

This following sections are included in this chapter:

- Logging into the Oracle Financial Services Inline Processing Engine Application
- Changing Password
- Object Administration Tab
- System Configuration and Identity Management Tab

## Logging into the Oracle Financial Services Inline Processing Engine Application

After the application is installed and configured, you can access OFS Inline Processing Engine application.
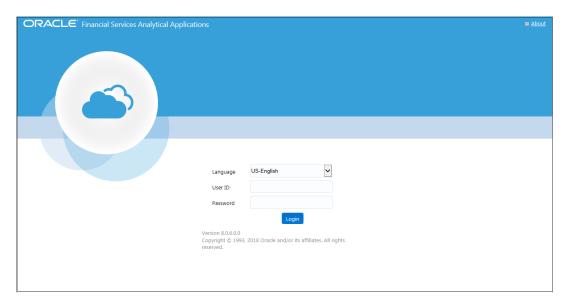
To access the OFS Inline Processing Engine, follows these steps:

1. Enter the OFSAAI URL in your browser. The login window is displayed.

   `<scheme/ protocol>://<ip address/ hostname>:<port>/<context-name>/login.jsp` (for example, `https://myserver:9080/ofsaaapp/login.jsp`)

   The login window is displayed.

**Figure 4-1    OFSAA Login Window**



2. Select the **Language** from the Language drop-down list.

3. Enter your **User ID** and **Password**.

4. Click **Login**. The OFSAA Application page is displayed.

**Figure 4-2    OFSAA Application Page**



5. Click the Applications Menu icon from the header to display the applications in a Tiles menu.

6. Select Financial Services Inline Processing Engine from the Tiles menu. The Inline Processing Engine Application Home Page is displayed with the Navigation list to the left.

**Figure 4-3    Inline Processing Engine Application Home Page**



# Changing Password
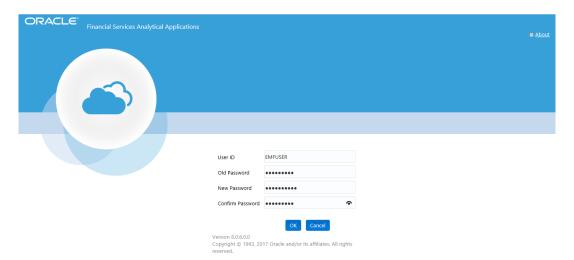
The first time you log in to the application, the Change Password window is displayed. Alternatively, you can also choose to change the password at any time.

To change password:

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

**Figure 4-4    Change Password window**



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**.

> ✎ **Note:**
>
> - Passwords are displayed as asterisks while you enter. This is to ensure that the password is not revealed to other users.
>
> - Ensure that the entered password is at least six characters long.
>
> - The password must be alphanumeric with a combination of numbers and characters.
>
> - The password should not contain spaces.
>
> - Passwords are case sensitive and ensure that the Caps Lock is not turned ON.
>
> - By default, the currently used password is checked for validity if password history is not set.
>
> - The new password should be different from previously used passwords based on the password history, which can be configured. If you encounter any of the following problems, contact the System Administrator:
>
>   – Your user ID and password are not recognized.
>
>   – Your user ID is locked after three consecutive unsuccessful attempts.
>
>   – Your user ID has been disabled.
>
>   – Guest user cannot change the password.

# Object Administration Tab

Object Administration is an integral part of the Infrastructure system and facilitates system administrators to define the security framework with the capacity to restrict access to the data

and metadata in the warehouse, based on a flexible, fine-grained access control mechanism. These activities are mainly done at the initial stage and later, when required.

This document deals with the information related to the workflow of Infrastructure Administration process with associated procedures to assist, configure, and manage the administrative tasks effectively.

The Object Administration tab lists the various OFSAA Information Domains created in the OFSAA setup based on the logged in user and the mapped OFSAA Application User Group(s).

To access the Object Administration tab, select the required Information Domains from the Select Information Domains drop-down list.

Based on your selection, the page refreshes the menus and links across the pane.

# System Configuration and Identity Management Tab

System Configuration and Object Administration is an integral part of Infrastructure administration process and facilitates System Administrators to provide security and operational framework required for Infrastructure.

System Administrators can configure the Server details, Database details, OLAP details, and Information Domain along with the other Configuration process such as segment and metadata mapping, mapping segment to security and rules setup. System Configuration is mostly a one time activity which helps System administrator to make the Infrastructure system operational for use.

The System Configuration and Identity Management tab lists the OFSAA Infrastructure System Configuration and Identity Management modules.

The Create New Application feature allows you (System Administrator) to create a new Application other than the standard OFSAA Applications and associate the standard/default platform framework menu with it, thereby enabling the new application for usage. The standard platform framework menu is seeded and rendered.

After you create an Application, a new Role is created as <APP_CODE>ACC. This role along with the IPE Write role (RTIADMIN) need to be mapped to the user group IPEADMN. The users mapped to that user group will get the new Application listed in the Select Applications drop-down from the Applications tab. Only Enabled applications are listed in the drop-down list.

To access the System Configuration and Identity Management tab, select the required Information Domains from the Select Information Domains drop-down list.

Based on your selection, the page refreshes the menus and links across the pane.

# 5

# Association and Configuration

This chapter provides detailed information about Association and Configuration functionality and step-by-step instructions to use this module.

Association and Configuration allows a user to define the base metadata required for usage of other components of IPE.

This chapter discusses the following topics:

- Accessing Association and Configuration Menu
- Managing Processing Segments
- Managing Business Entities
- Managing Inline Datasets
- Managing Traversal Paths
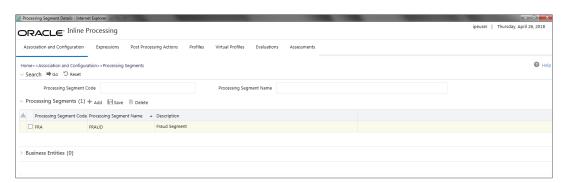
## Accessing Association and Configuration Menu

To access the Association and Configuration menu:

1. Navigate to the Inline Processing Home Page.

   (Optional) <Enter a step example.>

2. Click Association and Configuration.

   The Association and Configuration page is displayed.

**Figure 5-1    Association and Configuration page**



## Managing Processing Segments

Processing segments allows the user to logically group the metadata required for Assessments and its sub-components. Through Processing Segments, you can add and save a new segment or search for existing segments (for modification) or remove a segment.

Processing segment can be used for segregating assessments in run paradigm of IPE. This helps the client to selectively run a group of assessments in both real time or batch mode.

This section covers the following topics:

- Accessing Processing Segments
- Adding Processing Segment
- Searching Processing Segment
- Editing Processing Segment
- Deleting Processing Segment
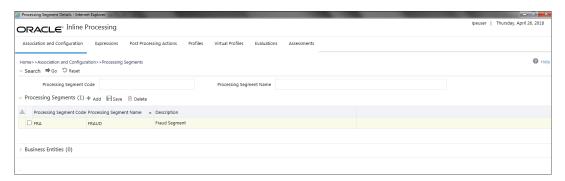
# Accessing Processing Segments

To access the Processing Segment page

1. Navigate to the Inline Processing Home Page.

2. On the Association and Configuration menu, click Processing Segments.

   The Processing Segments page is displayed.

**Figure 5-2    Processing Segments page**



# Adding Processing Segment

This option allows you to add a new processing segment, which is used to classify all the metadata in the selected Infodom logically.
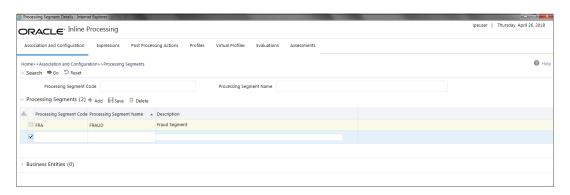
To add a Processing Segment:

1. Navigate to the Processing Segments page.

2. Click **Add**. A new empty row is displayed in the list. Select the check box. The Add Processing Segment fields are enabled.

   (Optional) <Enter additional information about the step.>

**Figure 5-3    Adding Processing Segment**



> ✏️ **Note:**
>
> If you click Add when a row is empty in the list, then the following warning message is displayed: *Row is empty in Processing segment*.

3. Enter the following details:

   - **Processing Segment Code**: Enter a distinct processing segment code. It allows only three characters.

   - **Processing Segment Name**: Enter a distinct processing segment name.

   - **Description**: Enter description for processing segment.

4. Click **Save**. A confirmation message is displayed.

## Searching Processing Segment

To search Processing Segments:

1. Navigate to the Processing Segments page.

2. Enter the following details:

   - **Processing Segment Code**: Enter the unique code for the processing segment.

   - **Processing Segment Name**: Enter a unique name for the processing segment.

3. Click **Go**. The search details are displayed.

## Editing Processing Segment
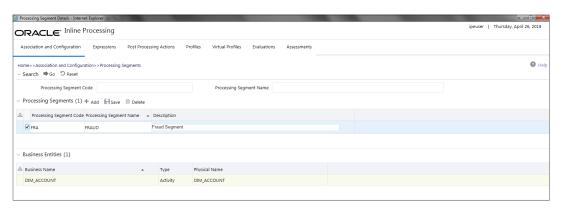
To edit a Processing Segment:

1. Navigate to the Processing Segments page.

2. Select the check box corresponding to the Processing Segment that you want to modify.

   The Processing Segment fields are enabled. You can also view the business entities mapped to this Processing Segment in the Business Entities section.

**Figure 5-4    Modifying Processing Segment**



3. Modify the necessary information.

4. Click **Save**. A confirmation message is displayed.

## Deleting Processing Segment

To delete a Processing Segment:

1. Navigate to the Processing Segments page.

2. Select the check box corresponding to the Processing Segment you want to delete.

3. Click **Delete**.

   System does not allow the user to delete the selected Processing Segment if it is used in other IPE Metadata.

# Managing Business Entities

Business Entity is a business metadata layer on Database Tables. The user can import tables from the uploaded datamodel. For more information on Data Model upload, refer Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide.

Through importing tables functionality, the tables are imported to IPE Business layer for referring the entity for further processing.

Business Entity is a virtual layer that can be added on an existing table. Through Business Entities menu, you can add a new business entity and also search for existing business entities to modify or remove a business entity. To add a table in Data Model, refer Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide.

User is not allowed to unmap Processing Segment from an Entity if it is associated with other metadata. This section covers the following topics:

- Accessing Business Entities

- Importing Entity

- Updating Entity Details

- Deleting an Entity

- Adding Business Entities

- Editing Business Entity

- Deleting Business Entity

- Synchronizing Business Entities
- Updating Business Entity Attributes
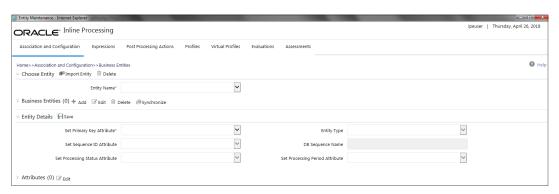
# Accessing Business Entities

To access the Processing Segment page:

1. Navigate to the Inline Processing home page.

2. On the Association and Configuration menu, click **Business Entities**.

   The Business Entities page is displayed.

**Figure 5-5   Business Entities page**



# Importing Entity

This option allows you to import data model tables to Inline Processing.

To import a Table
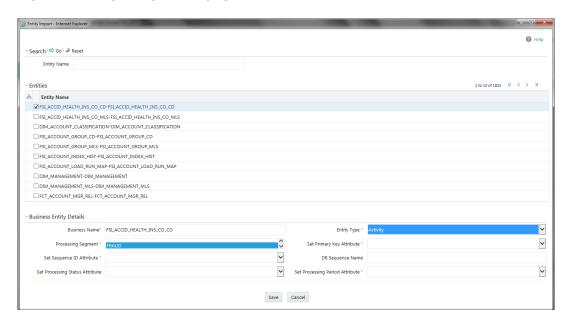
1. Navigate to the Business Entities page.

2. Go to **Choose Entity** section. Click **Import Entity**.

   The Import Entity page is displayed.

**Figure 5-6    Importing Tables page**



By default, all the tables defined in the data model are displayed. The Entity name is displayed in the format <Logical Name>-<Physical Name>.

3. Search for the required Entity and select it. The Business Entity fields are enabled.

4. Enter the following details:

| Field | Description |
|---|---|
| **Business Name** | Enter a distinct Business Name of the Entity. By default, the Business Name is populated as the logical name provided for the Table in the data model. The details of this field can be modified. |
| **Entity Type** | Select the Entity Type from the drop-down list. |
| | • **Activity**: Select a table as Activity if the data is to be processed by IPE as a part of assessment execution. To use Activity as a Reference, relevant Inline Datasets and Traversal Paths should be created. For example, if wire transaction and cash transaction are two activities, then there should be inline datasets created for them and a traversal path connecting the two. |
| | • **Reference**: Select a table as Reference if the table has static values for IPE. A reference data cannot be processed by IPE. |
| | • **Lookup**: Select a table as Lookup if it is used as a scoring table in Evaluations. This can be used as a Reference. |
| | **Note**: Once a table is imported, you cannot change the entity type of the table. |
| **Processing Segment** | Select the Processing Segment from the multi-select drop-down list. |
| **Set Primary Key Attribute** | Select the Primary Key Attribute from the drop-down list. This shows all the columns of the table. This is a unique attribute of the table which is imported. It is a mandatory field. |
| | **Note**: Composite Primary Keys are not supported. |

| Field | Description |
| --- | --- |
| **Set Sequence ID Attribute** | This is a unique attribute that helps in identifying the ID of the Activity Table. The results of IPE will provide the Sequence ID. This is a mandatory field if it is an activity. The Sequence ID will be auto-populated by the IPE Engine if it is a real time mode. In batch mode, this value is pre-populated and should be unique. |
| | Select the sequence ID attribute from the drop-down list. |
| | **Note**: This field is enabled if you select Activity as the Entity Type. |
| **DB Sequence Name** | Enter the DB sequence name. A DB Sequence has to be created in the Atomic Schema. The name of that Sequence has to be provided in this field. It is not a mandatory field and it is applicable for Real time processing. |
| | **Note**: This field is enabled if you select Activity as the Entity Type. |
| **Set Processing Status Attribute** | Select the processing status attribute from the drop-down list. This attribute will be updated by IPE to indicate the result of the assessments, if it has passed or failed. It is not a mandatory field and it is applicable for Real time processing. |
| | **Note**: This field is enabled if you select Activity as the Entity Type. |
| **Set Processing Period Attribute** | Select the processing period attribute from the drop-down list. This attribute defines the date or time when the activity has occured. For example, Transaction Time. |
| | **Note**: This field is enabled if you select Activity as the Entity Type. |
| **Score Attribute** | Select the Score Attribute from the drop-down list. This attribute can be used in evaluation scoring. |
| | **Note**: This field is enabled if you select Lookup as the Entity Type. |

5. Click **Save**. A confirmation message is displayed.
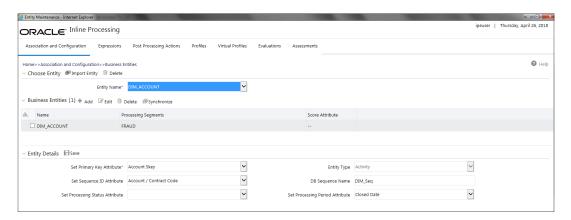
# Updating Entity Details

To update entity details:

1. Navigate to the Business Entities page.

2. Select the table from the Choose Entity drop-down list.

**Figure 5-7    Updating Table**



3. Enter or modify the necessary information. For more information on Business Entity fields refer to the Updating Business Entity Attributes table.

4. Click **Save**. A confirmation message is displayed.

## Deleting an Entity

To delete a table:

1. Navigate to the Business Entities page.

2. Select the table from the Choose Entity drop-down list.

3. Click Delete.

> **Note:**
>
> System does not allow the user to delete the selected entity if it is used in other IPE metadata.

## Adding Business Entities

We can add multiple business entities to get differential behavior for the same entitiy. For example, 'account' can have business entities like beneficiary account and originator account.
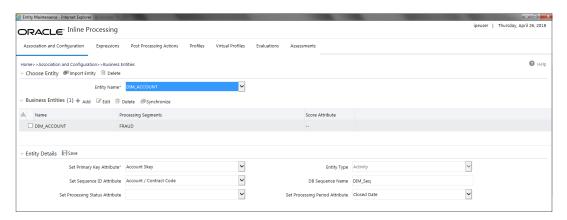
User can add different datasets and traversal paths like transaction to originator account and transaction to beneficiary account.

To add Business Entities:

1. Navigate to the Business Entities page.
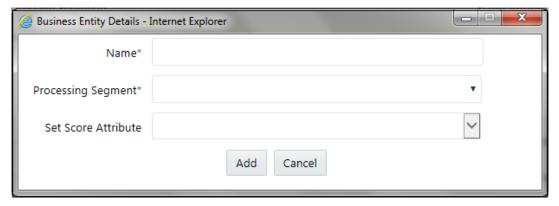
**Figure 5-8   Adding Business Entities**



2. Select the entity you wish to add as a business entity to from the **Choose Entity** drop-down list.

3. Click **Add** in the Business Entities section. The Business Entity Details dialog box is displayed.

**Figure 5-9   Adding Business Entity Details**



4. Enter the following details in the Business Entity Details dialog box:

   a. **Name**: This is a mandatory Field. Enter a name to the selected entity in this field.

   b. **Processing Segment**: This is a mandatory Field. Select the Processing Segment(s) to which you want to add the selected entity, from the multi-select drop-down list.

   c. **Set Score Attribute**: Select the attribute which you want to set as score from the drop-down list.

5. Click **Add**. A confirmation message is displayed.

## Editing Business Entity

To edit the Business Entity:

1. Navigate to the Business Entities page.

2. Select the Business Entity to modify. The Business Entity edit dialog box is displayed.

3. Modify the necessary information. For more information on Business Entity fields refer to the Click **Save**. A confirmation message is displayed. table.

4. Click **Save**. A confirmation message is displayed.

> **Note:**
>
> Changes made to the Business Entity details and attributes modifies the status of Evaluations and Assessments from VALID to INVALID. But the changes made to only the attributes of the business entity modifies the status of the associated Expression from VALID to INVALID.

## Deleting Business Entity

This option allows you to delete a Business Entity which is not required.

To delete Business Entity:

1. Navigate to the Business Entities page.

2. Select the Business Entity to delete.

3. Click **Delete**.

> **Note:**
>
> System does not allow the user to delete the selected Business Entity if it is used in other IPE metadata.

## Synchronizing Business Entities

To add new columns that were added in the Data model or to update Business Names of the entities, Synchronizing Business Entities option has been provided.

Follow these steps:

1. Navigate to the Business Entities page.

2. Select the Entity from the **Choose Entity** drop-down list.

3. Click **Synchronize** in the Business Entities section. The Synchronize Business Entities dialog box is displayed.

**Figure 5-10    Synchronizing Business Entities**
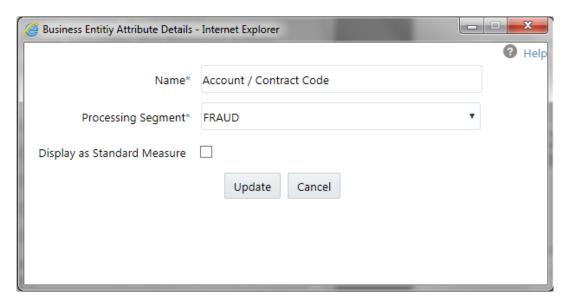


4.  Select the business attributes from the Existing Attributes section to update new Business Names for the columns of the Entity.

5.  Click **Save**. A confirmation message is displayed.

## Updating Business Entity Attributes

To update the Business Entity Attributes:

1.  Navigate to the Business Entities page.

2.  Select the **Entity** and click **Edit**.

**Figure 5-11    Updating Business Entity Attributes**



3.  Modify the necessary information.

4.  Click **Save**. A confirmation message is displayed. table. Select Display as Standard Measure to update this table information onto the profile. Only the table columns that have been selected as **Display as Standard Measure** are displayed in the Standard Measure Details section of Profiles.

5. Click **Update**. A confirmation message is displayed.

# Managing Inline Datasets

Inline Datasets are joins between two Business Entities. The Inline Datasets need at least one condition to be defined.

This section describes the Inline Datasets functionality and gives step-by-step instructions to use this module.

For example, the following conditions are used for an Inline Dataset between Wire Transaction and Beneficiary Account:

- Wire Transaction. Beneficiary Account ID=Beneficiary Account. Account ID
  The sequence of the joins has to be correct for the required output.

Using this menu, you can add a new Inline Dataset and search for existing Inline Datasets for modification or removal. This section covers the following topics:
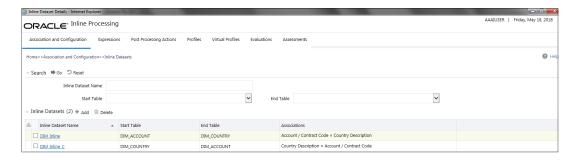
- Accessing Inline Datasets
- Adding Inline Dataset
- Searching Inline Datasets
- Editing Inline Dataset
- Deleting Inline Dataset

## Accessing Inline Datasets

To access Inline Datasets:

1. Navigate to the Inline Processing Home Page.

2. On the Association and Configuration menu, click **Inline Datasets**. The Inline Datasets page is displayed.

**Figure 5-12     Inline Datasets Details page**



## Adding Inline Datasets

The add Inline Dataset option allows you to define an Inline Dataset by adding a name and selecting the Start and End tables.
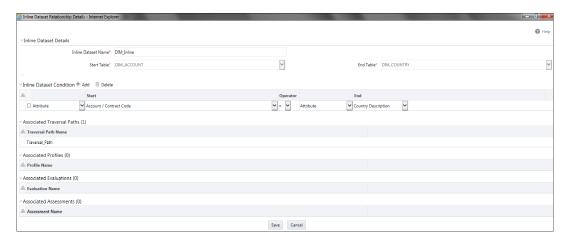
To add new Inline Dataset paths:

1. Navigate to the Inline Datasets details page.

2. Click **Add** from the Inline Dataset List tool bar. The Inline Dataset dialog box is displayed.

**Figure 5-13    Adding Inline Dataset**



3. Enter the following details.

   a. **Inline Dataset Name**: Enter the Inline Dataset Name.

   b. **Start Table**: Select the start table from drop-down list. All the Business entities of type Activity, lookup, reference and also Virtual Profiles are displayed.

   c. **End Table**: Select the end table from drop-down list. All the Business entities of type Activity, lookup, reference and also Virtual Profiles are displayed, except the selected Start Table.

## Adding Inline DataSet Condition

To add new Inline Dataset condition:

1. Click **Add** from the Inline Dataset Condition tool bar. The Inline Dataset Condition dialog box is displayed.

2. Enter following details.

   a. **Start Field**: Select the start field of the condition from the drop-down list. This shows all Fields (Columns) of the Start Table.

   b. **Operator**: Select the operator from the drop-down list. The available operators are =, >, <, >=, <=, and <>.

   c. **End Field**: Select the end field of the condition from the drop-down list. This shows all the Fields (Columns) of the End Table. Select if you want Attribute, Literal or Expression from the field next to this field.

**Figure 5-14    Inline Dataset Condition**

**3.** Click **Save**. A confirmation message is displayed.

## Searching Inline Dataset

To search Inline Dataset:

**1.** Navigate to the Inline Datasets details page.

**2.** Enter the following details:

    **a.** **Inline Dataset Name**: Enter the Inline Dataset name.

    **b.** **Start Table**: Select the start table from drop-down list.

    **c.** **End Table**: Select the end table from drop-down list.

**3.** Click **Go**. The Search Details are displayed.

## Editing Inline Dataset

To edit Inline Dataset:

**1.** Navigate to the Inline Dataset Details page.

**2.** Select the Inline Dataset to modify. The Inline Dataset Edit dialog box is displayed.

**3.** Modify the necessary information. For more information on Business Entity fields refer to the Adding Inline Datasets table.

> **✎ Note:**
>
> Start and end tables cannot be edited. Only inline dataset condition can be edited.

**4.** Click **Save**. A confirmation message is displayed.

## Deleting Inline Dataset

This option allows the user to delete an Inline Dataset if it is not used by other components of IPE.

To delete the Inline Dataset:

**1.** Navigate to the Inline Datasets details page.

**2.** Select the Inline Dataset to delete.

**3.** Click **Delete**.

> **✎ Note:**
>
> System does not allow the user to delete the selected Inline Dataset if it is used in other IPE metadata.

# Managing Traversal Paths

This section describes the Traversal Path functionality and provides step-by-step instructions to use this module.

Traversal Paths are the paths between two or more entities. The traversal paths defined can be used for creation of expressions, evaluations, and profiles. The start entity for the path should be the Activity Entity. There are intermediate Entities in the path.

For example, if we must have a path between Wire Transaction and Beneficiary Customer E-mail entities, then we must have path like Wire Transaction' Beneficiary Account' Beneficiary Customer' Beneficiary Customer E-mail.

Inline Dataset (Joins) between are compulsory.

- Wire Transaction-Beneficiary Account
- Beneficiary Account- Beneficiary Customer
- Beneficiary Customer- Beneficiary Customer E-mail

This section discusses the following topics:
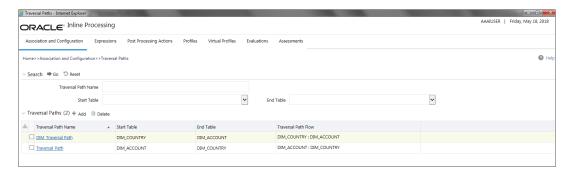
- Accessing Traversal Paths
- Adding Traversal Path
- Searching Traversal Path
- Deleting Traversal Path

## Accessing Traversal Paths

To access the Traversal Paths

1. Navigate to the Inline Processing Home Page.
2. On the Association and Configuration menu, click **Traversal Paths**. The Traversal Paths page is displayed.

**Figure 5-15    Traversal Paths Details page**



## Adding Traversal Path
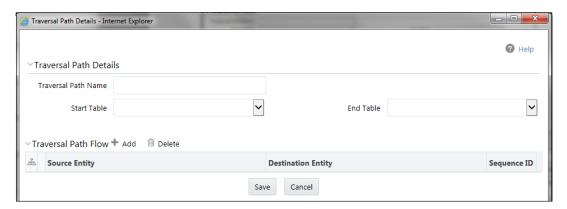
This option allows you to define a traversal path by adding a name and selecting the Start and End tables.

To add a new Traversal Path:

1. Navigate to the Traversal Paths page.

2. Click **Add** from the Traversal Path List tool bar. The Traversal Path Maintenance dialog is displayed.

**Figure 5-16    Adding Traversal Path**



3. Enter the following details.

   a. **Traversal Path Name**: Enter the Traversal Path Name name.

   b. **Start Table**: Select the start table from drop-down list. All the Activity Tables are displayed.

   c. **End Table**: Select the end table from drop-down list. All the Business entities of type Activity, lookup, reference and also Virtual Profiles are displayed.

4. Click **Save**. A confirmation message is displayed.

## Adding Traversal Path Flow

To add the Traversal Path Flow:

1. Click **Add** in the Traversal Path Flow section. The new Traversal Path fields are expanded.

2. Enter following details.

   a. **Source Entity**: This is pre-selected for the first row. For the further rows, it lists all Entities which have Inline Dataset joins with the previously selected entities (both source and destination).

   b. **Destination Entity**: Select the Destination Entity from the drop-down list.

      This option shows the business entities and Virtual Profile who has Inline Datasets defined to Source Entity.

   c. **Sequence ID**: The sequence ID is auto-generated.

      When the source and destination entity are added for the first time, the sequence ID generated is 1.

      On subsequent addition of source and destination entities, the sequence ID will be 2, 3, and so on.

      This reflects the sequence in which the path has to be traversed.

3. Click **Save**. A confirmation message is displayed.

# Searching Traversal Path

To search Traversal Paths:

1. Navigate to the Traversal Paths page.

2. Enter the following details:

    a. **Traversal Path Name**: Enter the traversal path name.

    b. **Start Table**: Select the start table from drop-down list.

    c. **End Table**: Select the end table from drop-down list.

3. Click **Go**. The Search Details are displayed.

# Deleting Traversal Path

To delete a Traversal Path:

1. Navigate to the Traversal Paths page.

2. Select the Traversal Path ID or name to delete.

3. Click **Delete**. The Traversal Path Details page is updated.

> **Note:**
>
> System does not allow the user to delete the selected Traversal Path if it is used in other IPE metadata.

# 6

# Managing Expressions

Expression for a Profile is used as a filter in the evaluations. Expressions are to be created on the activity table on whom an evaluation or profile will be created.

An Expression Builder is used to build expressions using Entities, Attributes, Functions, Mathematical Operators, and Constant Values. For example,

FT and MT Amount for a day: Accounts Source Unique Identifier_cnt.

The examples of expressions are as follows:

*   A
*   A+B
*   (A + B)/C
*   (ATM and POS: Base Amount)

(Get Last Characters ((ATM and POS: Merchant Address) 2)

The Expression Builder allows you to add and remove expressions.

This chapter provides detailed information about Expressions functionality and provides step-by-step instructions to use this module.

This chapter discusses the following topics:
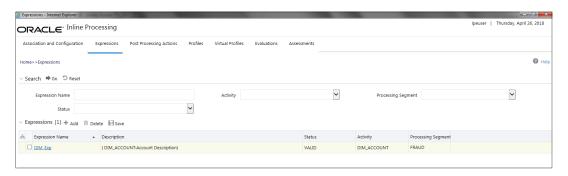
*   Accessing Expressions Menu
*   Adding an Expression
*   Searching an Expression
*   Deleting an Expression
*   Displaying Dependent Metadata Expression List

## Accessing Expressions Menu

To access the Expressions menu:

1.  Navigate to the Inline Processing home page.
2.  Click Expressions. The Expressions page is displayed.

**Figure 6-1    Expressions Details page**



# Adding an Expression

This option allows you to define an expression by adding a name and selecting the Activity and Processing Segment from the drop-down list. An expression can also be added from Profiles menu and Evaluations menu.

You can add an Expression by applying a Function to a group or by applying a Function to an Expression. To configure a User Defined Function, refer Configuring a User Defined Function in IPE.

To add an Expression:

1. Navigate to the Expressions details page.

2. Click **Add** on the Expressions tool bar. The Add Expressions dialog box is displayed.
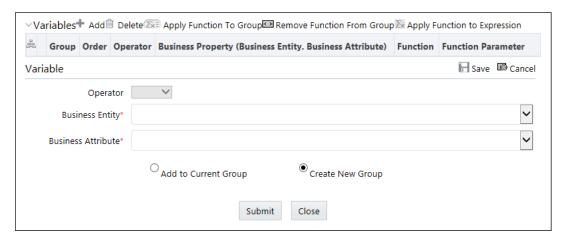
**Figure 6-2    Adding an Expression**



3. Enter the following details:

   a. **Expression Name**: Enter a name for the expression.

   b. **Activity**: Select the activity from the drop-down list.

   c. **Processing segment**: Select the processing segment from the drop-down list (Energy, Banking, and so on).

4. To add the Variables for the Expressions, click **Add** on the Variables tool bar. The Add Variables dialog box is displayed.

**Figure 6-3    Variable page**



5. Enter the following details:

| Fields | Description |
|---|---|
| **Operator** | Select the operator from the drop-down list. This is disabled for the first variable. |
| **Business Entity** | Select the business entity from the drop-down list. The list is based on selected Activity and processing segment. |
| **Business Attribute** | Select the business attribute from the drop-down list. The list is based on the selected business entity. |
| **Create New Group** | If this option is selected, new Group ID is created. |
| **Add to Current Group** | If this option is selected, new variable is added to existing selected Group ID. If there is no existing group, then select Create New Group. |
| **Apply Function to Group** | Select the function from the drop-down list. The list of functions is based on variable datatype and function argument datatype.<br><br>Select from the following options for the second variable:<br>• **Literal Value**: If the selected function has additional argument mapped, then Literal Value should be entered in the Text box.<br>• **Expression**: If the selected function has expressions mapped to it, then select the Expression from the drop-down list. |
| **Remove Function from Group** | Select a group and then click **Remove** the Function from Group to remove the function from the selected group. |
| **Apply Function to Expression** | Select the function from the drop-down list. The list of functions is based on variable datatype of expression and variable.<br><br>Select from the following options for the second variable:<br>• **Literal Value**: If the selected function has additional argument mapped, then Literal Value should be entered in the Text box.<br>• **Expression**: If the selected function has expressions mapped to it, then select the Expression from the drop-down list. |

6. Click **Save** to refresh the Variables Grid.

# Applying Function to Group/ Expression

You can add an Expression by applying a Function to a group or by applying a Function to an Expression. To configure a User Defined Function, refer Configuring a User Defined Function in IPE.

To apply a function to a group, follow these steps:

1. Once a Group is created, select that group from the list.

2. Click **Apply Function to Group**. The Apply Function to Group field details are displayed.

3. Select the function from the drop-down list. The list of functions is based on variable datatype and function argument datatype.

4. Select from the following options for the second variable:

    • **Literal Value**: If the selected function has additional argument mapped, then Literal Value should be entered in the Text box.

    • **Expression**: If the selected function has expressions mapped to it, then select the Expression from the drop-down list.

5. Click Save to refresh the Variables Grid.

To apply a function to a group, follow these steps:
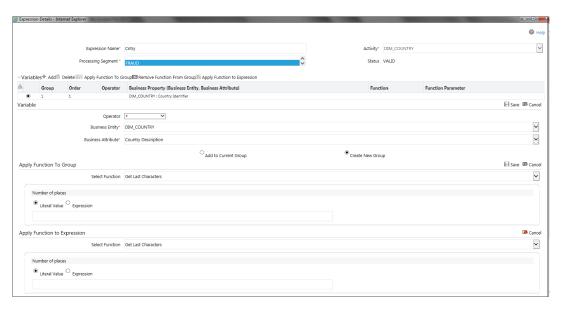
1. Once a Group is created, select that group from the list.

2. Click **Apply Function to Expression**. The Apply Function to Expression field details are displayed.

3. Select the function from the drop-down list. The list of functions is based on variable datatype of expression and variable.

4. Select from the following options for the second variable:

    • **Literal Value**: If the selected function has additional argument mapped, then Literal Value should be entered in the Text box.

    • **Expression**: If the selected function has expressions mapped to it, then select the Expression from the drop-down list.

> **Note:**
>
> Changes made to the Business Entity details and attributes modifies the status of Evaluations and Assessments from VALID to INVALID. But the changes made to only the attributes of the business entity modifies the status of the associated Expression from VALID to INVALID.

**Figure 6-4   Adding Variables**



5. Click **Save** to refresh the Variables Grid.

6. Click **Submit**. A confirmation message is displayed.

# Searching an Expression

To search Expressions:

1. Navigate to the Expressions details page.

2. Enter the following details:

   • **Expression Name**: Enter the Expression Name.

   • **Activity**: Select the activity from the drop-down.

   • **Processing Segment**: Select the Processing Segment from the drop-down.

3. Click **Go**. The Search Details are displayed.

# Deleting an Expression

To delete an Expression:

1. Navigate to the Expressions details page.

2. Select the required Expression.

3. Click **Delete**.

> ✎ **Note:**
>
> System does not allow the user to delete the selected Expression if it is used in other IPE metadata.

# Displaying Dependent Metadata Expression List

The Expression list screen should show the Associated/Dependent metadata. This will be useful to trace the use of Expression and to decide if it has to be deleted.

Associated metadata will include:

- Profiles that contain the expression in its filters
- Virtual Profiles that are built using the aforementioned profiles
- Evaluations that contain the expressions in its filters
- Assessments that contain the aforementioned evaluations

To display the dependent metadata expression list:

1. Navigate to the Expressions details page.
2. Enter the Expression name whose associated metadata is to be checked and edited. If the expression entered has profiles, virtual profiles, evaluations and assessments associated to it, then they are displayed in the Expressions window.

# 7

# Managing Post Processing Actions

Post Processing Actions are the actions which can be triggered by the outcome of Assessment. In Post Processing Actions, you can add a new post processing action and also search for existing post processing actions for modification or removing a post processing action.

This chapter describes Post Processing Actions functionality and provides step-by-step instructions to use this module.

Managing Post Processing actions is applicable only for Real Time Processing.

This chapter discusses the following topics:
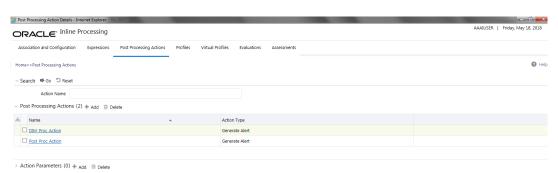
- Accessing Post Processing Actions Menu
- Adding Post Processing Actions
- Searching Post Processing Action
- Editing Post Processing Action
- Deleting Post Processing Action

## Accessing Post Processing Actions Menu

To access the Post Processing Actions page:

1. Navigate to the Inline Processing Home Page.
2. Click Post Processing Actions. The Post Processing Actions page is displayed.

**Figure 7-1    Post Processing Actions Details page**



## Adding Post Processing Actions

This option allows you to define a post processing action.

This section covers following topics:

- Adding a Post Processing Action
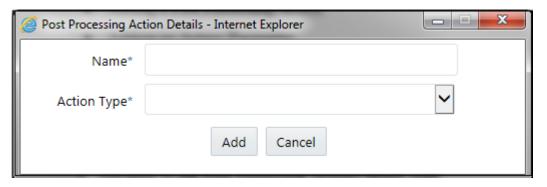
- Adding an Action Parameter

# Adding a Post Processing Action
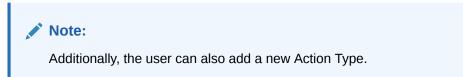
To add a Post Processing Action:

1. Navigate to the Post Processing Actions details page.

2. Click **Add** on the Post Processing Actions tool bar. The Add Post Processing Actions dialog box is displayed.

**Figure 7-2    Adding a Post Processing Action**



3. Enter the following details:

   - **Name**: Enter the name of Post Processing Actions.

   - **Action Type**: Select the Post Processing Actions from the drop-down list (For example, Generate Alert, sent JMS Message, and Send RTD Message).

   > **Note:**
   >
   > Additionally, the user can also add a new Action Type.
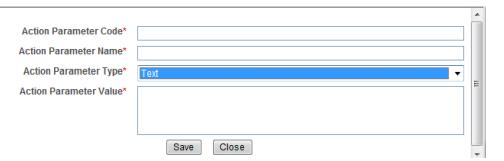
4. Click **Add**. A confirmation message is displayed.

# Adding an Action Parameter

To add Action Parameters:

1. Navigate to the Post Processing Actions details page.

2. Click **Add** on the Action Parameters tool bar. The Add Action Parameters dialog box is displayed.

**Figure 7-3    Adding an Action Parameter**



3. Enter the following details:

   - **Action Parameter Code**: Enter the code of action parameter.

   - **Action Parameter Name**: Enter the name of action parameter.

   - **Action Parameter Type**: Select the action parameter type from the drop-down list (Text or Password)

   - **Action Parameter Value**: Enter the value for action parameter.

     – If the action parameter type is text, enter text box.

     – If the action parameter type is password, enter password field.

4. Click **Save**. A confirmation message is displayed.

# Searching Post Processing Action

To search Post Processing Action:

1. Click Post Processing Actions on the Inline Processing Engine Home page.

   The Post Processing Actions Details page is displayed.

2. Enter the Post Processing Action name.

3. Click **Go**. The Search Details are displayed.

# Editing Post Processing Action

To modify Post Processing Action details:

1. Click Post Processing Actions on the Inline Processing Engine Home page.

   The Post Processing Actions Details page is displayed.

2. Select the required Post Processing Action.

3. Modify the necessary information. For more information on Processing Segment fields, refer to the Adding Post Processing Actions table.

4. Click **Save**. A confirmation message is displayed.

# Deleting Post Processing Action

To delete a Post Processing Action:

1. Click Post Processing Actions on the Inline Processing Engine Home page.

The Post Processing Actions Details page is displayed.

2. Select the required Post Processing Action.

3. Click **Delete**.

> **Note:**
>
> System does not allow the user to delete the selected Post Processing Action if it is used in other IPE metadata.

# 8
# Managing Profiles

Profiles are an aggregation of information. Profiles can be based on different grouping entities (For example, account and customer) and can be filtered to only look at particular kinds of transactions. Profiles can also be based on time (last three months) or activity counts (last 100 transactions).

This chapter describes Profiles functionality and provides step-by-step instructions to use this module.

This chapter discusses the following topics:
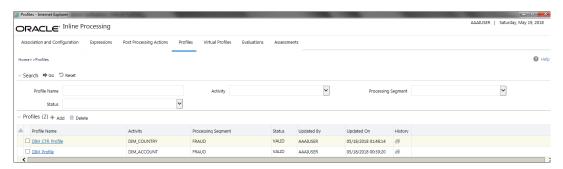
- Accessing Profiles Menu
- Adding a Profile
- Adding an Expression from Profiles Menu
- Searching a Profile
- Editing a Profile
- Deleting a Profile

## Accessing Profiles Menu

To access the Profile:

1. Navigate to the Inline Processing Home Page.
2. Click Profiles. The Profiles page is displayed.

**Figure 8-1    Profiles Details page**

## Adding a Profile

This section covers following topics:
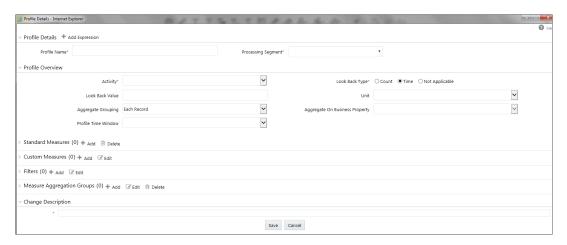
- Adding Standard Measures
- Adding Custom Measures
- Adding Filters

- Adding Measure Aggregation Groups

To add a Profile:

1. Navigate to the Profiles details page.

2. Click **Add** on the Profile tool bar. The Add Profile fields are expanded.

**Figure 8-2    Adding a Profile**



3. Enter the following details:

   - **Profile Name**: Enter the name of the virtual profile.

   - **Processing Segment**: Select the processing segment from the drop-down list.

   - **Activity**: Select the activity from the drop-down list.

   - **LookBack Type**: Select the LookBack type.

   - **LookBack Value**: Enter the LookBack value.

   - **Unit**: This option is enabled only when Time is selected as lookback.
     Select the unit from the drop-down list.

   - **Aggregate Grouping**: Select the type from the drop-down list. The list shows all Time columns of the activity:

     – **Each Record**: Shows the activity for each record.

     – **Daily**: Shows the daily record.

     – **Monthly**: Shows the monthly record.

   - **Aggregate Grouping on Business Property**: This option is enabled if Aggregate Grouping is Daily or Monthly. It lists all Time columns of the activity.

4. Click **Save**.

## Adding Standard Measures

This is used to define a measure on the defined columns as Standard Measures during import of the table in the Business Entities module.

Measures are to be defined on the table columns which need aggregations.

1. Click **Add** on the Standard Measures tool bar. The Add Standard Measures fields are expanded.

2. Enter the following details:

   • **Business Attribute**: Select the business attribute from the drop-down list. The list shows all Standard Measurable columns of the activity.

   • **Measure Aggregation Type**: Select the measure aggregation type from the drop-down list. The list shows the Standard Measurable functions.

3. Click **Save**. A confirmation message is displayed.

## Adding Custom Measures

This is used to define a measure on a column which was not defined while importing the table in the Business Entities module.

1. Click **Add** on the Custom Measures tool bar. The Add Custom Measures fields are expanded.

2. Enter the following details:

   • **Business Entity**: Select the business entity from the drop-down list. The list is based on selected activity and processing segment.

   • **Business Attribute**: Select the business attribute from the drop-down list. The list is based on the selected business entity.

   • **Measure Aggregation Type**: Select the measure aggregation type from the drop-down list.

3. Click **Save**. A confirmation message is displayed.

## Adding Filters

This is used to add filters for the selected Profile.

To add a filter:

1. Click **Add** on the Filters tool bar. The Filter Details fields are expanded.

2. Enter the following details:

   • **Filter Name**: Enter the name of the filter.

   • **Source Expression**: Select the Source Expression from the drop-down list. The list will be based on the selected Activity.

   • **Operator**: Select the operator from the drop-down list for the expression and also the expression that it is to be operated on.

   • **Comparator Type**: Select the Comparator type:

     – If Expression type is selected, then a drop-down list is displayed.

     – If Literal Value is selected, then a text field is displayed to enter the details.

3. Click **Save**. A confirmation message is displayed.

## Adding Measure Aggregation Groups

This is used to define an Aggregation Group on the defined columns as Measure Aggregation Groups during import of the table in the Business Entities module.

1. Click **Add** on the Measure Aggregation Groups tool bar. The Measures Aggregation Group fields are expanded.

2. Enter the following details:

**Business Entity**: Select the business entity from the drop-down list. The list is based on selected Activity and processing segment.

**Business Attribute**: Select the business attribute from the drop-down list. The list is based on the selected business entity.

**Function**: Select the function from the drop-down list. The list will be based on the selected Business Attribute type.

3. Click **Save**. A confirmation message is displayed.

# Adding an Expression from Profiles Menu

An expression can be added from the Profiles menu apart from the Expression menu itself.

To add an expression from Profile menu:

1. Navigate to the Profiles details page.
2. Click **Add** on the Profile tool bar. The Add Profile fields are expanded.
3. Click the **Activity** from the drop down list.
4. Click **Add Expressions** on the Profile Details tool bar. The Expression Details page is displayed.
5. Add an expression. For more information, refer to the Adding an Expression.

# Searching a Profile

To search a Profile:

1. Navigate to the Profiles details page.
2. Enter the following details:
   - **Profile Name**: Enter the Profile Name.
   - **Activity**: Select the activity from the drop-down.
   - **Processing Segment**: Select the Processing Segment from the drop-down.
3. Click **Go**. The Search Details are displayed.

# Editing a Profile

To modify the Profile details:

1. Navigate to the Profiles details page.
2. Select the required Profile.
3. Modify the necessary information. For more information on Processing Segment fields, refer to the Adding a Profile.
4. Click **Save**. A confirmation message is displayed.

When you edit the filters, standard measures, custom measures and measure aggregation groups of a profile and cancel the same, the modifications are still saved, even if the Profile itself is not saved.
When you edit a profile, the associated Expression has to be re-saved.

When a Standard Measure, Custom Measure, and so on are added in profile, the same would get saved to the profile definition irrespective of saving or canceling the Profile changes, as these measure creations have the Save button in the pop-up during which it is saved to the database. This holds good for similar operations everywhere in the Framework.

Once a Profile is re-saved, irrespective of the changes to the profile, the profile tables p_<profile_id> will be recreated. Hence all the existing records get deleted.

# Deleting a Profile

To delete a Profile:

1. Navigate to the Profiles details page.

2. Select the required Profile.

3. Click Delete.

> ✎ **Note:**
>
> System does not allow the user to delete the selected Profile if it is used in other IPE metadata.

# 9

# Managing Virtual Profiles

Virtual Profiles are the wrapper around one or more profiles. Virtual Profiles can be used when a user wants to:

- Merge profiles on two different activities or same activity

- Reduced look back on the same profile.

Through Virtual Profiles menu, you can add a new virtual profile and also search for existing virtual profiles to modify or remove a virtual profile.

This chapter provides detailed information about Virtual Profiles functionality and step-by-step instructions to use this module.

This chapter discusses the following topics:

- Accessing Virtual Profile Menu

- Adding Virtual Profile

- Searching Virtual Profile

- Editing Virtual Profile

- Deleting Virtual Profile
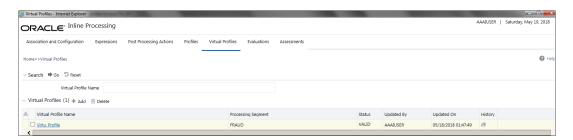
## Accessing Virtual Profile Menu

To access the Virtual Profile:

1. Navigate to the Inline Processing Home Page.

2. Click Virtual Profiles. The Virtual Profiles page is displayed.

   (Optional) <Enter additional information about the step.>

   **Figure 9-1    Virtual Profile Details page**



## Adding Virtual Profile

Adding a Virtual Profile allows you to define a virtual profile by adding the profile details.
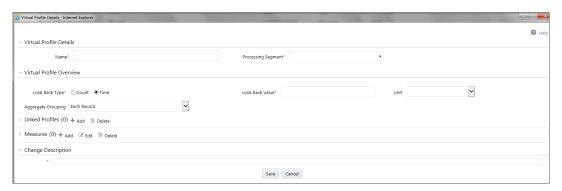
This section covers following topics:

- Adding Linked Profiles
- Adding Measures
- Adding Associated Inline Datasets
- Adding Associated Paths

To add a Virtual Profile:

1. Navigate to the Virtual Profiles details page.

2. Click **Add** on the Virtual Profile tool bar.

**Figure 9-2    Adding a Virtual Profile**



3. Enter the following details:

    - **Profile Name**: Enter the name of the virtual profile.

    - **Processing Segment**: Select the processing segment from the drop-down list.

    - **Activity**: Select the activity from the drop-down list.

    - **LookBack Type**: Select the LookBack Type value. The options are: Count or Time

    - **LookBack Value**: Enter the LookBack Value.

    - **Unit**: This option is enabled only when Time is selected as lookback.
      Select the unit from the drop-down list.

    - **Aggregate Grouping**: Select the type from the drop-down list. The list will show all the Time columns of the Activity:

        – **Each Record**: Shows the activity for each record.

        – **Daily**: Shows the daily record.

        – **Monthly**: Shows the monthly record.

4. Click **Save**. A confirmation message is displayed.

# Adding Linked Profiles

Linked Profiles are the profiles which are used to create the Virtual profile. A minimum of two Linked Profiles are required to create a Virtual Profile. Else, a validation message is displayed as follows: At least two profiles are required in linked profiles.

Click **Add** on the linked profile tool bar and enter the following details:

- **Profile Name**: Select the virtual profile from the drop-down list.

The first profile which is added will be considered as a primary profile. From the second profile onwards, the drop-down list will only show the Profiles with same number of Measure Aggregate Groups and Measures used in primary profile.

## Adding Measures

To add measures:

1. Click **Add** on the Measures tool bar. The Add Measure fields are expanded.

2. Enter the following details:

   - **Business Property**: Select the business property type from the drop-down list.

   - **Measure Aggregation Type**: Select the measure aggregation type from the drop-down list.

## Adding Associated Inline Datasets

Associated Inline Datasets are shown once user has saved the Virtual Profile.

To add associated inline datasets:

1. Click **Add** on the Associated Inline Datasets tool bar. The Add Associated Inline Data set fields are expanded.

2. Enter the following details:

   - **Inline Dataset Name**: Enter the Inline dataset name.

   - **Start Table**: Select the start table from the drop-down list.

   - **Start Field**: Select the start field of the condition from the drop-down list.

   - **Operator**: Select the operator from the drop-down list. The available operators are =, >, <, >=, <=, and <>.

## Adding Associated Paths

Associated Paths are shown once the user has saved the Virtual Profile.

1. Click **Add** on the Associated Paths tool bar. The Add Associated Paths fields are expanded.

2. Enter the following details:

   - **Traversal Path Name**: Enter the traversal path name.

   - **Start Table**: Select the start table from the drop-down list.

   - **End Table**: Select the end table from the drop-down list.

   - **Source Entity**: Select the source entity from the drop-down list.

   - **Destination Entity**: Select the destination entity from the drop-down list.

   - **Change Description**: Enter the details in the field. This is a mandatory field.

> **✎ Note:**
>
> It is to be noted that while adding the Traversal Path and Inline Dataset from Virtual Profiles, the current Virtual Profile should either be the Start table or the End table. If it is not so, then the added Inline Dataset or the Traversal Path will not be displayed under the corresponding tool bar. The same Traversal Path or Virtual Profile should be added in the Inline dataset list and traversal path list under Associations and configurations.
> Additionally, once the associated traversal path or associated the Inline Dataset is deleted from Virtual profiles window, the same should be deleted from the Inline dataset list and the Traversal Path list under Associations and Configurations.

3. Click **Save**. A confirmation message is displayed.

# Searching Virtual Profile

To search Virtual Profile:

1. Navigate to the Virtual Profiles details page.

2. Enter the following details:

   • **Profile Name**: Enter the Profile Name.

   • **Activity**: Select the activity from the drop-down list.

   • **Processing Segment**: Select the Processing Segment from the drop-down list.

3. Click **Go**. The Search Details are displayed.

# Editing Virtual Profile

To modify Virtual Profile Details:

1. Navigate to the Virtual Profiles details page.

2. Select the required Virtual Profile.

3. Modify the necessary information. For more information on Processing Segment fields, refer to Adding Virtual Profile.

4. Click **Save**. A confirmation message is displayed.

   When a Virtual Profile is modified, the underlying Expression should be re-saved for the changes to take effect.

# Deleting Virtual Profile

To delete the Virtual Profile details:

(Optional) <Describe the context.>

(Optional) <Describe the prerequisites.>

1. Navigate to the Virtual Profiles details page.

2. Select the required Virtual Profile.

3. Click **Delete**.

> **Note:**
>
> System does not allow the user to delete the selected Virtual Profile if it is used in other IPE metadata.

# 10

# Managing Evaluations

Evaluations are logical comparisons against conditions that result in a score.

The essential evaluation types are listed below:

- Condition Evaluations: These can be checks against literals or against other attributes.
  For example:

  – If the Transaction Origination Country is "Nigeria", then 10 points.

  – If the Transaction Origination Country is in High Risk Countries List, then 10 points.

  These can involve other logical expressions for evaluating multiple conditions.

- Profile Comparison: These are not materially different than the condition evaluations. One of the things that can be on the right side of the equation is the profile check.
  For example:

  – If the Transaction Amount is > High Risk Country Transactions 75th Percentile Amount then 10 points.

- Value Lookups: These evaluations use a dimensional table where the attribute values lead to a score that we lookup. This may not necessarily be a separate evaluation type, but rather a mechanism for getting the associated points. For example, the Conditional Checks evaluation could be an evaluation that awards points from a table, but only for transactions originated in Nigeria.
  For example:

  – If the Transaction Origination Country is 'Nigeria', then points based on High Risk Countries List using Transaction Origination Country.

  For example, the evaluation only applies to Nigeria. If that was left out, the evaluation could simply be the following:

- Get points based on High Risk Countries List using Transaction Origination Country. Through Evaluations, you can add a new evaluation and also search for existing evaluations for modification or removing an evaluation.

This chapter describes Evaluations functionality and provides step-by-step instructions to use this module.

This chapter discusses the following topics:

- Accessing Evaluation Menu

- Adding an Evaluation

- Adding an Expression from Evaluations Menu

- Adding Highlights to an Evaluation

- Searching an Evaluation

- Editing an Evaluation

- Saving Multiple Evaluations

- Deleting an Evaluation

- Copying an Evaluation
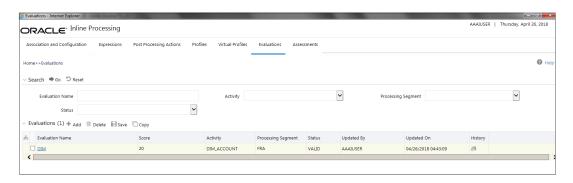
# Accessing Evaluation Menu

To access the Evaluation page:

1. Navigate to the Inline Processing Home Page.

2. Click Evaluations. The Evaluations page is displayed.

   (Optional) <Enter additional information about the step.>

**Figure 10-1    Evaluation Details page**



# Adding an Evaluation
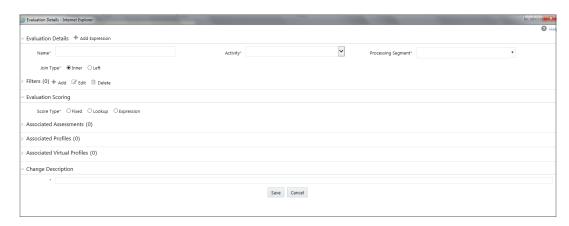
This section covers following topics:

- Adding Filters
- Adding Evaluation Scoring

To add an Evaluation:

1. Navigate to the Evaluation details page.

2. Click **Add** on the Evaluations tool bar. The Add Evaluation page is displayed.

**Figure 10-2    Adding an Evaluation**



3. Enter the following details:

- **Name**: Enter the name of the evaluation.

- **Processing Segment**: Select the processing segment from the drop-down list.

- **Activity**: Select the activity from the drop-down list.

- **Join Type**: Select the type of Join from the drop-down list:

  – **Inner** : This option performs the intersection of records between two tables and gives a FAIL for no intersection.

    > ✎ **Note:**
    >
    > This is the default option.

  – **Left**: This option lists the records between two tables which are based on a particular condition and gives a NULL for no transaction.

4. Click **Save**. A confirmation message is displayed.

**Joins**

Joins are of two types:

- **Inner Join**: This type of Join performs the join of two tables by finding the intersection columns and displays only those records. So, this type of Join only gives a FAIL for no intersection. It does not provide more information on whether the information is missing in a table, or if the condition is not met. Supporting inner joins restricted applications not to distinguish between records that fail to meet business logic (filter conditions) or lack of data.

- **Left Join**: This type of Join performs the exclusive join between two tables by listing the records based on a certain condition. So, in this case, we will have a certain number of records displayed even if the intersection is zero. This will give a result of NULL indicating zero intersection and shows whether data was missing or the condition was not met.

**Use Case for Joins**

```
Select
 case parameter. pscore is null then 20 else parameter.pscore end score //
calculating score
From cust
  join Parameter
On cust.acct_type = parameter.acct_type
Where cust.balance > 5000
```

This evaluation scores a customer whose balance is greater than 5000. Score is derived from Parameter table depending on the account type.

- **Inner join**: Inner join approach scores all transaction into default bucket. Irrespective of whether data is missing or filter conditions failed.
  Inner join cannot distinguish if customer balance is less than 5k or if customer's account type is invalid and balance is greater than 5000.

  Both transactions will be scored using default bucket(ZERO).

- **Left Join**: Using left joins, IPE distinguishes between transactions with missing data and failing to meet the business logic.

```
Select
 case parameter. pscore is null then 20 else parameter.pscore end score //
calculating score
From cust
 LEFT join Parameter
On cust.acct_type = parameter.acct_type
Where cust.balance > 5000
```

If customer balance is less than 5000 and valid acct_type then score is ZERO default bucket.

If customer balance is greater than 5000 and invalid acct_type then score will 20.

## Adding Filters

To add filters:

1. Click **Add** on the Filters tool bar. The Add Filter Dialog box is displayed.

2. Enter the following details:

   - **Filter Name**: Enter the name of the filter.

   - **Source Expression**: Select the source expression from the drop-down list. The list will be based on the selected Activity.

   - **Operator**: Select the operator from the drop-down list for the expression and also the expression that it is to be operated on.

   - **Comparator Type**: Select the Comparator type:

     – If Expression type is selected, then a drop-down list is displayed.

     – If Literal Value is selected, then a text field is displayed to enter the details.

   > **Note:**
   >
   > If literal value is a character, then the value should be wrapped in single quotes.

3. Click **Save**. A confirmation message is displayed.

## Adding Evaluation Scoring

To add evolution scoring:

1. Expand Evaluation Scoring.

2. Enter the following details:

   - **Evaluation Scoring**: Select the score type. The options are:

     – **Fixed**: If this option is selected, then the score should be entered in the text box displayed.

     – **Lookup**: This option shows the lookup tables.

- **Expression**: This option shows the list based on the selected Activity.

  - **Change Description**: Enter the change description details. This is a mandatory field.

3. Click **Save**. A confirmation message is displayed.

# Adding an Expression from Evaluations Menu

An expression can be added from the Evaluations menu apart from the Expression menu itself.

To add an expression from Evaluations menu:

1. Navigate to the Evaluation details page.

2. Click **Add** on the Evaluations tool bar. The Add Evaluation fields are expanded.

3. Click the Activity from the drop down list.

4. Click **Add Expressions** on the Evaluations Details tool bar. The Expression Details page is displayed.

5. Add an expression. For more information, refer to Adding an Expression.
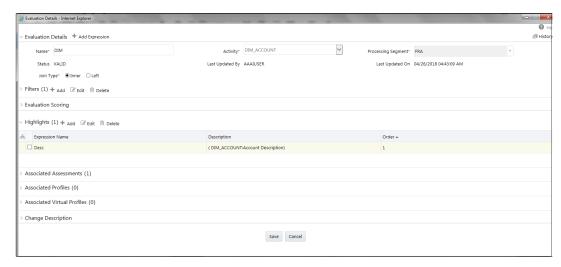
# Adding Highlights to an Evaluation

Highlights are data elements of an IPE Assessment that are stored and displayed for the benefit of knowing the reasons for an alert/case generation. These summarized details are basically Expressions that may or may not be used in Evaluation logic. If these expressions are already not part of an Evaluation, then they are newly created and saved as a part of Highlights.

To add a Highlight to an Evaluation:

1. Navigate to the Evaluation details page.

2. Select an Evaluation. The Evaluation Details page is displayed.

**Figure 10-3    Adding Highlights**



3. Click **Add** on the Highlights tool bar. The Highlights Details fields are expanded.

4. Select an Expression from the drop-down list.

5. Click **Save**. The Expression is displayed in the Highlights section.

## Passing Parameters from Run Rule Framework (RRF) to IPE

Parameters can be passed from RRF to IPE as Parameter Groups and Parameters.

The format of Parameters and Parameter groups are as follows:

- For Parameters, segment codes must be separated by @@ token.

- For Parameter groups, segment codes must be separated by ~ token.

To pass parameters, the format should be as follows:

```
<Segment Code1>~<Segment Code2>@@x@@y
```

where,

- $x$ is the code used for the kind of query you want to execute.

- $y$ is the code used for the kind of records you want as the result.

Here, x can be one of the following codes that depict the kind of query you want to use for different scenarios:

- If you want to run an Assessment query, then the code is 1.

- If you want to run a Highlights query, then the code is 2.

- If you want to run an Assessment and Highlights query and generate Highlights, then the code is 3.

Here, y can be one of the following codes that depict the kind of records you want to obtain as the result:

- If you want to run Assessment or Highlights or both for FAILONLY records, then the code is 1.

- If you want to run Assessment or Highlights or both for PASSONLY records, then the code is 2.

- If you want to run Assessment or Highlights or both for PASSNFAIL records, then the code is 3.

> **Note:**
>
> For second parameter group, the default ID is FAILONLY.

For example, if you want to run both Assessment and Highlights query and generate Highlights for the segment codes FRA and ONL, then the codeline is "FRA~ONL@@3@@2".

If you want to generate only Highlights for all segments, then the codeline is "@@2@@3".

## Searching an Evaluation

To search an Evaluation:

1. Navigate to the Evaluation details page.

2. Enter the following details:

   - **Evaluation Name**: Enter the Profile Name.

- • **Activity**: Select the activity from the drop-down.

- • **Processing Segment**: Select the Processing Segment from the drop-down.

3. Click **Go**. The Search Details are displayed.

# Editing an Evaluation

To modify Evaluation details:

1. Navigate to the Evaluation details page.
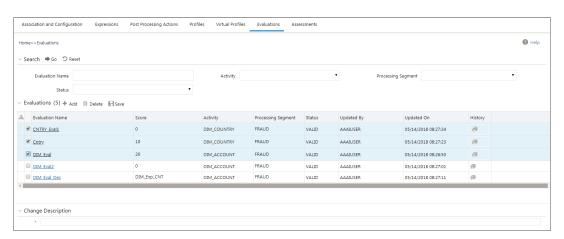
2. Select the required Evaluation.

3. Modify the necessary information. For more information on Evaluation fields, refer to Adding an Evaluation.

4. Click **Save**. A confirmation message is displayed.

# Saving Multiple Evaluations

To save multiple Evaluations at once:

1. Navigate to the Evaluation details page.

2. Select the Evaluations that you want to save from the Evaluations list.

3. Click **Save**. The Change Description text box is displayed.

4. Enter the description.

5. Click **Save**. A confirmation message is displayed. Status of the saved Evaluations changes from INVALID to VALID.

**Figure 10-4    Saving Multiple Evaluations**



# Deleting an Evaluation

To delete an Evaluation:

1. Navigate to the Evaluation details page.

2. Select the required Evaluation.

3. Click **Delete**.
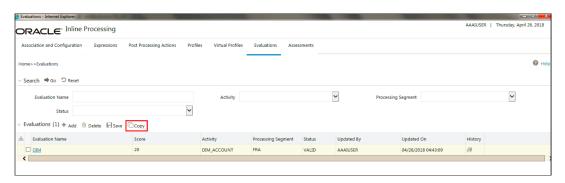
> **Note:**
>
> System does not allow the user to delete the selected Evaluation if it is used in other IPE metadata.

# Copying an Evaluation

To copy an existing Evaluation:

1. Navigate to the Evaluations details page.

2. Select the Evaluation from the list that you want to copy.

3. Click **Copy** and enter the comments in the change description field. A copy of the evaluation is created.

**Figure 10-5    Copying Evaluation**



> **Note:**
>
> a. A copy of an evaluation is created with the word COPY appended to the name of the evaluation. For example, if the Evaluation if 'eva1', the name of the copy is 'eva1 COPY'.
>
> b. Subsequent copies of the evaluation is not allowed and results in unique constraint error due to the copy being created with the same name. However, you can create a copy of the copy.

# 11

# Managing Assessments

Analysis of incoming data is handled in by a combination of Evaluations or a single Evaluation, which are created in Assessments.

The final decision on an activity is made by an Assessment, which can be made up of one or more Evaluations. A set of evaluations are assembled into an Assessment. Assessment performs the complete validation and returns a score.

Assessment will check multiple evaluation logic and consider the Sum of all Evaluation Score for the output score.

There are two assessment scoring types:

- Normalized Base: It is the adjustments of score or distributions in statistics.

- Sum of Evaluation Score: It is the total sum score of all selected evaluations.

Through assessments, you can add a new assessment and also search for existing assessments for modification or removing an assessment.

This chapter explains about Assessments functionality and provides step-by-step instructions to use this module.

This chapter discusses the following topics:
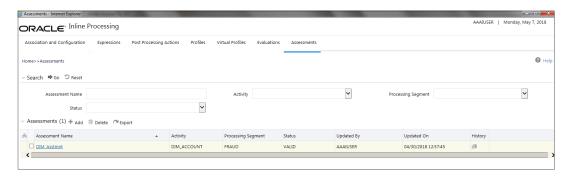
- Accessing Assessments Menu
- Adding an Assessment
- Exporting an Assessment
- Searching an Assessment
- Editing an Assessment
- Deleting an Assessment

## Accessing Assessments Menu

To access the Assessments menu:

1. Navigate to the Inline Processing Home Page.

2. Click **Assessments**. The Assessments page is displayed.

**Figure 11-1    Assessment Details page**



# Adding an Assessment

This option allows you to define an assessment by adding the assessment details.
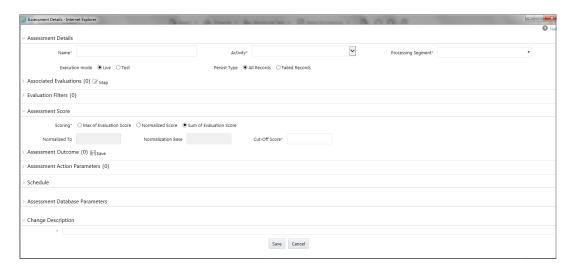
This section covers the following topics:

- Mapping Associated Evaluations

- Adding Assessment Score and Outcome

- Adding Action Parameters and Schedule

- Adding Assessment Database Parameters

To add an Assessment:

1. Navigate to the Assessments details home page.

2. Click **Add** on the Assessment tool bar. The Add Assessment page is displayed.

**Figure 11-2    Adding an Assessment**



3. Enter the following details:

- **Assessment Name**: Enter the name of the assessment.

- **Processing Segment**: Select the processing segment from the drop-down list.

- **Activity**: Select the activity from the drop-down list.
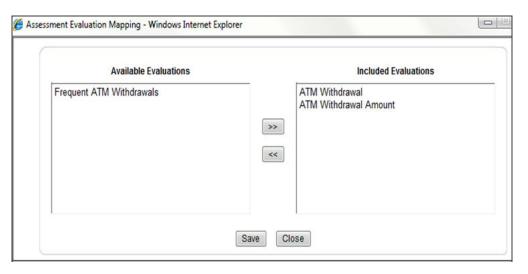
- **Execution Mode**: Select the execution mode. The options are:
  – **Live**: Assessments are used for scoring.
  – **Test**: Assessments are used for offline analysis.

4. Persist Type: Select the Persist Type for the Assessment. The options are:
   - **All Records**: Select this type if you want all the records that have passed or failed to be displayed.
   - **Failed Records**: Select this type if you want only failed records to be displayed.

5. Click **Save**. A confirmation message is displayed.

## Mapping Associated Evaluations

To map associated evaluations to an assessment:

1. Navigate to Associated Evaluations section.

2. Click **Map**. The Associated Evaluations Mapping Dialog box is displayed.

**Figure 11-3    Assessment Evaluation window**



3. Select Evaluations from **Available Evaluations** pane. Click the **Next** arrow to move to **Included Evaluation** pane.

> ✎ **Note:**
>
> Evaluation filter: This option gets populated for the selected evaluation in Associated Evaluations.

## Adding Assessment Score and Outcome

To add and Assessment Score and Outcome:

1. Navigate to Assessment Scoring section.

2. Expand **Assessment Scoring**. The Assessment Score add fields are displayed.

3. Enter the following details:

- **Scoring**: Select the score type. The options are:

  – **Max of Evaluation Score**: This option calculates the maximum score among the associated evaluations and assigns it as the score for the Assessment.

  – **Normalized Score**: This option calculates the normalized score among the associated evaluations and assigns it as the score for the Assessment.

  – **Sum of Evaluation Score**: This option calculates the sum of the scores among the associated evaluations and assigns it as the score for the Assessment.

- **Normalized to**: Enter the normalized to score.

- **Normalization Base**: Enter the normalization base score.

- **Cut-off score**: Enter the cut-off score or the minimum score required to attain normalization. Assessment Outcome: Select the type of action. Enter the upper limit and lower limit score.

4. Click **Save**. A confirmation message is displayed.

## Adding Action Parameters and Schedule

To add an action parameter and schedule to an assessment:

1. Navigate to Action Parameters and Schedule section.

2. Expand **Action Parameters**. The Action Parameters add fields are displayed.

3. Enter the following details:

- **Parameter Name**: Enter the parameter name.

- **Parameter Value**: Enter the parameter value.

- **Schedule**: Select the schedule type. The options are:

  – **Activate**: To activate a Schedule

  – **Deactivate**: To deactivate a Schedule

- **Change Description**: Enter the Change Description. This is a mandatory field.

4. Click **Save**. A confirmation message is displayed.

> **Note:**
>
> - Managing Post Processing Actions is applicable for Real Time Processing only.
>
> - In the assessment details, for the Hold Transaction Message, user has to configure the Assessment Action Parameters manually in the Action Parameter Details page. It is to be noted that the message format can be changed as per the requirement of the user.

## Adding Assessment Database Parameters

This option allows you to add run time parameters for HIVE.

For example,

```
SET mapred.reduce.tasks = 1000;SET mapred.child.java.opts = -Xmx2048m; SET
SESSION FORCE PARALLEL DML PARALLEL 8; ALTER SESSION FORCE PARALLEL DML PARALLEL
8;
```

> **Note:**
>
> No space is allowed between ; and SET.

# Exporting an Assessment
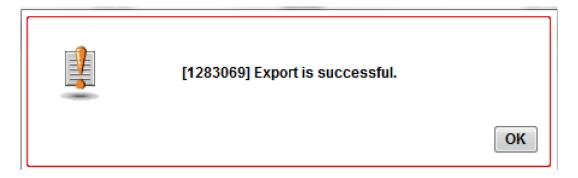
This option allows the user to migrate an assessment and associated metadata from one environment to another.

To export an assessment:

1. Navigate to the Assessments details home page.

2. Select the Assessment Name in the list.

3. Click Export.

   The exported assessment details are stored as XML files. Once the assessment is exported, an XML file gets generated in the path <APP_LAYER_FTPSHARE>/<INFODOM>/RTI>. Once the file is exported, the following message is displayed:

**Figure 11-4    Assessment Export window**



# Searching an Assessment

To search an Assessment:

(Optional) <Describe the context.>

(Optional) <Describe the prerequisites.>

1. Click **Assessments** on the Inline Processing Home Page. The Assessment Details page is displayed.

2. Enter the following details:

   • **Assessment Name**: Enter the Assessment Name.

   • **Activity**: Select the activity from the drop-down.

   • **Processing Segment**: Select the Processing Segment from the drop-down.

**3.** Click **Go**. The search details are displayed.

# Editing an Assessment

To modify Assessment details:

**1.** Navigate to the Assessments details home page.

**2.** Select the required Assessment.

**3.** Modify the necessary information. For more information on Processing Segment fields, refer to Adding an Assessment.

**4.** Click **Save**. A confirmation message is displayed.

# Deleting an Assessment

To delete an Assessment:

**1.** Navigate to the Assessments details home page.

**2.** Select the required Assessment.

**3.** Click **Delete**.

> **Note:**
>
> System does not allow the user to delete the selected Assessment if it is used in other IPE metadata.

# 12

# Executing an Assessment Batch

This chapter explains the procedure of executing an assessment batch in two ways, i.e. Rules Run Framework and Operations.

This chapter provides detailed information about executing a batch of assessments and step-by-step instructions to use this module.

Batch mode execution is now on HIVE, along with RDBMS.

> **✎ Note:**
>
> Impersonalization is not supported in IPE.

This chapter discusses the following topics:

- Executing an Assessment Batch through Rules Run Framework
- Executing an Assessment Batch through Operations

## Executing an Assessment Batch through Rules Run Framework

To execute an Assessment Batch, it involves the following procedures:

- Creating a Process
- Creating a Hierarchy filter
- Creating a Run and Executing it

## Creating a Process

To create a Process:
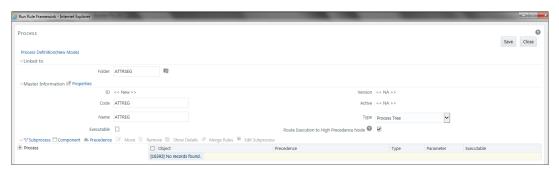
1. Navigate to the OFSAA Home Page and select **IPE Execution** from Select Application drop-down list.
2. Select **Process Management** under it and then **Orchestration**.
3. Select **Process Definition**. The Process Definition page is displayed.

**Figure 12-1    Process Definition page**



4. Click **New** on the List tool bar. The Run Rule Framework window is displayed.

**Figure 12-2    Process Details Run Rule Framework page**



5. Under the **Linked To** tool bar, click on the button next to **Folder**. The Folder Selector dialog box is displayed.
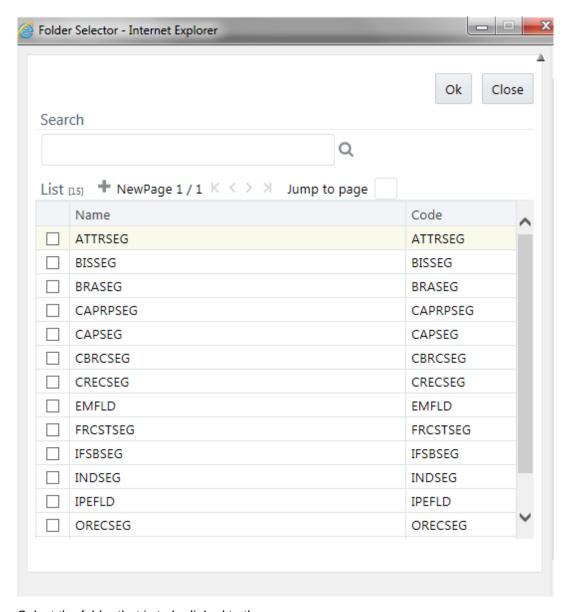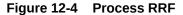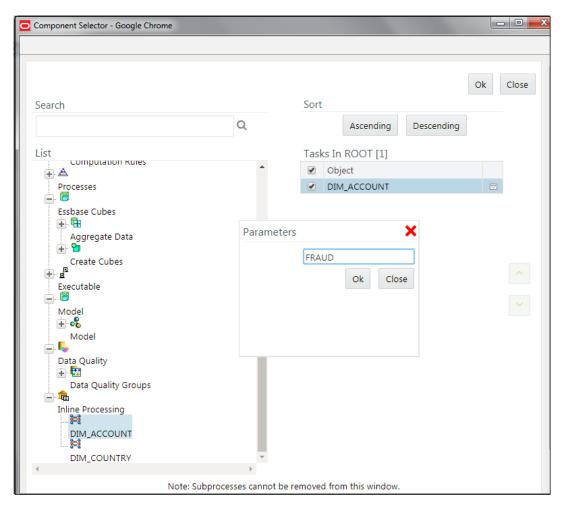
**Figure 12-3    Folder Selector window**



6. Select the folder that is to be linked to the process.

7. In the Master information tool bar, enter the code and name of the process.

8. Click **Component** on the tool bar. The Run Rule Framework Dialog box is displayed.

**Figure 12-4    Process RRF**



9.  Click **Inline Processing** from the List on the left and select the activity that is to be executed. The activity is displayed on the right under Tasks in ROOT.

10. Click on the button next to the activity. The parameter dialog box is displayed. To enter these details, see section Passing Parameters from Run Rule Framework (RRF) to IPE.

11. Click **OK**. The activity is displayed under Process.

12. Click **Save**. A confirmation message is displayed.
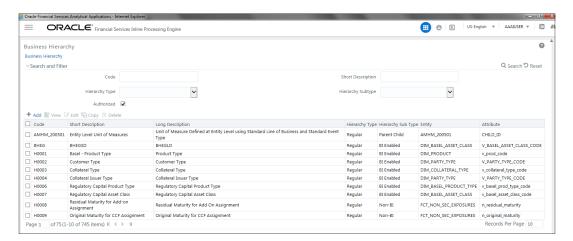
## Creating a Hierarchy filter

To create a Hierarchy Filter:

1.  Navigate to the OFSAA Home Page and select Common Tasks from Select Application drop-down list.

2.  Select **Unified Analytical Metadata** under it and then **Dimension Management**.

3.  Select **Build Hierarchy**. The Business Hierarchy page is displayed.
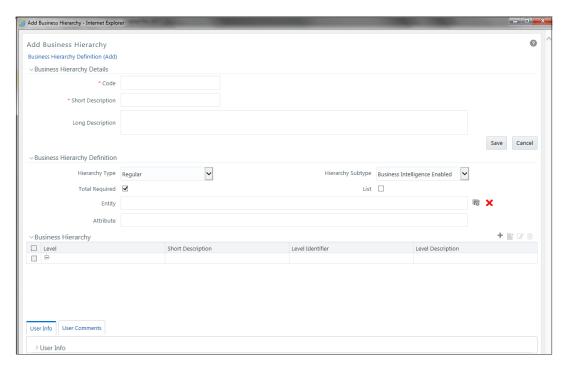
**Figure 12-5   Build Hierarchy page**



4. Click **Add** (+) on the Business Hierarchy tool bar. The Add Business Hierarchy window is displayed.

**Figure 12-6   Adding Business Hierarchy Details**



5. Enter the following details:
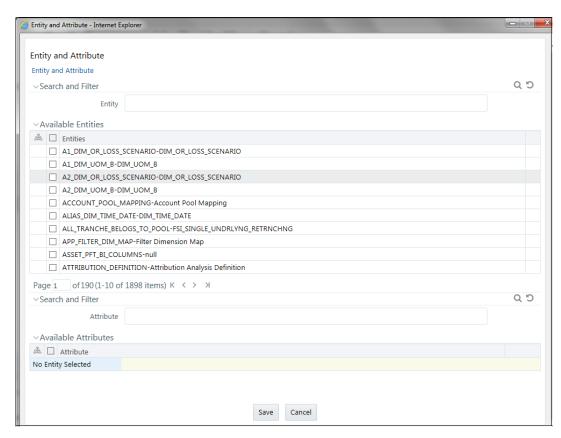
   • **Code**: Enter the Code.

   • **Short Description**: Enter the short description.

   • **Long Description**: Enter the long description.

   • **Hierarchy Type**: Select Hierarchy Type. It has the following options:

      – Regular

      – Measure

      – Time
        From these options, select Regular.

- Hierarchy Subtype: Select Hierarchy Subtype. It has the following options:

  – Business Intelligence Enabled

  – Non Business Intelligence Enabled

  – Parent Child
    From these options, select Non Business Intelligence Enabled.

6. Click on the button next to **Entity**. The Entity and Attribute dialog box is displayed.
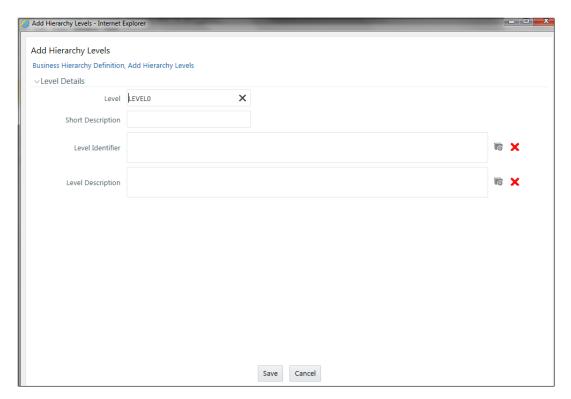
**Figure 12-7    Entity and Attribute details page**



7. Select the Activity table from **Entity**. The Attributes of the Activity table are displayed.

8. Select the Attribute whose result is to be displayed.

9. Click **Save**. The details are displayed on the Add Business Hierarchy window.

10. Click **Add** (+) on the Business Hierarchy tool bar. The Add Hierarchy Levels dialog box is displayed.

**Figure 12-8    Adding Hierarchy Levels**



11.  Enter the following details:

  •  **Short Description**: Enter the short description.

  •  **Level Identifier**: Enter the Level Identifier from the Expressions dialog box.

  •  **Level Description**: Enter the Level Identifier from the Expressions dialog box.

12.  Click **Save**. A confirmation message is displayed.

# Creating a Run and Executing it

To create a run and execute it
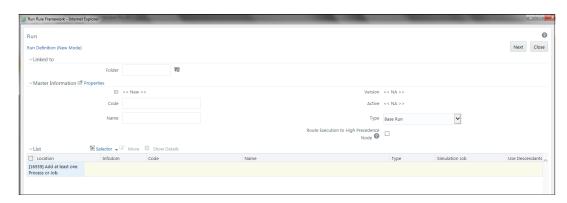
1.  Navigate to the OFSAA Home Page and select IPE Execution from Select Application drop-down list.

2.  Select **Process Management** under it and then **Orchestration**.

3.  Select **Run Definition**. The Run Definition page is displayed.

**Figure 12-9    Run definition page**

4. Click **New** (+) on the List tool bar. The Run Rule framework window is displayed.
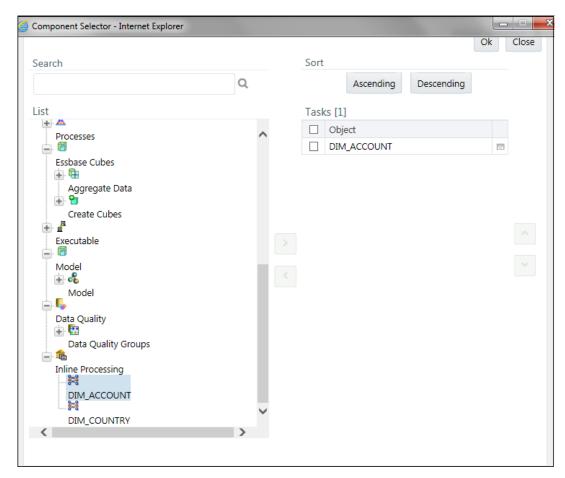
**Figure 12-10    New Run Definition details page**



5. Select the folder that is to be linked to the process run.

6. In the **Master Information** tool bar, enter the following details:

   • **Code**: Enter the Code of the process.

   • **Name**: Enter the Name of the process.

   • **Type**: Select Type. It has the following options:

       – Simulation Run

       – Base Run
         From these options, select Base Run.

7. Click **Selector** on the List tool bar. From the options displayed, select **Job**. The Job Details page is displayed.
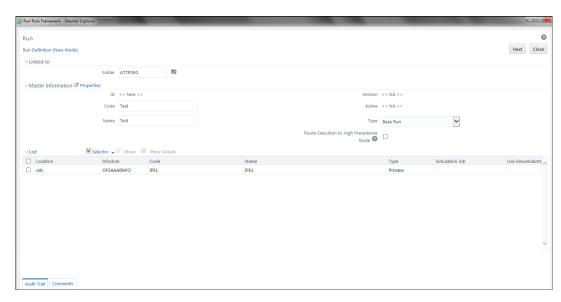
**Figure 12-11    Job RRF window**



8. Select the **Process** from the list. The process gets displayed on the right.

9. Click **OK**. The job is displayed on the Run Rule Framework window.
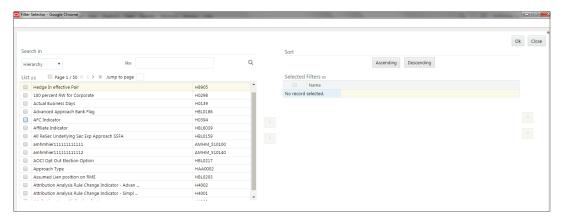
**Figure 12-12    Jobs for Run RRF page**



10. Click **Next**. Add the required hierarchy to the jobs.
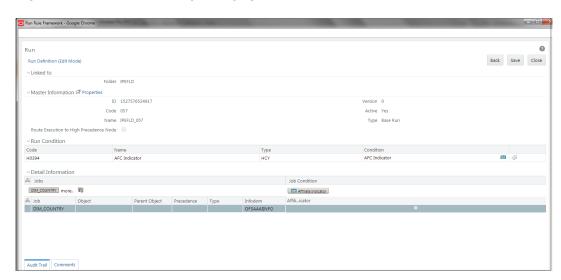
**11.** Select the filter to be added to the job.

**Figure 12-13    Hierarchy Browser window**
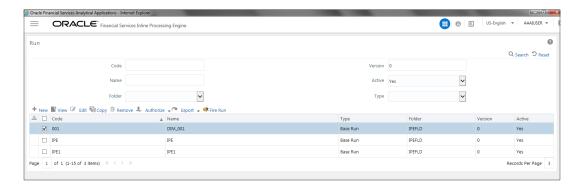


**12.** Click **OK**. The required hierarchy for the job is selected and is displayed on the Run Rule Framework window.

**Figure 12-14    Job Hierarchy RRF page**



**13.** Click **Save**. A confirmation message is displayed. The run is created and displayed on the Run Definition page.
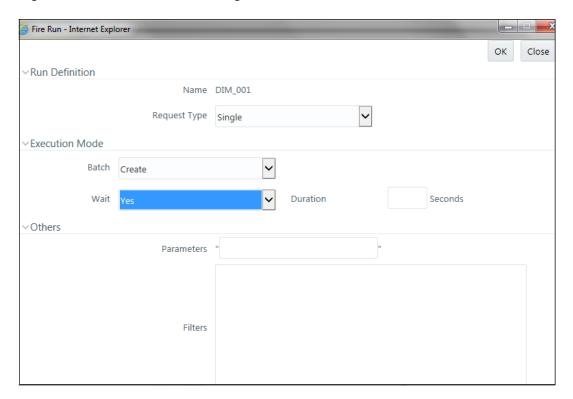
**Figure 12-15    Fire Run Page**

14. Select the run from the Run definition page that is to be executed and click **Fire Run**. The Fire Run Rule Framework dialog box is displayed.

**Figure 12-16    Fire Run Details Page**



15. Enter the following details:

- Request Type: Select Request Type based on the following options:

  – Single: If the batch has to be executed once.

  – Multiple: If the batch has to be executed multiple times at different intervals.

- Batch: Select Batch. It has the following options:

  – Create

  – Create & Execute
    From these options, select Create & Execute.

- Wait: Select Wait. It has the following options:

  – Yes: This will execute the batch after a certain duration. Enter the duration as required.

  – No: This will execute the batch immediately.

- Filters: Enter the filter details.

> **✎ Note:**
>
> – $MISDATE option can be used to execute the run for that particular day. The format for it to enter in the filter details is:
> `to_date(<ACTIVITY_TABLE_NAME>.<ACTIVITY_DT_COL>)=$MISDATE`
>
> – For $MISDATE option:
>
> * For either Date or Timestamp datatypes, to_date is mandatory for the filter.
>
> * Activity Table Name and Activity Column Name should be in capital.

16. Click **OK** to run the batch.

# Executing an Assessment Batch through Operations

To execute an Assessment Batch through Operations, refer to the Operation module in Oracle Financial Services Analytical Applications Infrastructure User Guide.

Execution of an IPE Assessment through Batch Processing in the Operations Batch Maintenance screen is not supported.

While executing the batch, provide the following parameters when you add Task Details:

- $RUNID=<RUN_ID>
- $PHID=1
- $EXEID=<EXECUTION_ID>
- $RUNSK=0

# 13

# Displaying Assessment Results

This chapter provides detailed information about displaying assessment results and step-by-step instructions to use this module.

This chapter covers the following topics:
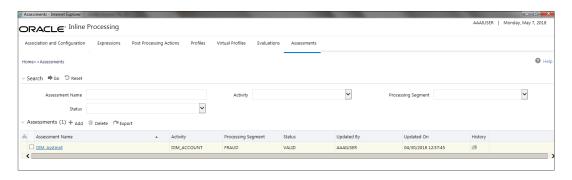
You can display Assessment Results for batch mode processing only.

## Accessing Assessments Results

To access the Assessments menu:

1. Navigate to the Inline Processing home page.
2. Click **Assessments**. The Assessments page is displayed.

**Figure 13-1    Assessments Details Page**



## Displaying Assessments Results
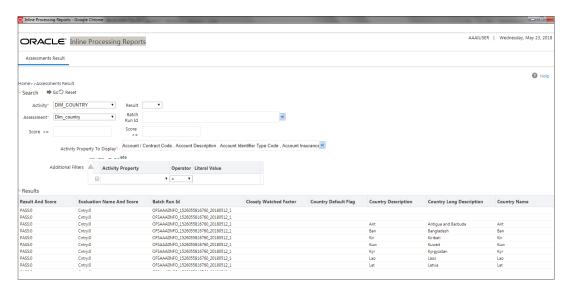
To display Assessment Results:

1. Navigate to the Assessments details page.
2. Enter the following details:
   - **Activity**: Select the Activity.
   - **Assessment**: Select the Assessment whose result is to be displayed.
   - **Result**: Select the Result Type. The options are:
     – Pass
     – Fail
   - **Score**: Select the Score.

- • **Activity Property To Display**: Select the properties to be displayed.
- • **Additional Filter**: Click **Add** and select the Activity Property and operator.

The Assessment Results is displayed.

**Figure 13-2    Assessment Results page**



# Displaying Assessment Results for HIVE:

To display the Assessment Results on HIVE for batch mode processing, a few additional steps have to be performed as follows:

1. Navigate to Database Details on the home screen.

2. Select the Database Name for the Infodom.

3. Edit JDBC Connection String by adding UseNativeQuery=1 at the end of the string.

   For example, `jdbc:hive2://ofss1234:10001/`
   `tres;AuthMech=1;KrbServiceName=hive;KrbHostFQDN=ofss1234;KrbRealm=AA.COM;UseNa`
   `tiveQuery=1`

4. Restart the servers.

# 14

# Managing Import and Export Utilities

Import and Export utilities are provided, when performed through command line `RTIImport.sh` and `RTIExport.sh`.

These are available in `<FIC_HOME>/ficapp/common/FICServer/bin`.

This chapter provides detail information about Import and Export functionality and step-by-step instructions to use this module.

This chapter discusses the following topics:

- Import Functionality
- Export Functionality

## Import Functionality

Follow these steps:

1. Login to the Server where application layer is installed.
2. Navigate to the path.

   `<FIC_HOME>/ficapp/common/FICServer/bin`

3. Execute the below command

   `./RTIImport.sh $1 $2 $3 $4`

   Where $1 is the File name which has to be imported along with the absolute path where file exists.

   $2 is infodom and $3 is APP ID and $4 should always be false.

   For example,

   ```
   RTIImport.sh <APP LAYER FTPSHARE>/<INFODOM>/RTI/
   RTIExport_RTIINFO_2014.06.10.19.39.38.xml RTIINFO OFS_IPE false
   ```

   > **Note:**
   >
   > The Import file name should always start with RTIExport_.

4. \<Enter the next step.\>

   a. (Optional) \<Enter a substep.\>

   b. (Optional) \<Enter a substep.\>

## Export Functionality

Follow these steps:

1. Login to the Server where application layer is installed.

2. Navigate to the path.

```
<FIC_HOME>/ficapp/common/FICServer/bin
```

3. Execute the below command.

```
./RTIExport.sh $1 $2 $3 $4 $5
```

Where $1 is the folder in which the exported XML is created.

$2 is the Infodom name and $3 is APP ID, $4 is Assessment IDs Separated by Comma and $5 is flag 'true' to export all association and configuration metadata.

For $5, system will export all Traversal Paths and all base metadata involved in those Traversal Paths. $5 is optional and default is 'false'.

For example,

```
./RTIExport.sh /scratch/ofsaaapp/Ftpshare/OFSAA802IUT/RTI RTIINFO OFS_IPE
1790,1802 true|false
```

This creates a file within the target folder in the following format:

```
RTIExport_<INFODOM_NAME>_<DATE_TIME_STAMP>.xml
```

For example:

RTIExport_RTIINFO_2015.09.23.14.35.34.xml

> **Note:**
>
> a. $5 will be false for UI export.
>
> b. Export functionality through UI exports only the associated metadata.

# A

# Configuring a User Defined Function in IPE

This Appendix explains about configuring a user defined function in IPE.

This Appendix covers following topics:

- Configuring a User Defined Function in RTI
- Configuring any User Defined Function

## Configuring a User Defined Function in RTI

To configure a User Defined Function in RTI

1.  ```
    GETLASTCHARS (FUNCTION NAME) (PARAMETER NAME1 DATA TYPE1, PARAMETER
    NAME2
           DATA TYPE 2)
    return 'return data type'
    Begin
    Function Body
    End
    ```

2.  For Example, to create a Function GETLASTCHARS in the Atomic Schema, follow the steps below.

    ```
    create or replace function GETLASTCHARS(inputString varchar2, noOfChars
    number)
    return varchar2
    is
     v_chars varchar2(32767):='';

    begin
      select SUBSTR(inputString,0-noOfChars,noOfChars) into v_chars from dual;

      return v_chars;
    end GETLASTCHARS;
    ```

> ✎ **Note:**
>
> At any point of time, the user created functions for use in Expression should have only two parameters. In the Example Function, the `inputString` and `noOfChars` are the two parameters.

## Configuring any User Defined Function

To Configure any User defined function:

1. The information to be inserted into the tables `rti_function`, `rti_func_arg_map`, and `rti_func_data_type`.

2. To configure the above Created Function to appear in the Select Function drop-down, execute the following Scripts in the Config Schema.
   The values should be added to the following tables according to the format shown below:

```
insert into RTI_FUNCTION (N_FUNC_ID, V_RETURN_TYPE, V_FUNC_CODE,
V_FUNC_NAME,
V_DESC, V_NOTES, V_FUNC_TYPE, V_FUNC_STR, V_MAX_PARAM)
values(value1,value2,value3….)
```

where,

- `N_FUNC_ID` is a unique value given to the function.

- `V_RETURN_TYPE` is the return type of the function.

- `V_FUNC_CODE` is the function code.

- `V_FUNC_NAME` is the name of the function.

- `V_DESC` is the description provided for the function.

- `V_NOTES` is the information provided regarding the function.

- `V_FUNC_TYPE` is the return type of the function.

- `V_FUNC_STR` is the function.

- `V_MAX_PARAM` is the number of maximum parameters allowed for the function.

Example,

```
insert into RTI_FUNCTION (N_FUNC_ID, V_RETURN_TYPE, V_FUNC_CODE,
V_FUNC_NAME,
V_DESC, V_NOTES, V_FUNC_TYPE, V_FUNC_STR, V_MAX_PARAM)
values (30, 'VARCHAR2(200)', 'GETLASTCHARS', 'Get Last Characters ', 'Gets
the Last Characters.', null, 'F', 'GETLASTCHARS(@1@,@2@,@3)', 3);
```

```
insert into RTI_FUNC_ARG_MAP (N_MAP_ID, N_FUNC_ID, V_ARG_DESC,
V_ARG_DATA_TYPE, N_ARG_NUM)
values(value1,value2,value3…..)
```

where,

- `N_MAP_ID` is a mapping value given to the function.

- `N_FUNC_ID` is a unique value given to the function.

- `V_ARG_DESC` is the description provided for the argument.

- `V_ARG_DATA_TYPE` is the datatype of the argument of the function.

- `N_ARG_NUM` is the sequential number given to the argument.

Example,

```
insert into RTI_FUNC_ARG_MAP (N_MAP_ID, N_FUNC_ID, V_ARG_DESC,
V_ARG_DATA_TYPE, N_ARG_NUM)
values (40, 30, 'Char Value to be evaluated', 'char', 1);
```

**ORACLE**

```
insert into RTI_FUNC_ARG_MAP (N_MAP_ID, N_FUNC_ID, V_ARG_DESC,
V_ARG_DATA_TYPE, N_ARG_NUM)
values (41, 30, 'Number of places', 'char', 2);
insert into RTI_FUNC_ARG_MAP (N_MAP_ID, N_FUNC_ID, V_ARG_DESC,
V_ARG_DATA_TYPE, N_ARG_NUM)
values (42, 30, '..............', 'char', 3);


insert into RTI_FUNC_DATA_TYPE (N_MAP_ID, N_FUNC_ID, V_DATA_TYPE)
values (70, 30, 'CHAR');
values(value1,value2,value3….)
```

where,

- `N_MAP_ID` is a mapping value given to the function.

- `N_FUNC_ID` is a unique value given to the function.

- `V_DATA_TYPE` is the datatype of the function.

Example,

```
insert into RTI_FUNC_DATA_TYPE (N_MAP_ID, N_FUNC_ID, V_DATA_TYPE)
values (70, 30, 'CHAR');
insert into RTI_FUNC_DATA_TYPE (N_MAP_ID, N_FUNC_ID, V_DATA_TYPE)
values (71, 30, 'VARCHAR');
insert into RTI_FUNC_DATA_TYPE (N_MAP_ID, N_FUNC_ID, V_DATA_TYPE)
values (72, 30, 'VARCHAR');
```

# B

# Configuring a User Defined Assessment

This Appendix explains about configuring a user defined function in IPE:

Example Scenario:

- Monitoring ATM Withdrawals

**Focus**

- Account (AC)
- Customer (CU)

**Scenario Class**

- Fraud (FR)

**Scenario Objective**

- An account which is transacting through ATM in different permutations and combinations requires monitoring to avoid fraudulent activities.

**Alert Generation**

- An alert would be generated when the filters of an evaluation are met. Profiles shall provide an output for some of the filters of an evaluation.

**Table B-1    Alert Generation**

| Evaluations | Filters for an Evaluation | Profiles for an Evaluation |
|---|---|---|
| Frequent ATM Withdrawals | ATM withdrawals > =2<br>Amount withdrawal > 200<br>Time Period after deposit within 4 hours<br>ATM Deposit > 500 | Frequent Count of ATM Withdrawals<br>Time Period after deposit |
| Frequent ATM withdrawals on a device | ATM withdrawals > = 10<br>Within = 10 minutes | Frequent count of withdrawals on a device |
| Frequent ATM withdrawals on a card – Velocity 1 | ATM withdrawals >=3<br>Within = 10 minutes | Frequent count of withdrawals on a card |
| Frequent ATM withdrawals on a card – Velocity 2 | ATM withdrawals >=5<br>Within = 15 minutes<br>Amount Withdrawn > = 10000 | Frequent count of withdrawals on a card |
| Suspicious ATM Withdrawals | ATM withdrawals > =3<br>Amount withdrawal >800<br>Time Period = 30 minutes<br>Device = Different<br>Card = Different | Suspicious Count of ATM withdrawals for different Device & Card<br>Withdrawal Time Period |

**Table B-1    (Cont.) Alert Generation**

| | | |
|---|---|---|
| Suspicious ATM Withdrawals on a card | ATM withdrawals > =3 <br> Amount withdrawal >800 <br> Time Period = 30 minutes <br> Device = Different <br> Card = Same | Suspicious Count of ATM withdrawals for different Device & same Card <br> Withdrawal Time Period |
| Suspicious ATM Withdrawals on a ATM machine | ATM withdrawals > =3 <br> Amount withdrawal >800 <br> Time Period = 30 minutes <br> Device = Same <br> Card = Different | Suspicious Count of ATM withdrawals for same Device & different Card <br> Withdrawal Time Period |
| Suspicious ATM Withdrawals on a card and ATM device | ATM withdrawals > =3 <br> Amount withdrawal >800 <br> Time Period = 30 minutes <br> Device = Same <br> Card = Same | Suspicious Count of ATM withdrawals for same Device & Card <br> Withdrawal Time Period |
| ATM Withdrawals in Unusual Time | Current Amount withdrawal > 300 <br> Current Transaction Time between 5 to 7 pm <br> Previous Transaction Time between 4 to 5pm <br> Previous Amount withdrawn > 300 | Amount withdrawn on a previous transaction in an unusual time |
| ATM withdrawals in High Risk period | Transaction Time : 12am to 5am | High Risk Period |
| Frequent ATM Transactions on a ATM Device | # of cards used > 10 <br> Device = Same <br> Within = 10 minutes | Count of Cards used at a ATM device <br> Transaction Time |
| Maximum Amount ATM Withdrawals | # of Maximum Amount Withdrawn > 3 <br> Within = 10 minutes <br> Device = Same <br> Maximum Amount > = | Count of maximum amount withdrawn <br> Transaction Time Period for maximum amount withdrawn |
| Frequent Balance Enquiries | # of balance enquiries > = 5 <br> Balance Enquiry within = 10 minutes <br> Device = same | Count of Balance Enquiries at a device <br> Balance Enquiry time |
| Suspicious ATM withdrawal – device specific | More than X maximum amount ATM withdrawals in Y minutes at same ATM device | |
| Unusual ATM Location | The location of this ATM transaction is not one of the typical ATM locations for this card. | |

**Filters**

- For Account Focus

  - Include ATM Transactions only

        –    Include Customer Retail Accounts only

- For Customer Focus
    - Include ATM Transactions only
    - Include Customer Retail Accounts only

**Data Streams of Interest**

- Account
- Customer
- Watch List
- Watch List Entry
- Transaction

**Table B-2    Building Blocks**

| Parameters for | | |
|---|---|---|
| Parameter Name | Description | Sample Value (Min, Max) |
| Amount Deposited | | |
| Amount Withdrawn | | |
| Look back for withdrawal | | |
| # of withdrawals | | |

**Table B-3    Building Blocks**

| Building Block | Description | Possible Number of Records Retrieved to Describe Alert | |
|---|---|---|---|
| | | AC | CU |
| Cash Transaction | | | |
| Account | | | |
| Customer | | | |
| Account Balance | | | |
| Account Summary | | | |

**Table B-4    Highlights**

| Highlights for | |
|---|---|
| Display Name | Description |
| | |

Frequency Period – Real Time

Look back Period – Tunable

# Glossary

# Index