

**Oracle® Hedge Management and IFRS**

User Guide

Release 8

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Oracle Hedge Management and IFRS User Guide, Release 8

Part No. E36435-01

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## **Oracle Hedge Management and IFRS User Guide, Release 8**

### **Part No. E36435-01**

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- Did you understand the context of the procedures?
- Did you find any errors in the information?
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- Do you need different information or graphics? If so, where, and in what format?
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# Preface

## Intended Audience

Welcome to Release 8 of the *Oracle Hedge Management and IFRS User Guide*.

## Forward

This user guide documents OFSAA Hedge Management and IFRS for all versions of release 8. Some functional improvements have been introduced in various service packs and point releases within release 8.

Hedge Management and IFRS Release 8.0.1.0.0

- Early Redemption support for Conditional Assumption

See Related Information Sources on page xviii for more Oracle product information.

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## Structure

**1 Introduction to Oracle Hedge Management and IFRS**

This chapter provides an introduction to Oracle Hedge Management and IFRS and discusses its place in the Oracle Financial Services Analytical (OFSAA) group of applications.

## **2 Overview of OFSAA Infrastructure**

## **3 OFSAA Administrative Reporting**

## **4 OFSAA Data Entry Forms and Queries**

## **5 OFSAA Attributes**

## **6 OFSAA Dimension Members**

## **7 OFSAA Hierarchies**

## **8 OFSAA Filters**

## **9 OFSAA Expressions**

## **10 OFSAA Rate Management**

## **11 Simplified Batches**

## **12 Holiday Calendar**

This chapter discusses the procedure for creating a Holiday Calendar and generating a list of weekend and holiday dates. Individual applications may consume the holiday calendar events in different ways, so please refer to application specific user guides and/or the Cash Flow Engine Reference Guide for more details.

## **13 The Oracle Hedge Management Process**

This section describes the steps that you need to follow to define and execute the end to end Hedge Management Process.

Oracle Hedge Management is based on the Oracle Financial Services Analytical Applications Infrastructure (OFSAAI). OFSAAI is the central, integrated data source and Administration layer on which Oracle Financial Services Analytical Applications (OFSAA) are built. This description of the Oracle Hedge Management Process assumes that your system administrator has setup the OFSAAI data repository and has populated it with your enterprise wide business data.

## **14 Common Rule Management Tasks**

This section focuses on the rule management tasks that are common across all rules in this application.

## **15 Application Preferences**

This module discusses the Procedure for defining and maintaining your HM Application Preference settings.

## **16 Cash Flow Edits**

This module discusses the procedure for validating and cleansing your Instrument table data before you process it to generate cash flow based results.

## **17 User Defined Payment Patterns**

This module describes the procedure for capturing instrument payment patterns that are too complex to be accommodated in the standard fields of Instrument tables.

## **18 User Defined Repricing Patterns**

This module discusses the procedure for working with and managing user defined repricing patterns.

## **19 Time Buckets**

This module describes the procedure for working with and managing Time Bucket

rules.

## **20 Product Characteristics**

This module describes the procedure for working with and managing Product Characteristic rules.

## **21 Forecast Rate Scenarios**

Forecast Rate scenario assumptions allow you to define future interest rates and future currency exchange rates. Use interest rate forecasts to project cash flows, including pricing new business, re-pricing existing business, calculating prepayments, and determining discount methods. Use currency exchange rate forecasts to account for the effects of currency fluctuations on income.

The Forecast Rate assumptions use interest rate and currency codes defined in Rate Management, including all the active and reporting currencies and the primary, or functional, currency at your institution. See OFSAA Rate Management, for information on how to define interest rates and currency exchange rates.

This module describes how to create a Forecast Rates assumption rule to forecast cash flows and, if you work with multiple currencies, to model relationships between interest rates and exchange rates.

## **22 Prepayment Rules**

This module describes the procedure for working with and managing Prepayment rules.

## **23 Prepayment Models**

This module describes the procedure to build prepayment models using Prepayment Model Rules.

## **24 Discount Methods**

This module describes the procedure for working with and managing Discount Method rules.

## **25 HM Valuations Processing**

When all the required assumptions are defined, HM Processing performs calculation processes and generates a result set.

The Process Rule guides you through the required inputs on the process flow screen.

## **26 Hedge Management Effectiveness Process**

### **27 Hedge Definition**

### **28 Defining Limits**

### **29 Creating and Implementing Regression and R-Square Models**

### **30 Andrew Davidson and Company (ADCo) Prepayment Method**

#### **A Viewing HM Objects in Metadata Browser**

#### **B Multi Language Support**

#### **C Standard Navigation Paths**

This appendix gives you information to navigate through the pages referred to in this guide.

#### **D Oracle HM Error Messages**

#### **Glossary**

## Related Information Sources

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# Introduction to Oracle Hedge Management and IFRS

This chapter provides an introduction to Oracle Hedge Management and IFRS and discusses its place in the Oracle Financial Services Analytical (OFSAA) group of applications.

This chapter covers the following topics:

- Oracle Hedge Management and IFRS and Other Oracle Financial Services Applications

## Oracle Hedge Management and IFRS and Other Oracle Financial Services Applications

Oracle Financial Services Asset Liability Management (ALM) operates on top of a common infrastructure, Oracle Financial Services Analytical Applications Infrastructure (OFSAAI). OFSAAI is the central, integrated data source and application infrastructure on which all of the 6 releases of Oracle Financial Services Analytical (OFSAA) EPM applications are built. OFSAA applications form a comprehensive decision support solution that significantly enhances enterprise risk and performance management functions across a financial institution.

## Oracle Financial Services Enterprise Performance Management

To help financial institutions grow, manage risk, and optimize shareholder value, Oracle delivers a comprehensive, integrated suite of financial services analytical applications for enterprise performance management (EPM).

More than ever, financial institutions, their regulators as well as their shareholders are focused on the need to measure and meet risk-adjusted performance objectives, price products to reflect their true risk, and better understand how their institution is impacted by threats to liquidity, capital adequacy, and exposure to market rate volatility.

## **OFSAA Data Model**

OFSAA Data Model (OFSAADM) is shipped with optimized data structures and pre-packaged data elements developed specifically for the financial services industry. OFSAADM is the foundation for the OFS applications. It provides the database structures necessary to support the individual business applications.

## **OFSAA Infrastructure**

OFSAA Infrastructure is the foundation for OFSAA. It provides support for User Administration, Metadata Management, a Processing Framework, a Forms Framework and additional capabilities necessary to support the individual business applications.

## **OFSAA Funds Transfer Pricing**

Oracle Financial Services Funds Transfer Pricing is the industry's first and leading matched maturity funds transfer pricing application, enabling financial institutions to determine the spread earned on assets, from funding sources, and the spread earned as a result of interest rate exposure for each and every customer relationship. This enables accurate assessment of profitability along product, channel, and business lines, as well as the centralization of interest rate risk so it can be effectively managed. Oracle Financial Services Funds Transfer Pricing is fully integrated with Oracle's Financial Services Analytical Applications and shares a common customer account level data model.

The transfer pricing process isolates the four major sources of a bank's margin:

- The spread earned on assets
- The spread earned on liabilities
- The spread earned or lost as a result of interest rate exposure
- The spread earned or lost as a result of embedded options such as prepayments

Measuring and managing interest margin offers tremendous profit opportunities. By separating the components of net interest income, Oracle Funds Transfer Pricing isolates rate risk into your funding center where it can be centrally managed. In turn, business units are held accountable for what they can control: pricing and profitability. Armed with this highly accurate information, companies make solid, supportable decisions that lead to increased success in the marketplace.

## **OFSAA Profitability Management**

Oracle Financial Services Profitability Management enables financial services institutions to calculate profitability by products, channels, segments, and even individual customers. These profitability calculations are adjusted for risk, and they



drive Risk-Adjusted Performance Management (RAPM), an imperative for financial services institutions operating in this rapidly evolving and complex industry.

Isolating and analyzing business unit profitability is only the first step in building effective profitability management. To hold operational managers truly accountable for profitability, senior management must give them the power to identify the products that are profitable in each market segment, for each customer.

Together with OFSAA Transfer Pricing, OFSAA Profitability Management is the tool that delivers this power. Profitability Management links general ledger, account-level, and statistical data together to produce detailed financial statements for individual business units, products, and customers. Combining powerful modeling and disciplined accounting, OFSAA Profitability Management delivers complete, accurate, and inclusive profiles of profitability.

## **OFSAA Pricing Management, Transfer Pricing Component**

Oracle Financial Services Pricing Management, Transfer Pricing Component is an interactive application that provides real-time transfer rates to support pricing loan transactions that reflect immediate market conditions. Risk-based pricing queries are directly integrated with the Oracle Financial Services Funds Transfer Pricing solution and leverage the same business rule logic. Query results incorporate all details of the underlying transfer price and include all elements of a product's profit and loss, including the allocated expense, expected loss, and capital charge.

## **OFSAA Asset Liability Management**

Volatile market conditions and increasing regulatory pressures are placing greater demands on the risk management function. These stresses are driving financial institutions to review their current risk modeling and measurement capabilities. Yet, these circumstances also provide institutions with the opportunity to update technology solutions to systems fully integrated across the risk and performance spectrum. Departmental, one-off solutions are no longer viable alternatives in an environment where all systems need to work together.

Oracle Financial Services Asset Liability Management (ALM) helps financial services institutions measure and manage interest rate risk and liquidity risk, perform balance sheet valuations, and forecast both net interest income and net income. The Oracle Financial Services ALM solution has the ability to measure and model every loan, deposit, investment, and off-balance sheet instrument individually, using both deterministic and stochastic methods. This helps institutions gain a better understanding of the risks they have assumed and their sensitivity to changes in economic conditions.

## **OFSAA Balance Sheet Planning**

Oracle Financial Services Balance Sheet Planning is designed to help financial services institutions budget for a full balance sheet and the associated profit and loss statement.

Banks have a number of very unique needs when looking ahead. They must be sensitive to economic conditions, and create plans that not only forecast future performance, but also the forward risks they are assuming. Most importantly, they require tools that accurately forecast net interest margin. By accurately modeling the detailed and complex events on a bank's balance sheet, for both the current book of business and forecasted new volumes, Oracle Financial Services Balance Sheet Planning enables the delivery of accurate margin forecast and comprehensive, meaningful budgets.

## **OFSAA Business Intelligence Applications**

OFSAA Business Intelligence (BI) Applications are complete, prebuilt BI solutions that deliver intuitive, role-based intelligence for everyone in an organization—from front line employees to senior management—that enable better decisions, actions, and business processes.

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# Overview of OFSAA Infrastructure

## OFSAA Infrastructure

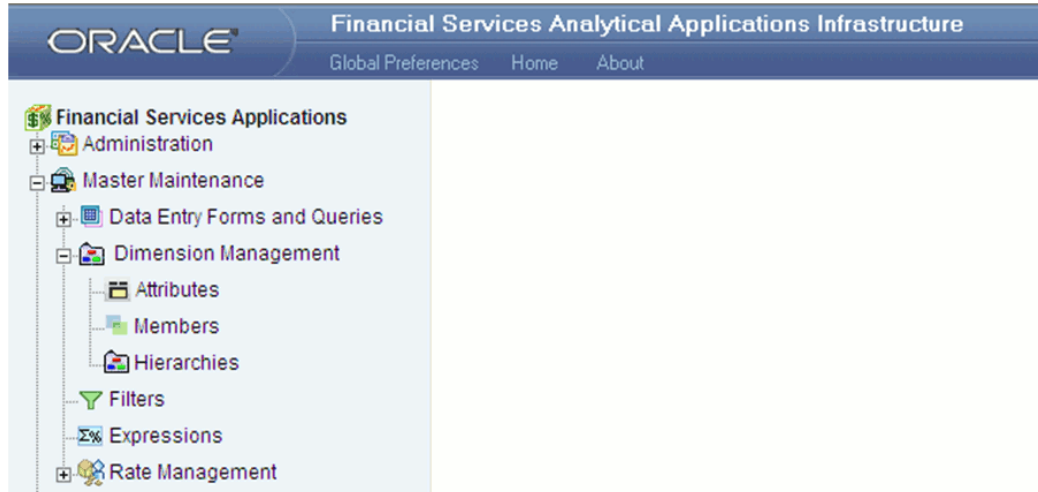
OFSAA Infrastructure includes facilities for creating and maintaining

- Dimensional reference data
- Interest rate & currency exchange rate data
- Process tuning data

OFSAA Infrastructure also includes functionality for building and maintaining rules that may be used by any Oracle Financial Services Analytical Application. These common rule objects include:

- Expressions
- Hierarchies
- Filters

The analytical applications that you see on the Left Hand Side (LHS) of the Financial Services Applications home page will depend on your logon privileges and on the OFSAA modules that have been installed for your environment, but you will always see the OFSAA Infrastructure components under Financial Services Applications > Master Maintenance.



The following chapters document how to navigate the OFSAA user interface to create and maintain dimensional reference data, interest rate & currency exchange rate data, and process tuning data; and to create and maintain OFSAA Infrastructure rules: Expressions, Hierarchies, and Filters.

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Chapter	Subject
Chapter 3	OFSAA Administration
Chapter 4	OFSAA Data Entry Forms and Queries
Chapter 5	OFSAA Attributes
Chapter 6	OFSAA Dimension Members
Chapter 7	OFSAA Hierarchies
Chapter 8	OFSAA Filters
Chapter 9	OFSAA Expressions
Chapter 10	OFSAA Rate Management

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The remainder of this chapter documents:

- Overview of Dimensionality in OFSAA
- Overview of OFSAA Rules
  - Hierarchies

- Filters
- Expressions

## Overview of Dimensionality in OFSAA

Dimensions are used to stratify your business data for processing or reporting purposes. For example, at a minimum General Ledger systems are typically stratified by a General Ledger dimension, an organization or cost center dimension, and a time dimension. Customer account level data will normally have these same dimensions but are often additionally segmented by dimensions such as Product or Customer. You may wish to construct models using a specialized product dimension or other customized dimensions such as geography, cost pool, transaction, activity or channel.

Dimensions are comprised of lists of members. For example, the Organizational Unit dimension might be comprised of Branch #1, Branch #2, Branch #3, etc. Some dimensions may contain tens or even hundreds of thousands of members (e.g., a large organizational or customer dimension) while others may contain as few as two members (e.g., a simple product-type dimension with values of Fixed and Variable).

The member values or "Chart of Accounts" for each dimension may be maintained either internally within the OFSAA Infrastructure or externally.

### Internally

OFSAA Infrastructure includes functionality for Adding, Viewing, Editing, or Deleting dimension member values. Which of these functions you can access depends on your logon privilege and on the dimension with which you wish to work. For details, on the creation and maintenance of Dimension Members, see Chapter 6: OFSAA Dimension Members.

### Externally

You may choose to source and maintain some Charts of Accounts from external systems such as your General Ledger, a Data Warehouse, or from some other external master data management system. See *Oracle Financial Services Analytical Applications Data Model Utilities User Guide* for details on loading dimensional data from external systems.

### Combination

You may also choose to maintain some Chart of Account values from an external source while maintaining other Chart of Account values internally.

### Referential Integrity

You may have dimension member values defined in your Chart of Accounts that do not

exist in your business data, particularly if the dimension member values are used as attribute values (see discussion of attributes below). But you would never want to have an occurrence of a dimension member value in your business data that did not exist in the dimension's Chart of Accounts. When you load business data into OFSAA, you need assurance that there are no dimension member values present in the business data that are not defined in your Chart of Accounts. For details on ensuring referential integrity between your business data and your Chart of Accounts data, see *Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) Installation and Configuration Guide*.

## Dimension Attributes

Some OFSAA dimensions support attributes. Dimension attribute values are used to qualify dimension members. For example, a cost center, say Branch #1, might have a Headcount attribute with a value of 32 and a Volume attribute with a value of High. A product dimension member, say 30-year fixed rate jumbo LIBOR mortgage, might have a Rate attribute with a value of LIBOR, a Size attribute with a value of Jumbo, and a Loan Type attribute of Fixed. A General Ledger account, say Benefit Expense, might have an Account Type attribute with a value of Non-Interest Expense.

Like dimensions, attributes are used to stratify your business data for processing or reporting purposes. Some dimension attributes are seeded within the OFSAA data model and are used extensively in processing. You may define as many user-defined attributes as you need.

OFSAA Infrastructure includes functionality for Adding, Viewing, Editing, or Deleting dimension attributes. Which of these functions you can access depends on your logon privilege and on the dimension with which you wish to work. For details on the creation and maintenance of dimension attributes, see Chapter 5: OFSAA Dimension Attributes.

Once an attribute has been defined for a dimension, attribute values may be assigned to individual dimension member values. These attribute values may be open-ended (dates, numbers, or strings) or may be restricted to a defined set of members (see further discussion below; also see Chapter 5: OFSAA Dimension Attributes).

## Hierarchies

Some OFSAA dimensions support hierarchies. Hierarchies may be used to provide sophisticated stratification for either processing or reporting purposes. For example, an organizational hierarchy might start with a Division level containing Western Region, Eastern Region, and Southern Region; the next level down within the hierarchy might be state or county. A product hierarchy might begin with branches for Asset vs. Liability vs. Service products; under the Asset branch, you might define additional branches for Mortgage Lending, Commercial Lending, Consumer Lending, etc. Hierarchies are used extensively in OFSAA models to assign methods to products and to support allocation methodologies.

Like dimension members, dimension hierarchies may be maintained either internally within the OFSAA Infrastructure or externally.

## Internally

OFSAA Infrastructure includes functionality for Adding, Viewing, Editing, or Deleting hierarchies. Which of these functions you can access depends on your logon privilege and on the hierarchy with which you wish to work. For details, on the creation and maintenance of hierarchies, see Chapter 7: OFSAA Hierarchies.

## Externally

You may choose to source and maintain some or all of your hierarchies from external systems such as your General Ledger, a Data Warehouse, or from some other external master data management system, such as Oracle Data Relationship Management (DRM). See *Oracle Financial Services Analytical Applications Data Model Utilities User Guide* for details on loading hierarchy data from external systems.

## Combination

You may also choose to maintain some hierarchies from an external source while maintaining other hierarchies internally.

## Rollup Members for Dimensions Supporting Hierarchies

For dimensions that support hierarchies, every dimension member value has the property of being either a "leaf" value (child-only or last descendent child value) or a "rollup node" value. For example, if Branch #1, Branch #2, and Branch #3 all belonged to the West rollup point of an organizational hierarchy, then West would also be a dimension member value of the Organizational Unit dimension. Your business data is typically expressed at the "leaf" level.

## Dimension Types

OFSAA supports 3 fundamentally different kinds of dimensions

- Key Processing Dimensions
- Standard Dimensions
- Simple Dimensions

## Key Processing Dimensions

- Are accessible as modeling dimensions for all of the OFSAA analytical engines

- Are expressed as columns in nearly all of your business fact tables
- Support both attributes and hierarchies

Metadata for Key Processing Dimensions is stored in four tables:

- A base table (For example, DIM\_PRODUCTS\_B)
- A translation table (For example, DIM\_PRODUCTS\_TL)
- An attribute table (For example, DIM\_PRODUCTS\_ATTR)
- A hierarchy table (For example, DIM\_PRODUCTS\_HIER)

Base tables store basic information about each dimension member and translation tables store names and descriptions for each dimension member in multiple languages (see *Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) Installation and Configuration Guide* for details on multi-language support). Attribute tables store one or many attribute values for each dimension member. Hierarchy tables store one or more hierarchies for each dimension (you may define as many hierarchies as you wish for any dimension that supports hierarchies).

### Seeded Key Processing Dimensions

OFSAAI is seeded with 5 Key Processing dimensions:

- Financial Element
- Organizational Unit
- General Ledger Account
- Common Chart of Accounts
- Product

Among the 5 seeded Key Processing dimensions, only the Financial Element dimension is pre-populated with a Chart of Accounts, but it is only populated in the range between 0 and 10,000 (For more details on the seeded Chart of Accounts for the Financial Element dimension see *Oracle Financial Services Profitability Management (OFSPM) User Guide*). This is a reserved range in which you may not add new members, or edit or delete existing members. You may add user-defined Financial Elements anywhere outside the reserved range.

### User Defined Key Processing Dimensions

See *Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) Installation and Configuration Guide* for details on adding your own user-defined Key Processing dimensions.



## Standard Dimensions

Standard dimensions may support attributes and/or hierarchies depending on how they are configured, but are not used as processing dimensions within any of the analytical application engines.

Like Key Processing Dimensions, metadata for Standard Dimensions is stored in a base table and in a translation table. A Standard Dimension may or may not have an attribute table or a hierarchy table depending on how it is configured. Within the OFSAA modules, Standard dimensions that are defined as having a hierarchy table will support hierarchies and Standard dimensions that are defined as having an attribute table will support attributes. See the *Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) Installation and Configuration Guide* and *Oracle Financial Services Analytical Applications Data Model Data Dictionary* for additional information.

## Seeded Standard Dimensions

OFSAA is seeded with 2 Standard Dimensions

- Country
- Customer

Both dimensions support attributes and hierarchies. Default member values are provided for the Country dimension, but no values are provided for the Customer dimension.

## User Defined Standard Dimensions

See the *Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) Installation and Configuration Guide* for details on adding user-defined Standard dimensions.

## Simple Dimensions

Sometimes referred to as Code dimensions, Simple dimensions are "lists of values" that support neither attributes nor hierarchies. Their 3 key uses are:

- Reserved for use within the analytical application engines
- Stratifying your data for process or report filtering purposes
- Serving as "lists of values" when used as attributes

The OFSAA Data Model comes with more than 150 seeded Simple dimensions. Many of these seeded Simple dimensions are also seeded with dimension members. Unlike Key Processing dimensions and Standard dimensions, Simple dimensions are stored in two tables:

- A code table (For Example, AMRT\_TYPE\_CD)
- An Multi-Language Support or MLS table (For Example, AMRT\_TYPE\_MLS)

Again, see *Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) Installation and Configuration Guide* for details on multi-language support.

## Reserved Simple Dimensions

Accrual Basis Code is an example of a seeded Simple dimension that is used extensively by the application modules. It is seeded with a small list of values (such as 30/360, Actual/360, Actual/Actual, and so on.) and its value set may not be modified.

Amortization Type Code is another example of a reserved Simple Dimension. Amortization Type Code is populated with reserved values that the Cash Flow engine interprets, and its value set may not be modified. Many other Simple Dimensions are reserved and may not be modified.

## Simple Dimensions Used for Processing or Reporting Purposes

This kind of Simple Dimension cannot be used directly by the application engines, but they are accessible to OFSAA Filter rules (for more information on Filter rules, see Chapter 8: OFSAA Filters).

Credit Rating is an example of a seeded Simple Dimension that may be used for processing or reporting purposes. You may, for example, wish to allocate risk equity to individual instruments as a function of Credit Rating. The seeded values for Credit Rating are Moody's credit ratings, but you are free to completely redefine the membership of this dimension. Geographic Location is another example. Geographic Location is pre-populated with US States and Canadian provinces, but you are free to completely redefine the list of geographic locations.

## Simple Dimensions Used as Attribute Domains

Both seeded and user-defined attributes often utilize a Simple Dimension to provide a list of values. For example, you might create an Adjustable Type attribute on your Product dimension and you might want this attribute to be limited to the values of Fixed, Variable, or Administered. In this case, you might first build a Simple Dimension called Type whose dimension members were limited to three values: Fixed, Variable, or Administered. Next you could assign the Type dimension to be the domain of your new Adjustable Type attribute.

See *Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) Installation and Configuration Guide* and *Oracle Financial Services Analytical Applications Data Model Data Dictionary* for additional information on which Simple Dimensions you may extend or modify and on how to add your own Simple Dimensions to the data model.

## Overview of Attributes

OFSAA Infrastructure includes functionality for Adding, Viewing, Editing, or Deleting dimension attributes. Which of these functions you can access depends on your logon privilege and on the dimension with which you wish to work. For details, on the creation and maintenance of Dimension Attributes, see Chapter 5: OFSAA Attributes.

## Attributes

The seeded OFSAA Key Processing Dimensions have a number of seeded or seeded & required attributes. For example, the Common Chart of Accounts dimension includes an Account Type attribute and an Accrual Basis attribute; the Financial Element dimension includes an Aggregation Method attribute. Some of these attributes have important implications in processing within OFSAA.

You may add Attributes to any Key Processing Dimension or to any Standard Dimension that supports Attributes (see sections above describing Key Processing Dimensions and Standard Dimensions).

One of the important properties of an Attribute is its Data Type. OFSAA Infrastructure supports Dimension Attribute Data Types of:

- Date, String, or Number
- Dimension

## Unbounded & Bounded Attribute Data Types

Dimension attribute data types may be either bounded or unbounded. The Date, String, and Number type are unbounded, that is, there is no predetermined set of attribute values. A Date attribute value may be any valid date, a String attribute value may be any string up to 30 characters in length, and a Number attribute value may be any number. Examples of these kinds of attribute data types might include:

- Cost Center Open Date (a Date attribute on the Organizational Unit dimension)
- Product Memo (a String attribute on the Product dimension)
- Cost Center Headcount (a Number attribute on the Organizational Unit dimension)

Unlike attributes having the Date, String, or Number data type, attributes whose data type is Dimension have defined sets of values. For example, the Product dimension has a seeded attribute called Accrual Basis the data type of which is Dimension. The Accrual Basis dimension is seeded with 8 values. Accrual Basis is a restricted dimension (you may View Accrual Basis dimension members but you may not delete them or add new accrual bases), but whenever you assign an Accrual Basis attribute value to one of your Product dimension member values, you must select from the list of 8 available

Accrual Bases.

## Overview of OFSAA Rules

OFS Analytical Application models are constructed using combinations of OFSAA rules. For example:

- An Allocation rule might utilize a Hierarchy Filter rule, an Expression rule, and a Static Table Driver rule
- A Transfer Pricing rule might utilize a Hierarchy rule, a Data Element Filter rule, and a Prepayment rule
- A Data Element Filter rule might utilize an Expression rule
- A Group Filter rule always incorporates one or more underlying Data Element Filter rules
- Hierarchy Filter rules always utilize an underlying Hierarchy rule

The advantage of constructing models from discrete rule components is that individual rules may be re-used dozens or even hundreds of times. For example, if you wish to build a large series of allocation rules which operate on non-interest expense data in the Western region, you may build filters for (1) non-interest expense and (2) the Western region and then utilize these filters in every allocation rule. As another example, if you wanted to assign the same transfer pricing method and assumptions to all mortgage products, you could build a Hierarchy on the product dimension containing a Mortgage Products rollup point and assign your method and assumptions at the rollup level. You could subsequently utilize the same Hierarchy rule for allocation processing or reporting purposes.

Many rule types are specific to individual analytical applications (For example, Transfer Pricing rules, Asset/Liability Management rules, Allocation rules, and so on.) while OFSAA Infrastructure rules are shared across all OFS applications. Rule types that are shared across all applications include:

- Hierarchies
- Hierarchy Filters
- Data Element Filters
- Group Filters
- Expressions

Dimensions, dimension members, attributes, and currency exchange rates are also shared across all applications.

## Dependencies

OFSAA rules often depend on other rules for some or all of their data or usefulness. For example, an Allocation rule may depend on a Data Element Filter rule to select and focus data in a meaningful way. If that Data Element Filter is deleted, then the Allocation rule becomes unusable. OFSAA applications track such dependencies and ensure that users may not delete rules that are consumed by other rules. Additionally, rule summary screens that present lists of rules that you have defined, offer functionality for you to generate reports on rule interdependency.

## OFSAA Filters

OFSAA Infrastructure supports three kinds of filtering:

- Data Element Filters
- Group Filters
- Hierarchy Filters

### Data Element Filters

Data Element Filters are used to select and focus data. For example, you may transfer price some financial instruments at their source and may therefore wish to ensure that you do not overwrite the transfer rates for any instruments that already have a non-zero transfer rate. In such a case, you could construct a Data Element Filter to isolate only those instruments having a non-zero transfer rate. As another example, you may wish to allocate a charge to demand deposit accounts having small balances. In this case, you could construct a Data Element Filter to focus on just those instrument records having balances less than your chosen threshold.

### Group Filters

Group Filters are used to join together one or more Data Element Filters. For example, if you built one Data Element Filter that focused on balances less than 10,000 and a second Data Element Filter that focused on accounts whose origination date was prior to 2009, a Group Filter built on the two Data Element Filters would focus on accounts with balances less than 10,000 AND whose origination dates were prior to 2009.

### Hierarchy Filters

Hierarchy Filters allow you to focus on data that rolls up to one or more points within a chosen hierarchy. You may also focus on "leaf" level data or a combination of "leaf" level and rollup levels. For example, if your organization had a Western, Northern, Southern, and Eastern division, you could construct a Hierarchy Filter that focused on data belonging to branch 1, 2, or 7 within the Eastern division plus any data belonging to the Northern division.

## OFSAA Expressions

Expressions represent formulas for combining data from your data model (For example, Column A divided by Column B times Column C). The results of Expressions may be invoked within a number of OFSAA rule types (For example, Data Element Filters, Allocation rules, and so on). For details on building and maintaining Expressions, see Chapter 9: Expressions.

## Folders

One of the fundamental properties of any OFSAA rule is the Folder in which it is stored. Your System Administrator will configure your user ID to have access to one or more folders in which you can store your rules. Your access rights will likely be similar to co-workers who have a similar business role. For details on security management and defining Segment Maintenance in OFSAA, see *Oracle Financial Services Analytical Applications Infrastructure User Guide*.

Storing rules in folders gives you the means to segregate your rules for functional or security considerations. For example, you may wish to:

- Set up folders to store Transfer Pricing rules that are separate from folders you have built for Profitability Management rules and that are also separate from folders you have built for Asset/Liability Management rules
- Establish some folders for rules you are in the process of developing and testing and other folders for fully tested, production ready rules
- Segregate some rules that are fundamental to the definition of other rules (For example, some Data Element Filters may be used in dozens or hundreds of other rules) in order to ensure that access to those fundamental rules is highly controlled
- Segregate your hierarchies, which are also frequently fundamental to OFSAA models, into a restricted-access folder

## Visibility of Rules

Every navigation path to view a rule in OFSAA begins with a Summary screen. Within the Summary screen for each rule type, a user may browse through all of the rules that are stored within Folders to which the user has access. From each Summary screen, users may be granted the ability to Add, Edit, View, or Delete rules.

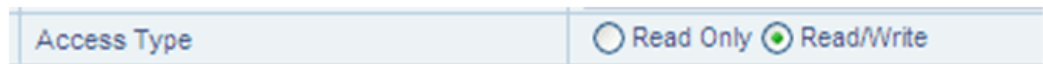
When building rules in an OFS Analytical Application, you frequently call upon other OFSAA rules (For example., a Data Element Filter nested within an Allocation rule or a Hierarchy utilized within a Transfer Pricing rule). When nesting a child rule within a parent rule you must specify the child rule by its Name and Folder (where both Name and Folder are presented in drop-down list boxes). In this context, the Folder

drop-down list box for every user will include every Folder in the Information Domain regardless of his Folder access rights. This means that a user may invoke a child rule from any Folder even if he cannot access that child rule directly through its Summary screen.

Additionally, whenever a user nests a parent rule within a child rule, the OFSAA user interface provides the user the ability to view a read-only version of the underlying child rule.

## Access Type

Another fundamental property of every OFSAA rule is its Access Type.



Access Type may be set to either Read/Write or Read Only. Only the "creator" or "owner" of a rule may modify the rule if it is set to Read Only. The user ID under which a rule is initially built is the owner of a rule. You may modify a rule that you do not own provided that:

- The rule has been stored with the Read/Write access type
- You have been granted Edit privilege for the rule's type
- You have been granted access to the Folder in which the rule is stored

Again, for details on security management in OFSAA, see *Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) Installation and Configuration Guide*.

## Global Preferences

Clicking Global Preferences invokes the Global Preferences screen. Global Preferences items are used to configure your user interface. Here, you set your default application language and date format, and your desired Pagination Records. Pagination Records determine how many rows will be displayed on summary screens. If you select Pagination Records to be 25 records, then any screen displaying results in a tabular format will display a maximum of 25 records. To see the next set of 25 records, you would use the Next VCR button



Functional Currency and Signage are installation-time parameters that may not be reset in Global Preferences.

Functional Currency is defined as "the currency of the primary economic environment in which an entity conducts its business". For details on signage, see the *Oracle Financial*

*Services Analytical Applications Profitability Management (OFSPM) User Guide.*

Normally, you will set preferences for yourself, but if you are logged in as an Administrator, you may set Global Preferences for All Users. When setting preferences for All Users, you may restrict the ability of non-Administrators to change a Global Preference item by deselecting the "Is Editable" checkbox. If a preference item is defined as "not editable", a user who is not an Administrator will inherit the value of the preference item that his Administrator has set for him and he will not have the ability to change it for himself.

Property Name	Property Value	Is Editable
Default Application Language	US-English	<input checked="" type="checkbox"/>
Date Format	M/d/yyyy	<input checked="" type="checkbox"/>
Pagination Records	25	<input checked="" type="checkbox"/>

Property Name	Property Value
Functional Currency	US Dollar
Signage	Natural Signage

## Application Preferences

In addition to Global Preferences, page 2-13, each of the OFS Analytical Applications has its own local application preferences. In the same way as in Global Preferences, Application Preferences (for each application) employs a "delegation" model that allows Administrators to set some preference items for all users while allowing non-administrative users to personalize other preference items.

^ Select Preferences For

Show Preferences For: STUSER2, ALL USERS, STUSER2

^ Display

Normally, you will set Application Preferences for yourself, but if you are logged in as an Administrator, you may set Application Preferences for all users of an application. When setting preferences for all users, you may restrict the ability of non-Administrators to change an Application Preference item by deselecting the "Is Editable" checkbox. If a preference item for a non-administrative user is defined as "not editable", a user who is not an Administrator will inherit the value of the preference item that his Administrator has set for him and he will not have the ability to change it for himself.



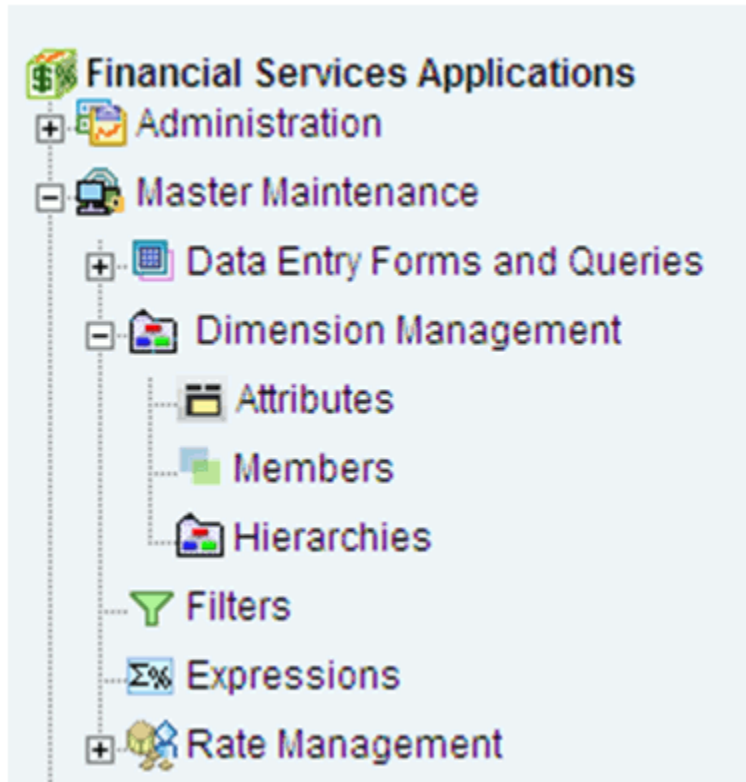
Global Preferences		
^ Select Preferences For		
Show Preferences For	ALL USERS	
^ Display		
Property Name	Property Value	Is Editable
Default Application Language	US-English	<input checked="" type="checkbox"/>
Date Format	yy/MM/dd	<input checked="" type="checkbox"/>
Pagination Records	20	<input checked="" type="checkbox"/>
^ Ledger		
Property Name	Property Value	
Functional Currency	US Dollar	
Signage	Natural Signage	
<input type="button" value="Apply"/> <input type="button" value="Cancel"/> <input type="button" value="Reset to Default"/>		

Application Preferences		
^ Select Preferences For		
Show Preferences For	ALL USER	
Active for Master Maintenance	<input type="checkbox"/>	
^ Processing - General		
Property Name	Property Value	Is Editable
As of Date	11/26/09	<input checked="" type="checkbox"/>
Default Total Error Message Limit	250	<input checked="" type="checkbox"/>
Default Error Message Limit Per Item	25	<input checked="" type="checkbox"/>
Debugging Output Level	Do not output SQL to log file	<input checked="" type="checkbox"/>
^ Processing - Application Specific		
Property Name	Property Value	Is Editable
Enforce Mass Undo	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="checkbox"/>
^ Assumption Management Defaults		
Property Name	Property Value	Is Editable
Folder Name	SEGTEST	<input checked="" type="checkbox"/>
Access Type	<input type="radio"/> Read <input checked="" type="radio"/> Read/Write	<input checked="" type="checkbox"/>
<input type="button" value="Apply"/> <input type="button" value="Cancel"/> <input type="button" value="Reset to Default"/>		

While most Application Preferences items are unique to the application to which they belong, two properties are common to Application Preferences for each of the OFS Analytical Applications: Folder Name and Access Type.

^ Assumption Management Defaults		
Property Name	Property Value	Is Editable
Folder Name	GASEGR2	<input checked="" type="checkbox"/>
Access Type	<input type="radio"/> Read <input checked="" type="radio"/> Read/Write	<input checked="" type="checkbox"/>

Having the Folder Name and Access Type properties set at the application level allows you to have a different default Folder and Access Type for each OFS Analytical Application. Within the Left Hand Side or LHS menu, all OFSAA Infrastructure rules (Hierarchies, Filters, & Expressions) are maintained under Master Maintenance.



Since Folder and Access Type are not Global Preference items, a user must select one application's set of Application Preferences to be "Active" to govern the default values of Folder and Access Type for Oracle Financial Services Analytical Applications Infrastructure rules. This is done by selecting one of your Application Preference sets to be the one that is "Active for Master Maintenance".

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## OFSSA Administrative Reporting

### Introduction

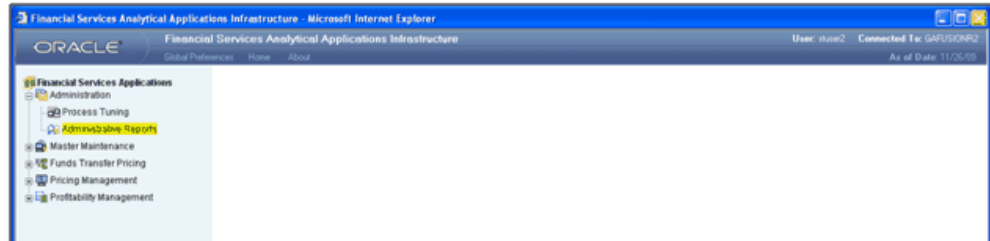
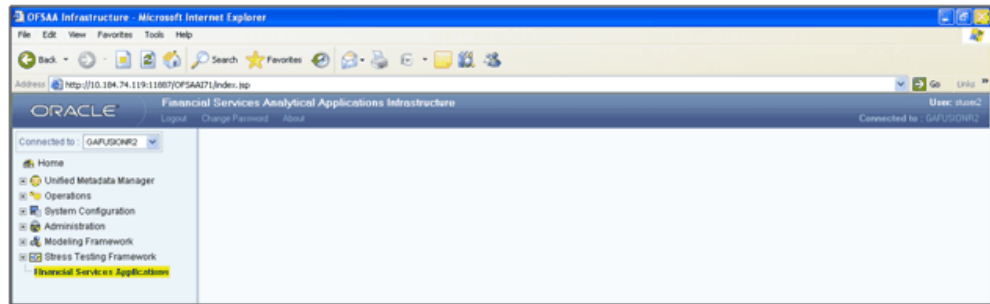
Administrative Reports provide reporting functionality for the Administrators of Oracle Financial Services Analytical Applications (OFSSA) to monitor, analyze, and correct data.

The System Administrator or users with Administrative privileges can view the Administrative Reports.

### Logging in to the Administrative Reports

#### Procedure

1. Click, Financial Services Applications >Administration >Administrative Reports. Refer to the following screenshots.



2. The Administrative Reports - Admin Home section is displayed.

ORACLE Interactive Dashboards Admin Home Data Quality Object Registration Security

Welcome, Administrator Dashboards - Admins - View Products - Settings - Log Out

Admin Home

Instrument Name  
LINK Go

Data Quality

Record Counts over Time  
Time run: 12/14/2009 6:10:27 PM

As Of Date: 31 Dec 2014

Data Stratification - Current Net Rate  
Time run: 12/14/2009 6:43:01 PM

Current Net Rate Bucket	Current Book Balance	Record Count
2 - 4 - 8000	1,000,000.00	1
<b>Grand Total</b>	<b>1,000,000.00</b>	<b>1</b>

Data Stratification - Current Book Balance  
Time run: 12/14/2009 6:43:01 PM

Current Book Balance Bucket	Current Book Balance	Record Count
1 - 100001 - 100000	1,000,000.00	1
<b>Grand Total</b>	<b>1,000,000.00</b>	<b>1</b>

Data Stratification - Origination Date  
Time run: 12/14/2009 6:43:01 PM

Origination Date Bucket	Current Book Balance	Record Count
1 - 100001 - 100000	1,000,000.00	1
<b>Grand Total</b>	<b>1,000,000.00</b>	<b>1</b>

Data Stratification - Maturity Date  
Time run: 12/14/2009 6:43:01 PM

Maturity Date Bucket	Current Book Balance	Record Count
1 - 100001 - 100000	1,000,000.00	1
<b>Grand Total</b>	<b>1,000,000.00</b>	<b>1</b>

Object Registration

Registered Objects Summary  
Time run: 12/14/2009 6:10:27 PM

Classification	Classification Code	Classification Description	No of Registered Objects
Instrument	20	Base-type for all instrument tables	21
Ledger Base	60	Ledger Base	1
Portfolio	100	Portfolio of instrument tables	6
M.S. Descriptors Reserved	197	M.S. Description table for Reserved Code values	6
Codes Reserved Base 90	198	Base table for Reserved Code values	11
TP Cash Flow	200	Classification to identify tables that qualify for TP Cash Flow methods	21
TP Non-Cash Flow	210	Classification to identify tables that qualify for TP Non-Cash Flow methods	21
Codes User Defined Base 90	204	Base table for User Defined Code columns	17
M.S. Descriptors User Defined	206	M.S. Description table for User Defined Code columns	19
Transaction Profitability	300	Classification to identify transaction summary tables that will be used for profitability	20
Instrument Profitability	310	Classification to identify instrument tables that will be used for profitability	20
TP Cash Costing	370	Transfer Pricing Option Costing processing	11
PA Lookup Tables	500	Lookup tables used in PA Lookup Table G	4
Break Funding	550	Break Funding instrument for TP	1
Derivative Instruments	600	Classification to identify derivative instruments	6

Security

User ID: BHARATH User Name: Bharath Go

User Privileges  
Time run: 12/14/2009 6:43:01 PM

User Name	Group Name	Segment Name	Role Name	Function Name
Bharath	PGADMIN	DEMOSES		ITL Analyst Data Quality Admin Designer User ODS Fusion Add Attributes Fusion Add Hierarchies Fusion Add Members Fusion Attribute Home Page Fusion Attributes - View Dependent Data Fusion Data Attributes

Records 1 - 10

## Interactive Dashboards in Administrative Reports

In the Administrative Reports window, there are four dashboard links:

- Admin Home
- Data Quality
- Object Registration

- Security

## Admin Home

The Admin Home section is displayed by default when you login. If you are in any other section, click the Admin Home link in the top of the Administrative Reports header, to go to the Admin Home section. Admin Home displays the summary of reports from the other three links.

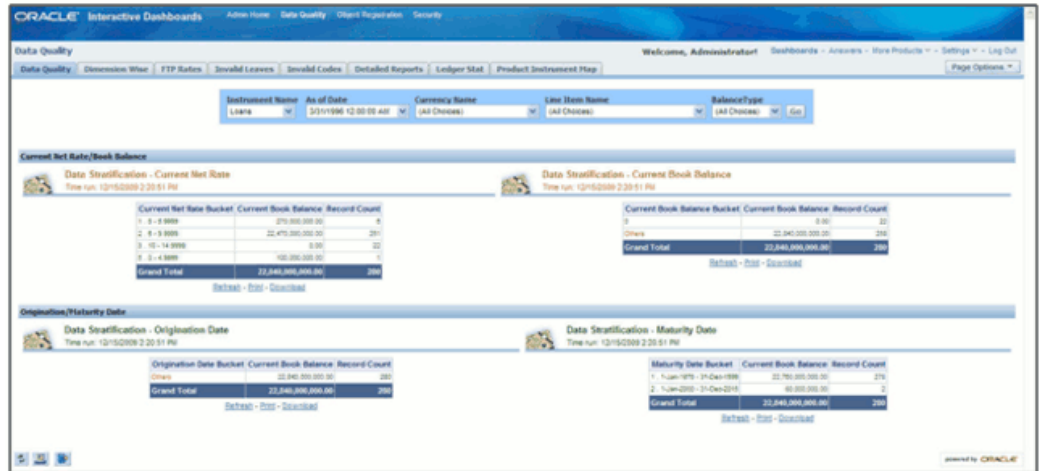
## Access Permissions

Following are the steps to access permissions to include Defi Forms for the Admin BI Buckets entries.

1. Login to the Oracle Financial Services Analytical Applications Infrastructure
2. Go to > Common Object Maintenance > Data Entry Forms and Queries > Forms Designer
3. Click the Assign Rights Radio button
4. Select Admin BI in the Available Applications drop down box
5. Select the 4 UI forms (one at a time) in the Available Forms drop down box (For example, Bucket definition of Book Balance)
6. Click Next
7. Select the users from the Available User List
8. Select the relevant check boxes from View, Add, Edit, Delete, and All above.
9. Click Save Access Rights. You will get the message that user is mapped successfully.
10. Click Back to Forms Designer.
11. Repeat the steps 4 to 11 for other 3 forms (Bucket Definition Maturity Date, Bucket Definition net Rate, Bucket Definition Origination Date)

## Data Quality

To go to the Data Quality reports, click Data Quality link at the top of the Administrative Reports. The following window is displayed.



The Data Quality reports help you to validate the quality of the underlying fact data. By going through the reports, you can identify data discrepancies, missing data, incorrect data, and so on and then undertake the necessary steps to rectify any issues. These data reports can be customized to fit your needs by defining suitable bucket range values as described above.

The four data buckets available are:

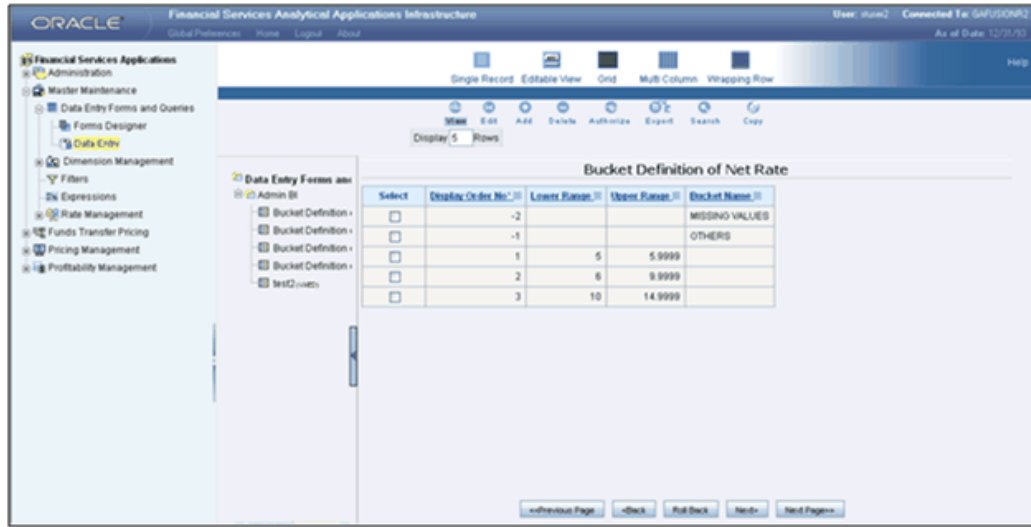
- Book Balance Bucket Definition
- Maturity Date Bucket Definition
- Net Rate Bucket Definition
- Origination Date Bucket Definition

These values can be defined in the following section:

Common Object Maintenance > Data Entry Forms and Queries > Data Entry.

Refer the following screenshot.

- The seeded values are Display Order No => -1 and -2. You should not delete or edit these seeded values.
- Make sure there is no row with 'Display order No.' column with value 0 (zero). In case of AIX environment, display order No. might be generated with '0' (zero value). Delete this row using 'Delete option'.



## Data Quality Dashboard

Data Quality Dashboard page contains eight tabs.

### Data Quality Tab

This section contains a prompt to filter the data based on the value selected from the dropdown box.


You can select a value from the drop down list. Based on the selected values, the data is filtered.

There are four reports in this window.


#### 1. Data Stratification - Current Net Rate

The current net rate details for each bucket range value of the Instruments are displayed here.




Current Net Rate/Book Balance		
		
<b>Data Stratification - Current Net Rate</b>		
Time run: 12/11/2009 4:16:03 PM		
Current Net Rate Bucket	Current Book Balance	Record Count
1 . 5 - 5.9999	270,000,000.00	8
2 . 6 - 9.9999	22,470,000,000.00	251
3 . 10 - 14.9999	0.00	22
5 . 0 - 4.9999	100,000,000.00	1
<b>Grand Total</b>	<b>22,840,000,000.00</b>	<b>280</b>
<a href="#">Refresh</a> - <a href="#">Print</a> - <a href="#">Download</a>		

To view a detailed report, click the bucket range for which you need the detailed report. The detailed report for the selected bucket range is displayed.

Data Quality										
										
<b>Detailed Report - Current Net Rate</b>										
Time run: 12/11/2009 4:20:36 PM										
ID Number	Identity Code	Account Number	Product ID	Org unit ID	GL Account ID	Common COA ID	Origination Date	Maturity Date	Cur Net Rate	Current Book Balance
10033	19980331	L-1000000032	135	1	300120	30012	31-Mar-1996	01-Apr-1996	4.5000	100,000,000.00
<b>Grand Total</b>										<b>100,000,000.00</b>
<a href="#">Return</a> - <a href="#">Refresh</a> - <a href="#">Print</a> - <a href="#">Download</a>										

## 2. Data Stratification - Current Book Balance

The current book balance details for each bucket range value for the Instruments are displayed here.

Data Stratification - Current Book Balance		
		
Time run: 12/15/2009 4:05:46 PM		
Current Book Balance Bucket	Current Book Balance	Record Count
1 . 101 - 1000	6,499.00	7
2 . 1001 - 10000	22,146.00	5
3 . 10001 - 100000	4,768,629.00	81
4 . 100001 - 1000000	332,594,117.00	660
Others	80,772,827,473.00	1619
<b>Grand Total</b>	<b>89,110,218,864.00</b>	<b>2372</b>
<a href="#">Refresh</a> - <a href="#">Print</a> - <a href="#">Download</a>		

To view a detailed report, click the bucket range for which you need the detailed report. The detailed report for the selected bucket range is displayed.

**Data Quality**  
**Detailed Report - Current Book Balance**  
 Time run: 12/11/2009 4:36:27 PM

ID Number	Identity Code	Account Number	Product ID	Org unit ID	GL Account ID	Common COA ID	Origination Date	Maturity Date	Cur Net Rate	Current Book Balance
10033	19900331	L-1000000032	135	1	300120	30012	31-Mar-1996	01-Apr-1996	4.5000	100,000,000.00
10059	19900331	L-22	135	0	14710	3002	31-Aug-1993	31-Aug-1998	5.0000	50,000,000.00
10302	19900331	L-7	135	0	14710	3001	31-Aug-1993	31-Aug-1998	5.0000	40,000,000.00
10058	19900331	L-21	135	0	14710	3002	31-Jul-1993	31-Jul-1998	5.5000	50,000,000.00
10090	19900331	L-23	135	0	14710	3002	30-Sep-1993	30-Sep-1998	5.5000	50,000,000.00
10301	19900331	L-6	135	0	14710	3001	31-Jul-1993	31-Jul-1998	5.5000	40,000,000.00
10303	19900331	L-8	135	0	14710	3001	30-Sep-1993	30-Sep-1998	5.5000	40,000,000.00
10019	19900331	L-9	135	0	14710	3001	31-Oct-1993	31-Oct-1998	5.0000	40,000,000.00
10067	19900331	L-20	135	0	14710	3002	30-Jun-1993	30-Jun-1998	5.0000	45,000,000.00
10061	19900331	L-24	135	0	14710	3002	31-Oct-1993	31-Oct-1998	5.0000	55,000,000.00
10283	19900331	L-5	135	0	14710	3001	30-Jun-1993	30-Jun-1998	5.0000	40,000,000.00
10017	19900331	L-10	135	0	14710	3001	30-Nov-1993	30-Nov-1998	5.5000	40,000,000.00
10055	19900331	L-19	135	0	14710	3002	30-May-1993	31-May-1998	5.5000	45,000,000.00
10062	19900331	L-25	135	0	14710	3002	30-Nov-1993	30-Nov-1998	5.5000	55,000,000.00
10068	19900331	L-4	135	0	14710	3001	30-May-1993	31-May-1998	5.5000	40,000,000.00

Return - Refresh - Print - Download      Records 1 - 15

### 3. Data Stratification - Origination Date

The origination date details for each bucket range value for the Instruments are displayed here.

**Origination/Maturity Date**  
**Data Stratification - Origination Date**  
 Time run: 12/11/2009 4:16:03 PM

Origination Date Bucket	Current Book Balance	Record Count
Others	22,840,000,000.00	280
<b>Grand Total</b>	<b>22,840,000,000.00</b>	<b>280</b>

Refresh - Print - Download

To view a detailed report, click the bucket range for which you need the detailed report. The detailed report for the selected bucket range is displayed.

**Data Quality**  
**Detailed Report - Origination Date**  
 Time run: 12/11/2009 4:39:25 PM

ID Number	Identity Code	Account Number	Product ID	Org unit ID	GL Account ID	Common COA ID	Origination Date	Maturity Date	Current Book Balance
10016	19900331	L-1	135	0	14710	3001	31-Mar-1993	31-Mar-1998	40,000,000.00
10017	19900331	L-10	135	0	14710	3001	30-Nov-1993	30-Nov-1998	40,000,000.00
10018	19900331	L-11	135	0	14710	3001	31-Dec-1993	31-Dec-1998	40,000,000.00
10019	19900331	L-9	135	0	14710	3001	31-Oct-1993	31-Oct-1998	40,000,000.00
10028	19900331	L-3	135	0	14710	3001	30-Apr-1993	30-Apr-2003	40,000,000.00
10029	19900331	L-1000000002	135	1	14710	700000002	31-Jan-1996	31-Jan-1999	100,000,000.00
10030	19900331	L-1000000018	135	1	14710	100000009	31-Jan-1996	31-Jan-1997	100,000,000.00
10031	19900331	L-1000000019	135	1	14710	100000009	31-Jan-1996	31-Jan-1997	100,000,000.00
10032	19900331	L-1000000020	135	1	14710	100000009	01-Apr-1996	31-Jan-1997	100,000,000.00
10033	19900331	L-1000000032	135	1	300120	30012	31-Mar-1996	01-Apr-1996	100,000,000.00
10034	19900331	L-1000000066	135	1	14710	800017	31-Jan-1996	31-Jan-1997	100,000,000.00
10035	19900331	L-1000000067	135	1	14710	800037	31-Jan-1996	31-Jan-1997	100,000,000.00
10036	19900331	L-1000000068	135	1	14710	800038	31-Jan-1996	31-Jan-1997	100,000,000.00
10037	19900331	L-1000000069	135	1	14710	100020	31-Jan-1996	31-Jan-1997	100,000,000.00
10038	19900331	L-1000000070	135	1	14710	100021	31-Jan-1996	31-Jan-1997	100,000,000.00

Return - Refresh - Print - Download

#### 4. Data Stratification - Maturity Date

The Maturity Date details for each bucket range value for the Instruments are displayed here.

**Data Stratification - Maturity Date**  
 Time run: 12/11/2009 4:44:38 PM

Maturity Date Bucket	Current Book Balance	Record Count
1 . 1-Jan-1978 - 31-Dec-1999	22,760,000,000.00	278
2 . 1-Jan-2000 - 31-Dec-2015	80,000,000.00	2
<b>Grand Total</b>	<b>22,840,000,000.00</b>	<b>280</b>

Refresh - Print - Download

To view a detailed report, click the bucket range for which you need the detailed report. The detailed report for the selected bucket range is displayed.

**Data Quality**  
**Detailed Report - Maturity Date**  
 Time run: 12/11/2009 4:48:48 PM

ID Number	Identity Code	Account Number	Product ID	Org unit ID	GL Account ID	Common COA ID	Origination Date	Maturity Date	Current Book Balance
10028	19900331	L-3	135	0	14710	3001	30-Apr-1993	30-Apr-2003	40,000,000.00
10054	19900331	L-18	135	0	14710	3002	30-Apr-1993	30-Apr-2003	40,000,000.00
<b>Grand Total</b>									<b>80,000,000.00</b>

Return - Refresh - Print - Download

#### Dimension Wise

You can select the values to filter the data by selecting the values from the top drop down list. The following four reports are displayed here:

- Amortization Type / Adjust Type/ Reprice Freq

- Payment Frequency/ Remaining Payments
- Product
- General Ledger Account

The screenshot displays the Oracle Interactive Dashboards interface. At the top, there are navigation tabs for 'Data Quality', 'Dimension Wise', 'FTP Rates', 'Invalid Leaves', 'Invalid Codes', 'Detailed Reports', 'Ledger Stat', and 'Product Instrument Flag'. Below these, there are filters for 'Instrument Name' (Loans), 'As of Date' (3/21/2009 12:00:00 AM), 'Currency Name' (All Choices), 'Line Item Name' (All Choices), and 'Balance Type' (All Choices). The main content area is divided into three sections:

- Amortization Type / Prepayment Frequency:** A table showing 'Line Item', 'Asset Type Code', 'Adj Type Code', 'Reprice Freq', 'Current Book Balance', and 'Record Count'. It lists 'Certificate of Deposits' with various reprice frequencies (0, 1, 2, 3, 14, 280) and their corresponding balances and record counts.
- Payment Frequency/ Remaining Payments:** A table showing 'Payment Multiplier', 'Payment Term', 'Remaining Payments', 'Current Book Balance', and 'Record Count'. It lists various payment terms (D, M, W) and their corresponding balances and record counts.
- Line Items/ Natural Account:** Two summary tables. The 'Line Items' table shows a total current book balance of 22,840,000,000.00 for 280 records. The 'Natural Account' table lists various 'TL Leaf' accounts with their respective balances and record counts.

### FTP Rates

You can filter the data by selecting the values from the drop down list. The Transfer Pricing Stratification Reports show a summary of the FTP results for all instrument tables.

The screenshot shows the 'FTP Rate Detail' report titled 'Transfer Pricing Stratification Report for All Products'. It includes a 'Time run' of 12/11/2009 4:15:47 PM. Below the title is a table with the following data:

Product Name	Record Count	Avg Balance	WAvg Transfer Rate	WAvg Note Rate	WAvg Gross Spread
Certificate of Deposits	280	1,200,000,000.00	0.0000%	8.9000%	0.0000%

At the bottom of the table, there are links for 'Refresh', 'Print', and 'Download'.

You can click the product name to go to the account level - detail report as shown in the following screenshot.

Data Quality Welcome, Administrator! [Dashboards](#) - [Answers](#) - [More](#)

**Transfer Pricing Stratification Report for All Products-Detailed**  
Time rpt. 12/11/2009 5:05:13 PM

Product Name	ID Number	Identity Code	Account Number	Product ID	Org unit ID	Common COA ID	GL Account ID	Origination Date	Maturity Date	Avg Balance	WAvg Transfer Rate	WAvg Note Rate	WAvg Gross Spread
	10016	19960331	L-1	135	0	3001	14710	31-Jan-1993	31-Jan-1996	40,000,000.00	0.0000%	8.0000%	0.0000%
	10017	19960331	L-10	135	0	3001	14710	30-Nov-1993	30-Nov-1996	40,000,000.00	0.0000%	8.0000%	0.0000%
	10018	19960331	L-11	135	0	3001	14710	31-Dec-1993	31-Dec-1996	40,000,000.00	0.0000%	7.0000%	0.0000%
	10019	19960331	L-8	135	0	3001	14710	31-Oct-1993	31-Oct-1996	40,000,000.00	0.0000%	8.0000%	0.0000%
	10020	19960331	L-3	135	0	3001	14710	30-Apr-1993	30-Apr-2003	40,000,000.00	0.0000%	7.0000%	0.0000%
	10029	19960331	L-1000000002	135	1	700000002	14710	31-Jan-1996	31-Jan-1999	0.00	0.0000%	0.0000%	0.0000%
	10030	19960331	L-1000000018	135	1	100000009	14710	31-Jan-1996	31-Jan-1997	0.00	0.0000%	0.0000%	0.0000%
	10031	19960331	L-1000000019	135	1	100000009	14710	31-Jan-1996	31-Jan-1997	0.00	0.0000%	0.0000%	0.0000%
	10032	19960331	L-1000000020	135	1	100000009	14710	01-Apr-1996	31-Jan-1997	0.00	0.0000%	0.0000%	0.0000%
	10033	19960331	L-1000000021	135	1	30012	30012	31-Jan-1996	01-Apr-1996	0.00	0.0000%	0.0000%	0.0000%
	10034	19960331	L-1000000025	135	1	820017	14710	31-Jan-1996	31-Jan-1997	0.00	0.0000%	0.0000%	0.0000%
	10035	19960331	L-1000000026	135	1	820017	14710	31-Jan-1996	31-Jan-1997	0.00	0.0000%	0.0000%	0.0000%
	10036	19960331	L-1000000028	135	1	820018	14710	31-Jan-1996	31-Jan-1997	0.00	0.0000%	0.0000%	0.0000%
	10037	19960331	L-1000000029	135	1	100020	14710	31-Jan-1996	31-Jan-1997	0.00	0.0000%	0.0000%	0.0000%
	10038	19960331	L-1000000070	135	1	100021	14710	31-Jan-1996	31-Jan-1997	0.00	0.0000%	0.0000%	0.0000%
	10039	19960331	L-1000000071	135	1	820001	14710	31-Jan-1996	31-Jan-1997	0.00	0.0000%	0.0000%	0.0000%
	10040	19960331	L-1000000072	135	1	820002	14710	31-Jan-1996	31-Jan-1997	0.00	0.0000%	0.0000%	0.0000%
	10041	19960331	L-1000000073	135	1	820003	14710	31-Jan-1996	31-Jan-1997	0.00	0.0000%	0.0000%	0.0000%
	10042	19960331	L-1000000074	135	1	820004	14710	31-Jan-1996	31-Jan-1997	0.00	0.0000%	0.0000%	0.0000%
	10043	19960331	L-1000000075	135	1	820045	14710	31-Jan-1996	31-Jan-1997	0.00	0.0000%	0.0000%	0.0000%
	10044	19960331	L-1000000076	135	1	820046	14710	31-Jan-1996	31-Jan-1997	0.00	0.0000%	0.0000%	0.0000%
	10045	19960331	L-1000000077	135	1	820004	14710	31-Jan-1996	31-Jan-1997	0.00	0.0000%	0.0000%	0.0000%
	10046	19960331	L-1000000078	135	1	820046	14710	31-Jan-1996	31-Jan-1997	0.00	0.0000%	0.0000%	0.0000%
	10047	19960331	L-114800184	135	1	820001	14710	31-Jan-1996	31-Jan-1997	0.00	0.0000%	0.0000%	0.0000%
	10048	19960331	L-12	135	0	3001	14710	31-Jan-1994	31-Jan-1999	40,000,000.00	0.0000%	7.0000%	0.0000%

Records 1 - 25  
[Status](#) - [Refresh](#) - [Print](#) - [Download](#)

### Invalid Leaves

Contains reports for invalid leaves based on the list of Dimension Members compared with the Instrument data. You can filter the data selecting the drop down list provided at the top. The following four reports are displayed here:

- Invalid Products
- Invalid Org Unit
- Invalid Common COA
- Invalid GL Account

### Invalid Codes

Contains the reports for invalid Codes based on the dimensions compared with Instruments. You can filter the data selecting the drop down list provided at the top. The following seven reports are displayed here:

- Accrual Basis Code
- Amortization Code
- Adjustable Type Code
- Compound Basis Code
- Behaviour Type Code
- Behaviour Sub Type Code

- Net Margin Code

## Detailed Reports

Contains the detailed report for a particular Instrument based on the selection in the drop down.

The screenshot shows the 'Data Quality' application interface. At the top, there are navigation tabs: 'Data Quality', 'Dimension Wise', 'FTP Rates', 'Invalid Leaves', 'Invalid Codes', 'Detailed Reports', 'Ledger Stat', and 'Product Instrument Map'. The 'Detailed Reports' tab is active. Below the tabs, there is a search filter area with the following fields: 'Instrument Name' (Loans), 'As of Date' (3/31/1996 12:00:00 AM), 'Currency Name' (All Choices), 'Product' (All Choices), and 'Balance Type' (All Choices). A 'Go' button is next to these fields. Below the search area, the title 'Instrument Detailed Report' is displayed, along with the text 'Time run: 12/11/2009 5:19:06 PM'. The main part of the screenshot is a table with the following columns: 'Identity Code', 'ID Number', 'Account Number', 'Product ID', 'Org unit ID', 'Common COA ID', 'GL Account ID', 'Origination Date', 'Maturity Date', 'Current Book Balance', and 'Current Par Balance'. The table contains 15 rows of data, with the first row having an Identity Code of 10019 and an ID Number of L-1. The last row has an Identity Code of 10028 and an ID Number of L-10. At the bottom of the table, there are navigation buttons: '<<', '<', '>', '>>', and 'Records 1 - 15'. Below the navigation buttons, there is a link: 'Refresh - Print - Download'.

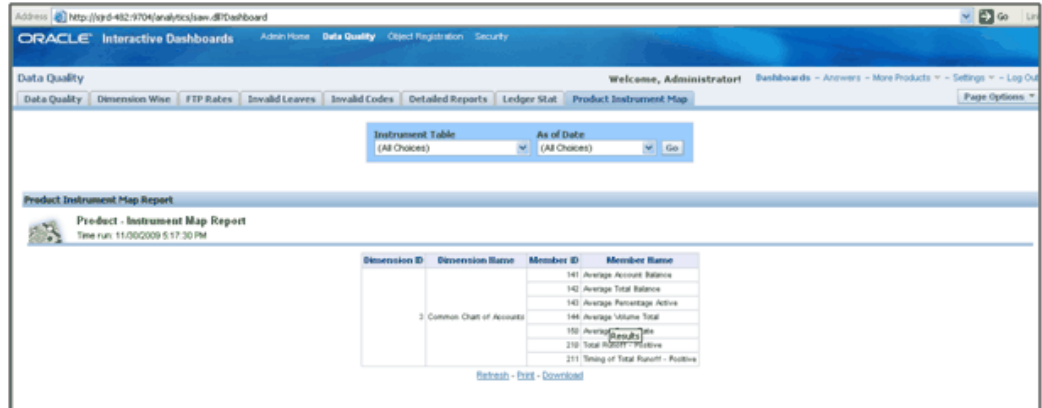
## Ledger Stat

Contains the reports for missing dimension members compared with Ledger Stat data values. You can filter the data by selecting from the drop down list provided at the top. The following five reports are displayed here:

- Missing Products
- Missing Org Units
- Missing Common COA
- Missing GL Account
- Missing Financial Elements

## Product Instrument Map

Contains the Product Instrument Map report. You can filter the data based on the drop down selection. The Product Instrument Map data is used within both ALM and FTP Process rules. These processes allow users to select data to be included in the process based on a Product Hierarchy. The engines must reference this data to determine which instrument tables to include in the process.



## Object Registration

To go to the Object Registration reports, click Object Registration at the top of the Administrative Reports page. The details of the registered objects are present in the reports. You can obtain the data type of each object from this report. There are two tabs in this section.

### 1. Object Registration Tab

The details of the classification and number of registered objects are obtained here.

Classification	Classification Code	Classification Description	No of Registered Objects
Instrument	20	Super-type for all instrument tables	21
Ledger Stat	50	Ledger Stat	1
Portfolio	100	Portfolio of instrument tables	8
MLS Descriptions Reserved	197	MLS Description table for Reserved Code values.	8
Codes Reserved (base ID)	196	Base table for Reserved Code values.	11
TP Cash Flow	200	Classification to identify tables that qualify for TP Cash Flow methods.	21
TP Non-Cash Flow	210	Classification to identify tables that qualify for TP Non-Cash Flow methods.	21
Codes User Defined (base ID)	295	Base table for User Defined Code columns.	17
MLS Descriptions User Defined	296	MLS Description table for User Defined Code columns.	16
Transaction Profitability	300	Classification to identify transaction summary tables that will be used for profitability.	20
Instrument Profitability	310	Classification to identify instrument tables that will be used for profitability.	20
TP Option Costing	370	Transfer Pricing Option Costing processing.	11
FA Lookup Tables	500	Lookup tables used in FA Lookup Table ID	4
Break Funding	530	Break Funding instrument for TP	1
Derivative Instruments	600	Classification to identify derivative instruments	9

### 2. Detailed Report

You can click any classification to navigate to the detailed registered objects report.



**Registered Column Report**  
Time: 12/11/2009 4:27:21 PM

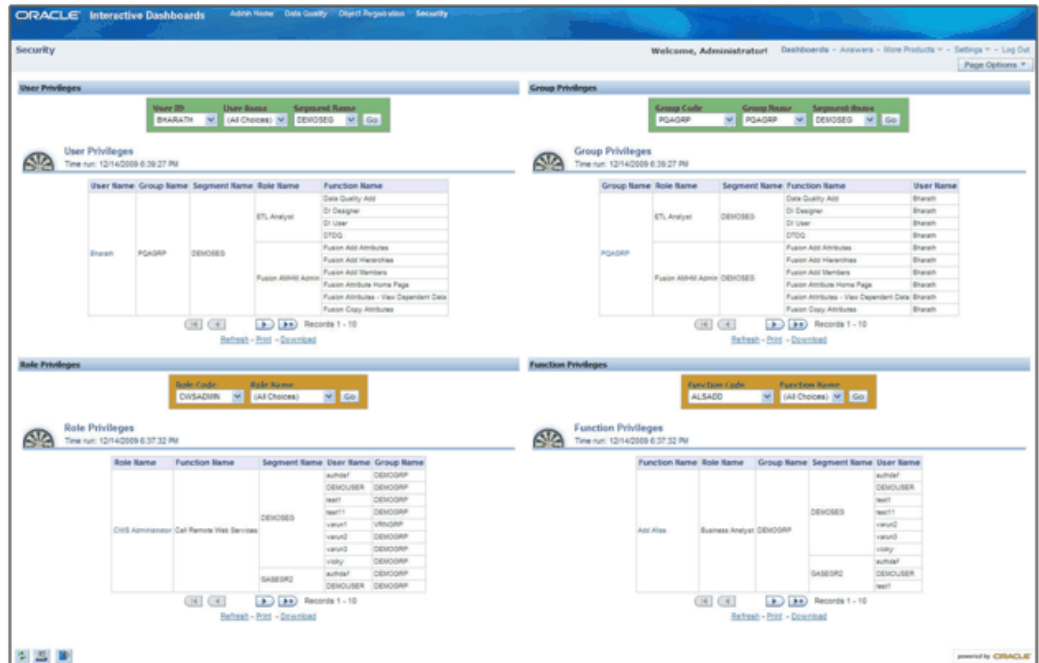
Attribute	Column Name	Physical Data Type	Logical Data Type	Data Length	Data Precision	Data Scale	Nullable	Column Order	Processing Key	Balance	Standard Rate	Transfer Price Out	Related Field
Account Age	ACCOUNT_AGE_CD	NUMBER	DEFAULT	22	20	2	Y	1	No	No	No	No	ACCOUNT_AGE_MULT_CD
Account Age Multiplier	ACCOUNT_AGE_MULT_CD	CHAR	TEXT	22	8	2	Y	1	No	No	No	No	ACCOUNT_AGE_MULT_CD
Account Officer	ACCOUNT_OFFICER	VARCHAR2	VARCHAR2	10			N	2	Processing Key	No	No	No	ACCOUNT_AGE_CD
								3	No	No	No	No	
								4	No	No	No	No	
								5	No	No	No	No	
								6	No	No	No	No	
								7	No	No	No	No	
								8	No	No	No	No	
								9	No	No	No	No	
								10	No	No	No	No	
								11	No	No	No	No	
								12	No	No	No	No	
								13	No	No	No	No	
								14	No	No	No	No	
								15	No	No	No	No	
								16	No	No	No	No	
								17	No	No	No	No	
								18	No	No	No	No	
								19	No	No	No	No	
								20	No	No	No	No	
								21	No	No	No	No	
								22	No	No	No	No	
								23	No	No	No	No	
								24	No	No	No	No	
								25	No	No	No	No	
								26	No	No	No	No	
								27	No	No	No	No	
								28	No	No	No	No	
								29	No	No	No	No	
								30	No	No	No	No	
								31	No	No	No	No	
								32	No	No	No	No	
								33	No	No	No	No	
								34	No	No	No	No	
								35	No	No	No	No	
								36	No	No	No	No	
								37	No	No	No	No	
								38	No	No	No	No	
								39	No	No	No	No	
								40	No	No	No	No	
								41	No	No	No	No	
								42	No	No	No	No	
								43	No	No	No	No	
								44	No	No	No	No	
								45	No	No	No	No	
								46	No	No	No	No	
								47	No	No	No	No	
								48	No	No	No	No	
								49	No	No	No	No	
								50	No	No	No	No	
								51	No	No	No	No	
								52	No	No	No	No	
								53	No	No	No	No	
								54	No	No	No	No	
								55	No	No	No	No	
								56	No	No	No	No	
								57	No	No	No	No	
								58	No	No	No	No	
								59	No	No	No	No	
								60	No	No	No	No	
								61	No	No	No	No	
								62	No	No	No	No	
								63	No	No	No	No	
								64	No	No	No	No	
								65	No	No	No	No	
								66	No	No	No	No	
								67	No	No	No	No	
								68	No	No	No	No	
								69	No	No	No	No	
								70	No	No	No	No	
								71	No	No	No	No	
								72	No	No	No	No	
								73	No	No	No	No	
								74	No	No	No	No	
								75	No	No	No	No	
								76	No	No	No	No	
								77	No	No	No	No	
								78	No	No	No	No	
								79	No	No	No	No	
								80	No	No	No	No	
								81	No	No	No	No	
								82	No	No	No	No	
								83	No	No	No	No	
								84	No	No	No	No	
								85	No	No	No	No	
								86	No	No	No	No	
								87	No	No	No	No	
								88	No	No	No	No	
								89	No	No	No	No	
								90	No	No	No	No	
								91	No	No	No	No	
								92	No	No	No	No	
								93	No	No	No	No	
								94	No	No	No	No	
								95	No	No	No	No	
								96	No	No	No	No	
								97	No	No	No	No	
								98	No	No	No	No	
								99	No	No	No	No	
								100	No	No	No	No	

Lookup tables are used within OFSAA Profitability Management application. Lookup tables have to be created and registered within OFSAAI, in order to display them in Lookup Table Driver definition of OFSAA Profitability Management application. For more information on Lookup Table creation, see *Oracle Financial Services Analytical Applications Data Model Utilities User Guide*.

## Security

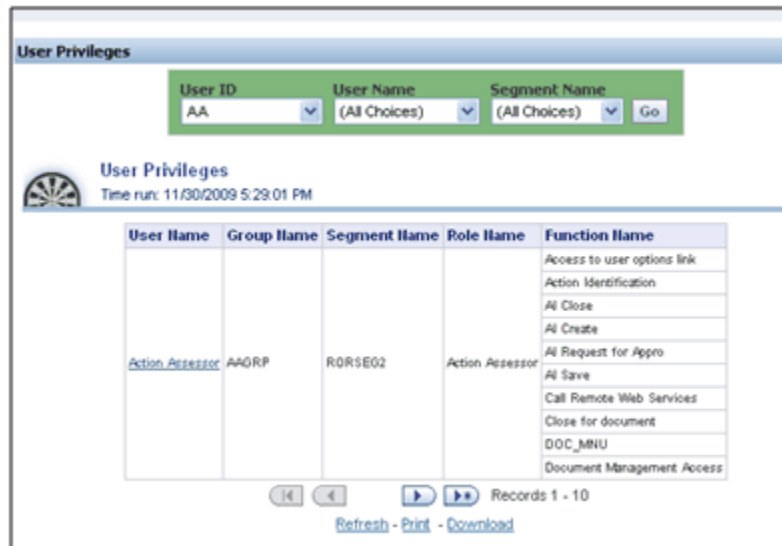
The details about user privileges, group privileges, functions, and so on for the viewing of the objects are provided here.






## User Privileges

The details of a user and various associated privileges can be viewed in this report.



You can click the user name to obtain the detailed user report.

Security

 **Detailed User Report**  
Time run: 11/30/2009 5:33:59 PM

---

**User Name : Action Assessor**

<b>User ID</b>	AA
<b>User Name</b>	Action Assessor
<b>Created Date</b>	05/25/2009 21:26:08 PM
<b>Created By</b>	RORADMIN
<b>User Start Date</b>	05/25/2009
<b>Last Login Date</b>	09/01/2009 12:33:09 PM
<b>Last Modified By</b>	RORADMIN
<b>Last Modified Date</b>	05/25/2009 21:26:08 PM
<b>Authorize Status</b>	Authorized
<b>Email</b>	snphani@identity.com

[Return](#) - [Refresh](#) - [Print](#) - [Download](#)

## Group Privileges

The details of a user group and various associated privileges can be viewed in this report.

**Group Privileges**

Group Code: AAGRP | Group Name: (All Choices) | Segment Name: (All Choices) | Go

**Group Privileges**  
Time run: 11/30/2009 5:29:06 PM

Group Name	Role Name	Segment Name	Function Name	User Name
AAGRP <a href="#">Results</a>	Action Assessor	RORSEG2	Access to user options link	Action Assessor
			Action Identification	Action Assessor
			AI Close	Action Assessor
			AI Create	Action Assessor
			AI Request for Appro	Action Assessor
			AI Save	Action Assessor
			Call Remote Web Services	Action Assessor
			Close for document	Action Assessor
			DOC_MNU	Action Assessor
			Document Management Access	Action Assessor

Records 1 - 10  
[Refresh](#) - [Print](#) - [Download](#)

You can click the group name to get the detailed group report.

**Security**

**Detailed - Group**  
Time run: 11/30/2009 5:36:41 PM


Group Name : AAGRP

Group Code	AAGRP
Group Name	AAGRP
Group Desc	Action Assessor Group
Group Type	USER
Created Date	05/25/2009 21:26:38 PM
Created by	R0RADMIN
Last Modified Date	05/25/2009 21:26:38 PM
Last Modified By	R0RADMIN


[Return](#) - [Refresh](#) - [Print](#) - [Download](#)

## Role Privileges

The details related to role privileges can be viewed in this report.

Role Privileges				
Role Code CWSADMIN		Role Name (All Choices)		Go
 <b>Role Privileges</b> Time run: 12/11/2009 6:12:20 PM				
Role Name	Function Name	Segment Name	User Name	Group Name
CWS Administrator	Call Remote Web Services	DEMOSEG	authdef	DEMOGRP
			DEMOUSER	DEMOGRP
			test11	DEMOGRP
			varun1	VRNGRP
			varun2	DEMOGRP
		varun3	DEMOGRP	
		vicky	DEMOGRP	
		authdef	DEMOGRP	
		DEMOUSER	DEMOGRP	
		stuser2	STGROUP	
Records 1 - 10 <a href="#">Refresh</a> - <a href="#">Print</a> - <a href="#">Download</a>				

You can click the role name to get the detailed role report.

Security	
 <b>Detailed - Role</b> Time run: 12/11/2009 6:27:09 PM	
Role Code	CWSADMIN
Role Name	CWS Administrator
Role Desc	CWS Administrator Role
Role Type	SYSADMN
Created Date	10/10/1956 00:00:00
Last Modified Date	10/10/1956 00:00:00
Created By	SYSADMN
Last Modified By	SYSADMN
<a href="#">Return</a> - <a href="#">Refresh</a> - <a href="#">Print</a> - <a href="#">Download</a>	

## Function Privileges

The details related to function privileges can be viewed in this report.

Function Name	Role Name	Group Name	Segment Name	User Name
Add Alias	Business Analyst	DEMOGRP	DEMOSEG	authdef
				DEMOUSER
				test11
				varun2
				varun3
				vicky
Add Alias	Business Analyst	DEMOGRP	GASEGR2	authdef
				DEMOUSER
				test11
				varun2

You can click the function name to get the detailed function report.

## Security



### Detailed - Function

Time run: 12/11/2009 6:32:37 PM

Function Name : Add Alias

Function Code	ALSADD
Function Name	Add Alias
Function Description	The user mapped to this function can add Alias
Function Type	SYS
Created Date	10/10/1958 00:00:00
Created By	SYSADMIN
Last Modified Date	10/10/1958 00:00:00
Last Modified By	SYSADMIN

[Return](#) - [Refresh](#) - [Print](#) - [Download](#)

## Adhoc Reporting – Special Instructions

The following instructions need to be followed whenever you want to carry out the Adhoc Reporting or Adhoc Querying using the OBI Answers tool or any other querying or reporting tools.

In the OBI Answers tool, when you click the Answers link, you will find single subject area, Fusion. Here you can select the tables (folders) and columns related to the Object Registration, Data Quality and Security dashboards. These tables (folders) and columns can also be used for Adhoc Reporting or Adhoc Querying.

Since these tables belong to different functional areas, namely Object Registration, Data Quality and Security, relationships or table joins across functional areas are not supported for Adhoc Reporting. Therefore, during Adhoc Report or request creation you have to make sure that tables and columns selected are within the functional groups mentioned in the following section to get correct results.

## Data Quality

You can use following folders (tables) and columns for Adhoc Querying on Data Quality related objects.

- Dim Stratification
- Dim Leaves
- Dim Invalid Codes
- Dim Ledger Stat
- Dim Product
- Dim Org Unit
- Dim Currency
- Dim General Ledger
- Dim Common COA
- Fact Stratification
- Fact Leaves
- Fact Invalid Codes

## **Object Registration**

You can use following folder for Adhoc Querying on Object Registration related queries.

- Dim Classification

## **Security**

You can use following folder for Adhoc Querying on Security related queries.

- Dim Security





---

# OFSA Data Entry Forms and Queries

## Introduction to Data Entry Forms and Queries

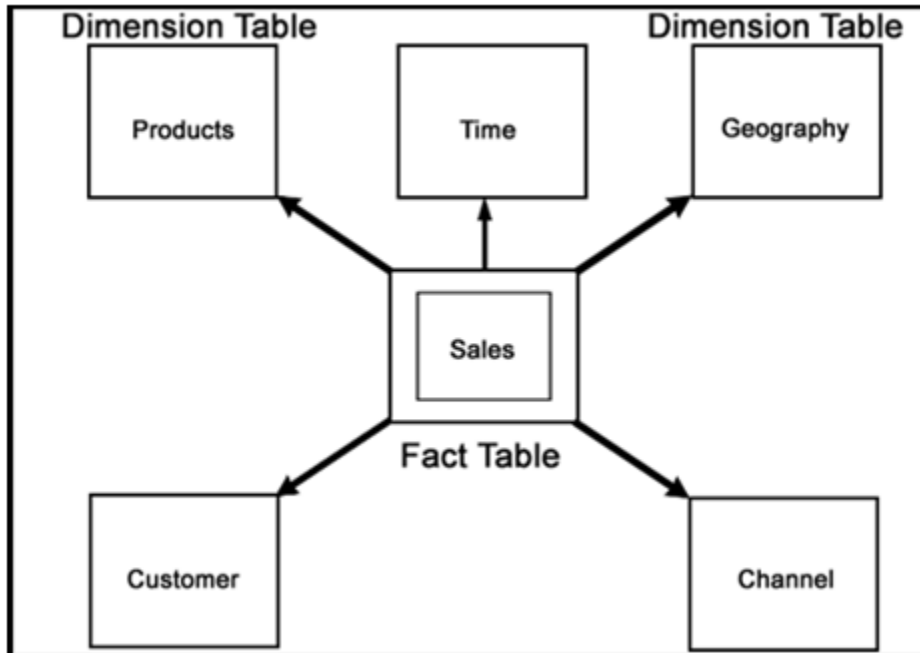
Data Entry Forms and Queries functionality is provided to allow you to create user-friendly Data Entry Screens with a choice of layouts, which aids easy data view and data manipulation. You can select tables based on which you can create forms that can be used in any Application.

## Acronyms

**Defi** Data Entry Forms and Queries.

**Data Model** A logical map that represents the inherent properties of the data independent of software, hardware or machine performance considerations. The model shows data elements grouped into records, as well as the association around those records.

**Star Schemas** It is the simplest of data warehouse schemas. This schema resembles a star diagram. While the center contains one or more fact tables the points (rays) contain the dimension tables



In a star schema, only one join is needed to establish the relationship between the fact table and any one of the dimension tables which optimizes queries as all the information about each level is stored in a row.

## Designing Data Entry Forms

The Data Entry Forms and Queries menu has three options, namely, Form designer, Data Entry and Excel Upload options.

To Design forms, click **Form Designer** to open the **Forms Designer Wizard** . In this screen, you can create, alter, copy or delete forms. **Create a new Form** is the default option that is chosen when you open the wizard. The various steps involved in the creation of the form are displayed in the left pane of the screen. You can also assign User Rights to already defined Forms.

The first screen of the Forms Designer wizard is displayed as Step 2, Step 1 being the login screen.

Select one of the following options...

STEP

1

2

3

4

5

6

7

8

9

- Create a New Form
- Alter Existing Forms
- Copy Forms
- Delete Forms
- Assign Rights
- Message Type Maintenance

Available Applications: DeFi

New Application Name: \_\_\_\_\_

New Form Name: \_\_\_\_\_

Next > Cancel

## Creating a New Form

To design a new form you will have to first choose the Create a New Form option. On entering the screen this option will be selected by default.

An Application refers to a group with a list of forms within it. The Available application field will contain the new application by default.

To create a new form, select New Application from the Available Applications drop-down list, click the field provided for New Application Name and enter an application name.

Enter a form name in the **New Form Name** field.

**Additional Information:** To modify an existing form, select Alter Existing Forms option. Make your modifications and move to step 3.

Click **Next** to go to step 3. Click **Cancel** to reset the fields.

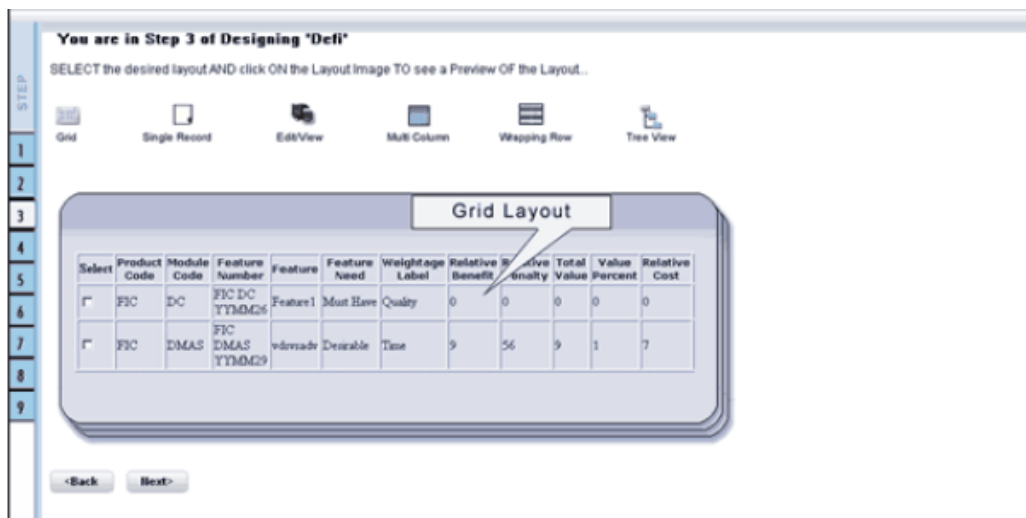


The Layout screen displays a range of pre-defined layouts for your form. The various layouts available are Grid, Single Record, Edit/View, Multi Column, Wrapping Row and Tree View.

To view the display of a layout, click any of the icons on the top of the screen. Click Back to go to the previous screen. Click Next to go to step 4. Click Cancel to refresh the choice of the selected layout.

## The Grid Layout

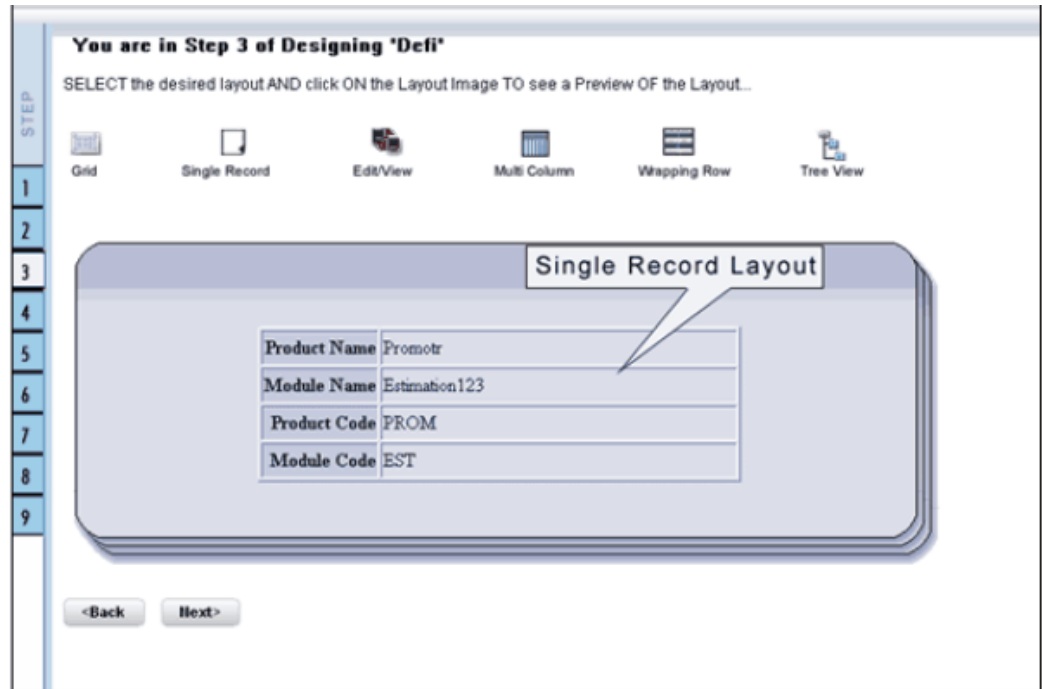
The Grid Layout is the default layout that is displayed. It will display the records in the form of a table/grid with multiple rows of data.



This layout can be used when you wish to view multiple records from a table at a time.

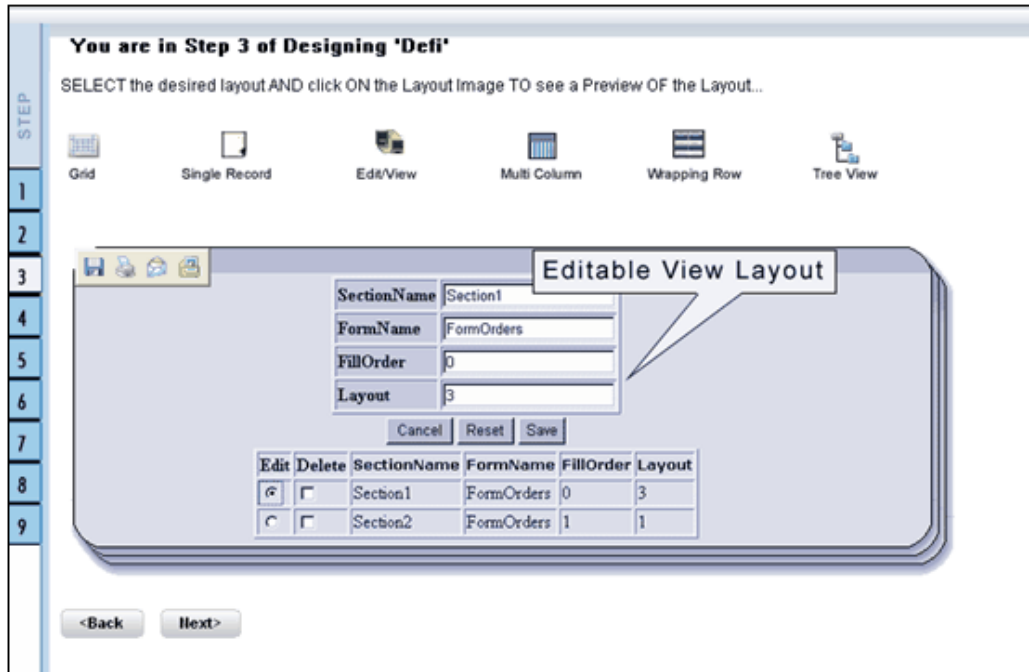
## The Single Record Layout

The Single Record Layout displays a single record at a time.



## The Edit/View Layout

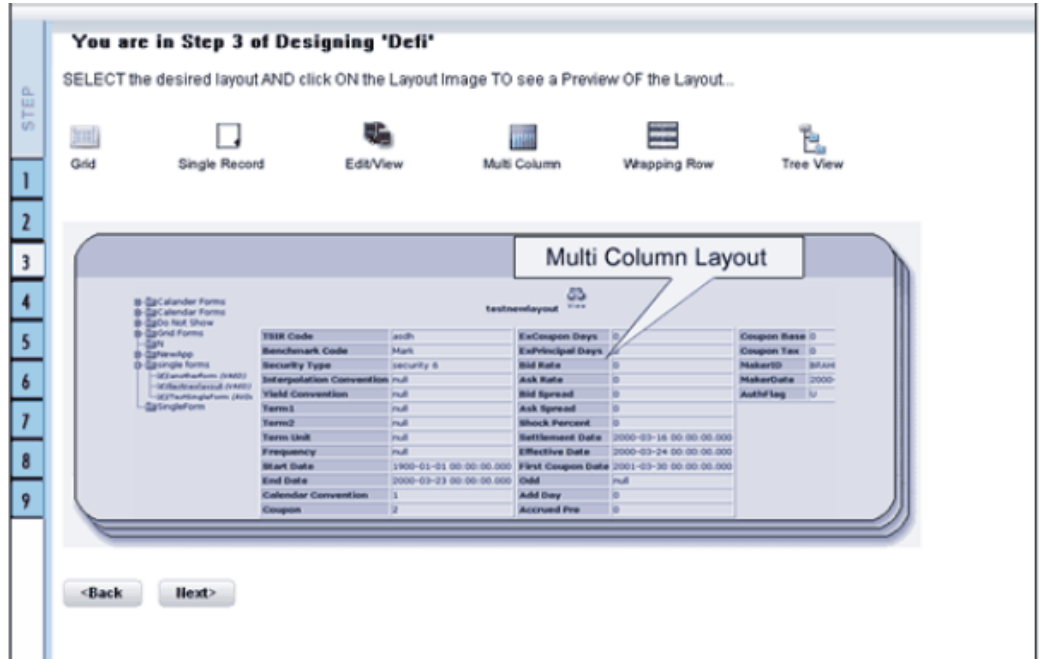
The Edit/View Layout is a combination of the single record and grid layout.



If you choose a record in the grid, that particular record will be displayed in the form, in a single record format, which is editable. By default the first record will be displayed in the editable grid.

## The Multi Column Layout

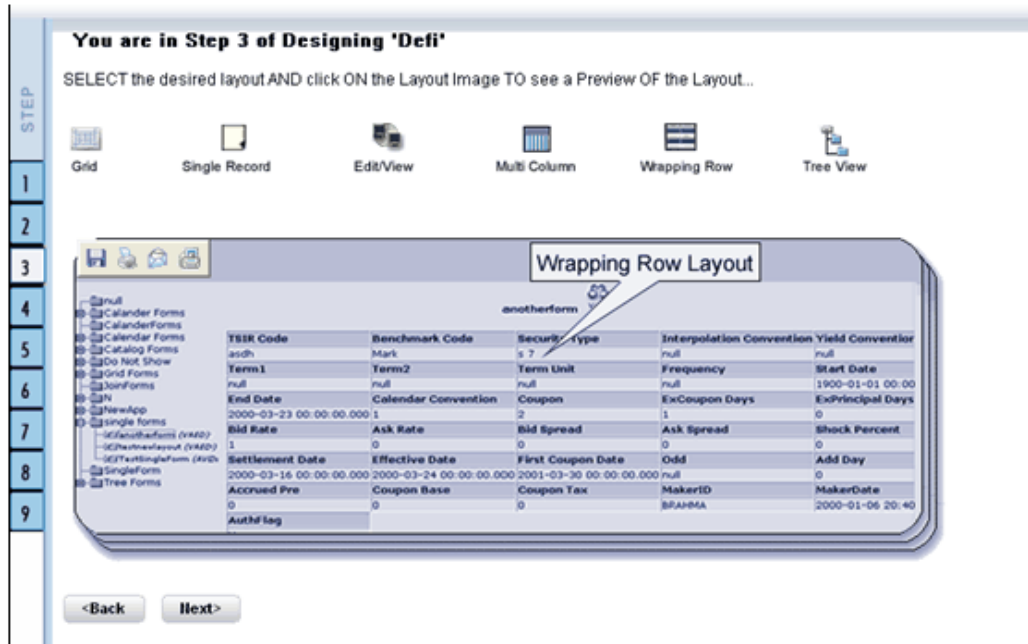
The Multi Column Layout displays a single record with its column in a grid format.



You can view a multi column layout form without having to scroll or with minimum scrolling to view all the columns.

## The Wrapping Row Layout

The Wrapping Row displays rows of a single record in a wrapped manner in a grid format.

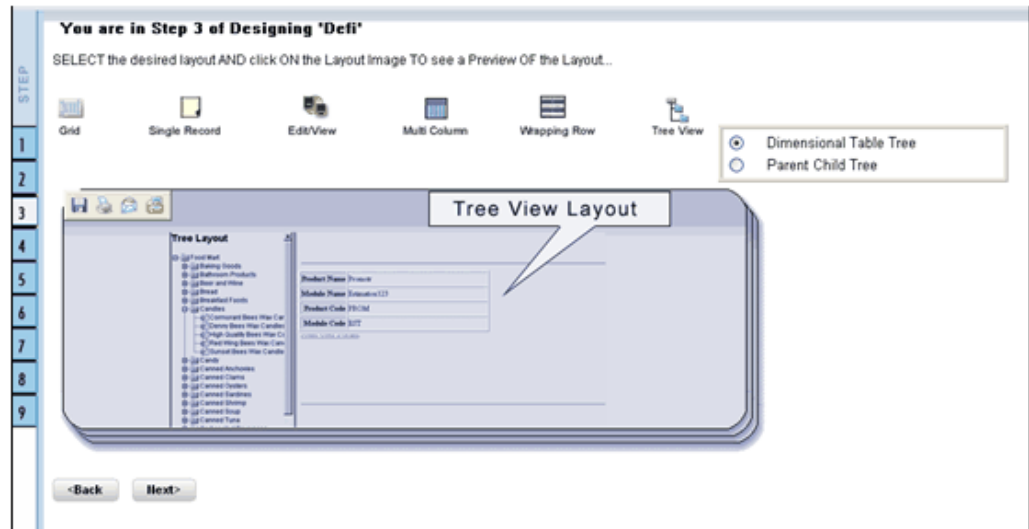


You can view a wrapping row layout form easily without having to scroll horizontally to view all the data.

## The Tree View Layout

The Tree view layout represents the dimensional table. It presents the entire dimension tree with selected dimension details.



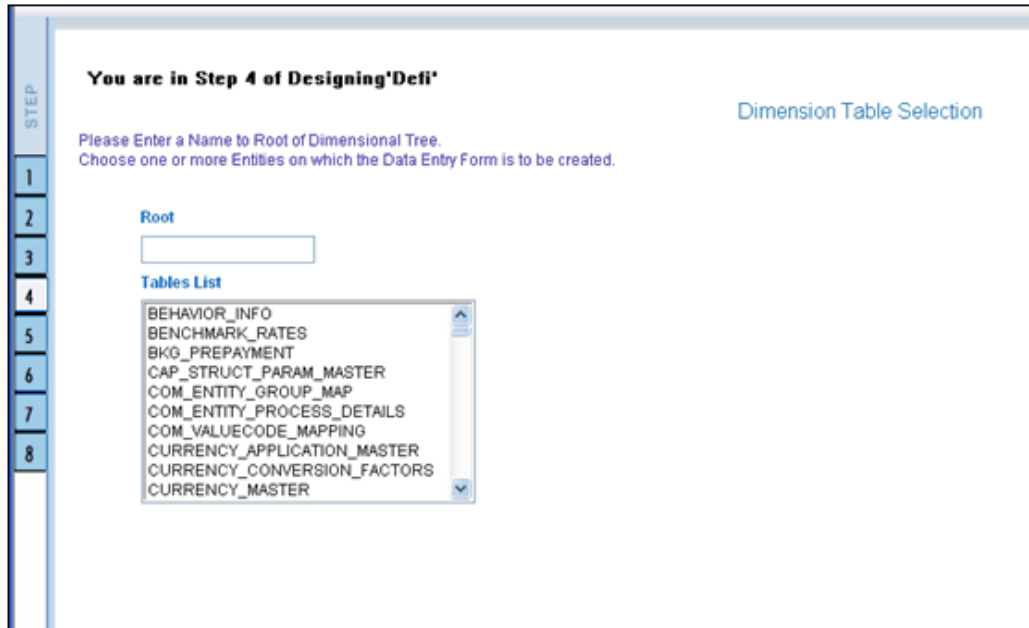


Click Back to go to the previous screen. Click Next to go to step 4. Click Cancel to reset the selected layout option.

### For Grid, Single Record, Edit/View, Wrapping Row, Multicolumn and Tree View Layouts

The table screen displays the Tables List box with available tables. You can choose more than one table by pressing the CTRL key for nonadjacent selection or the SHIFT key for multiple adjacent selections.

However, it is necessary that the tables that you select have same data type for the two mapped fields.



### Example

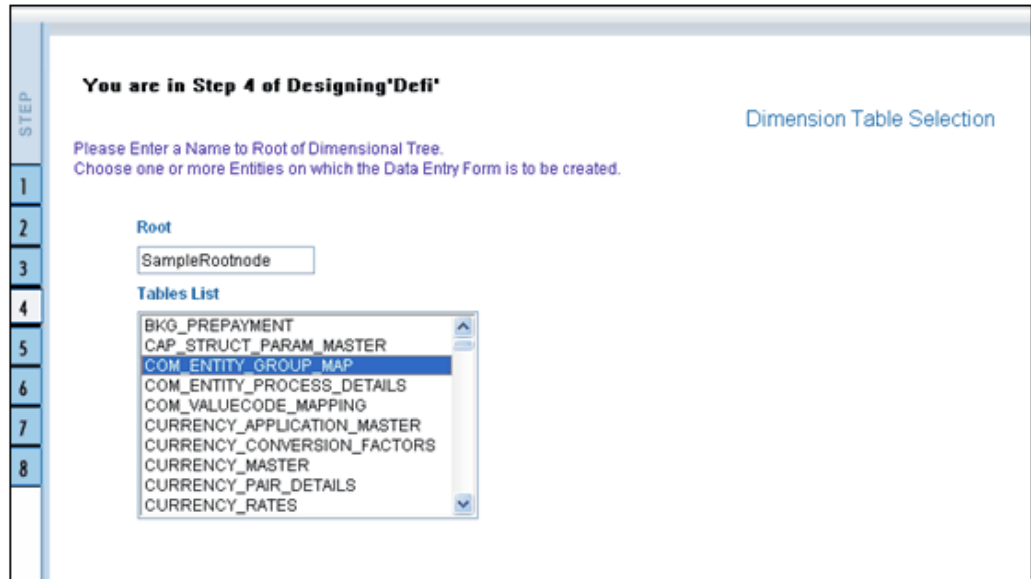
DIM\_ACTION\_GROUP

DIM\_ACTION\_PRIORITY

DIM\_ACTION\_TYPE

Click **Back** to go to the previous screen. Click **Next** to go to step 5. Click **Cancel** to refresh the table list.

If you have selected **Tree View layout** in the previous screen, the Table list screen will be as shown .



Enter a root node name in the Root text box.

**Example**

Sample Rootnode

Choose a table that you want to be included in the form.

**Example**

DIM\_ACTION\_GROUP

Click Back to go to the previous screen. Click Next to go to the join tables screen.

## Joining Tables

In the join table screen, you can select the fields to be joined.



Choose a table name that you wish to add or edit.

**Example**

DIM\_PRODUCTS

Select the field of the chosen table that you want to add from the Available Fields list box and choose the field that you want to join it with of the latter table. The chosen fields will be displayed in the Join Condition pane.

**Example**

DIM\_PRODUCTS.V\_D\_PRODUCT

LEVEL\_1\_CODE=DIM\_PRODUCTS.V\_D\_PRODUCT\_LEVEL\_2\_DESC

Click **Clear** to clear the join condition.

Click **Back** to go to the previous screen. Click **Next**, to join the fields and go to step 5.

Click **Cancel** to refresh the table list.

**For Grid, Single Record, Edit/View, Wrapping Row, Multicolumn and Tree View Layouts.**

The Fields screen displays the Available Fields pane and Fields for sorting pane. The mandatory fields are highlighted with the '\*' symbol and are automatically displayed in the Selected Fields pane as pre-selected for you and are shown in the Chosen Fields Pane. These mandatory fields are fields (primary key fields and not null fields) that require data to be entered by the user while performing Data Entry on the underlying table.

**Example**

If you want the fields to be sorted based on the Branch Code, select the field CUSTOMER V\_CUST\_BRANCH\_CODE.

**STEP**

**You are in Step 6 of Designing 'Defi'**

**Dimension Node Selection**

Please Select the fields to be get displayed as the Dimensional Tree Nodes. Use **Move Up** and **Move Down** buttons for Ordering the level of Selected Dimensional Tree Nodes. Selection of more than one Entity requires Equi-Join Condition(s) to be specified for all participating Entities

**Available fields**

COM_ENTITY_GROUP_MAP.N_GROUP_ID
COM_ENTITY_GROUP_MAP.V_ATTRIBUTE_NAME
COM_ENTITY_GROUP_MAP.V_SOURCE_SYSTEM_ID

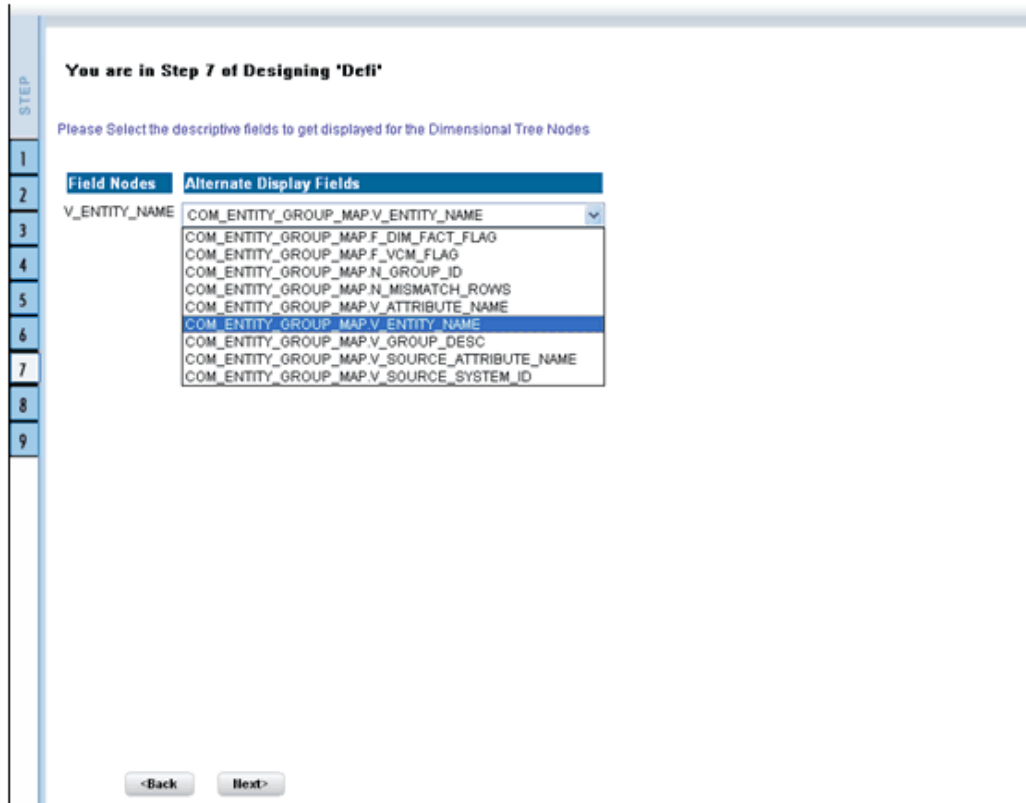
**The Field Nodes**

COM_ENTITY_GROUP_MAP.V_ENTITY_NAME
------------------------------------

**1**  
**2**  
**3**  
**4**  
**5**  
**6**  
**7**  
**8**  
**9**

Select the fields from the Available Fields pane that you want to be included in the form and click ( > ) to move to the Fields to Display pane. To remove a field(s) from the Fields to Display pane to the Available Fields pane, click ( < ) . To move all the fields to the Fields to Display pane from the Available Fields pane, click ( >> ) . To move all the non mandatory fields to the Available Fields pane, click ( << ) .

To arrange the fields that are displayed in the Fields to Display pane, click up arrow symbol to move a field up and down arrow symbol to move down. This order determines how the Fields are displayed in the Data Entry Form. This order can be different from the order in which the fields are in the underlying table.



Select the fields from the Available Fields pane that you want to be included in the form and click ( > ) to move to Step 8. To remove a field(s) from the Choose Fields pane to the Available Fields pane, click ( < ) . To move all the fields to the Choose Fields pane from the Available Fields pane, click ( >> ) . To move all the non mandatory fields to the Available Fields pane, click ( << ) .

To arrange the fields that are displayed in the Choose Fields pane, click up arrow symbol to move a field up and down arrow symbol to move down. This order determines how the Fields are displayed in the Data Entry Form. This order can be different from the order in which the fields are in the underlying table.

The selected fields will be sorted in ascending order by default. To set the order of the fields in the descending order, check the check-box provided for **Sort By Descending**.

**Additional Information:** The fields displayed in the Sort Fields screen are the list of fields chosen from the Fields Selection screen.

Click **Back** to go to the previous screen. Click **Next** to go one step further.

## For Grid, Single Record, Edit/View, Wrapping Row & Multicolumn Layouts

The index screen displays the form with Field Name, Display Name, In View, In Edit/Add, Allow Add, Store Field as and Rules detail columns. You can specify the

details for each of the field names.

Defi - Table Name : COM\_ENTITY\_GROUP\_MAP

Number of Rows to be displayed: 5 | Page Size: 20 |  Batch Commit | Message Details | Form Filter | Data Versioning

Field Name	Display Name	In View	In Edit / Add	Allow Add	Store Field as	Rules	Format Type
N_GROUP_ID*	Group ID	Display	Read Only	<input checked="" type="checkbox"/>	Normal	Rules	NONE
V_ATTRIBUTE_NAME*	Attribute Name	Display	Read Only	<input checked="" type="checkbox"/>	Normal	Rules	NONE
V_ENTITY_NAME*	Entity Name	Display	Read Only	<input checked="" type="checkbox"/>	Normal	Rules	NONE
V_SOURCE_SYSTEM_ID*	Source System Id	Display	Read Only	<input checked="" type="checkbox"/>	Normal	Rules	NONE

Buttons: <Back | Save | Save with Authorization

You can change the display name of the field name by entering a name in the Display Name field.

### Example

User Expiry Date

You can choose a field to be displayed by selecting the In View option as Display or Do not Display. If the field you choose is a foreign key field or if more than one table is selected, the In View displays Same Field, Alternate Display Field and Do not Display options.

You can specify the edit options for a user by specifying the edit parameters. Click the In **Edit/Add** field to open the drop-down list box. Select the edit parameter that you want to apply to a field. For normal fields you can choose the edit parameters like Text Field, Text Area, Select List, Protected Field, Read Only and Do Not Show. If it is a foreign key field the In Edit/Add parameters displayed will be Read Only, Select List and Do Not Show. For primary key fields the In Edit/Add parameter displayed will be Read Only and Do Not Show. In case of calendar fields, the In Edit/Add parameters displayed are Calendar and Do Not Show.

To give the user permission to add a new record, select the Allow Add option against the field name. If form is saved with add option as true for some fields and false for some fields then it will give an alert saying "Choose Allow Add for the mandatory fields."

To specify the field storage format, click the **Store Field as** field to open the drop-down

list. You can choose the store format as Normal, Sequence Generator, Maker Date, Checker Date, Created Date, Modified Date Auth Flag, Maker id, Maker Date, Checker id, Checker Date, Checker Remarks and Maker Remarks.

You can also apply rules to a field. Click Rules to open the screen.

## Applying Rules

You can apply rules only if the In Edit/Add fields are Text Field, Text Area or Protected Field. The rule option is essential for data validation.

To specify rules for Text Field, Text Area and Protected Field, click the **Rule** option to open the Specifying Rules and Expressions for Data Validations window.

If a field has a character data type, you can specify here the rule for the field to be displayed without spaces, only characters or alphanumeric. If a field has a numeric data type, you can check the check-box provided for Numeric Only. You can choose whether/not you require Negative values to be displayed by checking/un-checking the field provided for Non Negative, not null will be displayed for the non primary key and/or nullable fields.

Specify the maximum width of the field in the Maximum Width box. You can set the column alignment by selecting the appropriate alignment from the Alignment drop-down list. On specifying the options, click Ok to save.

Click **clear** to Clear the information entered in the screen. Click **Close** to close the screen.

Click **Back** to go to the previous screen. Click **Save** to save the field details setting.

- Only forms with primary key tables can have the authorization option while saving.
- By default, the alignment for character and date data type is taken as Left. And for numbers it is displayed as Right. But the alignment can be changed to Right, Left or Center.

You can specify the edit options for a user by specifying the edit parameters. The In Edit option varies for different fields based on whether the field is foreign, primary or calendar fields.

Click the **In Edit/Add** field to open the drop-down list box. You can choose the edit parameters like Text Field, Text Area, Select List, Read Only, Do Not Show and Expression Generator. Select the edit parameter that you want to apply to a field.

When you select the Select List option in the In Edit/Add column, a pop-up window is displayed.



**Additional Information:** The Select List option will not be displayed for foreign key fields.

Enter the list of values to be displayed, in the List of Values field. You may choose the field to be Comma Separated Values or Dynamic list of values options.

Comma Separated Values can have only the user specified values while creating a form.

Dynamic Field accepts the fieldname from a table, which it stores in the database, which is used during Data Entry. Specify **Alternate Display Values** in the appropriate field.

Click **OK** to save the specified list of values. Click **Cancel** to clear the List of Values field. Click **Close** to close the pop-up window.

If you select Dynamic List of Values, you will be able to select the table values and then define a filter condition for the selected values, as shown in the following screen-shot.

The screenshot shows a dialog box titled "Define List of Values". At the top, it says "Field Name : D\_USR\_EXPIRY\_DTE". Below this are two radio buttons: "Comma Separated Values" (which is unselected) and "Dynamic List of Values" (which is selected). The main area of the dialog is divided into three sections: "Table", "List Value Field", and "Display Value Field". Each section has a dropdown menu. The "Table" dropdown is set to "CSSMS\_USR\_PROFILE", "List Value Field" is set to "CSSMS\_USR\_PROFILE.D\_CREATED\_DATE", and "Display Value Field" is set to "CSSMS\_USR\_PROFILE.D\_CREATED\_DATE". Below these are three lists: "Fields", "Operators", and "Functions". The "Fields" list contains several field names from the CSSMS\_USR\_PROFILE table, with "CSSMS\_USR\_PROFILE.F.AUTHORIZE\_STAT" selected. The "Operators" list contains various comparison operators, with "=" selected. The "Functions" list contains various database functions, with "LENGTH()" selected. Below these lists is a text field labeled "List Value Filter Condition ::" which is currently empty. At the bottom of the dialog are three buttons: "OK", "Clear", and "Close".

To give the user permission to add to the field, select the Allow Add option against the field name. The Allow Add option is mandatory for primary key and not null fields.

To specify the field storage format, click the Store Field as field to open the drop-down list box. You can choose the store format as Normal, Sequence Generator, maker ID, Checker ID, Maker Date, Checker Date, Created Date, Modified Date, Maker Remarks, Checker Remarks and AuthFlag.

Click Back to go to the previous screen. Click Save to save the field details setting.

To save the form containing primary key tables, click **Save with Authorization**.

- Only forms with primary key tables can have the authorization option while saving.

- If the user wants the value to be displayed with the thousands separator, such a numeric field should be defined under the Display Value Field.

## Committing the Batch

Selecting the check-box provided for Batch Commit virtually groups/baskets the entire set of table forms. With this grouping, the system ensures that if a particular form in the table fails to be executed, the entire set of forms will be returned. Hence, all activities for the selected table is carried out in batches.

## Defining the Form Filter

With the Form Filter screen you can specify expressions for the form filter condition.

The screenshot shows a dialog box titled "SPECIFYING EXPRESSIONS FOR FORM-LEVEL FILTER CONDITION". It contains three columns of selection options:
 

- Fields:** A list of date fields including CSSMS\_USR\_PROFILE.D\_CREATED\_DATE, CSSMS\_USR\_PROFILE.D\_DELETED\_DTE, CSSMS\_USR\_PROFILE.D\_LAST\_DISABLED\_DTE, CSSMS\_USR\_PROFILE.D\_LAST\_ENABLED\_DTE, CSSMS\_USR\_PROFILE.D\_LAST\_MODIFIED\_DATE, CSSMS\_USR\_PROFILE.D\_LAST\_PWD\_CHG\_DTE, CSSMS\_USR\_PROFILE.D\_LASTLOGGED\_DATE, and CSSMS\_USR\_PROFILE.D\_LASTLOGIN\_DATE.
- Operators:** A list of symbols including parentheses, asterisk, slash, plus, minus, less than, and greater than.
- Functions:** A list of mathematical functions including ABS(), ACOS(), ADD\_MONTHS(), ASCII(), ATAN(), ATAN2(), CEIL(), and CHR().

 Below these columns is an "Expression Viewer" text area, and at the bottom are "OK", "Clear", and "Close" buttons.

Click to select the **Field**, the **Operator** and the **Function** from the appropriate panes.

The expression you define will be displayed in the Expression Viewer pane.

Click OK to save the expression. Click Clear to refresh the screen. Click Close to close the screen without saving.

## Data Versioning

Using this screen you can perform data versioning on an authorized form. The table version is tracked based on the date of modification. Check the check-box provided for Enable Data Versioning to ensure that the version is tracked.

Select Table to hold History Of Changes

**Enable Data Versioning**

**Table**

**Version Identifier**

If you select this option, the modifications made to the particular form are displayed as per date versioning.

## Specifying Message Details

With the messaging screen, you can specify an alert message that can be sent either to the Creator of the form or to an Authorizer. Click the Message Details tab in the index screen. The Message Details screen will be populated on your screen.

**Form Specific Message Details**

**Messaging Required**

**Available Message Types**

Canceled Request for Creation

Canceled Request for Modification

Creation and Authorized

Creation and Put-On-Hold

Creation and Rejected

>

<

**Chosen Message Types**

**Details for Message Types**

**Specific Messages Required**

**Message Type**

**Message Subject**

**Message Content**

**Available Fields For Subject**

>

<

**Mapped Fields For Subject**

**Available Fields For Content**

>

<

**Mapped Fields For Content**

**Available Recipients**

>

<

**Mapped Recipients**

To activate the Messenger feature, you need to check the check-box provided for Messaging Required.

If you do not require this option, leave the Messaging required check box unchecked. Mails will be sent appropriately, only one mail will be sent for the entire batch.

The Message types, Recipients, Subject and Content fields are comes from the metadata.

**Form Specific Message Details**

**Messaging Required**

**Available Message Types**

Canceled Request for Modification

Creation and Authorized

Creation and Put-On-Hold

Creation and Rejected

Creation and Request For Authorizati

>

<

**Chosen Message Types**

Batch Commit

Canceled Request for Creation

**Details for Message Types**

**Message Type** Batch Commit

**Specific Messages Required**

**Message Subject** Infodom - \$INFODOM\$, Application - \$APPLNNAME\$,  
Form -\$FORMNAME\$

**Message Content** Batch Transactions

**Available Fields For Subject**

N\_ACTION\_TYPE\_CODE

N\_ACTION\_TYPE\_KEY

>

<

**Mapped Fields For Subject**

**Available Fields For Content**

N\_ACTION\_TYPE\_CODE

N\_ACTION\_TYPE\_KEY

>

<

**Mapped Fields For Content**

**Available Recipients**

AUTHORIZER

>

<

**Mapped Recipients**

CREATOR

Save
Cancel

Select the Message Type from the Available list and click (>) to move the message type to the Chosen Message Types pane.

**Example**

Canceled Request for Modification

Form Specific Message Details	
<input checked="" type="checkbox"/> <b>Messaging Required</b>	
<b>Available Message Types</b>	<b>Chosen Message Types</b>
<div style="border: 1px solid gray; padding: 2px;">           Canceled Request for Creation  <b>Creation and Authorized</b>            Creation and Put-On-Hold            Creation and Rejected            Creation and Request For Authorizati         </div>	<div style="border: 1px solid gray; padding: 2px;">           Canceled Request for Modification         </div>
<b>Details for Message Types</b>	
<input type="checkbox"/> <b>Specific Messages Required</b>	
<b>Message Type</b>	Canceled Request for Modification
<b>Message Subject</b>	Infodom - \$INFODOM\$, Application - \$APPLNNAME\$, Form -\$FORMNAME\$ - Cancel Request For Modification
<b>Message Content</b>	Infodom - \$INFODOM\$, Application - \$APPLNNAME\$, Form -\$FORMNAME\$ - Cancel Request For Modification
<b>Available Fields For Subject</b>	<b>Mapped Fields For Subject</b>
<div style="border: 1px solid gray; padding: 2px;">           FIC_MIS_DATE            V_CARD_NBR            D_ISSUE_DATE            D_RECORD_END_DATE            D_RECORD_START_DATE         </div>	<div style="border: 1px solid gray; padding: 2px;">           (Empty)         </div>
<b>Available Fields For Content</b>	<b>Mapped Fields For Content</b>
<div style="border: 1px solid gray; padding: 2px;">           FIC_MIS_DATE            V_CARD_NBR            D_ISSUE_DATE            D_RECORD_END_DATE            D_RECORD_START_DATE         </div>	<div style="border: 1px solid gray; padding: 2px;">           (Empty)         </div>
<b>Available Recipients</b>	<b>Mapped Recipients</b>
<div style="border: 1px solid gray; padding: 2px;">           CREATOR         </div>	<div style="border: 1px solid gray; padding: 2px;">           AUTHORIZER         </div>
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

Select the check-box provided for Specific Messages Required to add a Specific Message.

Select the Message Type from the drop-down list box of the Message Type field. Message line appears automatically based on the selection of the event type.

**Example**

Canceled Request for Modification





Form Specific Message Details	
<input checked="" type="checkbox"/> <b>Messaging Required</b>	
<b>Available Message Types</b>	<b>Chosen Message Types</b>
<div style="border: 1px solid gray; padding: 2px;">           Canceled Request for Creation  <b>Creation and Authorized</b>            Creation and Put-On-Hold            Creation and Rejected            Creation and Request For Authorizati         </div>	<div style="border: 1px solid gray; padding: 2px;">           Canceled Request for Modification         </div>
<b>Details for Message Types</b>	
<input checked="" type="checkbox"/> <b>Specific Messages Required</b>	
<b>Message Type</b>	<div style="border: 1px solid gray; padding: 2px;">Canceled Request for Modification</div>
<b>Message Subject</b>	<div style="border: 1px solid gray; padding: 2px;">Infodom - \$INFODOM\$, Application - \$APPLNNAME\$, Form -\$FORMNAME\$ - Cancel Request For Modification</div>
<b>Message Content</b>	<div style="border: 1px solid gray; padding: 2px;">Infodom - \$INFODOM\$, Application - \$APPLNNAME\$, Form -\$FORMNAME\$ - Cancel Request For Modification</div>
<b>Available Fields For Subject</b>	<b>Mapped Fields For Subject</b>
<div style="border: 1px solid gray; padding: 2px;">           FIC_MIS_DATE            V_CARD_NBR            D_ISSUE_DATE            D_RECORD_END_DATE            D_RECORD_START_DATE         </div>	<div style="border: 1px solid gray; padding: 2px;"> </div>
<b>Available Fields For Content</b>	<b>Mapped Fields For Content</b>
<div style="border: 1px solid gray; padding: 2px;">           FIC_MIS_DATE            V_CARD_NBR            D_ISSUE_DATE            D_RECORD_END_DATE            D_RECORD_START_DATE         </div>	<div style="border: 1px solid gray; padding: 2px;"> </div>
<b>Available Recipients</b>	<b>Mapped Recipients</b>
<div style="border: 1px solid gray; padding: 2px;">           CREATOR         </div>	<div style="border: 1px solid gray; padding: 2px;">           AUTHORIZER         </div>
<div style="display: flex; justify-content: space-around; margin-top: 10px;"> <span>Save</span> <span>Cancel</span> </div>	

Subject line will appear automatically based on the selection of the event type.

**Example**

Infodom - \$INFODOM\$, Application - \$APPLNNAME\$, Form - \$FORMNAME\$ -  
Cancel Request for Modification

Message content will appear automatically based on the selection of the event type.

**Example**

Infodom - \$INFODOM\$, Application - \$APPLNNAME\$, Form - \$FORMNAME\$ -  
Cancel Request for Modification

Double-click the Recipient name in the Available Recipients pane. The selected recipient/s are displayed in the Mapped Recipients pane.

**Example**

Authorizer

Form Specific Message Details	
<input checked="" type="checkbox"/> <b>Messaging Required</b>	
<b>Available Message Types</b>	<b>Chosen Message Types</b>
<div style="border: 1px solid gray; padding: 2px;">           Canceled Request for Creation  <b>Creation and Authorized</b>            Creation and Put-On-Hold            Creation and Rejected            Creation and Request For Authorizati         </div>	<div style="border: 1px solid gray; padding: 2px;">           Canceled Request for Modification         </div>
Details for Message Types	
<input checked="" type="checkbox"/> <b>Specific Messages Required</b>	
<b>Message Type</b>	Canceled Request for Modification
<b>Message Subject</b>	Infodom - \$INFODOM\$, Application - \$APPLNNAME\$, Form -\$FORMNAME\$ - Cancel Request For Modification
<b>Message Content</b>	Infodom - \$INFODOM\$, Application - \$APPLNNAME\$, Form -\$FORMNAME\$ - Cancel Request For Modification
<b>Available Fields For Subject</b>	<b>Mapped Fields For Subject</b>
<div style="border: 1px solid gray; padding: 2px;">           V_CARD_NBR            D_ISSUE_DATE  <b>D_RECORD_START_DATE</b>            F_LATEST_RECORD_INDICATOR            V_ACCOUNT_CODE         </div>	<div style="border: 1px solid gray; padding: 2px;">           FIC_MIS_DATE            D_RECORD_END_DATE         </div>
<b>Available Fields For Content</b>	<b>Mapped Fields For Content</b>
<div style="border: 1px solid gray; padding: 2px;">           FIC_MIS_DATE            V_CARD_NBR            D_RECORD_END_DATE  <b>F_LATEST_RECORD_INDICATOR</b>            V_ACCOUNT_CODE         </div>	<div style="border: 1px solid gray; padding: 2px;">           D_ISSUE_DATE            D_RECORD_START_DATE         </div>
<b>Available Recipients</b>	<b>Mapped Recipients</b>
<div style="border: 1px solid gray; padding: 2px;">           CREATOR         </div>	<div style="border: 1px solid gray; padding: 2px;">           AUTHORIZER         </div>
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

- If you select Authorizer, the message will be sent to all the selected authorizers for authorization.
- You must click the Save with Authorization tab in the Index screen

so that the messages are functional. When you Save with Authorization, the next screen to be populated is the Authorization screen, where you can assign rights.

Similarly, select the Field/s for Subject and Fields for Content. Available fields for the subject and content can be selected by the user.

Click Save to save the changes. Clicking Cancel pops-up a message requesting you to confirm the cancellation without saving. Click Ok in the Pop-up.

Click Save with Authorization in the Index screen to save the changes with authorization. Clicking Save opens up the Assigning Rights screen.

## **Altering an Existing Form**

To alter an existing form, select Alter Existing Forms option. Click the Application name field to open the drop-down list box. Select the name of the application whose form you wish to alter. On choosing the application name, the forms belonging to the selected application will be displayed in the Form Name field. Click the Form Name field to open the drop-down list box and select the form that you want to alter.

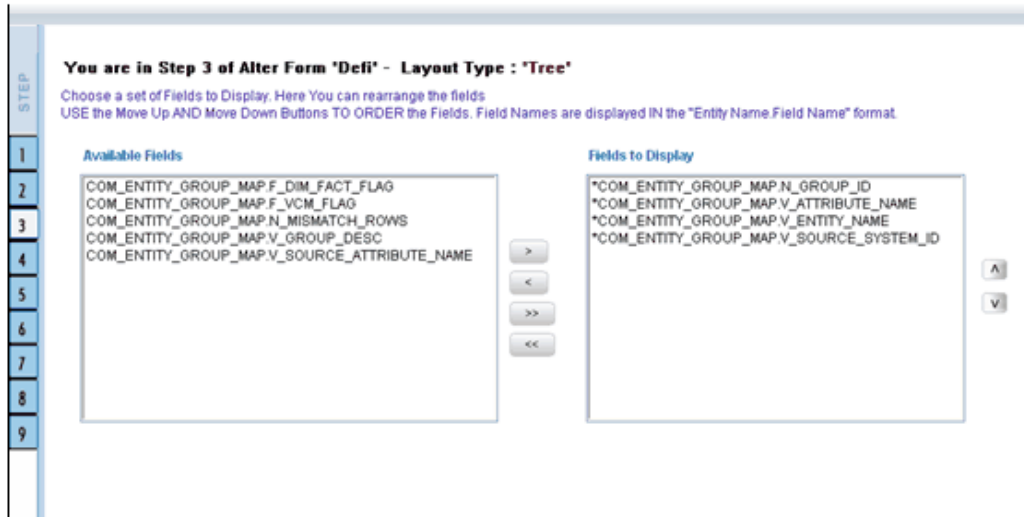
Alter forms apply only to fields and not to tables.

The screenshot shows a software dialog box with a vertical sidebar on the left labeled "STEP" containing buttons for steps 1 through 9. Step 2 is currently selected. The main area of the dialog has a title bar that says "Select one of the following options...". Below this is a rounded rectangular box containing a list of radio button options: "Create a New Form", "Alter Existing Forms" (which is selected), "Copy Forms", "Delete Forms", "Assign Rights", and "Message Type Maintenance". Below the options box are two dropdown menus: "Available Applications" with "DeFi" selected and "Available Forms" with "dimensional" selected. At the bottom of the dialog are two buttons: "Next>" and "Cancel".

Click Next to go to step 3. Click Cancel to discard the form selection that you have made.

**Additional Information:** The forms that are displayed in the Form name list box are dependent on the DSN (Data Source Name) that you have specified.

The alter fields screen displays the list of fields of the selected form in the Chosen Fields pane. In this screen the fields, which are selected while creating the form are displayed in the Chosen Fields list and the fields that are not selected but available are shown under the Available Fields list.



Select the fields from the Available Fields pane, which you want to alter and click ( > ) to move to the Chosen Fields pane. To remove a field/s from the Chosen Fields pane to the Available Fields pane, click ( < ) . To move all the fields to the Chosen Fields pane from the Available Fields pane, click ( >> ) . To remove all the fields to the Available Fields pane, click( << ) .

To arrange the fields that are displayed in the Choose Fields pane, click up arrow symbol to move a field up and down arrow symbol to move down. This order determines how the Fields are displayed in the Data Entry Form. This order can be different from the order in which the fields are in the underlying table.

Click **Back** to go to the previous screen. Click **Next** to go further. The alter sort fields screen displays the sort fields to be altered in the Chosen Fields pane with which you want to sort the table.

**You are in Step 4 of Designing 'Defi'**

Dimension Node Selection

Please Select the fields to be get displayed as the Dimensional Tree Nodes. Use **Move Up** and **Move Down** buttons for Ordering the level of Selected Dimensional Tree Nodes. Selection of more than one Entity requires Equi-Join Condition(s) to be specified for all participating Entities

Root :

**Available fields**

COM_ENTITY_GROUP_MAP.N_GROUP_ID
COM_ENTITY_GROUP_MAP.V_ATTRIBUTE_NAME
COM_ENTITY_GROUP_MAP.V_SOURCE_SYSTEM_ID

**The Field Nodes**

COM_ENTITY_GROUP_MAP.V_ENTITY_NAME
------------------------------------

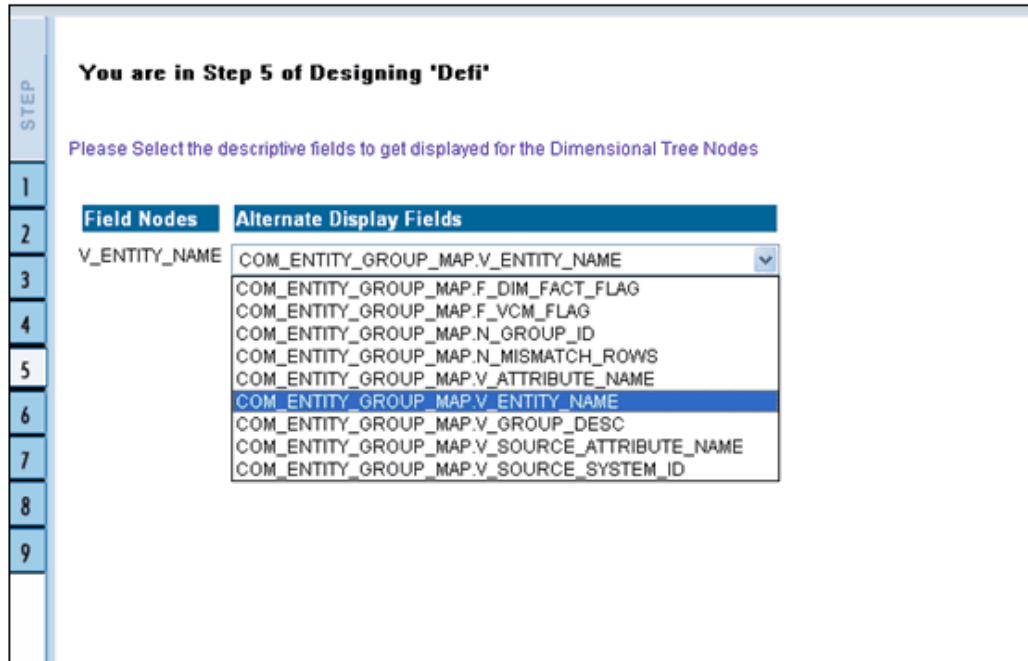
Navigation buttons: > < ^ v

Select the fields from the Available Fields pane, which you want to alter and click (>) to move to the Chosen Fields pane. To remove a field/s from the Chosen Fields pane to the Available Fields pane, click (<) . To move all the fields to the Chosen Fields pane from the Available Fields pane, click (>>) . To remove all the fields to the Available Fields pane, click (<<) .

**Additional Information:** The user can change the root node name specified while designing the form.

Click Back to go to the previous screen. Click Next to go to next step.

The form screen displays the forms to be altered containing Field Name, Display Name, In View, In Edit/Add, Allow Add, Store Field as and Rules detail columns contain the data which are already selected while creating the form. You can alter the details for each of the field names.



You can change the display name of the field name by entering a name in the Display Name field.

You can choose a field to be displayed by selecting the In View option as Display or Do not Display.

You can specify the edit options for a user by specifying the edit parameters. Click the **In Edit/Add** field to open the drop-down list box. You can choose the edit parameters like Text Field, Text Area, Select List, Protected Field, Read Only, Do Not Show, Check Box and URL. Select the edit parameter that you want to apply to a field.

**Additional Information:** The AlternateDisplayField is displayed only if the selected table contains a foreign key or if the joined tables are selected.

To give the user permission to add to the field, select the Allow Add option against the field name.

To specify the field storage format click the Store Field as field to open the drop-down list box. You can choose the store format as Normal, Encrypted, Auto Generated or Formula.

You can also apply rules to a field. Click Rules to open the screen.

Click Back to go to the previous screen. Click Save to save the field detail settings



## Copying an Existing Form

To copy an existing form, select Copy from Existing Forms option.

Select one of the following options...

STEP

1  
2  
3  
4  
5  
6  
7  
8  
9

Create a New Form  
 Alter Existing Forms  
 Copy Forms  
 Delete Forms  
 Assign Rights  
 Message Type Maintenance

From Application DeFi To Application DeFi

Save Form DeFi As Form Products

Next> Cancel

Select the application from which you want to copy a form. Click the Application name field to open the drop-down list box. Select the name of the application. On choosing the application name, the forms belonging to the selected application will be displayed in the Form Name field. Click the Form Name field to open the drop-down list box and select the form that you want to copy.

Select the application to which you wish to copy the new form. Click the Application name field to open the drop-down list box and select the application. Enter the name of the new form you are creating in the Save Form as field. This option allows creation of variants for a given form where you might want to change some user rights or some display options and other subtle variations on the form for a given layout and the underlying table.

Click Next to save the details of the newly created form. Click Cancel to discard the form selection that you have made and clear the name entered in the Save Form As field.

## Deleting a Form

To delete an existing form, select **Delete Forms** option.

Select the application from which you want to delete a form. Click the Application name field to open the drop-down list box and select the name of the application. On

choosing the application name, the forms belonging to the selected application will be displayed in the Form Name field. Click the Form Name field to open the drop-down list box and select the form that you want to delete.

Select one of the following options...

- Create a New Form
- Alter Existing Forms
- Copy Forms
- Delete Forms
- Assign Rights
- Message Type Maintenance

Available Applications: DeFi

Available Forms: Defi

Next> Cancel

Click **Next** to delete the form. A confirmation message is displayed which reads Do you want to delete the form Loss? Click **Ok** to confirm deletion. Click **Cancel** to cancel the delete request.

## Assigning Rights to a Form

To assign rights to a form, select Assign Rights option.

Select one of the following options...

- Create a New Form
- Alter Existing Forms
- Copy Forms
- Delete Forms
- Assign Rights
- Message Type Maintenance

Available Applications: DeFi

Available Forms: Defi

Next> Cancel

Click the Application name field to open the drop-down list box. Select the application from which you wish to choose the form to which you want to assign rights. The chosen application will be displayed in the Application Name field. Click the Form Name field to open the drop-down list box. Select the form you want to assign rights to.

**Example**

Application name: ST

Form name: TreeForm

Click Next to go to step 3 or Click Cancel to discard the form selection that you have made.

The user list screen displays the list of available and assigned users. Click the < or > buttons to navigate through the list of users in case the number of users are more than what could be accommodated in one page.

Please specify the **Access Rights** to User for the created form.  
 To withdraw all Access Rights from a User, please double click on User Name

AccountsForms

**Available User List**

- MEHAR
- SANTOSH
- SHANKAR
- RORUSER
- SATISH

< >

- View
- Add
- Edit
- Delete
- All above

Show Data Created by Current User only

**Assigned User List**

< >

Back to Forms Designer

Save Access Rights
Close

Select the user to whom you want assign the rights to from the Available User List pane and select the rights you want to assign to the user. You can assign View, Add, Edit, Delete or All above options. The user name will move to the Assigned User List once it is saved.

Please specify the **Access Rights** to User for the created form.  
 To withdraw all Access Rights from a User, please double click on User Name

AccountsForms

**Available User List**

- MEHAR
- SANTOSH
- SHANKAR
- SATISH

< >

View  
 Add  
 Edit  
 Delete  
 All above  
  
 Show Data Created by Current User only

**Assigned User List**

- RORUSER

< >

Back to Forms Designer

Save Access Rights
Close

The Authorize and Auto-Authorize options are applicable for all the forms that have been saved with the Authorize option.

Click Save Access Rights to save the rights you have defined for the selected Users. Click Close to close the Assign Rights screen.

To go back to the forms designer, click the Back to Forms Designer button. When you have finished assigning users, click Finish to return to the splash screen.

To open help for the Forms Designer screen click Help. To return to the DI splash screen, click Home.

## Message Type Maintenance

For the maintenance of the Message Types, select the Message Type Maintenance option in the first screen of the Forms Designer Wizard.



Click Next to continue. The Message Type Maintenance screen is displayed.

Select the message category from the Message Type drop-down list. The message types are the same as those available in the Message Details screen as explained earlier.

**Example**

Canceled Request for Creation

The Message Subject field displays the subject line that will be displayed for the particular Message Type selected. You can make the required modifications in this field.

**Example**

Infodom - \$INFODOM\$, Application - \$APPLNNAME\$, Form -\$FORMNAME\$ -  
Cancel Request For Creation

The Message Content field displays the content of the message for the particular Message Type selected. You can make the required modifications in this field.

**Example**

Infodom - \$INFODOM\$, Application - \$APPLNNAME\$, Form -\$FORMNAME\$ -  
Cancel Request For Creation

Double-click the Recipient name in the Available Recipients pane. The selected recipient/s moves to the Mapped Recipients pane.

**Example**

Authorizer

**Additional Information:** If you select Authorizer, the message will be sent to all the selected authorizers for authorization.

Click Save to save the changes. On clicking Cancel, a message requesting you to confirm the cancellation without saving is displayed. Click OK to discard the changes.

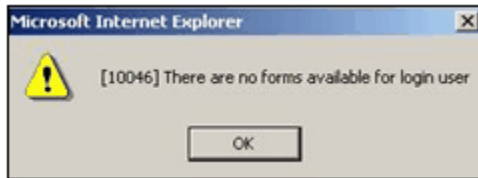
## Entering Data

Click Data Entry to open the screen. In this screen you can view, edit, add, delete or authorize data. You can view, edit, add, delete or authorize based on the rights that are assigned to you during form creation.

You can query the record to get specific data using search option. You are also provided with the option to export the result set.

**Additional Information:** To open multiple Data Entry windows, specify the URL of the Data Entry window as the value in the URL box in the Design Oracle Menu screen. It enables the user to perform the search operation in more than one screen.

For more details on designing the Oracle Menu section, see *Oracle Financial Services Analytical Applications Infrastructure User Guide*.



If the logged-in-user is not mapped with the forms and applications it will display an alert saying "There are no forms available for the login user".

The Forms frame displays the list of existing forms. The forms that are displayed are dependent on the rights assigned to user.

**Additional Information:** The roll back option can be used only for authorized record to undo the modifications made to it.

## Viewing Form Details

Forms are displayed in View format by default. The forms are displayed based on the application names in the left pane. Based on the rights that are assigned to the user, he can access View, Edit, Add, Delete options. Click a form to view the details. The form details will be displayed in the layout that it was defined.

### Example

Application Name: CAT Test

Form Name: Auth

In case of grid layout, the number of rows displayed is based on the number of rows that you specify in the Display ---Rows field.



## Example

Display 5 Rows

To view all the records in the table click Next to go to the next set of records. To return to the previous set of records, click Back.

It is recommended that you assign an easily viewable number of rows to be displayed. The user can view records as a Single Record, Editable View, Grid layouts, multi column or wrapped rows layout.

**Additional Information:** The roll back option can be used only for authorized record to undo the modifications made to it.

## Single Record layout

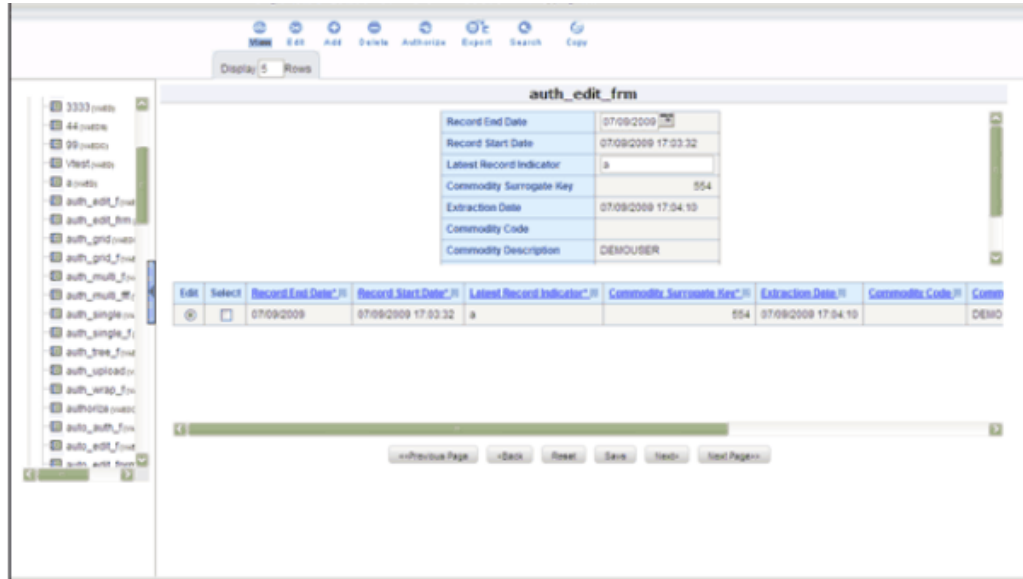
To view a single record at a time, click Single Record.

To view all the records in the table click Next to go to the next record. To return to the previous record, click Back.

**Additional Information:** The roll back option can be used only for authorized record to undo the modifications made to it.

auth_single_f	
Extraction Date*	07/13/2009 11:51:53
Currency Code Surrogate Key*	343
Currency Code*	2321
Record End Date	07/23/2009 14:17:08
Record Start Date	07/23/2009 14:17:16
Latest Record Indicator	U
Local Currency Indicator	
Reporting Currency Indicator	Unauthorized
Residual Currency Indicator	
Currency Risk Factor	2
Currency Description	3
Currency Iso Code	2
Currency Short Description	DEMOUSER
Currency Type Description2	2
Currency Type	2

To view a record in the editable view, click Editable View. In the editable view you can view and edit records, which can be selected from the grid of records.



The editable view format displays a single record in the top frame, which can be edited. The grid layout is displayed in the frame below. To edit a record, select the Edit option against the record in the grid layout. The selected record will be displayed as a single record with editable fields. The main advantage is you can easily compare the changes you have made in the data with the data shown in grid format

The number of records to be displayed in the form can be specified in the Display Rows text box.

To save the changes that you have made to the field/s, click Save. Click Reset to return the record settings to its original field settings.

## Grid Layout

To view a record in a grid layout, click Grid. This is the default layout that is displayed while viewing a form.

Select	Extraction Date	Currency Code	Surrogate Key	Currency Code	Record End Date	Record Start Date	Latest Record Indicator	Local Currency
<input type="checkbox"/>	07/13/2009 11:51:53		343	2321	07/13/2009 11:59:15		U	
<input type="checkbox"/>	12/31/1999		2	EUR	07/10/2009 16:30:24	07/10/2009 16:30:05	N	
<input type="checkbox"/>	12/31/1999		3	JPY	12/31/1999	11/30/1999	Y	
<input type="checkbox"/>	12/31/1999		4	GBP	12/31/1999	11/30/1999	N	
<input type="checkbox"/>	12/31/1999		5	EUR	07/10/2009 17:05:43	07/10/2009 17:05:43	N	

To sort a record based on a field, click the column title hyperlink.

**Example**

Click FIC\_MIS\_DATE column title hyperlink to sort fields alphabetically based on the MIS Date.

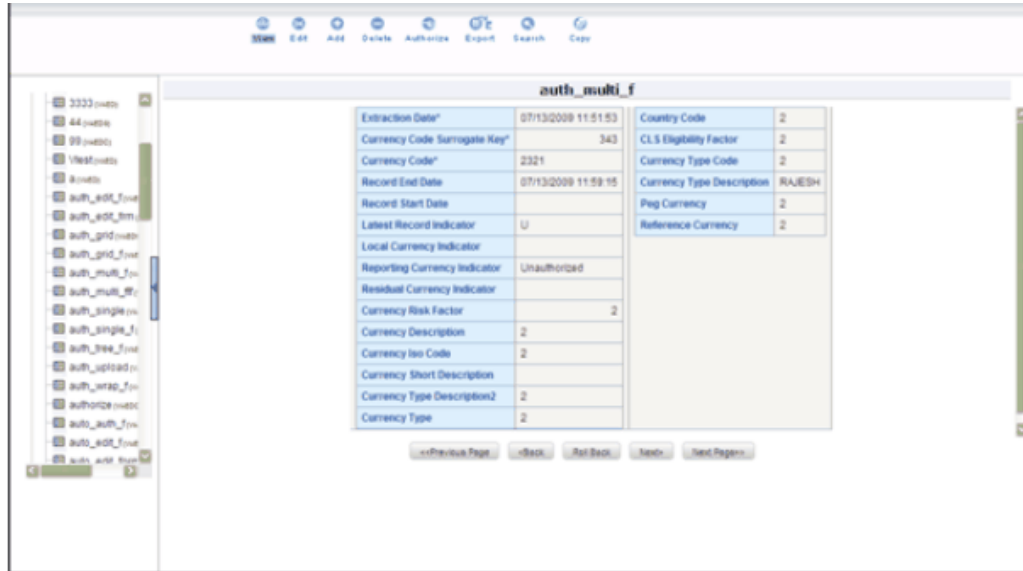
The number of records to be displayed in the form can be specified in the Display Rows text box.

To view all the records in the table click Next. To return to the previous set of records, click Back.

**Additional Information:** The roll back option can be used only for authorized record to undo the modifications made to it.

**Multi Column Layout**

To view all the columns of a selected record, click Multi Column. This layout enables you to view a record without having to scroll or with minimum scrolling to view all the columns.



To view all the records in the table, click Next. To return to the previous record, click Back.

**Additional Information:** The roll back option can be used only for authorized record to undo the modifications made to it.

## Wrapping Row Layout

To view all the rows of a selected record, click Wrapping Row. This layout enables you to view a wrapping row easily without having to scroll horizontally to view all the data.

Extraction Date*	Currency Code Surrogate Key*	Currency Code*	Record End Date	Record Start Date
07/13/2009 11:51:53	343	2321	07/13/2009 11:59:15	
Latest Record Indicator	Local Currency Indicator	Reporting Currency Indicator	Residual Currency Indicator	Currency Risk Factor
U		Unauthorized		2
Currency Description	Currency Iso Code	Currency Short Description	Currency Type Description2	Currency Type
2	2		2	2
Country Code	CLS Eligibility Factor	Currency Type Code	Currency Type Description	Peg Currency
2	2	2	RAJESH	2
Reference Currency	2			

To view all the records in the table click Next to go to the next record. To return to the previous record, click Back.

**Additional Information:** The roll back option can be used only for authorized record to undo the modifications made to it.

## Editing a Form

To edit a form, check the select option in the Select column and click **(edit)** button. The form fields are displayed with editable fields, which you can modify if required.

To save the changes that you have made to the field/s, click Save. Click Reset to return the record/table settings to its original field settings.

The records also can be edited in the layouts mentioned earlier (in View mode). All the fields will be displayed in the editable grid, but the primary key fields cannot be edited so will be displayed in un-editable format.

Click Next to edit the next set of records. To return to the previous records, click Back.

## Roll Back

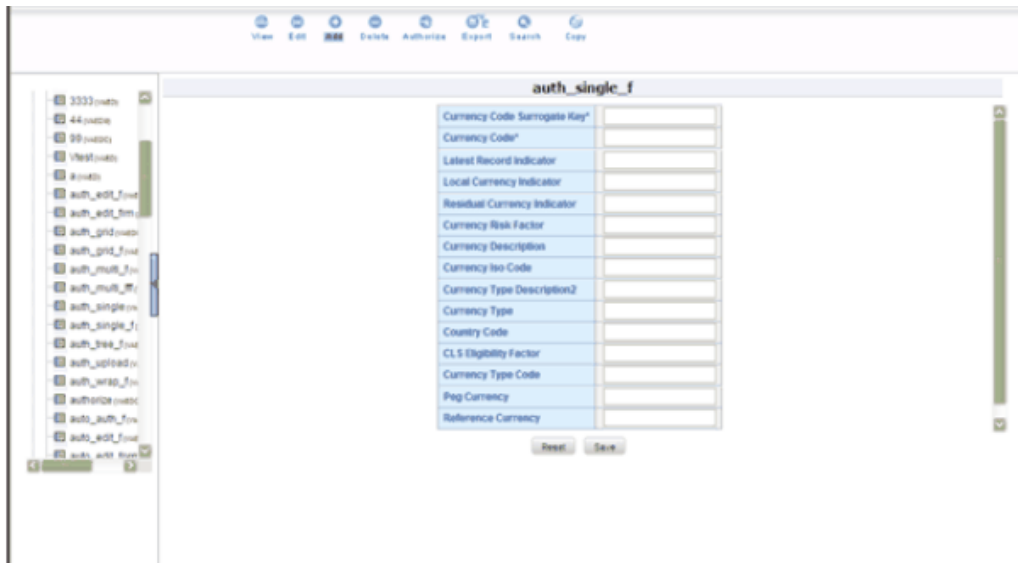
The Roll Back option can be used only for authorized records. After the records are edited and saved, the roll back operation can be performed in view mode by selecting the particular record to undo the modifications made to it.

- Once the record is edited using Edit option, its modified flag is set and the record with its modified flag set alone can be rolled back.

- If the record is not an authorized record it will display an alert saying roll back functionality is available only for records which has its authorization flag set to "Modified".

## Adding Rows to a Form

To add data to the selected table in a form, specify the number of rows to be added in Rows field in the options frame and click **(add)** button.



Enter data in these new fields and save them by clicking Save. Click Reset to return the table settings to its original field settings.

**Additional Information:** If the user wants to see the display with the thousands separator for any numeric columns, the input should be given in the same manner.

## Deleting a Record in a Form

To delete a record, check the select option in the Select column against the record you wish to delete and click delete.

A warning message will be displayed prompting you to confirm deletion. Click Ok to delete the record or Cancel to discard deletion.

## Authorizing Data

The Data Entry module allows you to authorize data entered during form creation

provided the table contains a primary key field.

To authorize data, select the form and click Authorize. The records that are required to be authorized will be displayed with Auth, Rej, au\_fname, au\_idPK (Primary Key identifier), au\_lname, AuthFlag (representing the status of the record), contract, MakerDate, MakerID and phone details. If there are no records to authorize, the screen will display the message No records to be authorized.

Auth	Rej	Hold	Extraction Date	Currency Code	Surrogate Key	Currency Code	Record End Date	Record Start Date	Latest Record Indicator	Local Co
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	07/13/2009 11:51:53	343	2321		07/13/2009 11:59:15		U	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	07/09/2009 20:07:08	79	na		07/13/2009 12:00:47		U	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	07/09/2009 20:09:41	96	1		07/09/2009 20:09:41	07/10/2009 17:23:27	U	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	07/13/2009 12:00:06	32321	1		07/13/2009 12:00:06			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	07/13/2009 12:21:01	777	34		07/13/2009 12:21:01			2

**Additional Information:** The primary key fields in the record are displayed in red as PK.

You can authorize only those records that are created by another user if you have authorization rights. If you do have authorization rights, the record created by another user, the AuthFlag will display U, which suggests that it is an unauthorized record requiring authorization.

If the record is already authorized, the AuthFlag will display A. If any record is rejected, if the form is authorized, then the AuthFlag will be displayed as R. If the Authorized user put the records on Hold, then the AuthFlag will be displayed as UH. After Authorizing, the Auth Flag will be set to A.

Any changes (modification / deletion) made to the records after authorization will be marked for authorization and can only be authorized by the users who have the privilege. The new records created before authorization can be edited or deleted by any user who has the privilege to do the same.

To authorize a record, select the Auth option against the record you wish to authorize and click Save. To reject/delete a record, select the check box in the Reject column against the record and click Save. A warning message is displayed. The records selected for deletion will be deleted from the table. Proceed? Click OK to confirm deletion or click Cancel to delete the request.

**Additional Information:** You can authorize forms only if the authorize rights have been assigned to you.

To authorize the next set of records, click Next. To authorize all the records in the form, select the Authorize all option and click Save.

To reject all records, select the Reject all and click Save. If the authorizer is not sure whether to authorize the records the Hold all option can be used, which can be authorized or rejected at the later point.

## Re-authorizing Records

The Records to be reauthorized link will be displayed only if some other user has modified the authorized records. An authorized record that has been modified will display the AuthFlag M, which suggests that the record has been modified. To reauthorize modified records, click the Records to be re-authorized link to open a new screen.

Auth	Rej	Hold	Extraction Date	Currency Code	Surrogate Key	Currency Code	Record End Date	Record Start Date	Latest Record Indicator	Local Currency Indicator	Reporting Currency
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	07/23/2009 14:20:25	666	3		07/13/2009	07/23/2009 14:20:25	8		Modified
			07/13/2009 12:14:49	666	3		07/13/2009 12:19:20	07/13/2009 12:20:10	8		Modified

The record that needs re-authorization is displayed with new details. The original authorized record is also displayed. To re-authorize/reject/put-on-Hold the records select the Auth, Rej or On-Hold option against it and click Save.

Click Next to authorize the next set of records,. To close the screen, click Close. Reset Button will reset the check-boxes to null.

A mail will be sent to the creator that records are authorized/rejected/put-on-hold.



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# OFSAA Attributes

## Overview

This chapter describes the creation and maintenance of OFSAA Attributes. Specifically, this chapter will cover:

- Attribute Summary & Detail Screens
- Navigation within the Attribute Summary Screen
- Navigation within the Attribute Detail Screen

See Overview of OFSAA Infrastructure, page 2-1 for details on how Attributes are used in OFS Analytical Applications. See *Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) Installation and Configuration Guide* for details on bulk loading dimension attributes.

## Summary & Detail Screens

Upon initially navigating to Common Object Maintenance > Dimension Management > Attributes, a summary screen is displayed showing all of the defined Attributes for one dimension (your first dimension alphabetically that supports attributes). By selecting a dimension and by using search criteria, you can control the set of Attributes that are displayed. When you Add, Edit, Copy, or View an Attribute, a detail screen is displayed.

## Navigation within the Summary Screen

When you first navigate to the Attributes summary screen, the Attributes associated with your first dimension are presented in a summary grid. The Attributes summary screen has three containers:

- Dimension
- Search
- Dimension Attributes

## Dimension Container

Attributes are properties of dimensions. To add or maintain an attribute, you must first select the dimension to which an attribute belongs. The Dimension drop down list box in the Dimension container displays all of your Key Processing dimensions (both seeded and user-defined) and any Standard Dimensions that are configured to support attributes.

## Search Container

Among other properties, each attribute possesses a Code value, a Name, and a Data Type. You may search on any of these properties in the Search container.

## Search Control

Enter your desired search criteria and click the Search control.

## Reset Control

Clicking the Reset control clears any search criteria you may be using and refreshes the screen.

## Dimension Attributes Container

The Dimension Attributes container presents a grid containing all of the Attributes that meet your search criteria. The Dimension Attributes summary grid offers several controls that allow you to perform different functions when an Attribute is selected.

<input type="checkbox"/>	Code	Name	Data Type	Required	Seeded
<input type="checkbox"/>	5001	ACCOUNT TYPE	DIMENSION	No	Yes
<input type="checkbox"/>	5002	AGGREGATE METHOD	DIMENSION	No	Yes
<input type="checkbox"/>	5003	COLUMN NAME	VARCHAR2	No	Yes
<input type="checkbox"/>	5004	COLUMN PROPERTY	DIMENSION	Yes	Yes
<input type="checkbox"/>	5050	ROLLUP SIGNAGE	DIMENSION	Yes	Yes
<input type="checkbox"/>	5000	WEIGHTING FE	DIMENSION	No	Yes

To select an Attribute, click a check box in the first column of the grid. More than one

Attribute can be selected at a time but this will cause some of the controls to become disabled. Clicking a check box a second time de-selects an Attribute.

You may select or deselect all of the Attributes in the summary grid by clicking the check box in the upper left hand corner of the summary grid directly to the left of the Code column header.

### **Add**

Clicking the Add control begins the process of building a new Attribute. The Add control is disabled if any rows in the grid have been selected.

### **View**

Selecting a single row out of the grid enables the View control. Clicking the View control allows you to view the detailed definition of an Attribute on a read-only basis. The View control is only enabled when a single Attribute has been selected.

### **Edit**

Selecting a single row out of the grid enables the Edit control. Clicking the Edit control allows you to modify an existing Attribute. The Edit control is only enabled when a single Attribute has been selected.

### **Copy**

Selecting a single row out of the grid enables the Copy control. Clicking the Copy control allows you to create a copy of an existing Attribute. The Copy control is only enabled when a single Attribute has been selected.

### **Check Dependencies**

Select an attribute and then click the Check Dependencies control to generate a report on all dimension members that utilize your selected attribute. For example, if you have created an attribute named Color and have assigned values of Red, White, and Blue to dimension members #1, #2, and #3, Checking Dependencies for the Color attribute will result in a report indicating that dimension members #1, #2, and #3 utilize the Color attribute.

The Check Dependencies control is only enabled when a single attribute has been selected.

### **Delete**

Selecting one or more rows out of the grid enables the Delete control. Clicking the Delete control deletes the Attribute(s) you have selected. OFSAAI will not allow you to delete Attributes which have any dependencies (see Check Dependencies above).

## Dimension Attributes Summary Grid

The following columns categorize each Attribute in the summary grid:

- Code
- Name
- Data Type
- Required
- Seeded

### Code

Displays the Attribute's Code value.

### Name

Displays the Attribute's short name. Performing a "mouse-over" on an Attribute Name displays the Attribute's description

### Data Type

Displays the Attribute's data type (String, Number, Date, or Dimension).

### Required

Attributes are either "Required" (Yes) or optional (No).

When creating a new dimension member, you must provide an attribute value for any attribute that is "Required". Only certain seeded attributes are "Required". You may not create "Required" user-defined attributes.

### Seeded

Displays whether or not an Attribute is seeded. You may not edit or delete seeded attributes.

## Navigation within the Detail Screen

When you Add, Edit, Copy, or View an Attribute, the Attributes Detail screen is displayed.

Attributes									
Attributes > Attribute Definition (New Mode)									
^ Dimension Dimension: Financial Element									
^ Attribute Details <table border="1"> <tr> <td>Code *</td> <td>5051</td> </tr> <tr> <td>Name *</td> <td>New Attribute</td> </tr> <tr> <td>Description</td> <td>New Financial Element Attribute</td> </tr> </table>		Code *	5051	Name *	New Attribute	Description	New Financial Element Attribute		
Code *	5051								
Name *	New Attribute								
Description	New Financial Element Attribute								
^ Attribute Properties <table border="1"> <tr> <td>Data Type</td> <td>DATE</td> </tr> <tr> <td>Dimension</td> <td></td> </tr> <tr> <td>Required Attribute</td> <td><input type="radio"/> Yes <input checked="" type="radio"/> No</td> </tr> <tr> <td>Default value</td> <td>MMDDYYYY</td> </tr> </table>		Data Type	DATE	Dimension		Required Attribute	<input type="radio"/> Yes <input checked="" type="radio"/> No	Default value	MMDDYYYY
Data Type	DATE								
Dimension									
Required Attribute	<input type="radio"/> Yes <input checked="" type="radio"/> No								
Default value	MMDDYYYY								

## Attribute Functionality

See Overview of OFSAA Infrastructure for details on how Attributes are used in OFS Analytical Applications.

## Dimension Container


Displays the name of the dimension to which an Attribute belongs. When Editing or Copying an existing Attribute, this is a read-only value. When Adding a new Attribute, you must select the dimension to which you want your new attribute to be assigned.

^ Dimension	
Dimension	Financial Element

## Attribute Details Container

### Code

When Adding a new Attribute, you must select a Code value to which you want your new attribute to be assigned. Code values for each attribute belonging to a dimension must be unique, but you are otherwise free to pick any numeric value you wish. You may also click the Generate Code shortcut key to automatically generate a new Code value.

^ Attribute Details	
Code *	<input type="text" value="5051"/> 
Name *	<input type="text" value="New Attribute"/>
Description	<input type="text" value="New Financial Element Attribute"/>

You must supply a Code value before you can save a new Attribute definition and you may not change a Code value once an Attribute definition has been saved.

**Additional Information:** When Editing an existing Attribute, Code is a read-only value; and when Copying an existing Attribute, you must supply a new Code value

### Name

Used to name or re-name your Attribute. You must supply a Name (or a new name if you wish to re-name your Attribute) before you can save an Attribute definition.



### Description

Used to store a longer description of your Attribute.

## Attribute Properties Container




### Data Type

Select a Data Type for your Attribute. For Attributes that have already been saved, you may not modify Data Type.

Attribute Properties	
Data Type	DATE 
Dimension	<div style="border: 1px solid black; padding: 2px;">           DATE            DIMENSION            NUMBER            STRING         </div>
Required Attribute	
Default value	MM/DD/YYYY 

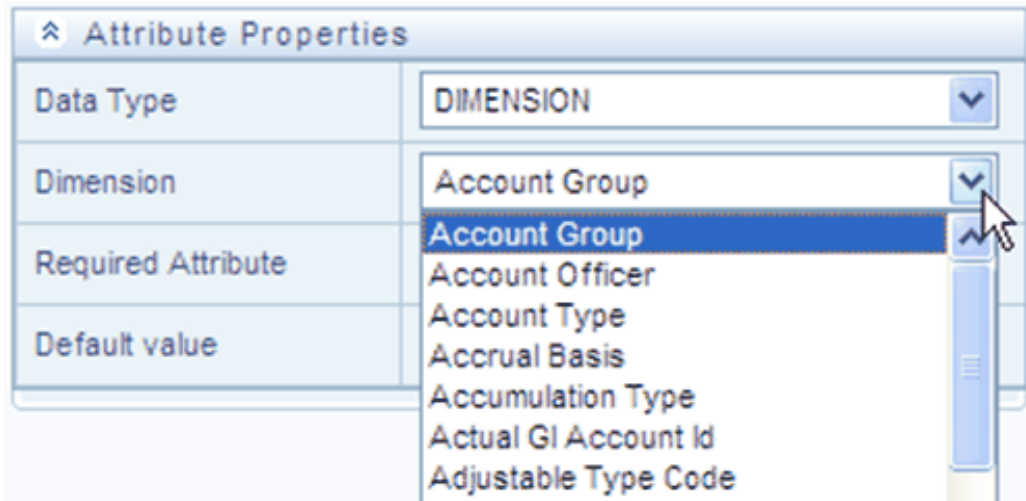
### Date, Number, & String Data Types

If you have selected the Date, Number, or String Data Type, the Dimension drop down list box is disabled.

Attribute Properties	
Data Type	DATE 
Dimension	
Required Attribute	<input type="radio"/> Yes <input checked="" type="radio"/> No
Default value	MM/DD/YYYY 

### Dimension Data Type

If you have selected the Dimension Data Type, the Dimension drop down list box is enabled. You may select any dimension to serve as a Dimension Attribute.



### Required Attribute

Various OFSAA engines utilize attributes within their processing. For example, both OFSAA Transfer Pricing and OFSAA Profitability Management utilize the Account Type attribute in order to understand whether a balance is a debit balance or a credit balance, on balance sheet or off balance sheet.

You may not create user-defined Required attributes.

### Default Value

Use to set a default value for your attribute. When you create a new dimension member, each attribute that has a Default Value is set to its default value for your convenience.



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# OFSA Dimension Members

## Summary & Detail Screens

Upon initially navigating to Common Object Maintenance > Dimension Management > Members, a summary screen is displayed showing all of the defined Dimension Members for one dimension (your first dimension alphabetically). By selecting a dimension and by using search criteria, you can control the set of Dimension Members that are displayed. When you Add, Edit, Copy, or View a Dimension Member, a detail screen is displayed.

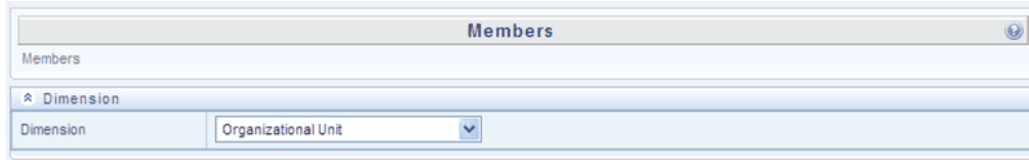
## Navigation within the Summary Screen

When you first navigate to the Dimension Members summary screen, the Dimension Members associated with your first dimension are presented in a summary grid. The Dimension Members summary screen has three containers:

- Dimension
- Search
- Dimension Members

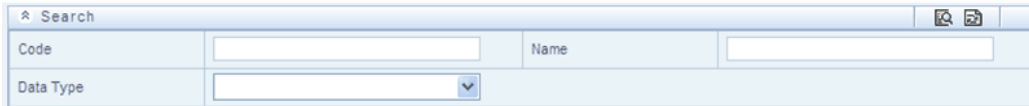
## Dimension Container

To add or maintain a Dimension Member, you must first select the dimension to which a Dimension Member belongs. The Dimension drop down list box in the Dimension container displays all of your dimensions that are configured to be viewable (not every dimension is viewable through the application user interface; for details on which dimensions are viewable, see the *Oracle Financial Services Analytical Applications Infrastructure (OFSAI) Installation and Configuration Guide*).



## Search Container

Each Dimension Member possesses a Code value, a Name, and a Description. Dimension Members also have the properties of being enabled or disabled and of being a leaf member (last-descendent-child value) or a rollup member (representing a rollup point in a hierarchy). Finally, each Dimension Member value is assigned an attribute value for each of its attributes. You may search on any of these properties in the Search container.



## Search Control

Enter your desired search criteria and click the Search control.

## Reset Control

Clicking the Reset control clears any search criteria you may be using and refreshes the screen.

## Dimension Members Container

Dimensions are comprised of finite lists of Dimension Members. The Dimension Members container presents a grid containing all of the Dimension Members that meet your search criteria. The Dimension Members summary grid offers several controls that allow you to perform different functions when a Dimension Member is selected.

To select a Dimension Member, click a check box in the first column of the grid. More than one Dimension Member can be selected at a time but this will cause some of the controls to become disabled. Clicking a check box a second time deselects a Dimension Member.



You may select or deselect all of the Dimension Members in the summary grid by clicking the check box in the upper left hand corner of the summary grid directly to the left of the Code column header.

## Add

Clicking the Add control begins the process of building a new Dimension Member. The Add control is disabled if any rows in the grid have been selected.

## View

Selecting a single row out of the grid enables the View control. Clicking the View control allows you to view the detailed definition of a Dimension Member on a read-only basis. The View control is only enabled when a single Dimension Member has been selected.

## Edit

Selecting a single row out of the grid enables the Edit control. Clicking the Edit control allows you to modify an existing Dimension Member. The Edit control is only enabled when a single Dimension Member has been selected.

## Copy

Selecting a single row out of the grid enables the Copy control. Clicking the Copy control allows you to create a copy of an existing Dimension Member. The Copy control is only enabled when a single Dimension Member has been selected.

## Check Dependencies

To generate a report on the hierarchies that utilize a selected Dimension Member, select a single Dimension Member and click the Check Dependencies control. The Check Dependencies control is only enabled when a single Dimension Member has been selected.

## Delete

Selecting one or more rows out of the grid enables the Delete control. Clicking the Delete control deletes the Dimension Member(s) you have selected.

**Additional Information:** OFSAA Infrastructure will not allow you to delete any Dimension Member that is utilized within a hierarchy (see Check Dependencies above).

## Dimension Members Summary Grid

The following columns categorize each Dimension Member in the summary grid:

- Code
- Name
- Is Leaf

<input type="checkbox"/>	Code ▲	Name	Is Leaf
<input type="checkbox"/>	9113	Treasury-9113	No
<input type="checkbox"/>	9114	Loan Operations-9114	No
<input type="checkbox"/>	9115	Deposit Operations-9115	No
<input type="checkbox"/>	9116	Corporate-9116	No
<input type="checkbox"/>	9117	Treasury-9117	No
<input type="checkbox"/>	9119	Retail-9119	No
<input type="checkbox"/>	9120	Wholesale-9120	No
<input type="checkbox"/>	9121	Operations-9121	No
<input type="checkbox"/>	9122	Admin	No
<input type="checkbox"/>	9123	Retail-9123	No
<input type="checkbox"/>	9124	Wholesale-9124	No
<input type="checkbox"/>	9125	Operations-9125	No
<input type="checkbox"/>	9126	Administration	No
<input type="checkbox"/>	9127	Corporate - Parent	No

## Code

Displays the Dimension Member's Code value.

## Name

Displays the Dimension Member's short name. Performing a "mouse-over" on a Dimension Member Name displays the Dimension Member's description.

## Is Leaf

Displays the Dimension Member's "Is Leaf?" property. Members may be declared to be either "leaf members" or "rollup members". When building a hierarchy in OFSAAI, "leaf members" are those dimension members that have no descendent dimension members. In building a dimension member set, you must have at least some rollup members (Is Leaf = No) before you can construct a multilevel hierarchy.

Your business data is normally expressed at the leaf level. An individual mortgage instrument record, for example, would belong to a (leaf level) cost center for a (leaf level) principal balance General Ledger Account and would carry a (leaf level) designation of Product.

## Navigation within the Detail Screen

When you Add, Edit, Copy, or View a Dimension Member, the Dimension Members Detail screen is displayed.

Attribute	Value
COMMON COA ID *	VAR_1
ROLLUP SIGNAGE *	-
ACCRUAL BASIS CODE	Actual/360
NewAttr	Floating Rate
NewAttr123455	Floating Rate
OFFSET ORG ID	-- Select --
PRODUCT CODE	

## Dimension Member Functionality

See Overview of OFSAA Infrastructure for details on how Dimension Members are used in OFS Analytical Applications.

## Dimension Container

Displays the name of the dimension to which a Dimension Member belongs. When Editing or Copying an existing Dimension Member, this is a read-only value. When Adding a new Dimension Member, you must select the dimension to which you want your new Dimension Member to be assigned.

## Dimension Member Details Container

### Alphanumeric Code

The **Alphanumeric Code** field is editable only if the selected Dimension accepts Alphanumeric Code. For example, **Billing Method** Dimension. Else, the field is Read Only and the value is fetched from the **Numeric Code** field entered. Enter the required Alphanumeric Code. Ensure that the code has a maximum of 14 characters and there are no special characters like & ' ~ " @ + included.

### Numeric Code

Enter the Numeric Code by doing any of the following:

- To auto-generate a Numeric Code, click the following button.



A system generated code is displayed.

- Manually enter the required code which is auto validated for uniqueness. A maximum of 14 numeric characters can be specified

**Note:** If the selected Dimension accepts only Numeric Code, then the specified Numeric Code is auto populated to the **Alphanumeric Code** field also.

### Name

Enter the **Name** of the Member.

### Description

Enter the required Description for the Member.

### Enabled

This field is set to **Yes** by default and is editable only in **Edit** screen.

**Note:** You can change the option to No only when the particular member is not used in any hierarchy.

### Is Leaf

This field is set to **Yes** by default.

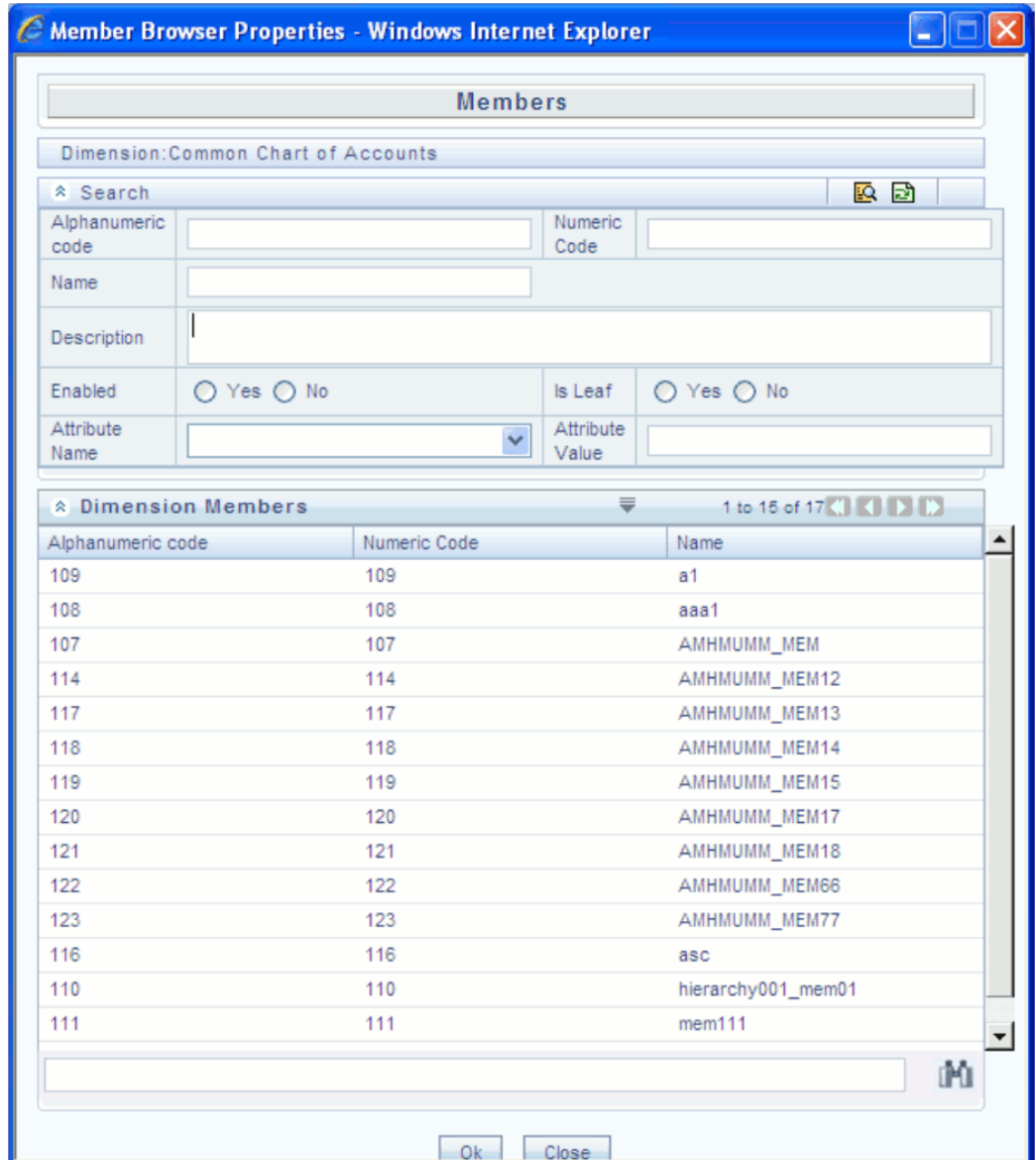
If Yes, the particular member can be used as a leaf node in any hierarchy and child cannot be added to this node.

If No, the node becomes a non leaf and can have child nodes.

**Note:** A member created as Non Leaf having child nodes to it in any hierarchy cannot be made Leaf.

### Copy Attribute Assignment From

Instead of manually completing all the attribute value assignments for a new Dimension Member, you may copy attribute assignments from a pre-existing Dimension Member. To do so, click the ellipses adjacent to Copy Attribute Assignment From field to open the Member Browser window. You may select a member directly or you may search for the member whose attributes you wish to copy. Once you have selected a member and clicked OK, the attribute values of the member you selected are copied into the definition of your new Dimension Member.



## Dimension Member Attributes Container

If you have not copied attribute values from a pre-existing dimension member using the Copy Attribute Assignment From feature described above, assign them in the Member Attributes container.

- Dimension Member Attributes have defined data types including String, Number, Date, and Dimension. If an attribute is a Date data type, use the calendar control to select a date. If an attribute is a Number or String data type, enter your free-form value directly. If

an attribute is a Dimension data type, select your value from the drop down list box.

- Attributes marked with an asterisk indicate required attributes.

Member Attributes	
Attribute	Value
COLUMN PROPERTY *	Balance
ROLLUP SIGNAGE *	+
ACCOUNT TYPE	-- Select --
AGGREGATE METHOD	-- Select --
COLUMN NAME	
WEIGHTING FE	-- Select --

### Default Values

If a Member Attribute is defined as having a default value, the default value will be displayed when you create a new Dimension Member.



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# OFSAA Hierarchies

## Overview of OFSAA Hierarchies

This chapter describes the creation and maintenance of OFSAA Hierarchies. Specifically, this chapter will cover:

- Hierarchy Summary & Detail Screens
- Navigation within the Hierarchy Summary Screen
- Navigation within the Hierarchy Detail Screen

See Overview of OFSAA Infrastructure, page 2-1 for details on how Hierarchies are used in OFS Analytical Applications. See the *Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) Installation and Configuration Guide* for details on bulk loading hierarchies.

## Summary & Detail Screens

Upon initially navigating to Common Object Maintenance > Dimension Management > Hierarchies, a summary screen is displayed showing all of the defined Hierarchies for one dimension (your first dimension alphabetically that supports hierarchies). By selecting a dimension and by using search criteria, you can control the set of Hierarchies that are displayed. When you Add, Edit, Copy, or View a Hierarchy, a detail screen is displayed.

Hierarchies					
Dimension					
Dimension	Organizational Unit				
Search					
Folder	GASEG	Hierarchy Name			
Dimension Member Code		Dimension Member Name			
Hierarchies					
<input type="checkbox"/>	Name ▲	Display Level	Created By	Creation Date	Last Modification Date
<input type="checkbox"/>	Standard Cost Center Hierarchy	1	PFTADMINTRAMAN	30-NOV-09 20:47:56	09-DEC-09 11:40:32

## Navigation within the Summary Screen

When you first navigate to the Hierarchies summary screen, the Hierarchies that are stored within your current default folder and that are associated with your first dimension are presented in a summary grid. The Hierarchies Summary screen has three containers:

- Dimension
- Search
- Hierarchies

## Dimension Container

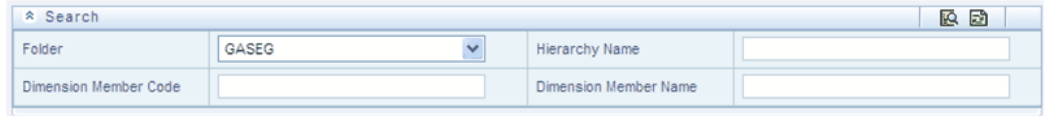
Select the Dimension of the hierarchies you wish to View. When you change your dimension selection in the summary screen, the screen refreshes and displays the Hierarchies that are stored within your current default folder.

**Additional Information:** The dimensions drop down list will only display dimensions that are configured to support hierarchies.

## Search Container

Your default Folder functions as a search constraint. The value of your default Folder is set in Application Preferences. You may select a different Folder or you may remove the Folder constraint entirely by selecting the "blank" Folder, that is, no Folder. You may

also search by Hierarchy Name, Dimension Member Code, and/or Dimension Member Name.



### Search Control

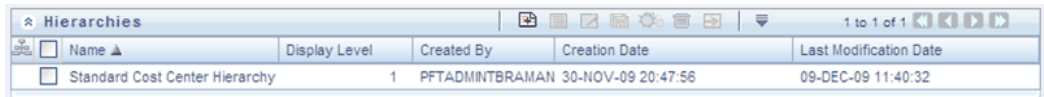
Searches for Hierarchy Name, Dimension Member Code, and Dimension Member Name are wildcard searches, that is, searching for Hierarchy Names like "standard" will find any hierarchies that include "standard" within their names. When searching by Dimension Member Code or by Dimension Member Name, the application will find any or all hierarchies that utilize that dimension member but only if the member is not found in the hierarchy's "orphan" branch (see the following discussion of Orphan branches). Enter your desired search criteria and click the Search control.

### Reset Control

Clicking the Reset control clears any search criteria you may be using, resets Folder to your default Folder, and refreshes the screen.

### Hierarchies Container

The Hierarchies container presents a grid containing all of the Hierarchies that meet your search criteria. The Hierarchies summary grid offers several controls that allow you to perform different functions when a Hierarchy is selected.



<input type="checkbox"/>	Name ▲	Display Level	Created By	Creation Date	Last Modification Date
<input type="checkbox"/>	Standard Cost Center Hierarchy	1	PFTADMINTBRAMAN	30-NOV-09 20:47:56	09-DEC-09 11:40:32

To select a Hierarchy, click a check box in the first column of the grid. More than one Hierarchy can be selected at a time but this will cause some of the controls to become disabled. Clicking a check box a second time deselects a Hierarchy.

You may select or deselect all of the Hierarchies in the summary grid by clicking the check box in the upper left hand corner of the summary grid directly to the left of the Name column header.

### Add

Clicking the Add control begins the process of building a new Hierarchy. The Add control is disabled if any rows in the grid have been selected.

## View

Selecting a single row out of the grid enables the View control. Clicking the View control allows you to view the detailed definition of a Hierarchy on a read-only basis. The View control is only enabled when a single Hierarchy has been selected.

## Edit

Selecting a single row out of the grid enables the Edit control. Clicking the Edit control allows you to modify an existing Hierarchy. The Edit control is only enabled when a single Hierarchy has been selected.

## Copy

Selecting a single row out of the grid enables the Copy control. Clicking the Copy control allows you to create a copy of an existing Hierarchy. The Copy control is only enabled when a single Hierarchy has been selected.

## Check Dependencies

To generate a report on the OFSAA rules that utilize a selected Hierarchy, select a single Hierarchy and click the Check Dependencies control. The Check Dependencies control is only enabled when a single Hierarchy has been selected.

## Delete

Selecting one or more rows out of the grid enables the Delete control. Clicking the Delete control deletes the Hierarchy or Hierarchies you have selected.

**Additional Information:** OFSAA Infrastructure will not allow you to delete any Hierarchy that is utilized by another OFSAA rule (For example, a Transfer Pricing Processing rule, an Allocation rule, and so on). See Check Dependencies above.

## Hierarchies Summary Grid

The following columns categorize each Dimension Member in the summary grid:

- Name
- Display Level
- Created By
- Creation Date
- Last Modification Date

<input type="checkbox"/> Name ▲	Display Level	Created By	Creation Date	Last Modification Date
<input type="checkbox"/> Standard Cost Center Hierarchy	1	PFTADMINTRAMAN	30-NOV-09 20:47:56	09-DEC-09 11:40:32

### **Name**

Displays the Hierarchy's Name. Performing a "mouse-over" on a Hierarchy's Name displays the Hierarchy's Description.

### **Display Level**

Display Level is the default level at which a hierarchy is displayed by the application when you open it.

### **Created By**

Created By displays the name of the user who created a Hierarchy. If a Hierarchy is saved as Read Only, only the user who created the rule, i.e., the owner, may modify the rule.

### **Creation Date**

Displays the date and time at which a Hierarchy was created.

### **Last Modification Date**

Displays the date and time at which a Hierarchy was last modified.

## **Navigation within the Detail Screen**

When you Add, Edit, Copy, or View a Hierarchy, the Hierarchies Detail screen is displayed.

Hierarchies Detail Screen

The Audit Trail container is a standard footer container for every OFSAA rule type. It displays Created By, Creation Date, Last Modified By, and Modification Date on the Audit Trail tab. The User Comments tab may be used to add comments to any rule.

Audit Trail		User Comments	
System ID :211074			
Created By	PFTADMINTRAMAN	Creation Date	13-JAN-10 09:52:47
Last Modified By	PFTADMINTRAMAN	Last Modification Date	13-JAN-10 12:01:16

## Hierarchy Functionality

See Overview of OFSAA Infrastructure for details on how Hierarchies are used in OFS Analytical Applications.

## Dimension Container

For a new Hierarchy, select the dimension upon which you want to build a hierarchy. For an existing Hierarchy, you may not change the dimension.

## Hierarchy Properties Container

Specify a Hierarchy Name and Description, select a Folder in which the Hierarchy is to be stored, and specify whether you want the Hierarchy to be "Read/Write" or "Read Only" (Access Type). Naming your Hierarchy is required before it can be saved. Default values for Folder and Access Type are stored in Application Preferences. The Hierarchy Properties container also stores values for Automatic Inheritance, Display Signage, Show Member Code, Initial Display Level, and Orphan Branch.

Hierarchy Properties			
Name *	New GL Hierarchy		
Description	Sample General Ledger Account hierarchy		
Folder	GUISEG	Access Type	<input type="radio"/> Read Only <input checked="" type="radio"/> Read/Write
Automatic Inheritance	<input type="radio"/> Yes <input checked="" type="radio"/> No	Display Signage	<input type="radio"/> Yes <input checked="" type="radio"/> No
Show Member Code	Only Name - No Code	Initial Display Level	3 - Level 3
Orphan Branch	<input checked="" type="radio"/> Yes <input type="radio"/> No		

### Name and Description

Displays the hierarchy's name and description. Name is a required property; you cannot save a hierarchy until you supply a name.

### Folder

Select the folder in which you want the hierarchy to be stored.

### Automatic Inheritance

Click Yes or No from the **Automatic Inheritance** field. Click Yes if you want to inherit the hierarchy properties of the parent to the child. Click No if you want to define a new hierarchy.

### Show Member Code

"Show Member Code" governs the default display behavior of a hierarchy. This code may be set to one of three different values:

- Code to Left of Name
- Code to Right of Name
- Only Name – No Code

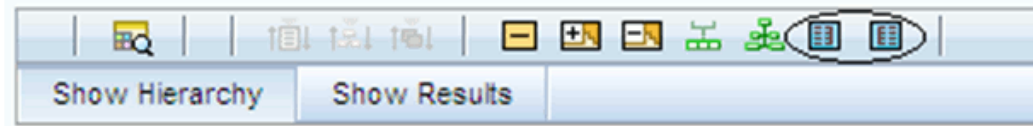
While viewing or editing a hierarchy, you may override whatever default behavior has been set by clicking the "Show Code Values (Right)"



or on the "Show Code Values (Left)"



controls that are located on the title bar of the hierarchy display grid.



### Orphan Branch

When you initially enter the Hierarchies Detail screen in Add mode (that is, for a brand new hierarchy), Orphan Branch is set to Yes. When set to Yes, unassigned leaf members and node members are displayed within a special "Orphan" branch. This can be convenient because the user interface includes functionality that allows you to "cut and paste" members of the orphan branch into desired locations within your hierarchy. The Orphan Branch can also be convenient when you are maintaining an existing hierarchy because when it contains members, it provides a visual cue that dimension members have been defined that have yet to be assigned locations within a hierarchy. You may suppress the display of the Orphan Branch by setting Orphan Branch to No.

### Access Type

You may set Access Type to Read-Only or Read/Write. When set to Read-Only, only the owner – the creator of a rule is its owner – may modify or delete the hierarchy.

### Display Signage

Display signage is not used within any of the OFSAA engines, but is used within the Oracle Financial Services Profitability Analytics OBI application. Its purpose is to inform reporting applications on how to subtotal information on financial reports, most typically for income statement reporting. The default value for all new dimension members is "+".

### Initial Display Level

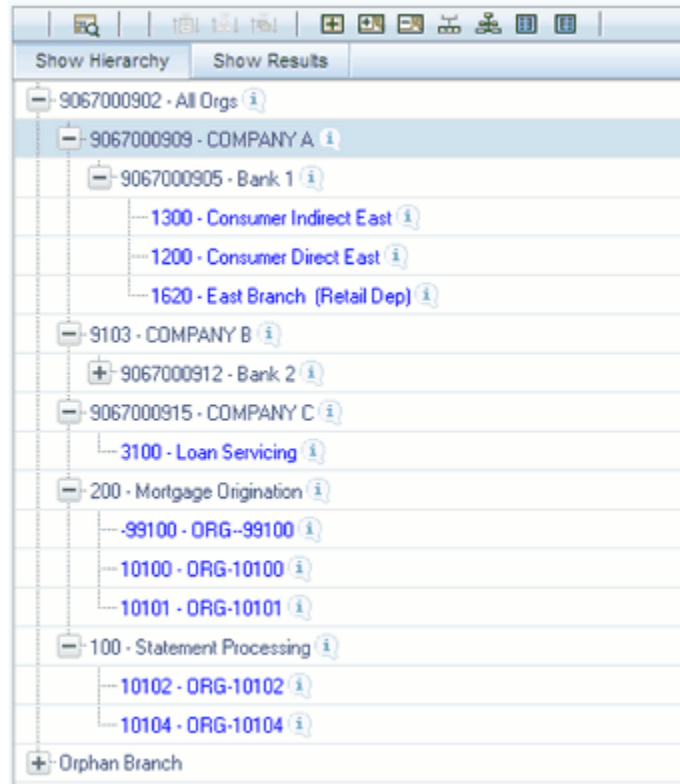
This setting controls the level at which a hierarchy is displayed when you initially enter the Hierarchies Detail screen. This setting is particularly useful when you are working with a hierarchy that has many levels. In a deep, many-leveled hierarchy, only one or two high level rollup points would be displayed if the hierarchy were displayed in its entirety.



## Hierarchy Display Grid

The main body of the Hierarchies Detail screen displays a visual representation of your hierarchy. When building a hierarchy within a given dimension, you have access to every dimension member defined for that dimension. For dimensions that support hierarchies, every dimension member has the property of either being a "leaf" member or a "rollup node" member. You construct your hierarchy by attaching leaf members to rollup node members and by attaching rollup node members to other rollup node members depending on how "deep" or multi-leveled you want your hierarchy to be.

Hierarchies may be either "balanced" or "unbalanced". In a balanced hierarchy, all leaf members reside at the same "level" or depth. The following example shows an unbalanced hierarchy in which you see leaf members (shown in blue) three levels beneath to "root" or top of the hierarchy within the Bank 1 branch, but in which you also see leaf members two levels beneath the root level in the Company C, Mortgage Origination, and Statement Processing branches.



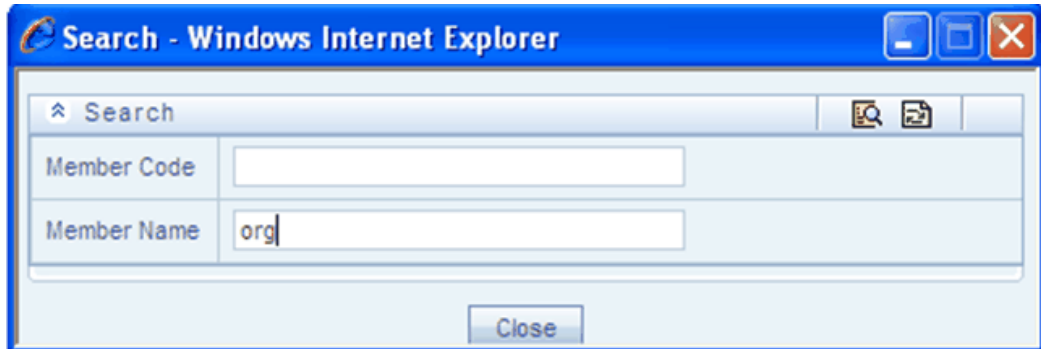
Generally, there is no limit to the number of levels of depth you may build into a hierarchy for Standard Dimensions that support hierarchies. For Key Processing Dimensions, which always support hierarchies, you may construct hierarchies with up to 14 levels of depth. For details on depth limitations and configuring maximum depth levels for hierarchies, see *Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) Installation and Configuration Guide*.

## Controlling the Hierarchy Display

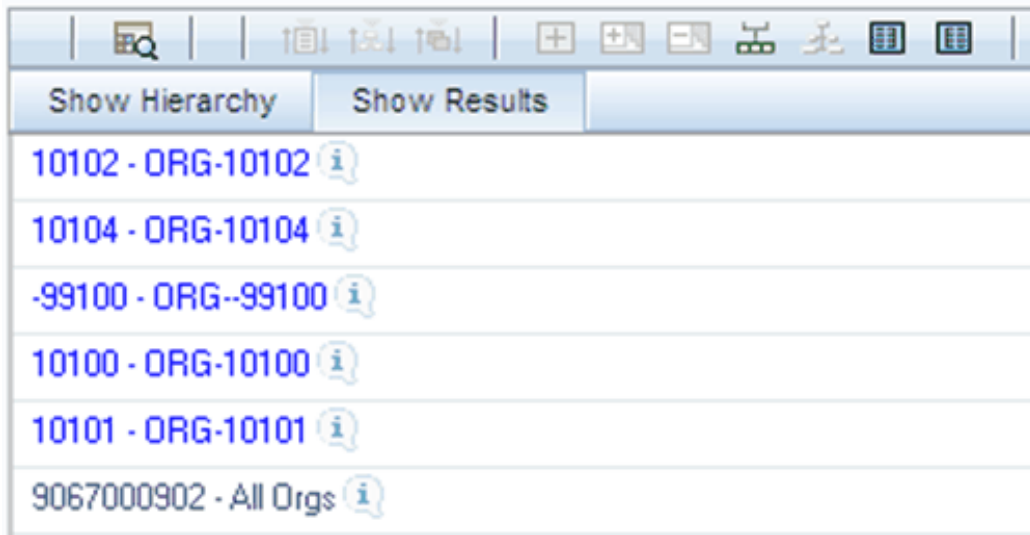
There are a number of controls on the title bar of the hierarchy that allow you to modify how the hierarchy is displayed.







### Search

Clicking the Search control invokes a pop-up dialog in which you can perform wildcard searches for dimension members by Member Code or by Member Name.



When you click the Search button within the pop-up dialog, the dialog closes, your search is executed, and results are returned within the Hierarchy Display Grid under the heading of Show Results.



Show Hierarchy	Show Results
	10102 - ORG-10102 
	10104 - ORG-10104 
	-99100 - ORG--99100 
	10100 - ORG-10100 
	10101 - ORG-10101 
	9067000902 - All Orgs 

When viewing search results under the Show Results heading, you may locate a dimension member within the hierarchy by selecting it and clicking the Focus control. After selecting a dimension member and clicking Focus, the application responds by focusing on your selected member under the Show Hierarchy heading (that is, under

the normal hierarchy display).

This method of searching for dimension members will only find assigned members, that is, members that are not found in the Orphans Branch.

## **Expand All / Collapse All**

When you initially enter the Hierarchies Detail screen, clicking this control expands every branch of your hierarchy to display its entire depth. Click this control a second time to shrink the hierarchy display down to (1) the root node of the hierarchy plus (2) the "Orphans" branch.

- The Orphan branch is only displayed when a hierarchy's Orphan Branch property is set to Yes.
- For very large hierarchies, the Expand All / Collapse All control is disabled. You may define what constitutes a very large hierarchy. For more information, see *Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) Installation and Configuration Guide*.

## **Expand Branch**

When you click a node member and then click Expand Branch, your selected rollup node is expanded to its maximum depth.

## **Collapse Branch**

Select a dimension member and then click the Collapse Branch control to shrink the display of any members beneath the dimension member you have chosen.

## **Focus and Unfocus**

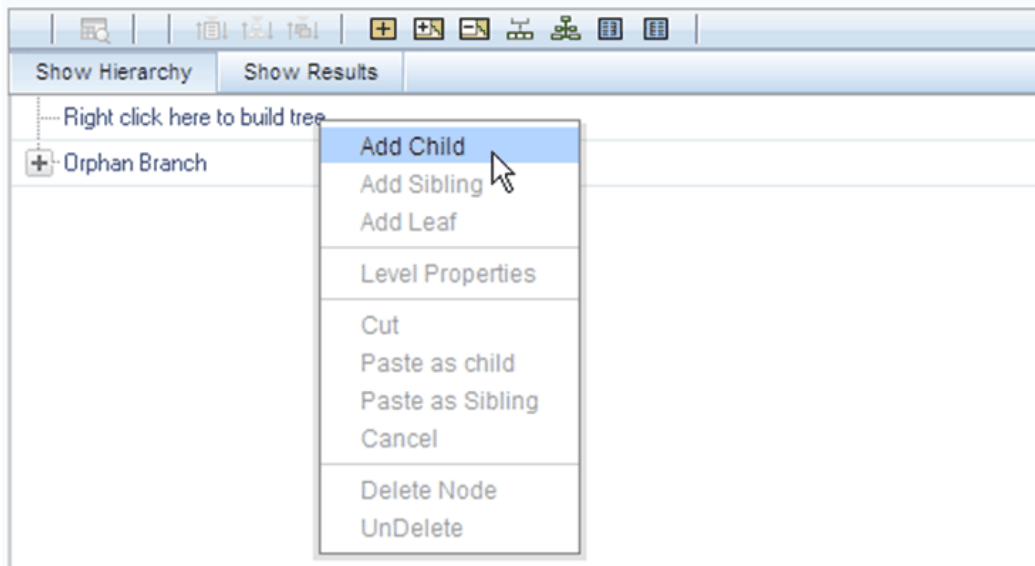
When you click a node member and then click the Focus control, only your selected node and its descendents are displayed. Clicking Unfocus removes the focus that you established using the Focus control described earlier.

## **Show Code Values (Left) and (Right)**

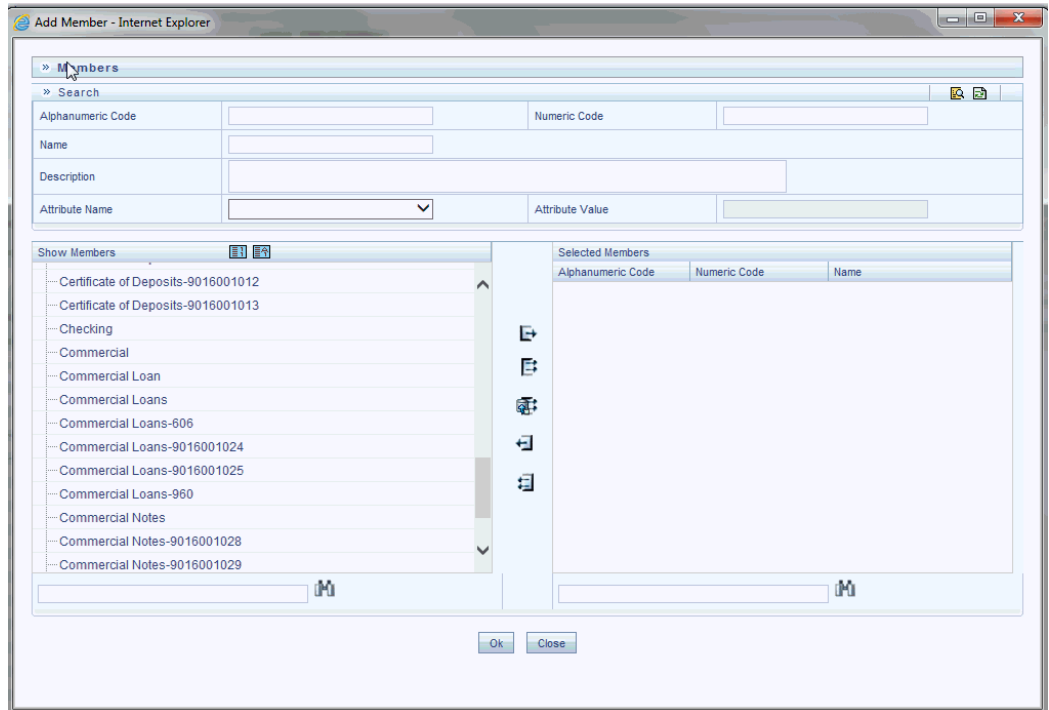
Click Show Code Values (Left) to show code values to the left of each dimension member name. Click Show Code Values (Right) to show code values to the right of each dimension member name. The default behavior for your hierarchy is controlled by the "Show Member Code" property discussed in the preceding sections.

## Adding Hierarchies

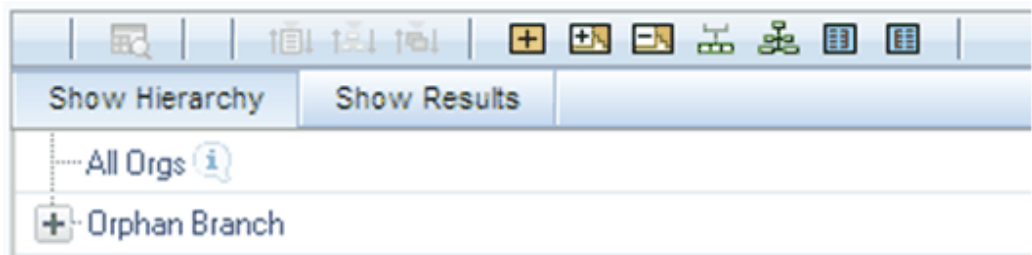
When creating a new hierarchy, you must initially provide a name and, optionally, a description. You must also select the Folder in which you want the hierarchy to be stored, the hierarchy's Read Only vs. Read/Write (Access Type) property and the other Hierarchy Properties described in the preceding sections. Default values for Folder and Access Type are stored in Application Preferences.



To begin the process of building a new hierarchy, right mouse click at the top of the hierarchy (see example given earlier) to invoke a pop-up dialog in which you may select dimension members. Every hierarchy must begin with a top level rollup node. Since you cannot have a leaf member as a top level rollup node, your only choice at this point is Add Child. Clicking Add Child invokes pop-up dialog in which you may select a rollup node.



Within the Add Member pop-up dialog, use the shuttle box controls to select the member from the left hand side that you want to serve as the root member for your hierarchy. In the example given earlier, the All Orgs dimension member has been selected to serve as the root node for the hierarchy. Note that in this context, the Show Members column only lists rollup members (that is, a leaf member may not serve as the root of a hierarchy). When you click OK, the Add Member dialog closes and the original hierarchy display is modified to show your selected root member.

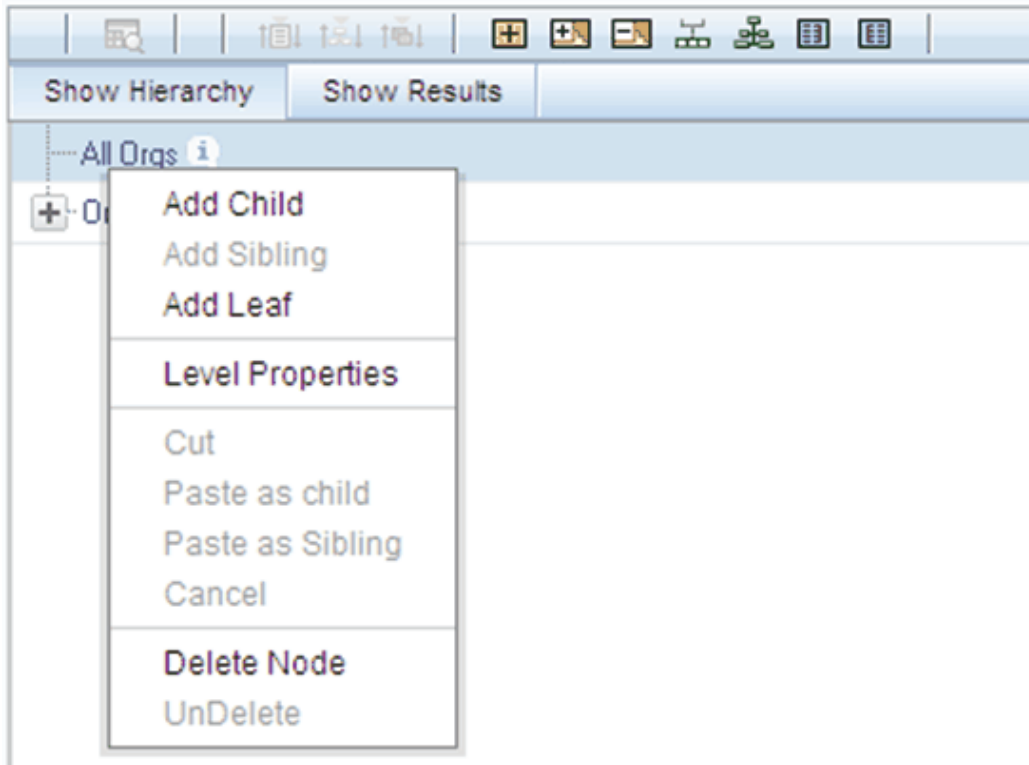


At this point, the process of adding additional dimension members (leaves and rollup nodes) is the same for existing hierarchies as it is for new hierarchies.

## Editing Hierarchies

### Inserting New Members into a Rollup Node

Select a rollup node member and then right mouse click. This action will display a number of choices including Add Child, Add Sibling, and Add leaf. The following example continues from the above description of creating a new organizational unit hierarchy.



In this current example, we have selected a rollup node member which serves as the root member of the hierarchy. Because OFSAA Infrastructure does not support hierarchies with multiple "tops", you may not add a sibling member (that is, a member to be stored at the root level of the hierarchy) so the Add Sibling option is disabled.

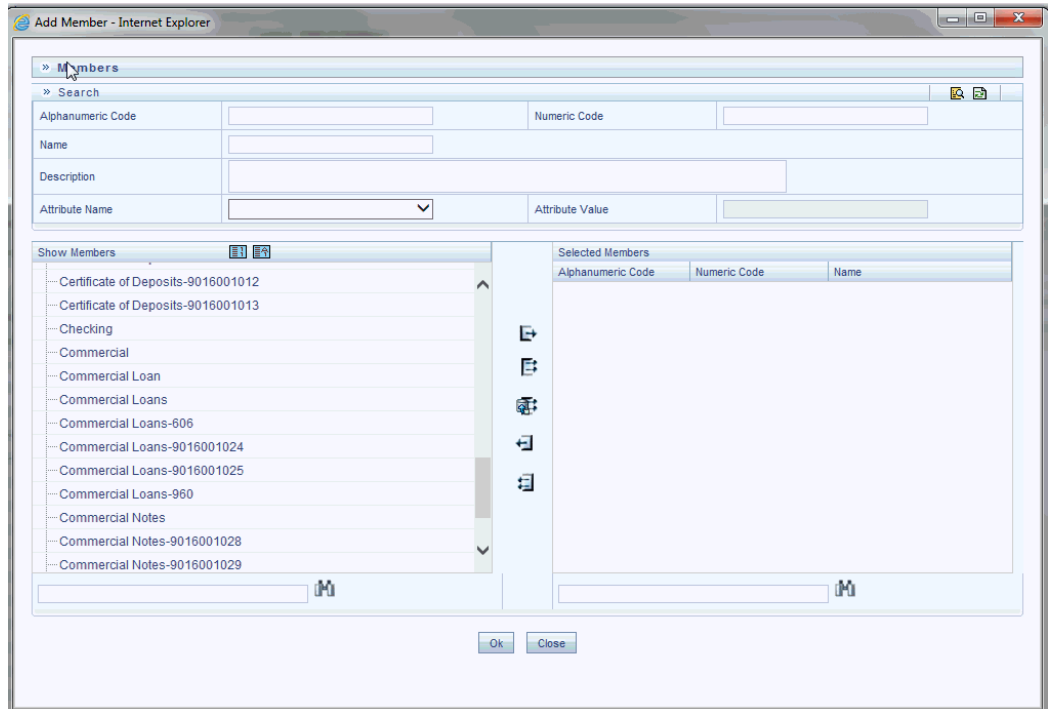
Whenever you select the "Add Child" or "Add Sibling" or "Add Leaf" option, the Add Member dialog is displayed.

### Add Child

For the "Add Child" option, the Add Member dialog presents all dimension members that have not already been assigned elsewhere (i.e., all members that are not found in the orphan branch). The value or values you select will be placed in the hierarchy one

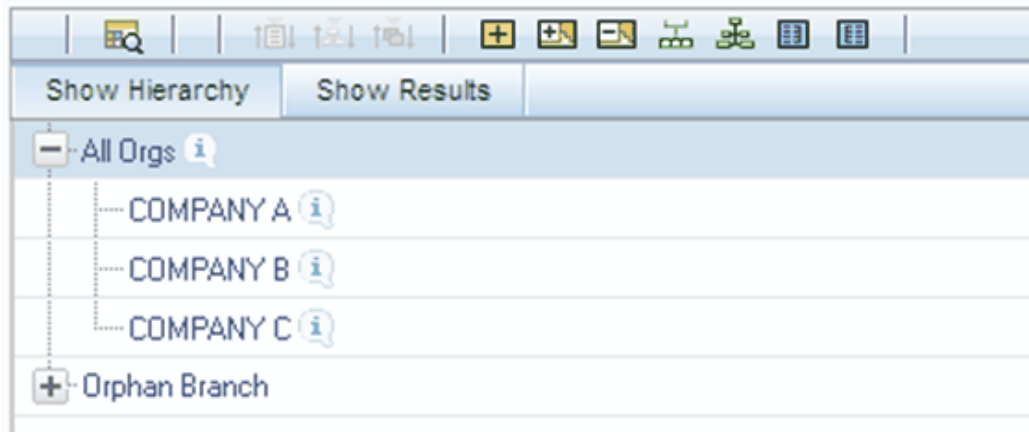
level beneath the node you originally selected.

In the following example, Company A, Company B, and Company C have been selected to act as the children of the All Orgs root node.



Select the required Member and click **Select** button. The Member is displayed in the Selected Members panel. Click **Select All** button to select all Members which are shown in the Show Members pane. Click **Select All From Server** button to select all nodes/members in the server. You can click **Deselect** button to deselect a Member or click **Deselect All** button to deselect all the Members. You can click **Search** button to search for the required member using Alphanumeric code, Numeric Code, Name, Description, Attribute Name, or Attribute Value.

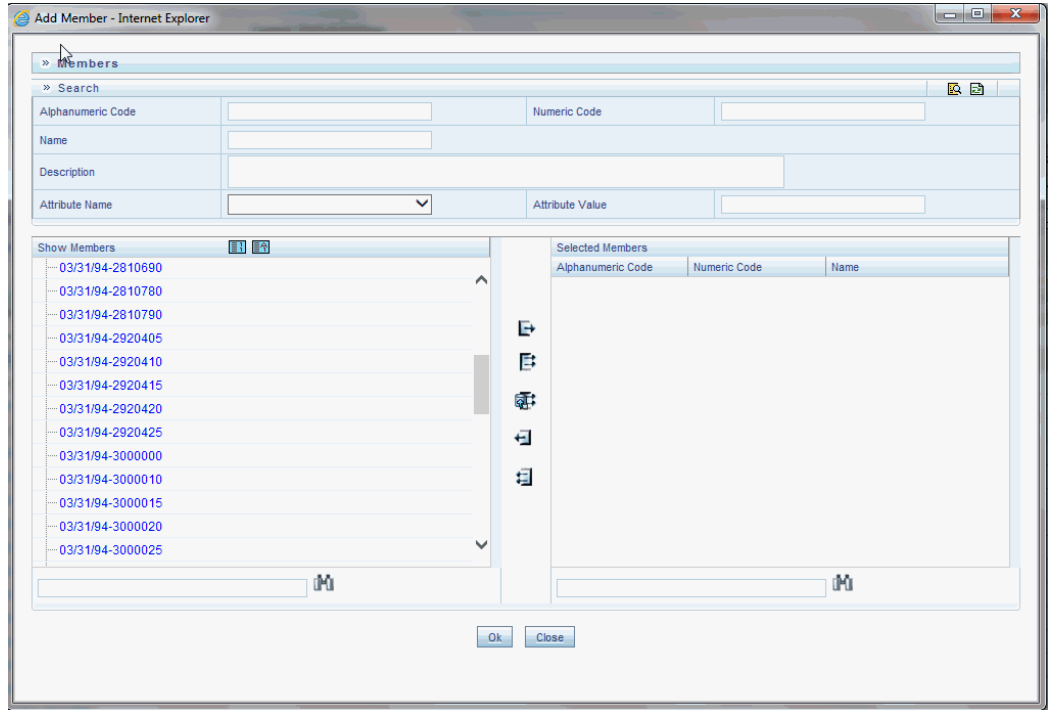
When you click OK on the Add Member dialog, the dialog box closes and the underlying Hierarchy Display is updated to reflect your choices.



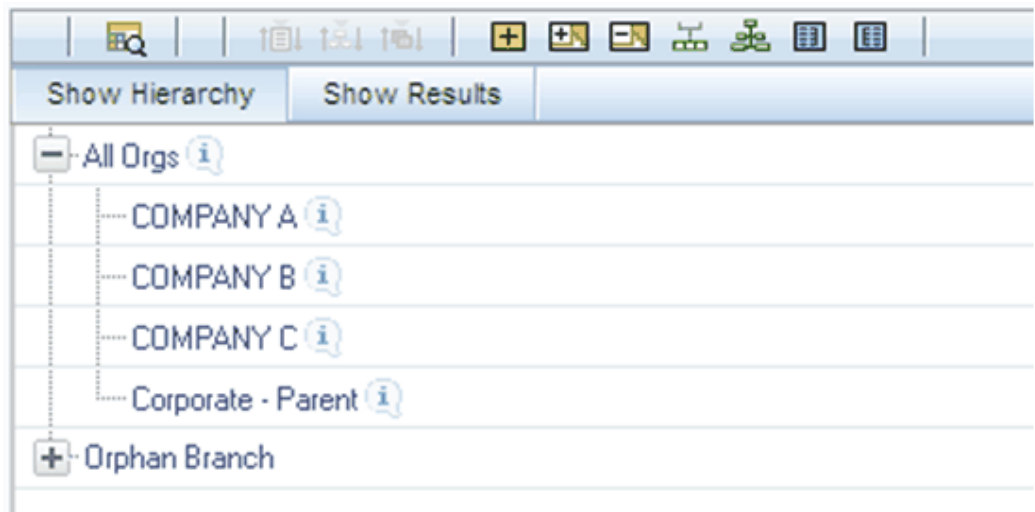
## Add Sibling

For the "Add Sibling" option, the Add Member dialog presents all dimension members that have not already been assigned elsewhere (that is, all members that are not found in the orphan branch). The value or values you select will be placed in the hierarchy at the same level as the node you originally selected. In the following example, "Corporate – Parent" has been selected to be a sibling to Company C, i.e., to be inserted at the same level within the hierarchy as Company C.



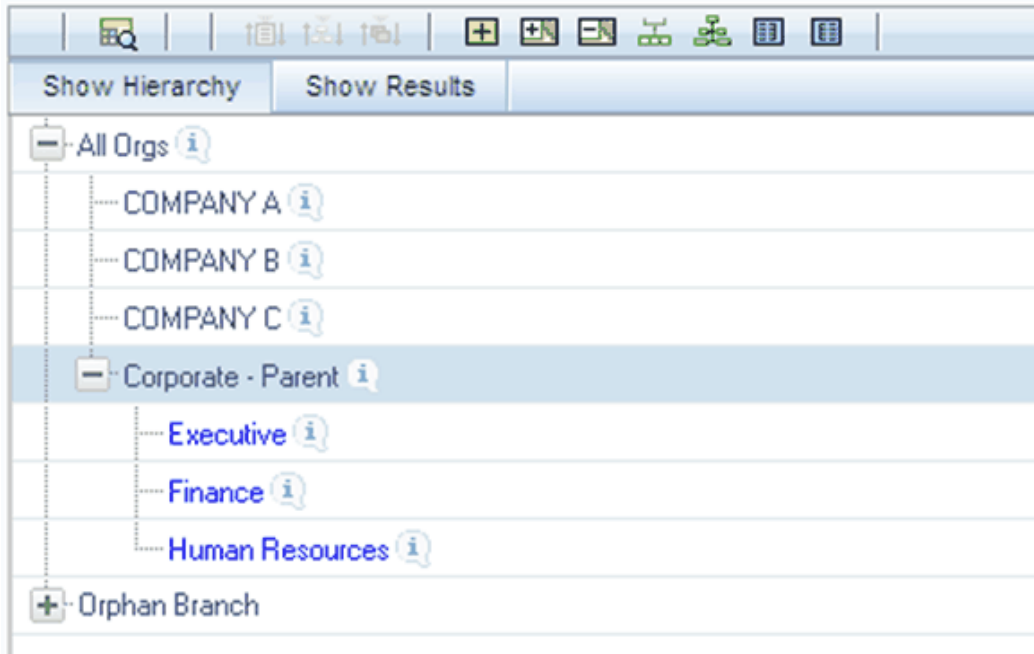


Select the required Member and click **Select** button. The Member is displayed in the Selected Members panel. You can click **Select All** button to select all Members which are shown in the Show Members pane. Click **Select All From Server** button to select all nodes/ members in the server. You can click **Deselect** button to deselect a Member or click **Deselect All** button to deselect all the Members. You can also Click **Search** button to search for the required member.

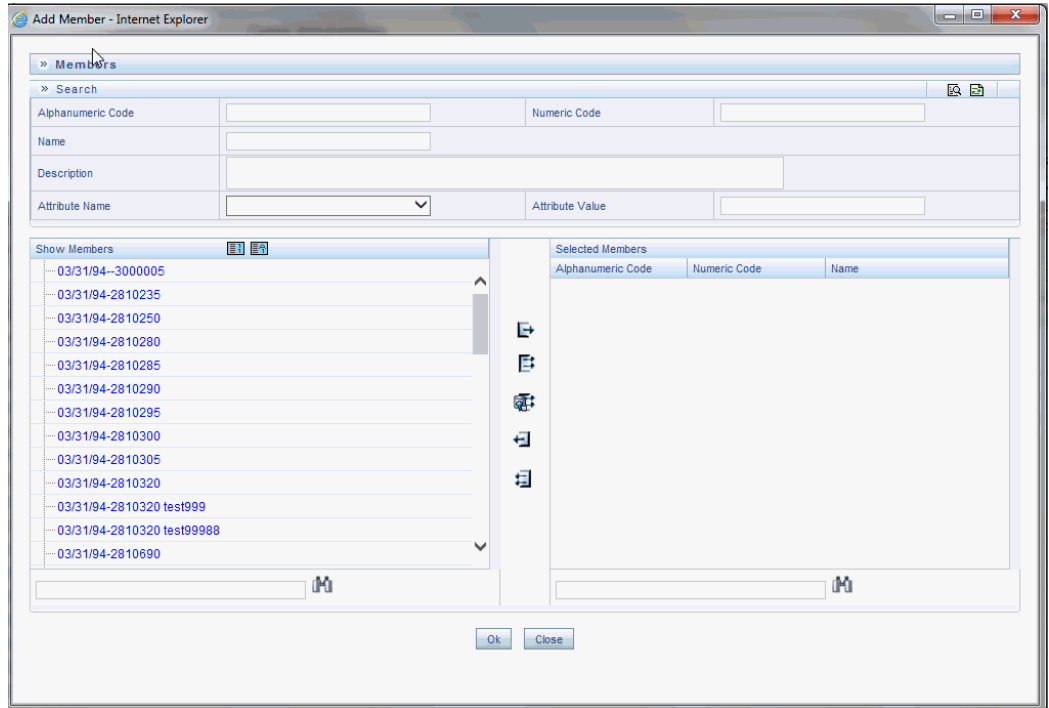


## Add Leaf

For the "Add Leaf" option, the Add Member dialog presents all leaf members that have not already been assigned elsewhere. The leaf value or values you select will be placed in the hierarchy one level beneath the node you originally selected.



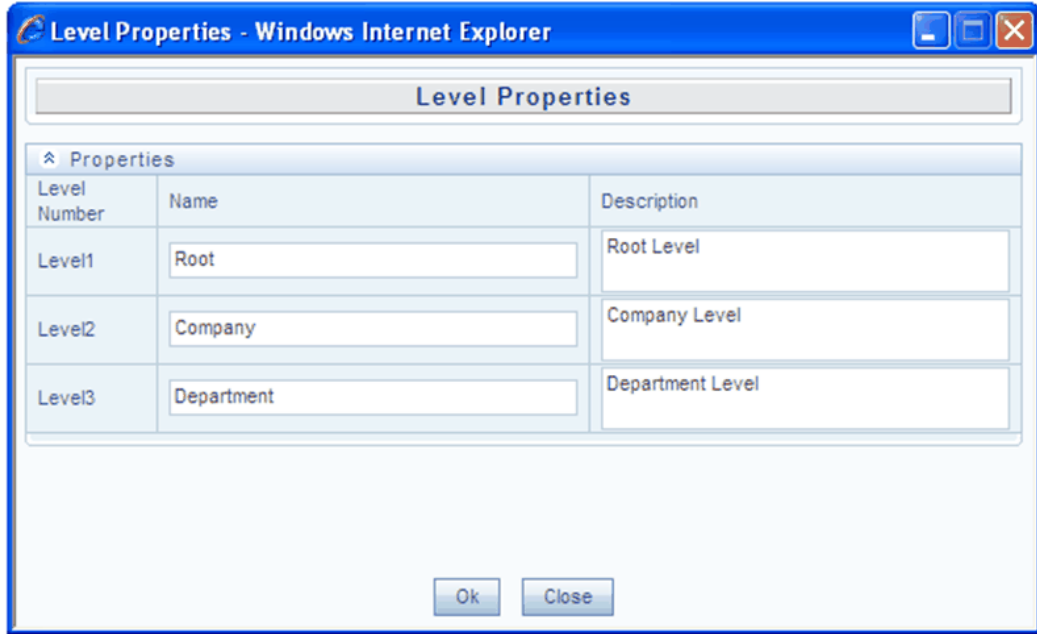
In the example above, Executive, Finance, and Human Resources have been selected to be children of the Corporate – Parent rollup node.



Select the required Member and click **Select** button. The Member is displayed in the Selected Members panel. You can click **Select All** button to select all Members which are shown in the Show Members pane. Click **Select All From Server** button to select all nodes/ members in the server. You can click **Deselect** button to deselect a Member or click **Deselect All** button to deselect all the Members. You can also Click **Search** button to search for the required member.

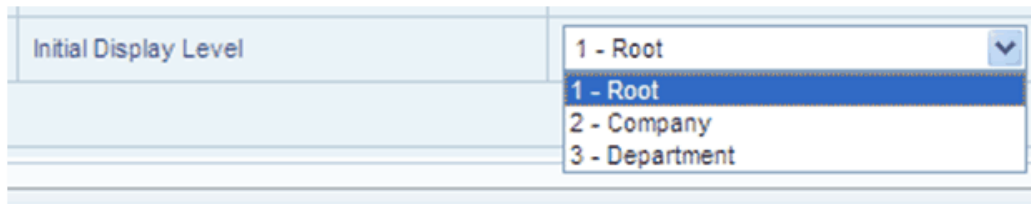
## Level Properties

Selecting the Level Properties option invokes the Level Properties dialog. Within this dialog, you may provide names and descriptions for each of the levels within your hierarchy.



The Level Properties dialog will display as many levels as you have currently built out. In the preceding example, names and descriptions are being added at a time when only 3 levels have been built within the underlying hierarchy. If a fourth level is built into the hierarchy, you could return to Level Properties to add a name and description to level 4.

Assigning names or descriptions to levels is completely optional. Within the Hierarchy Properties Container, the drop down list for "Initial Display Level" will reflect your level name choices. Your choices may also be utilized within downstream reporting applications, but level names and descriptions are otherwise not utilized within OFSAA.



## Cut

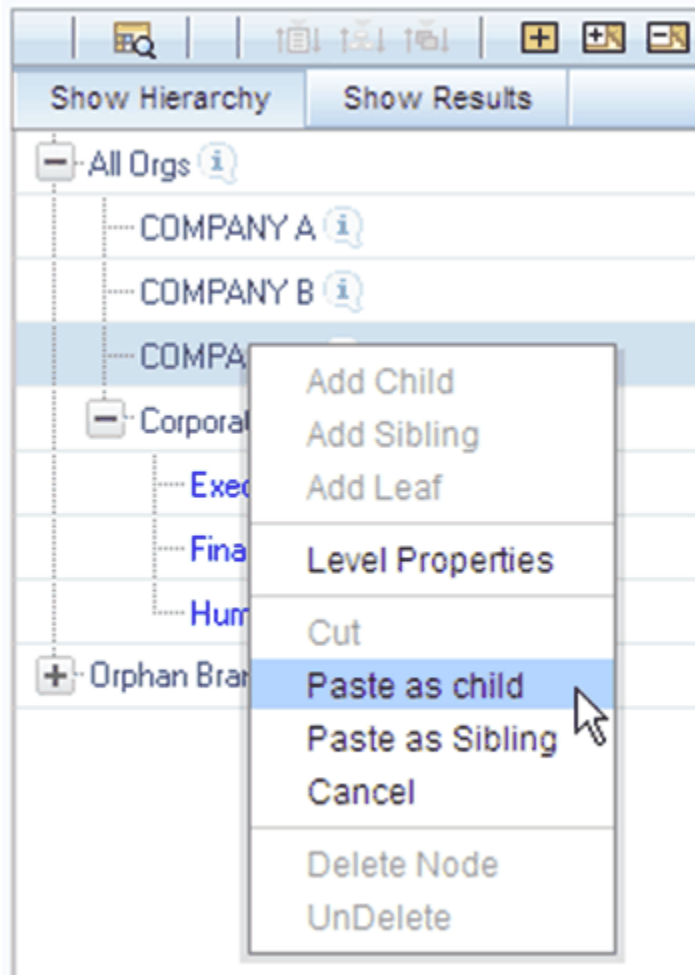
If you wish to move a dimension member, click a leaf member or a rollup member and select Cut. You may wish to move a dimension member because it is in the wrong location within the hierarchy. You may also wish to Cut a dimension member from the Orphan Branch in order to subsequently paste it within the body of your hierarchy. Any Cut operation must be followed by a Paste as Child, Paste as Sibling, or Cancel operation. Until you have executed a Cut operation, Paste as Child, Paste as Sibling, and Cancel are disabled; conversely, once you have executed a Cut operation, Paste as

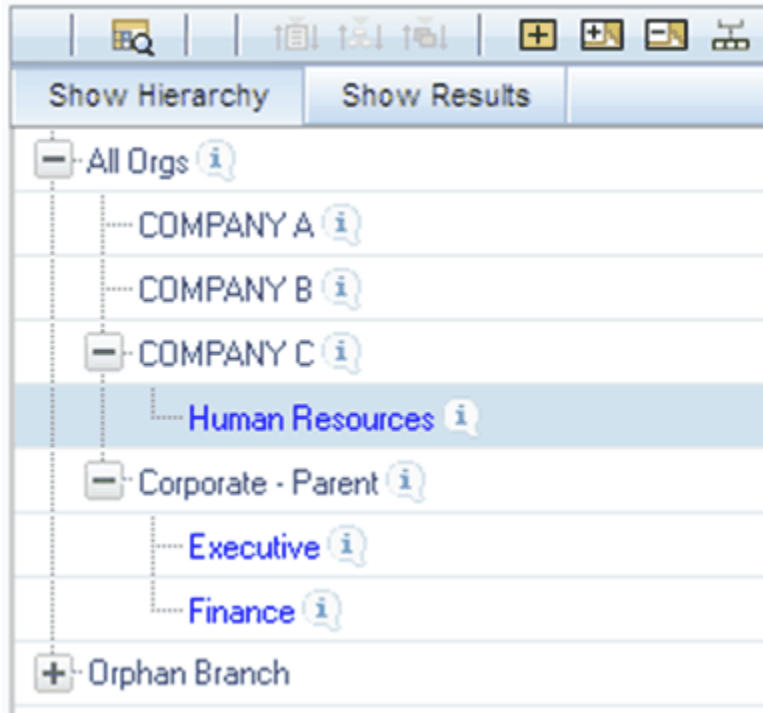
Child, Paste as Sibling, and Cancel are enabled.

## Paste as Child or Paste as Sibling

After performing a Cut operation, you may perform a Paste as Child or Paste as Sibling operation. If you have Cut a dimension member and then subsequently selected leaf member, the Paste as Child option is disabled, i.e., no dimension member may be a child of a leaf member. Leaf members, by definition, can have no children. Since OFSAA supports unbalanced hierarchies, any dimension member, regardless of whether it is a leaf member or a rollup member, may be pasted as a sibling to any other dimension member.

In the following example, Human Resources has been Cut from the "Corporate – Parent" rollup node so that it may be pasted as a child into Company C.



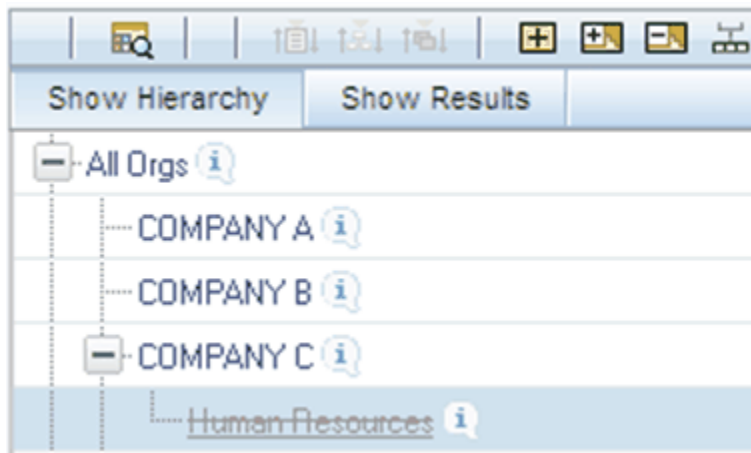
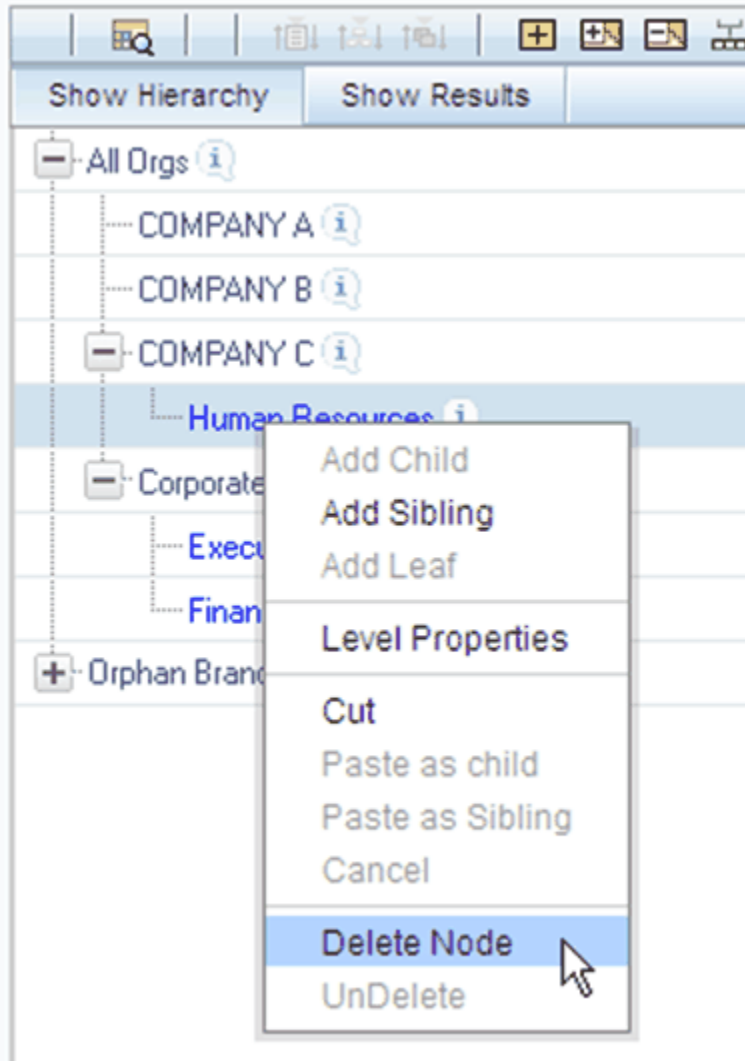


## Cancel

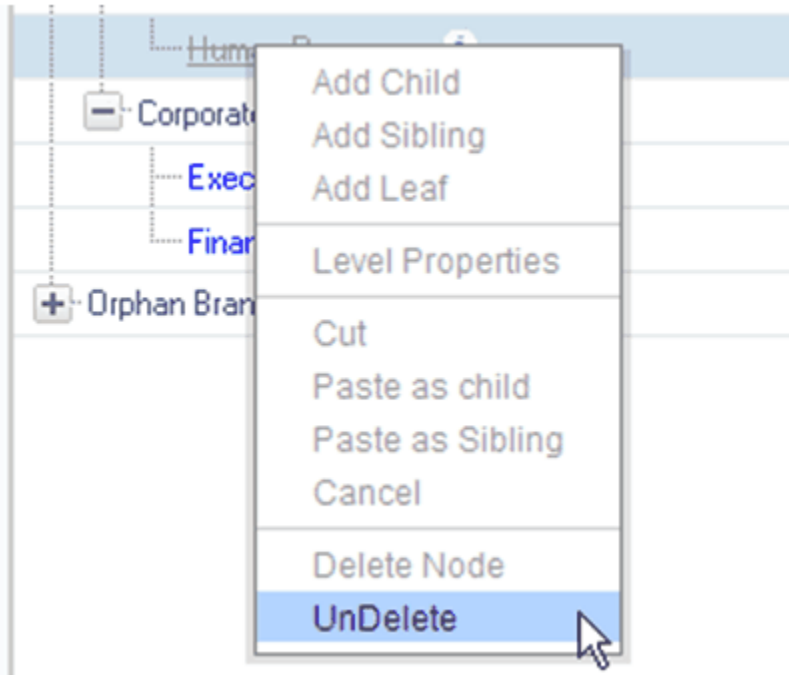
The Cancel option is only enabled after you have executed a Cut operation. Once you have Cut a dimension member, you may not perform any other operation except for Paste as Child, Paste as Sibling, or Cancel (you may, however, still invoke Level Properties; see discussion above on Level Properties). Utilizing the Cancel option allows you to select and subsequently Cut another dimension member (that is, after you have performed a Cancel operation, Paste as Child, Paste as Sibling, and Cancel are disabled).

## Delete Node & UnDelete

To move a dimension member back into the Orphans Branch, click a member and then select the Delete option. Once you have performed a Delete operation, the member selected for deletion appears with a strikethrough font. The following example shows the deletion of the Human Resources dimension member.

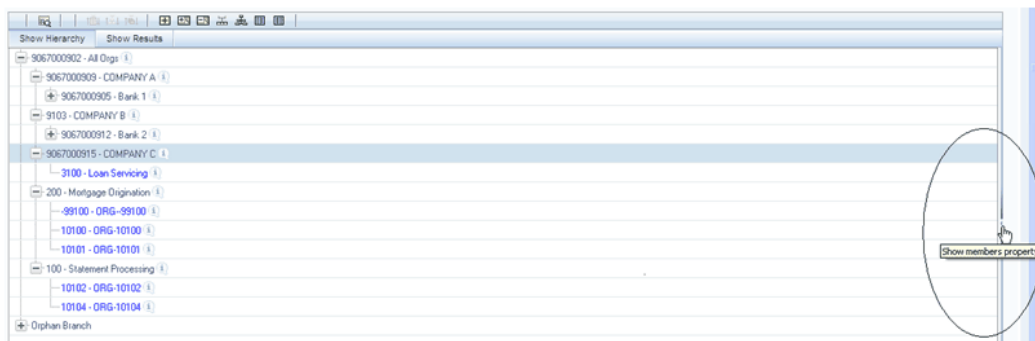


Note that after having deleted the Human Resources member, it may be "restored" to its original condition by executing an UnDelete operation.



## Member Properties Display

Click the separator bar at the extreme right hand side of the Hierarchy Display Grid to invoke the Member Property display.



The Member Property display shows all of the properties of the currently selected dimension member (the member selected within the hierarchy). While the Member Property display is open, you may use your Up arrow, Down arrow, Left arrow, or Right arrow keys to move from dimension member to dimension member.



Show Hierarchy     Show Results

<ul style="list-style-type: none"> <li>9067000902 - All Orgs</li> <li> <ul style="list-style-type: none"> <li>9067000909 - COMPANY A</li> <li> <ul style="list-style-type: none"> <li>9067000905 - Bank 1</li> </ul> </li> <li>9103 - COMPANY B</li> <li> <ul style="list-style-type: none"> <li>9067000912 - Bank 2</li> </ul> </li> <li>9067000915 - COMPANY C               <ul style="list-style-type: none"> <li>3100 - Loan Servicing</li> </ul> </li> <li>200 - Mortgage Origination               <ul style="list-style-type: none"> <li>99100 - ORG-99100</li> <li>10100 - ORG-10100</li> <li>10101 - ORG-10101</li> </ul> </li> <li>100 - Statement Processing               <ul style="list-style-type: none"> <li>10102 - ORG-10102</li> <li>10104 - ORG-10104</li> </ul> </li> </ul> </li> <li>Orphan Branch</li> </ul>	<table border="1"> <thead> <tr> <th colspan="2">Member Properties</th> </tr> </thead> <tbody> <tr> <td>Code</td> <td>9067000915</td> </tr> <tr> <td>Name</td> <td>COMPANY C</td> </tr> <tr> <td>Description</td> <td>COMPANY C</td> </tr> <tr> <td>Enabled</td> <td><input checked="" type="radio"/> Yes <input type="radio"/> No</td> </tr> <tr> <td>Is Leaf</td> <td><input type="radio"/> Yes <input checked="" type="radio"/> No</td> </tr> <tr> <td>Created By</td> <td>-1</td> </tr> <tr> <td>Creation Date</td> <td>05-NOV-09 14:42:34</td> </tr> <tr> <td>Last Modified By</td> <td>-1</td> </tr> <tr> <td>Last Modification Date</td> <td>05-NOV-09 14:42:34</td> </tr> <tr> <th colspan="2">Member Attributes</th> </tr> <tr> <th>Attribute</th> <th>Value</th> </tr> <tr> <td>ORG UNIT CODE</td> <td>9067000915</td> </tr> </tbody> </table>	Member Properties		Code	9067000915	Name	COMPANY C	Description	COMPANY C	Enabled	<input checked="" type="radio"/> Yes <input type="radio"/> No	Is Leaf	<input type="radio"/> Yes <input checked="" type="radio"/> No	Created By	-1	Creation Date	05-NOV-09 14:42:34	Last Modified By	-1	Last Modification Date	05-NOV-09 14:42:34	Member Attributes		Attribute	Value	ORG UNIT CODE	9067000915
Member Properties																											
Code	9067000915																										
Name	COMPANY C																										
Description	COMPANY C																										
Enabled	<input checked="" type="radio"/> Yes <input type="radio"/> No																										
Is Leaf	<input type="radio"/> Yes <input checked="" type="radio"/> No																										
Created By	-1																										
Creation Date	05-NOV-09 14:42:34																										
Last Modified By	-1																										
Last Modification Date	05-NOV-09 14:42:34																										
Member Attributes																											
Attribute	Value																										
ORG UNIT CODE	9067000915																										



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# OFSAA Filters

## Overview of OFSAA Filters

This module describes the creation and maintenance of OFSAA Filters. Specifically, this module will cover:

- Filters Summary & Detail Screens
- Navigation within the Filters Summary Screen
- Navigation within the Filters Detail Screen

See Module: Overview of OFSAA Infrastructure for details on how Filters are used in OFS Analytical Applications.

## Summary & Detail Screens

Upon initially navigating to Common Object Maintenance > Filters, a summary screen is displayed showing a set of Filters. Using search criteria, you can control the set of Filter rules that are displayed. When you Add, Edit, or View a rule, a detail screen is displayed.

## Navigation within the Summary Screen

When you first navigate to the Filters summary screen, the filters stored within your current default Folder are presented in a summary grid. The Filters summary screen has two containers: Search and Filters.

## Search Container

Your default Folder functions as a search constraint. The value of your default Folder is set in Application Preferences. You may select a different Folder or you may remove the

Folder constraint entirely by selecting the "blank" Folder, that is, no Folder. You may also search by Filter Name or by Filter Type. Filter Types, shown in a drop down list box, include:

- Data Element Filter
- Hierarchy Filter
- Group Filter
- Attribute Filter

## Search Control

Enter your desired search criteria and click the Search control.

## Reset Control

Restores the default Folder, removes any Filter Name or Filter Type constraint you may have specified, and refreshes the screen.

The screenshot shows a window titled "Filters Summary" with a search section and a table of filters. The search section includes a "Folder Name" dropdown set to "GUISEG", a "Filter Name" text box, and a "Type" dropdown. The table below lists various filter rules with columns for Name, Type, Modification Date, and Modified by.

<input type="checkbox"/>	Name ▲	Type	Modification Date	Modified by
<input type="checkbox"/>	abcprativis	Data Element	27-NOV-09 16:42:59	PFTUSER
<input type="checkbox"/>	Allocations	Data Element	16-NOV-09 18:38:29	FTPUSER
<input type="checkbox"/>	Allocations_LS	Data Element	26-NOV-09 11:42:40	PFTUSER
<input type="checkbox"/>	Allocations_M	Data Element	23-NOV-09 12:35:44	PFTUSER
<input type="checkbox"/>	Annuity Matched Spread	Data Element	12-NOV-09 23:27:19	PFTUSER
<input type="checkbox"/>	Chandra Special	Data Element	18-NOV-09 15:29:30	FTPUSER
<input type="checkbox"/>	CONSOLID_CD_100x	Data Element	26-NOV-09 11:41:19	PFTUSER
<input type="checkbox"/>	Data Portfolio	Data Element	02-DEC-09 13:55:22	PFTUSER
<input type="checkbox"/>	fg	Data Element	04-DEC-09 17:57:03	PFTUSER
<input type="checkbox"/>	GL_101301_TFLT	Hierarchy	09-NOV-09 17:03:24	PFTUSER
<input type="checkbox"/>	Hier filter	Hierarchy	23-NOV-09 15:03:12	GAUSER
<input type="checkbox"/>	Investments - Matched Spread	Data Element	12-NOV-09 23:08:31	PFTUSER
<input type="checkbox"/>	Investments - Matched Spread1	Data Element	27-NOV-09 14:42:20	GAUSER
<input type="checkbox"/>	Lookup3	Data Element	18-DEC-09 10:33:28	PFTUSER
<input type="checkbox"/>	lookup34grp	Group	18-DEC-09 10:35:03	PFTUSER
<input type="checkbox"/>	lookup4	Data Element	18-DEC-09 10:34:07	PFTUSER
<input type="checkbox"/>	Matched Spread	Group	12-NOV-09 23:23:12	PFTUSER

## Filters Container

The Filter container presents a grid containing all of the Filter rules that meet your search criteria. The Filter summary grid offers several controls that allow you to perform different functions when a Filter rule is selected.

To select a Filter rule, click a check box in the first column of the grid. More than one Filter can be selected at a time but this will cause some of the controls to become

disabled. Clicking a checkbox a second time de-selects the Filter.

You may select or deselect all of the Filters in the summary grid by clicking the check box in the upper left hand corner of the summary grid directly to the left of the Name column header.

## **Add**

Clicking the Add control begins the process of building a new Filter. The Add control is disabled if any rows in the grid have been selected.

## **View**

Selecting a single row out of the grid enables the View control. Clicking the View control allows you to view the contents of a Filter on a read-only basis. The View control is only enabled when a single Filter has been selected.

## **Edit**

Selecting a single row out of the grid enables the Edit control. Clicking the Edit control allows you to modify a previously saved Filter. The Edit control is only enabled when a single Filter has been selected.

## **Copy**

Selecting a single row out of the grid enables the Copy control. Clicking the Copy control allows you to create a copy of an existing Filter. The Copy control is only enabled when a single Filter has been selected.

## **Check Dependencies**

To generate a report on the OFSAA rules that utilize a selected Filter, select a single Filter and click the Check Dependencies control. The Check Dependencies control is only enabled when a single Filter has been selected.

## **Delete**

Selecting one or more rows out of the grid enables the Delete control. Clicking the Delete control deletes the Filter(s) you have selected. OFSAAI will not allow you to delete Filters which have any dependencies (see Check Dependencies in the preceding section).

## **Filters Summary Grid**

The following columns categorize each Filter in the summary grid:

- Name
- Type
- Modification Date
- Modified By

## Name

Displays the Filter's short name. Performing a "mouse-over" on a Filter Name displays the Filter's description.

## Type

Displays the Filter's type: Data Element, Hierarchy, or Group.

## Modification Date

Displays the date and time at which a Filter was last modified.

## Modified By

Displays the name of the user who last modified a Filter.

## Navigation within the Detail Screen

When you Add, Edit, Copy, or View a Filter, the Filter Detail Screen is displayed.

In addition to Name, Description, Folder, and Access Type, the definition of a new Filter begins with declaring a "Filter Type". Supported Filter Types include Data Element, Hierarchy, Group and Attribute.

The Audit Trail container is a standard footer container for every OFSAA rule type. It displays Created By, Creation Date, Last Modified By, and Modification Date on the Audit Trail tab. The User Comments tab may be used to add comments to any rule.

**Additional Information:** See Module: Overview of OFSAA Infrastructure for details on how Filters are used in OFS Analytical Applications.

## Filter Type Selection Container

Select a filter type from the Filter Type drop down list box.

## Data Element

A Data Element Filter is a stored rule that expresses a set of constraints. For example:

- Balances between 10,000 and 20,000
- Accounts opened in the current month
- Loans with amortization terms greater than 20 years

Data Element Filters can access most instrument columns and most columns in the Management Ledger. Data Element Filters are used within other OFSAA rule types (For example, Allocation rules, Transfer Pricing rules, Asset | Liability Management rules, and so on).

## Hierarchy

Hierarchy Filters allow you to utilize rollup nodes within a Hierarchy to help you exclude (filter out) or include data within an OFSAA rule. For example, you might want to process data for a specific set of divisions or lines of business where you have a Hierarchy rule that expresses those divisions or lines of business as rollup nodes. A Hierarchy Filter could be constructed to "enable" the Commercial and Retail lines of business while NOT enabling the Wealth Management line of business. Each of these lines of business might include a handful or even thousands of cost centers. When incorporated into an OFSAA processing rule, this Hierarchy Filter would include every cost center in the Commercial and Retail lines of business.

## Group Filters

Group Filters may be used to combine multiple Data Element Filters with a logical "AND". For example, if Data Element Filter #1 filtered on mortgage balances greater than 100,000 and Data Element Filter #2 filtered on current mortgage interest rates greater than 6%, you could construct a Group Filter to utilize both Data Filters. In this case, the resulting Group Filter would constrain your data selection to mortgage balances greater than 100,000 AND current mortgage interest rates greater than 6%.

## Attribute Filters

Attribute Filters are created using defined Attributes. Attribute filters facilitates you to filter on one or more attributes of one or more dimension types. For each attribute, you can select one or more values.

### Example

Consider a filter that selects all records where the dimension Common Chart of Account member represents an attribute value Expense account, i.e., the attribute "Account Type" = Expense.

Now, using Attribute Filters, you can specify complex criteria as given below: Common Chart of Accounts where the Account Type attribute is Earning Assets or

Interest-bearing Liabilities, and the Accrual Basis attribute is Actual/Actual Also, You could further refine the filter by adding another condition for: Organizational Unit where the Offset Org ID is a specific Org member

The Filter then saves these criteria rather than the member codes which meet the criteria at the time the Filter is saved. During execution, the engine dynamically selects all records from your processing table (for example, Mortgages, Ledger, and so on), which meet the specified member attribute criteria.

The remainder of this chapter discusses creation and maintenance of each type of filter.

## Data Element Filters

### Data Element Selection Container

In this container, specify the columns that you want to include in your Data Filter and, for each column you choose, a Filter Method.

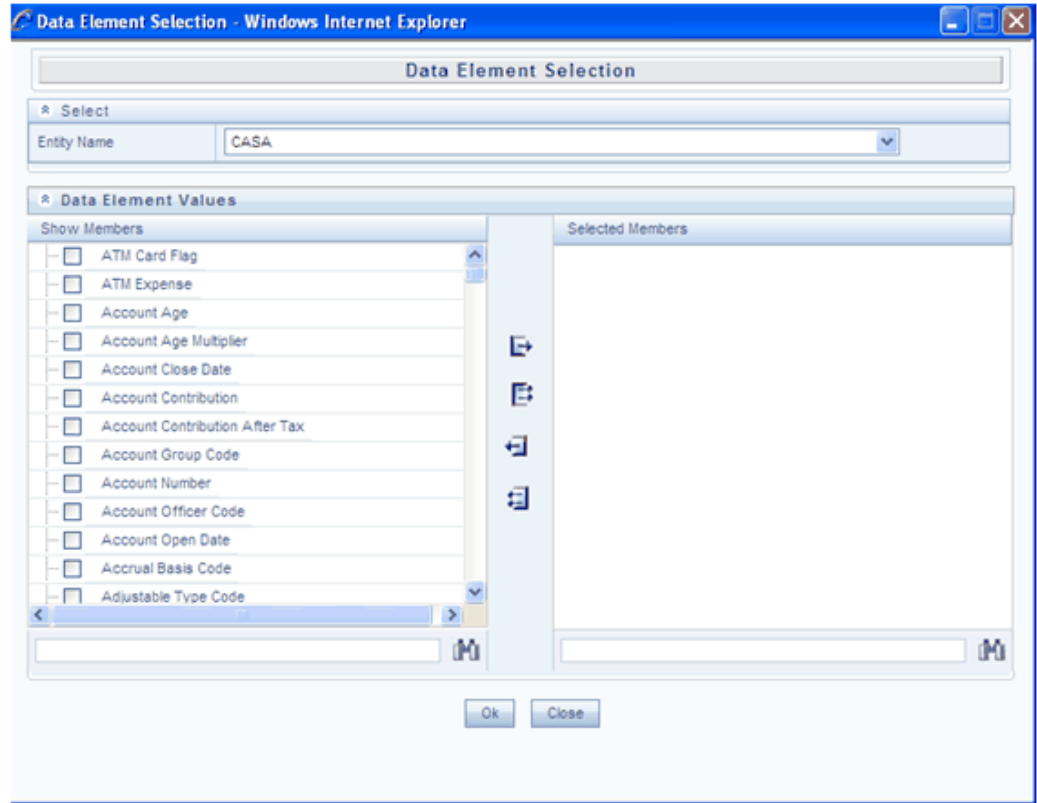
The screenshot shows a software interface for configuring a filter. It consists of several stacked panels:

- Filter Type Selection:** A dropdown menu labeled "Filter Type" is set to "Data Element".
- Data Element Selection:** A text input field for "Data Element Selection" is followed by an ellipsis button "...". To the right, a "Filter Method" dropdown is set to "Specific Values".
- Specific Values:** A section with radio buttons for "Include Values" (selected) and "Exclude Values". Below this is an "Add" button.
- Filter Conditions:** A section with a "Conditions" label and a grid of empty cells.

### Data Element Selection

To select the columns you want to include in your Data Filter, click the ellipses to invoke a Data Element Selection pop up window.



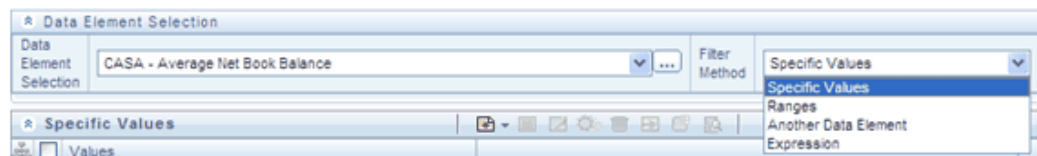


Select an entity (a database table) and then select the columns you wish to include in your Data Filter.

### Filter Method

For each column you wish to include in your Data Filter definition, you must specify a Filter Method:

- Specific Values
- Ranges
- Another Data Element
- Expression



## Specific Values

Specific Values are used to match a selected database column to a specific value or values that you provide. In this example, qualifying records include any CASA [Checking and Savings Accounts] account issued in the last 3 days of 2009.

The screenshot shows a three-pane configuration window for filters. The top pane, 'Filter Type Selection', has 'Data Element' selected in the 'Filter Type' dropdown. The middle pane, 'Data Element Selection', has 'CASA - Issue Date' selected in the 'Data Element Selection' dropdown and 'Specific Values' selected in the 'Filter Method' dropdown. The bottom pane, 'Specific Values', contains a table with three rows of dates: 29-Dec-09, 30-Dec-09, and 31-Dec-09. Each row has an unchecked checkbox to its left. Below the table are radio buttons for 'Include Values' (selected) and 'Exclude Values'.

You may add additional values by clicking the Add control, and you may reduce the number of Specific Values by clicking the check box to the left of a value and then clicking the Delete control.

- When comparing Specific Values for a character type column, you must provide Specific Values that are character strings.
- When comparing Specific Values for a date type column, you must provide Specific Values that are dates (the application displays a Calendar control).
- When comparing Specific Values for a numeric column, you must provide Specific Values that are numbers.

**Additional Information:** You may either include or exclude Specific Values.

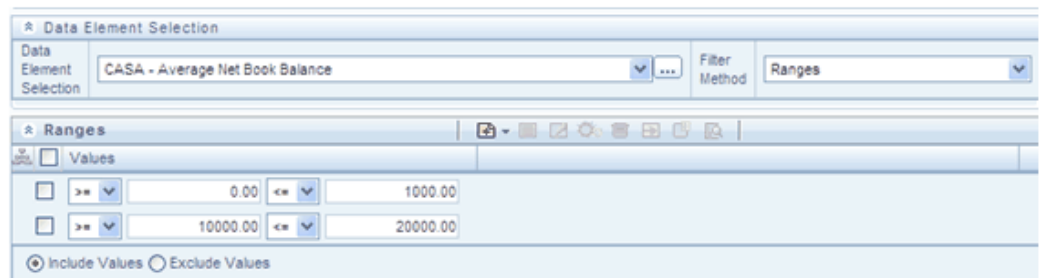
## Ranges

Ranges are used to match a selected database column to a range of values or to ranges of values that you provide. In the following example, qualifying records include any CASA account having an Average Net Book Balance between 0 and 1,000 or between 10,000 and 20,000.

You may add additional values by clicking the Add control, and you may reduce the number of Ranges by clicking the check box to the left of a value and then clicking the Delete control.

- When comparing Ranges for a character type column, you must provide Specific Values that are character strings.

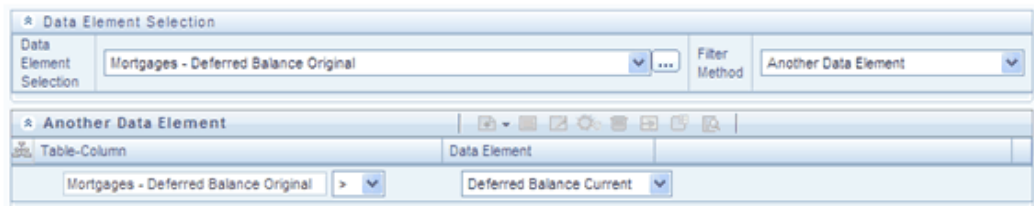
- When comparing Ranges for a date type column, you must provide Specific Values that are dates (the application displays a Calendar control).
- When comparing Ranges for a numeric column, you must provide Specific Values that are numbers.
  - You may use any of the following operators when choosing the Another Data Element Filter Method : = , <> ( meaning " not equal to " ) , < , > , <= , or >=
  - You may either include or exclude Range values.



### Another Data Element

Another Data Element is used to match a selected database column to another database column. In the example that follows, qualifying records include any Mortgage account having an Original Deferred Balance greater than the Current Deferred Balance.

**Additional Information:** You may use any of the following operators when choosing the Another Data Element Filter Method: = , <> (meaning "not equal to"), < , > , <= , or >=



When constructing an Another Data Element Filter Method, you may only compare a column to other columns that you have already selected (the Data Element drop down list box will only contain columns that you have already selected). In the example above, you must have picked both Deferred Original Balances and Deferred Current Balances.

**Additional Information:** Only columns that match the data type of your Data Element selection are offered in the Data Element drop down list box.

## Expression

Expression is used to match a selected database column to the results of an OFSAA Expression rule (see Module: OFSAA Expressions).

The screenshot shows two windows. The top window, titled "Data Element Selection", has a "Data Element Selection" dropdown menu set to "Mortgages - Deferred Balance Current" and a "Filter Method" dropdown menu set to "Expression". The bottom window, titled "Expression", has a "Table-Column" dropdown menu set to "Mortgages - Deferred Balance Current" and an "Expression" dropdown menu set to "Sample 6.GASEGR2".

The preceding example compares Mortgages.Deferred Current Balances to the results of the Expression rule named Sample 6 (where the Expression is stored in the GASEGR2 Folder). Clicking the ellipses invokes a read-only view of the underlying Expression. The Sample 6 Expression is a function that calculates Mortgages.Current Par Balance minus Mortgages.Current Book Balance.

**Additional Information:** You may use any of the following operators when choosing the Expression Filter Method: =, <> (meaning "not equal to"), <, >, <=, or >=

## Building Filter Conditions

Each time you complete a Filter Method specification, you must Add it to the Filter Conditions container. The reason you must do so is because you may compare the same columns multiple times. For example, you may compare Deferred Current Balances to a Specific Value and to Another Data Element and to a Range of Data Elements and to an Expression all in the same Data Element Filter rule.

## Filter Conditions Container

The screenshot shows the 'Filter Conditions Container' interface. At the top, there is a 'Data Element Selection' section with a dropdown menu set to 'Mortgages - Deferred Balance Original' and a 'Filter Method' dropdown set to 'Another Data Element'. Below this is the 'Another Data Element' section, which has a 'Table-Column' dropdown set to 'Mortgages - Deferred Balance Original' and a 'Data Element' dropdown set to 'Deferred Balance Current'. An 'Add' button is located below the 'Another Data Element' section. At the bottom, the 'Filter Conditions' section is empty, with a 'Conditions' table that has no rows.

Once you have created one or more Filter Condition records, you may click a record in the Filter Conditions container in order to select it. Once you have selected a Filter Conditions record, you may modify your original definition of that Filter Condition and then Update it.

The screenshot shows the 'Filter Conditions Container' interface. The 'Another Data Element' section is the same as in the previous screenshot. The 'Filter Conditions' section now contains one record in the 'Conditions' table: 'Another Data Element : Mortgages - Deferred Balance Original >Deferred Balance Current'. An 'Update' button is located below the 'Another Data Element' section.

After you click Update, your Filter Condition is updated.

The screenshot shows the 'Filter Conditions Container' interface. The 'Another Data Element' section is the same as in the previous screenshot. The 'Filter Conditions' section now contains one record in the 'Conditions' table: 'Another Data Element : Mortgages - Deferred Balance Original =Current Net Book Balance'. An 'Add' button is located below the 'Another Data Element' section.

## Delete

You may delete individual Filter Conditions records by clicking the Delete control .

## View SQL

Click the View the SQL control to generate a window displaying the SQL equivalent of your Data Element Filter. You may generally copy and paste this SQL into queries that you write. View SQL, however, will not accurately reflect Expression Filter Methods.

# Hierarchy Filters

## Hierarchy Selection Container

After selecting the Hierarchy Filter Type, select a dimension and a hierarchy from the Hierarchy Selection container that will serve as the basis for your Hierarchy Filter rule.

The screenshot shows two sections of a web interface. The top section, titled "Filter Type Selection", has a dropdown menu for "Filter Type" set to "Hierarchy". The bottom section, titled "Hierarchy Selection", has a dropdown menu for "Dimension" set to "COUNTRY" and a dropdown menu for "Hierarchy" set to "Sample Country Hierarchy".

Once you have selected a dimension and a hierarchy in the Hierarchy Selection container, a representation of the hierarchy you selected is displayed.

The screenshot shows a tree view of a hierarchy. At the top, there are three tabs: "Show Hierarchy", "Show Members", and "Search Results". The tree structure is as follows: "All Countries" (checkbox), "Americas" (checkbox, checked), "APAC" (checkbox, checked), "EMEA" (checkbox), "Austria" (checkbox, checked), "Bahrain" (checkbox), "Belgium" (checkbox), "Bosnia" (checkbox), "Bulgaria" (checkbox), "More" (link), and "Orphan Branch" (checkbox). A search bar and a magnifying glass icon are at the bottom.

Select any combination of rollup points and leaf (last descendent child) values. In the preceding example, the Americas and APAC rollup points have been selected; and the leaf value for Austria has been selected. This Hierarchy Filter includes any country that rolls up to either the Americas or to APAC; it also includes Austria. This Hierarchy Filter excludes all countries that roll up to EMEA except for Austria.

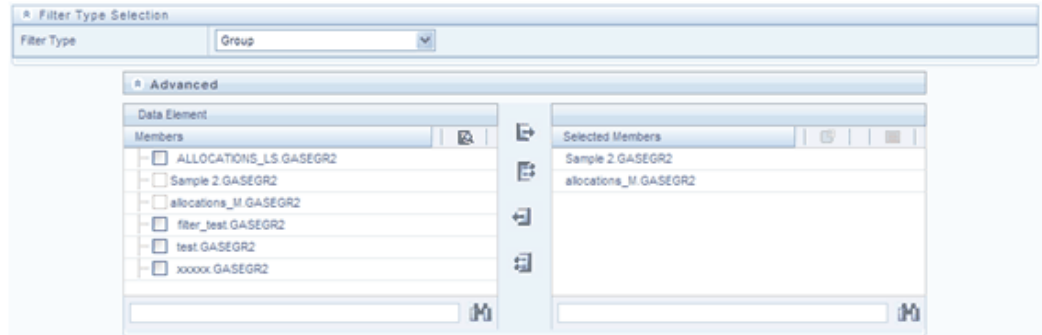
## View SQL

Once you have selected one or more leaves and/or rollup nodes, click the View the SQL control to generate a window that displays the SQL equivalent of your Hierarchy Filter.

# Group Filters

## Advanced Container

After selecting the Group Filter Type, you may use the Select, De-Select, Select All, and De-Select All controls to choose one or more Data Element Filters ("Selected Members") that will be combined to define your Group Filter.







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# OFSAA Expressions

## Expressions

This module describes the creation and maintenance of OFSAA Expressions. Specifically, this module will cover:

- Expressions Summary & Detail Screens
- Navigation within the Expressions Summary Screen
- Navigation within the Expressions Detail Screen

See Overview of OFSAA Infrastructure for details on how Expressions are used in OFS Analytical Applications.

## Summary & Detail Screens

Upon initially navigating to Common Object Maintenance > Expressions, a summary screen is displayed showing a set of Expressions. Using search criteria, you can control the set of Expression rules that are displayed. When you Add, Edit, or View a rule, a detail screen is displayed.

## Navigation within the Summary Screen

When you first navigate to the Expressions summary screen, the expressions stored within your current default Folder are presented in a summary grid. The Expressions summary screen has two containers: Search and Expressions.

## Search Container

Your default Folder functions as a search constraint. The value of your default Folder is set in Application Preferences. You may select a different Folder or you may remove the

Folder constraint entirely by selecting the "blank" Folder, that is, no Folder. You may also search by Expression Name or by Return Type. Return Types, shown in a drop down list box, include:

- Date
- String
- Numeric

## Search Control

Enter your desired search criteria and click the Search control.

## Reset Control

Restores the default Folder, removes any Expression Name or by Return Type constraint you may have specified, and refreshes the screen.

## Expressions Container

The Expressions container presents a grid containing all of the Expression rules that meet your search criteria. The Expressions summary grid offers several controls that allow you to perform different functions when an Expression rule is selected.



<input type="checkbox"/>	Expression Name ▲	Folder Name	Return Type	Created By	Creation Date
<input type="checkbox"/>	PFT_ABS	GASEGR2	Numeric	STUSER2	12/10/09 17:42:24
<input type="checkbox"/>	PFT_SUM_1	GASEGR2	Numeric	STUSER2	12/10/09 17:45:24
<input type="checkbox"/>	Sample 6	GASEGR2	Numeric	STUSER2	12/22/09 05:35:01
<input type="checkbox"/>	TEST_EXP	GASEGR2	Numeric	STUSER2	12/09/09 13:19:45

To select an Expression, click a check box in the first column of the grid. More than one Expression can be selected at a time but this will cause some of the controls to become disabled. Clicking a checkbox a second time de-selects the Expression.

You may select or deselect all of the Expressions in the summary grid by clicking the check box in the upper left hand corner of the summary grid directly to the left of the Expression Name column header.

## Add

Clicking the Add control begins the process of building a new Expression. The Add control is disabled if any rows in the grid have been selected.

## View

Selecting a single row out of the grid enables the View control. Clicking the View

control allows you to view the contents of an Expression on a read-only basis. The View control is only enabled when a single Expression has been selected.

## **Edit**

Selecting a single row out of the grid enables the Edit control. Clicking the Edit control allows you to modify a previously saved Expression. The Edit control is only enabled when a single Expression has been selected.

## **Copy**

Selecting a single row out of the grid enables the Copy control. Clicking the Copy control allows you to create a copy of an existing Expression. The Copy control is only enabled when a single Expression has been selected.

## **Delete**

Selecting one or more rows out of the grid enables the Delete control. Clicking the Delete control deletes the Expression(s) you have selected. OFSAAI will not allow you to delete Expressions which are utilized within other OFSAA rules, For example, within a Data Element Filter, an Allocation rule, etc.

## **Expressions Summary Grid**

The following columns categorize each Expression in the summary grid:

- Expression Name
- Folder Name
- Return Type
- Created By
- Creation Date

### **Expression Name**

Displays the Expression's short name. Performing a "mouse-over" on an Expression Name displays the Expression's description.

### **Folder Name**

Displays the name of the Folder in which a rule is stored.

## Return Type

Expression rules operate like SQL function calls in the sense that they return a single data value. Return Type indicates the type of data that is returned by an Express rule: String, Date, or Numeric. See additional discussion in the following sections under Expression Functionality.

## Created By

Created By displays the name of the user who created the Expression rule. If an Expression is saved as Read Only, only the user who created the rule, that is, the owner, may modify the rule.

## Creation Date

Displays date and time at which the rule was initially created.

## Navigation within the Detail Screen

When you Add, Edit, Copy, or View an Expression, the Expressions Detail Screen is displayed.

The screenshot shows the 'Expression' detail screen in 'Edit Mode'. The title bar reads 'Expression' and the breadcrumb is 'Expressions > Expression Definition (Edit Mode)'. The 'Expression Details' section contains the following information:

Expression Name*	Mortgages Matched Spread ABS	Description	Get absolute value of TP Matched Spread for Mortgages
Folder Name	GASEGR2	Access Type	<input type="radio"/> Read Only <input checked="" type="radio"/> Read/Write

The 'Entity Group Selection' section is divided into three panes:

- Selected Variants:** Entity Group
- Functions:** Functions
- Operators:** Operators

Below these panes is an 'Add Constant' button. The 'Expression' text area at the bottom contains the following code:

```
ABS(  
  Mortgages Matched Spread  
)
```

The Audit Trail container is a standard footer container for every OFSAA rule type. It displays Created By, Creation Date, Last Modified By, and Modification Date on the Audit Trail tab. The User Comments tab may be used to add comments to any rule.

Audit Trail		User Comments	
System ID :211074			
Created By	PFTADMIN@BRAMAN	Creation Date	13-JAN-10 09:52:47
Last Modified By	PFTADMIN@BRAMAN	Last Modification Date	13-JAN-10 12:01:16

## Expression Functionality

OFSAA Expressions operate similarly to SQL function calls in that they apply a formula to one or more database columns in order to return a single value. For example, you might apply a YEAR formula to a date column to yield a numeric return value of a year. For a single instrument row in your data having an origination date of 01/01/2010, this Expression would return the number 2010. As another example, you might construct an Expression that evaluates a balance times a rate times an accrual basis factor to return a current month revenue or expense number.

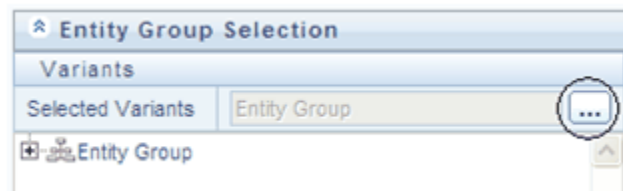
## Expression Details Container

As with any OFSAA rule type, you must supply a Name, Folder, and Access Type; you may optionally supply a Description.

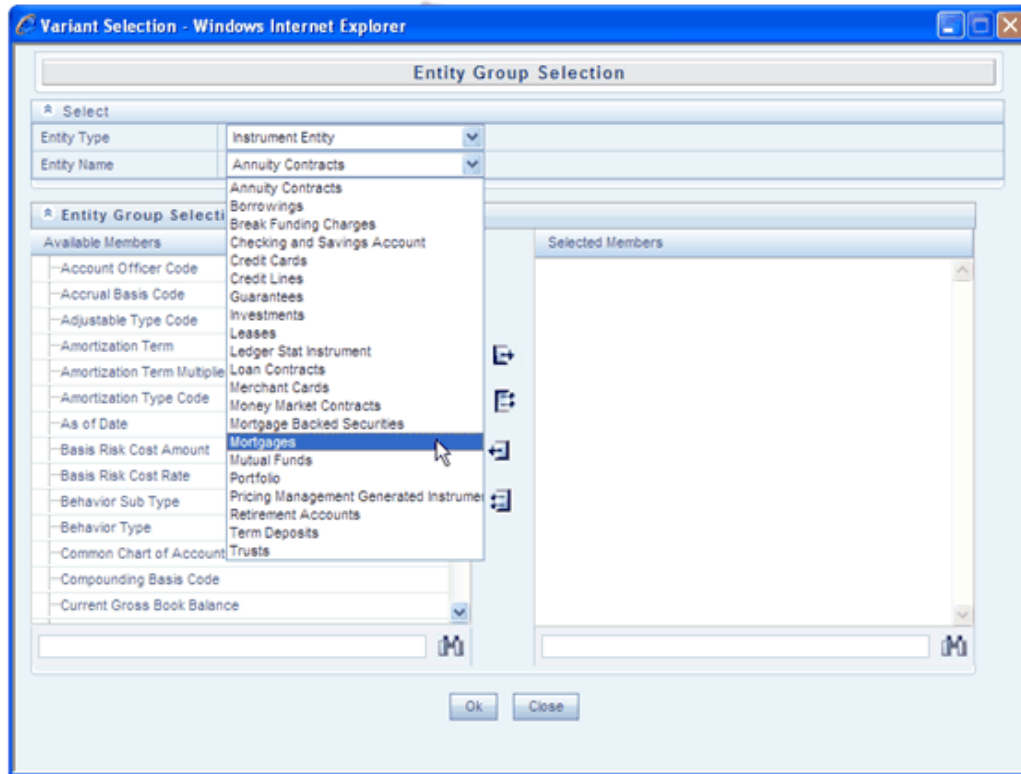
## Entity Group Selection Container

### Variants Sub-Container

To begin the process of creating a new Expression rule, you must specify the tables and columns (or even other expressions) that you want to use in the definition of your new Expression. Click the ellipses (...) to the right of "Selected Variants" in the Variants sub-container of the Entity Group Selection container.



Clicking the Selected Variants ellipses invokes an Entity Group Selection pop-up dialog. Here you may select an Entity Type and an Entity Name.



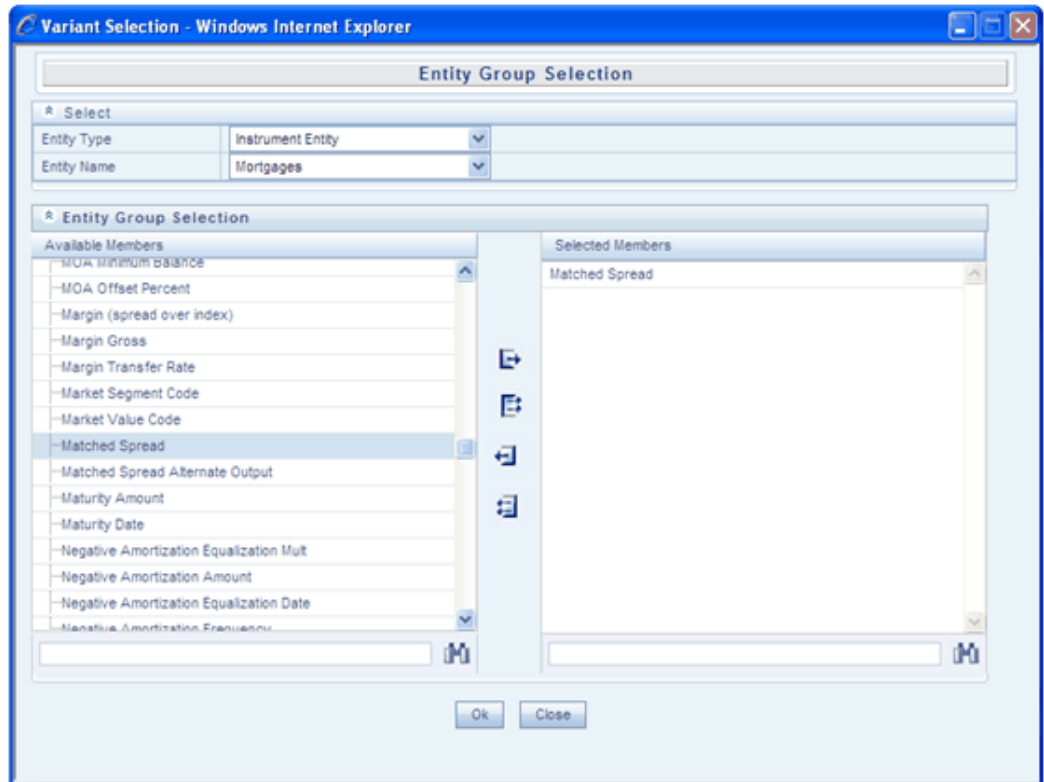
## Entity Type & Entity Name Drop Down List Boxes

Entity Types include Instrument Entity, Non- Instrument Entity, and Expression.

### Instrument Entity Type

When you select the Instrument Entity type (the most commonly chosen type), the Entity Name drop down list box is populated with all registered Instrument and Transaction Summary type tables; the management ledger table (Ledger/Stat) is also available.

Select a table from the Entity Name drop down list box and then use the shuttle box controls (>, >>, <, <<) to select the column name or names you want to use within your Expression rule.



When you click OK, the Variant Selection dialog closes and Variants sub-container of the underlying Expression rule is updated. Click the "+" control to expand the Entity Group hierarchy in order to see the tables and columns you have selected (see example below).



## Non-Instrument Entity Type

Selecting the Non-Instrument Entity Type also populates the Entity Name drop down list box with Instrument and Transaction Summary type tables, but it additionally populates the Entity Name drop down list box with a number of metadata tables (tables that store non-business data).

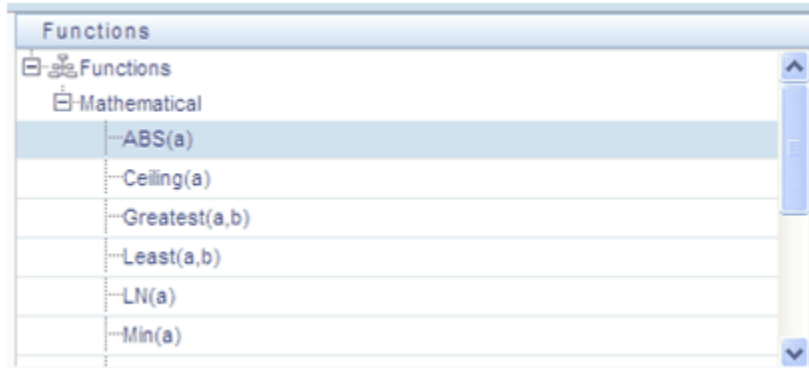
## Expression Entity Type

Selecting the Expression Entity Type populates the Entity Name drop down list box with all of the currently defined Expression rules. The steps required to select an Expression rule are identical to those described earlier for selecting tables and columns.

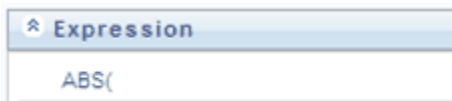
## Functions and Operators Sub-Containers

Once you have specified the tables and columns and/or Expressions that you want to utilize within your new Expression rule, you work with Functions and Operators to construct your desired formula.

Double click Variants (tables and columns and/or Expressions), Functions, and Operators to add them into the Expressions container.

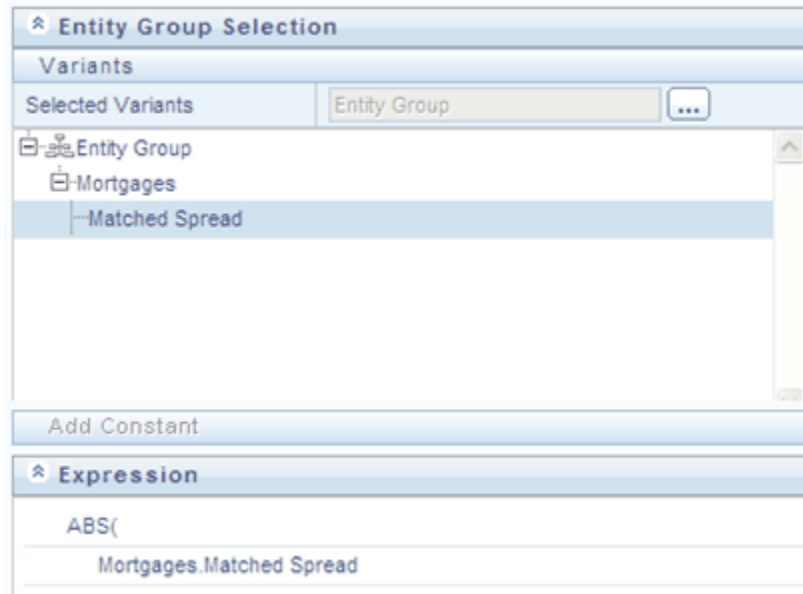


For example, to construct an Expression that returns the absolute value of the Matched Spread column from the Mortgages table, begin by double clicking the absolute value operator (ABS) in order to add it into the Expression container.

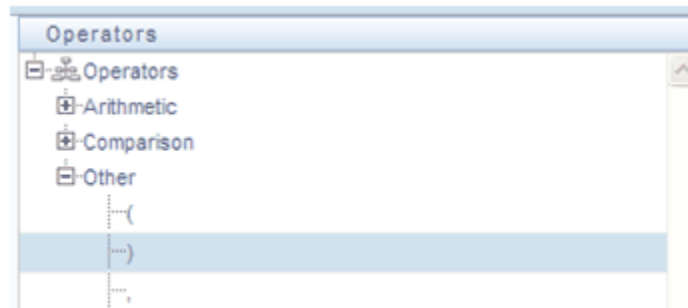


Next, double click the Matched Spread column from the Mortgages table in order to add the column to the Expression container.

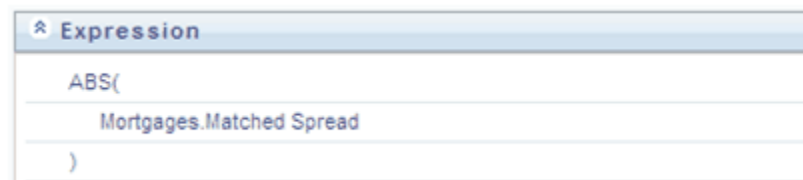




Finally, double click the Right Parenthesis operator in order to close the expression.



Again, the result of your double clicking operation is to update the formula within the Expression container.

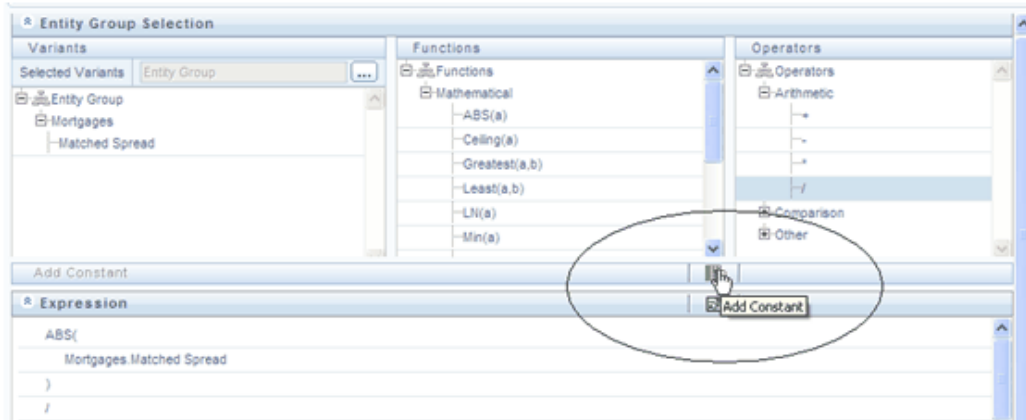


## Constants

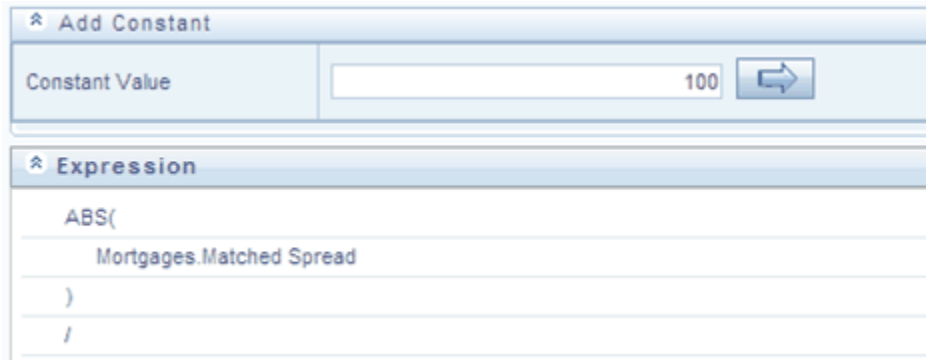
You may also add constant coefficient values to your formulas. For example, rates are generally stored in the form of percentages where 5.12 in the database means 5.12%.

You may wish to modify your absolute value formula to divide by 100. To do so you would continue by double clicking the division operator (/). After the formula is

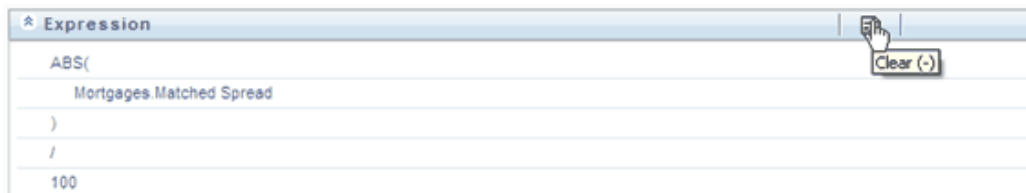
updated to include the division operator, click the Add Constant control located in the first row beneath the Entity Group Selection container.



Enter a constant value of 100 and click the right arrow control.



Clicking the right arrow control completes the Expression.



## Operator types

The operators available are of 3 types:

1. Arithmetic
2. Comparison

### 3. Other

Operator type	Notation	Example depicting Usage
Arithmetic	+	CUR_BOOK_BAL = CUR_PAR_BAL + DEFERRED_CUR_BAL
	-	AS_OF_DATE = MATURITY_DATE - REMAIN_TERM_C
	*	Remaining Balance after Offset = Opening balance - (Expected balance on every payment date * Mortgage offset %)
	/	CUR_PAYMENT = ORG_BOOK_BAL/ (ORG_TERM/ PMT_FREQ [in months])
Comparison	=	CUR_PAYMENT = principal + interest
	<>	If ADJUSTABLE_TYPE_CD <> 0, INTEREST_RATE_CD = 001 to 99999.
	>	If ORIGINATION_DATE > AS_OF_DATE, LAST_PAYMENT_DATE = ORIGINATION_DATE.
	>=	AS_OF_DATE >= ORIGINATION_DATE
	<	AS_OF_DATE < NEXT_REPRICE_DATE
	<=	If ORIGINATION_DATE <= AS_OF_DATE, LAST_PAYMENT_DATE >= ORIGINATION_DATE

Operator type	Notation	Example depicting Usage
Other	(	Parentheses group segments of an expression to make logical sense.
	)	MATURITY_DATE <= NEXT_PAYMENT_DATE + (REMAIN_NO_PMTS_C * PMT_FREQ)
	,	The comma separates statements of a function.

## Function Types and Functions

You select the type of function for your expression from the Type list. The choices are:

- Mathematical Functions
- Date Functions
- String Functions
- Other Functions

The type of function you select determines the choices available in the Function box. These unique functions in the Functions Sub-container enable you to perform various operations on the data. The following table lists each available function and Detail on the operations of each function in which it appears.

Function type	Function Name	Notation	Description	Syntax	Example depicting Usage
Mathematical	Absolute	ABS(a)	Returns the positive value of the database column	{ABS( } followed by {EXPR1 without any embedded or outermost left-right parentheses pair} followed by { }	ABS (-3.5) = 3.5. ABS(F), ABS(F + C), ABS(F + C * R + F) are possible. However, ABS((F + C + R)), ABS((F + (MAX * CEILING))) are not possible.
	Ceiling	Ceiling (a)	Rounds a value to the next highest integer	Ceiling(column or expression)	3.1 becomes 4.0, 3.0 stays the same
	Greatest	Greatest(a,b) GREATEST(column or expression, column or expression)	Returns the greater of 2 numbers, formulas, or columns	Greatest(column or expression, column, or expression)	Greatest(1.9,2.1) = 2.1
	Least	LEAST(column or expression, column or expression) Least (a,b)	Returns the lesser of 2 numbers, formulas, or columns	Least(column or expression, column or expression)	Least(1.9,2.1) = 1.9

Function type	Function Name	Notation	Description	Syntax	Example depicting Usage
	Natural Log	LN(number) LN(a)	Returns the natural logarithm of a number. Natural logarithms are based on the constant e (2.71828182845904).	LN(number) where number is the positive real number for which you want the natural logarithm	LN(86) equals 4.454347 LN(2.7182818) equals 1
	Minimum	Min(a)	Returns the minimum value of a database column	Min(Column)	
	Maximum	Max(a)	Returns the maximum value of a database column	Max(Column)	
	Power	POWER(coefficent, exponent) Power(a,b)	Raises one value to the power of a second	{POWER()} followed by {EXPR1} without any embedded or outermost left-right parentheses pair followed by {,} followed by {EXPR1} without any embedded or outermost left-right parentheses pair followed by {	<b>Valid examples:</b> POWER(F, R) POWER(F + C * R, F / R) <b>Invalid examples:</b> POWER(F + POWER, R) POWER(MAX, C)

Function type	Function Name	Notation	Description	Syntax	Example depicting Usage
	Round	ROUND (number, precision)  Round(a,b)	Rounds a value to a number of decimal places	Round(x, n) returns x rounded to n decimal places	Round(10.52354,2)=10.52
	Sum	Sum(a)	Sums the total value of a database column. Sum is a multi-row function, in contrast to +, which adds 2 or more values in a given row (not column)	Sum(Column )	

Function type	Function Name	Notation	Description	Syntax	Example depicting Usage
	Weighted Average	WAvG (column being averaged, weight column)  WAvG(a,b)	Takes a weighted average of one database column by a second Column.  WAvG cannot appear in any expression. If you have two formulas called F1 and F2, both of which are WAvG functions, then you can form a third formula F3 as F1 + F2. If F3 is chosen as a calculated column, then an error message appears and the SQL code is not generated for that column. This is similar for nested WAvG functions if F3 is WAvG and it has F1 or F2 or both as its parameters.	WAvG(Column A, Column B)	WAvG(DEPOSITS.CUR_NET_RATE,DEPOSITS.CUR_BOOK_BAL)



Function type	Function Name	Notation	Description	Syntax	Example depicting Usage
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**Note:**

You cannot use the Maximum and Minimum functions as calculated columns or in Data Correction Rules. The Maximum, Minimum, Sum, and Weighted Average functions are multi-row formulas. They use multiple rows in calculating the results.

Date	Build Date	BuildDate(year,month,day s)	Requires three parameters, (CCYY,MM,DD) (century and year, month, day). It returns a valid data and enables you to build a date from components.	BUILDDATE(CCYY,MM,DD)	BuildDate(95,11,30) is invalid (invalid century).  BuildDate(1995,11,30) is valid.
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**Caution:**  
If the parameters are entered incorrectly, the date is invalid.

Function type	Function Name	Notation	Description	Syntax	Example depicting Usage
	Go Month		Advances a date by x number of months. Go Month does not know the calendar. For example, it cannot predict the last day of a month. Typical functionality is illustrated in the following table:	GOMONTH( Date column, Number of months to advance)	GOMONTH( DEPOSITS.O RIGINATIO N_DATE,DE POSITS.ORG _TERM)  <b>Valid examples:</b>  GOMONTH( F, F + R + C)  GOMONTH( F, R)  <b>Invalid examples:</b>  GOMONTH( F + (R + C), MAX)  GOMONTH( (F * C), F)
	<u>Example:</u>	<b>Date Column</b>	<b># of Months</b>	<b>GOMONTH</b>	<b>Comment</b>
		1/31/94	1	2/28/94	Because 2/31/94 does not exist
		1/15/94	2	3/15/94	Exactly 2 months:15th to 15th
		2/28/94	3	5/28/94	Goes 28th to 28th: does not know that 31st is the end of May

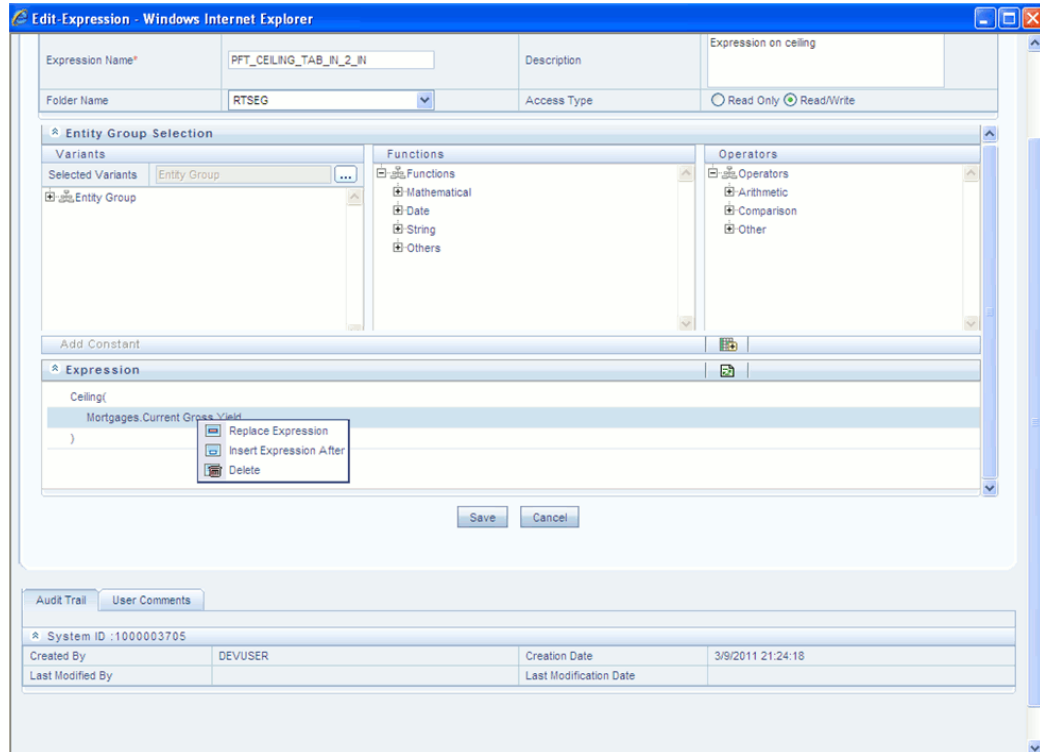
Function type	Function Name	Notation	Description	Syntax	Example depicting Usage
		6/30/94	-1	5/30/94	Goes back 30th to 30th: does not know that 31st is end of May
	Year	Year(date)	Year(x) returns the data for year x.	Year( <i>Column</i> ) returns the year in the column, where the column is a date column.	Year(Origination Date) returns the year of the origination date.
	Month	Month(date)	Month(x) returns the month in x, where x is a numbered month.	Month( <i>Column</i> ) returns the month in the column, where the column is a date column.	Month(9) returns September. Month(Origination Date) returns the month of the origination date.
String	Trim All	AllTrim(a)		Trims leading and following spaces, enabling the software to recognize numbers (entered in All Trim) as a numeric value, which can then be used in calculating.	

Function type	Function Name	Notation	Description	Syntax	Example depicting Usage
Other	If statement	If(a=b,c,d)	<p>The IF function should always have odd number of parameters separated by commas. The first parameter is an expression followed by a relational operator, which is in turn followed by an expression.</p> <p><b>Note:</b> Avoid embedding multiple individual formulas in subsequent formulas. This can create an invalid formula.</p>	<p>If(Condition, Value if True, Value if False).</p> <p>{IF( } followed by EXPR2 followed by {&gt;   &lt;   &lt;&gt;   =   &gt;=   &lt;=} followed by EXPR2 followed by {,} followed by EXPR followed by ,) followed by EXPR}n followed by {}) where n = 1, 2, 3, .....</p>	<p>If(LEDGER_S TAT.Financia l= 110, LEDGER_ST AT.Month 1 Entry,0)  IF(((MAX + SUM) &gt;= 30), F, POWER) are valid.</p>

Function type	Function Name	Notation	Description	Syntax	Example depicting Usage
	Lookup	Lookup(OriginalCol,LookupColumn,...,ReturnedColumn)	Enables you to assign values equal to values in another table for data correction. LOOKUP function should always have an odd number of parameters separated by commas and with a minimum of 3 parameters.	Lookup(O1,L1,O2,L2,...On, Ln,R) where O=Column from Original table L=Column from Lookup table R=Column to be Returned. So the previous statement would read: where O1=L1 and O2=L2... Returned value R	<p><b>Valid examples:</b></p> <p>LOOKUP(F, R, R)</p> <p>LOOKUP(F, R, F, F, F)</p> <p><b>Invalid examples:</b></p> <p>LOOKUP(F)</p> <p>LOOKUP(F, R)</p> <p>LOOKUP(F + R, (F + R), MAX)</p>
			<p><b>Note:</b></p> <p>Lookup is used exclusively for data correction.</p>		

## Expression Container

The Expression container displays your formula step-by-step as you build it. When your formula is complete you may save the Expression rule. Saving an Expression rule invokes validation logic to ensure that you have constructed a legitimate formula, that is, one that may be legally applied to your database.



In the Expression grid, you can right-click the expression and do the following:

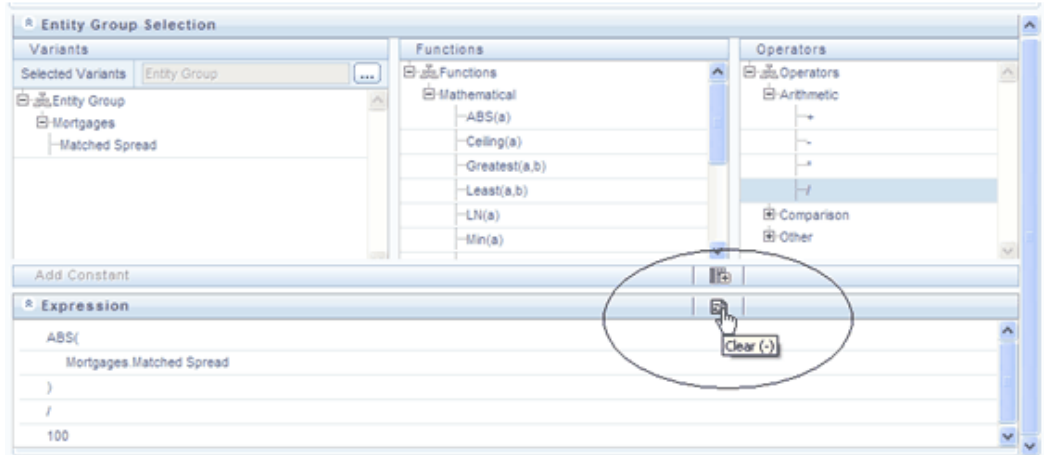
Click **Replace Expression** to replace the expression with a new one.

Click **Insert Expression After** to insert a new expression after the selected expression.

Click **Delete** to delete a selected expression.

You can also click **clear(-)** button in the Expression grid to clear the Expression.

If you encounter errors or if for any reason you want to reconstruct a formula, click the Clear control at the top of the Expression container.



After clicking the Clear control, you will be prompted to ensure you wish to clear the formula. If you answer OK, the formula is erased and you may start over in specifying your formula.





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# OFSAA Rate Management

## Overview

OFSAA Rate Management is a comprehensive utility enabling you to manage currencies, yield curves, and interest rate & currency exchange rate data with a high degree of security and control. OFSAA Rate Management also allows you to maintain economic forecasts such as GDP growth, inflation rates, or unemployment projections that may be linked to your models for interest rates, exchange rates, or new business growth.

Historical rate data obtained from OFSAA Rate Management is utilized within all of the Enterprise Performance Management (EPM) applications (OFSAA Funds Transfer Pricing, OFSAA Profitability Management, OFSAA Asset Liability Management, and OFSAA Balance Sheet Planning). Details regarding how each application draws upon Rate Management data are provided in the body of this chapter.

## Rate Management Subject Areas

There are four primary subject areas or modules within Common Object Maintenance > Rate Management:

- Interest Rates
- Currency
- Currency Rates
- Economic Indicators

**Note:** Economic Indicators option is not applicable for Hedge Management.

## Interest Rates

The quality and availability of interest rate information varies throughout the world. In many markets, gathering comprehensive rate information is a challenge because of insufficient security types, inconsistent quoting conventions, and lack of liquidity. The Interest Rates module within OFSAA Rate Management allows you to define and manage complex yield curve definitions using multiple rate formats and other rate attributes to give you data storage capabilities appropriate to your market. The Interest Rates module also supports the entry and maintenance of historical rate data for each yield curve you define.

Historical interest rate data from OFSAA Rate Management is utilized within OFSAA Transfer Pricing to generate transfer rates and option costs. Historical interest rate data is also utilized within OFSAA Asset Liability Management and within OFSAA Balance Sheet Planning in the generation of forecasted interest rate scenarios.

## Currency

Financial institutions commonly transact business in more than one currency. Transacting business in multiple currencies demands functional capabilities for multi-currency accounting and currency rate management.

OFSAA Rate Management's Currency module supports the definitions and maintenance of currencies. Currency definitions are fundamental to the definition of both interest rate yield curves and currency exchange rates. A key attribute of every yield curve is the currency with which it is associated; and currency exchange rates can only be established between defined currencies. OFSAA Rate Management provides a comprehensive list of ISO-defined currencies; you may also define and add your own user-defined currencies.

## Currency Rates

OFSAA Rate Management's Currency Rates module draws upon the currencies you have defined and activated in the Currency module to support the entry and maintenance of historical exchange rates. Currency exchange rates are utilized within:

- OFSAA Funds Transfer Pricing "Ledger Migration" processes (see *Oracle Financial Services Analytical Applications Funds Transfer Pricing User Guide*)
- OFSAA Asset Liability Management currency consolidation process (see *Oracle Financial Services Analytical Applications Asset Liability Management (OFSALM) User Guide*)
- OFSAA Profitability Management multi-currency allocations (see *Oracle Financial Services Analytical Applications Profitability Management (OFSPM) User Guide*)
- OFSAA Hedge Management and IFRS Valuations (see *Oracle Hedge Management and IFRS User Guide*)

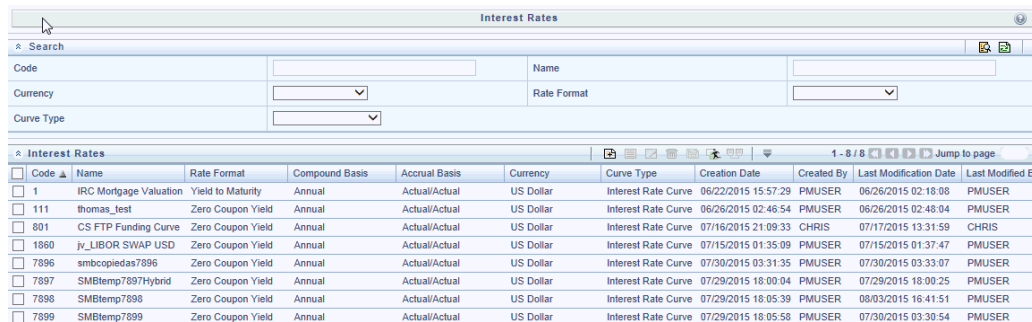
## Economic Indicators

An economic indicator is any economic statistic such as the Consumer Price Index (CPI), the growth rate of the Gross Domestic Product (GDP), the unemployment rate, the Purchasing Managers Index, indices of consumer confidence, etc. Such macroeconomic statistics tell us how well the economy has behaved in the past. Some economic indicators are referred to as "lagging" indicators while others are classified as "leading" indicators. Leading indicators may provide insights into the future direction of the economy.

OFSAA Rate Management's Economic Indicators module allows you to define and store such historical indicators. Economic Indicators provide baselines from which OFSAA Asset Liability Management can generate forecasts of future values of economic statistics that can affect new business or other modeling assumptions.

## Interest Rates Summary Screen

When you first navigate to Common Object Maintenance > Rate Management > Interest Rates, an empty screen will be displayed. After you have constructed one or more interest rate curves, navigating to Common Object Maintenance > Rate Management > Interest Rates will display a summary screen showing each of the interest rate curves that you have previously built.



The screenshot shows the 'Interest Rates' summary screen. At the top, there is a search container with fields for Code, Name, Currency, Rate Format, and Curve Type. Below the search container is a table listing various interest rate curves. The table has columns for Code, Name, Rate Format, Compound Basis, Accrual Basis, Currency, Curve Type, Creation Date, Created By, Last Modification Date, and Last Modified By.

Code	Name	Rate Format	Compound Basis	Accrual Basis	Currency	Curve Type	Creation Date	Created By	Last Modification Date	Last Modified By
1	IRC Mortgage Valuation	Yield to Maturity	Annual	Actual/Actual	US Dollar	Interest Rate Curve	06/22/2015 15:57:29	PMUSER	06/26/2015 02:18:08	PMUSER
111	thomas_test	Zero Coupon Yield	Annual	Actual/Actual	US Dollar	Interest Rate Curve	06/26/2015 02:46:54	PMUSER	06/26/2015 02:48:04	PMUSER
801	CS FTP Funding Curve	Zero Coupon Yield	Annual	Actual/Actual	US Dollar	Interest Rate Curve	07/16/2015 21:09:33	CHRIS	07/17/2015 13:31:59	CHRIS
1860	jr_LIBOR SWAP USD	Zero Coupon Yield	Annual	Actual/Actual	US Dollar	Interest Rate Curve	07/15/2015 01:35:09	PMUSER	07/15/2015 01:37:47	PMUSER
7896	smbcopiedas7896	Zero Coupon Yield	Annual	Actual/Actual	US Dollar	Interest Rate Curve	07/30/2015 03:31:35	PMUSER	07/30/2015 03:33:07	PMUSER
7897	SMBTemp7897Hybrid	Zero Coupon Yield	Annual	Actual/Actual	US Dollar	Interest Rate Curve	07/29/2015 18:00:04	PMUSER	07/29/2015 18:00:25	PMUSER
7898	SMBTemp7898	Zero Coupon Yield	Annual	Actual/Actual	US Dollar	Interest Rate Curve	07/29/2015 18:05:39	PMUSER	08/03/2015 16:41:51	PMUSER
7899	SMBTemp7899	Zero Coupon Yield	Annual	Actual/Actual	US Dollar	Interest Rate Curve	07/29/2015 18:05:58	PMUSER	07/30/2015 03:30:54	PMUSER

## Search Container

A Search container is provided in which you may search for interest rate curves by Code, Name, Currency, Rate Format or Curve Type.

## Search Control

Enter your desired search criteria and click on the Search control.

## Reset Control

Clicking on the Reset control removes any Code, Name, Currency, Rate Format or Curve Type constraint you may have specified and refreshes the screen.

## Interest Rates Container

The Interest Rates container presents a grid containing all of the interest rate curves that meet your search criteria. The Interest Rates summary grid offers several controls that allow you to perform different functions when an interest rate curve is selected.

To select an interest rate curve, click on a check box in the first column of the grid. More than one interest rate curve can be selected at a time but this will cause some of the controls to become disabled. Clicking on a checkbox a second time de-selects the interest rate curve.

You may select or deselect all of the interest rate curves in the summary grid by clicking on the check box in the upper left hand corner of the summary grid directly to the left of the Name column header.

### Add

Clicking on the Add control begins the process of building a new interest rate curve. The Add control is disabled if any rows in the grid have been selected.

### View

Selecting a single row out of the grid enables the View control. Clicking on the View control allows you to view the contents of an interest rate curve on a read-only basis. The View control is only enabled when a single interest rate curve has been selected.

### Edit

Selecting a single row out of the grid enables the Edit control. Clicking on the Edit control allows you to modify a previously saved interest rate curve. The Edit control is only enabled when a single interest rate curve has been selected.

**Note:** You can control the number of rows to display on screen by selecting the "Pagination Options" icon from the action bar.

### Copy

Selecting a single row out of the grid enables the Copy control. Clicking the Copy control allows you to create a copy of an existing interest rate curve. The Copy control is only enabled when a single interest rate curve has been selected.

### Check Dependencies

Select an interest rate curve and then click the Check Dependencies control to generate a report on all rules that utilize your selected interest rate curve.

The Check Dependencies control is only enabled when a single interest rate curve has been selected.

## Delete

Selecting one or more rows out of the grid enables the Delete control. Clicking on the Delete control deletes the interest rate curves you have selected.

## Execute the Historical Interest Rates Data Loader

This Icon executes a function to import historical rates and parameters for all defined Interest rate Curves. For more information on setting up the automated process, see *Oracle Financial Services Analytical Applications Data Model Utilities User Guide*.

To execute a historical Interest Rate data load, click on the **Execute the Historical Interest Rates Data Loader** icon. A warning message will appear "Upload all available Interest Rates and Parameters?" Click ok, and all historical rates and parameters will be loaded.

## Interest Rates Summary Grid

The following columns categorize each interest rate curve in the summary grid:

- Code
- Name
- Rate Format
- Compound Basis
- Accrual Basis
- Currency
- Curve Type
- Creation Date
- Created By
- Last Modification Date
- Last Modified By

## Code

Displays the interest rate curve's code. Code is a number in the range 1 to 9999999. It is unique. Performing a "mouse-over" on a row within the grid displays the interest rate curve's detailed description.

**Name**

Displays the interest rate curve's short name.

**Rate Format**

Displays the interest rate curve's rate format (zero coupon or yield-to-maturity).

**Compound Basis**

Displays the interest rate curve's compounding basis (Annual, Semiannual, Monthly, or Simple).

**Accrual Basis**

Displays the interest rate curve's Accrual Basis (e.g., 30/360, Actual/Actual, etc).

**Currency**

Displays the currency (the Reference Currency) to which an interest rate curve is applicable.

**Curve Type**

Displays the curve type - Interest Rate Curve or Volatility Curve.

**Creation Date**

Displays the date and time at which an interest rate curve was created.

**Created By**

Displays the name of the user who created an interest rate curve.

**Last Modification Date**

Displays the date and time at which an interest rate curve was last modified.

**Modified By**

Displays the name of the user who last modified an interest rate curve.

## Interest Rates Detail Screen

When you Add, Edit, or View an interest rate curve, the Interest Rate Code Detail Screen is displayed. The Interest Rate Code detail screen is comprised of an Interest Rate Code Details container, 5 Interest Rate Code tabs, and an Audit Trail container.

The Audit Trail container is a standard footer container for every OFSAA rule type. It

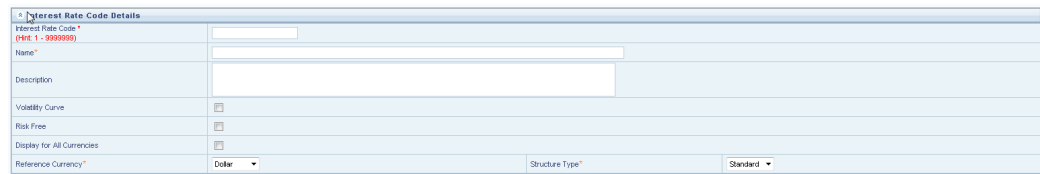
displays Created By, Creation Date, Last Modified By, and Modification Date on the Audit Trail tab. The User Comments tab may be used to add comments to any rule, subject to a maximum of 4000 characters.

## Interest Rate Code Details Container

Is explained in detail in the following sections.

### Interest Rate Code

When constructing a new yield curve, you must specify an Interest Rate Code between 1 and 9999999. Interest Rate Codes are used internally to uniquely identify yield curves. When working with Rate Manager or other OFS Analytical Applications, you generally reference yield curves by Name, not by Interest Rate Codes. Interest Rate Codes, however, are embedded within your instrument data (for example, the INTEREST\_RATE\_CD and T\_RATE\_INT\_RATE\_CD columns within your instrument data are populated with Interest Rate Codes). Once you have saved a yield curve, you may not renumber its Interest Rate Code.



Interest Rate Code Details	
Interest Rate Code *	
(Hint: 1 - 9999999)	
Name*	
Description	
Validity Curve	<input type="checkbox"/>
Risk Free	<input type="checkbox"/>
Display for All Currencies	<input type="checkbox"/>
Reference Currency*	Dollar
Structure Type*	Standard

### Name & Reference Currency

You must also provide a Name and Reference Currency for your yield curve. Unlike Interest Rate Codes, you may rename or change the Reference Currency for previously saved yield curves. While you may choose to rename a yield curve, however, it is very unlikely that you will choose to modify a yield curve's Reference Currency. A yield curve's Reference Currency is the currency for which your market rates are valid. For example, the Reference Currency for a Prime Rate yield curve would be US Dollars. LIBOR or other internationally quoted rates are always quoted with respect to an underlying Reference Currency (e.g., US Dollar LIBOR, Euro LIBOR, etc). The drop-down list box for Reference Currencies displays only "Active" currencies. See the section below entitled Currency for a discussion of Active and Inactive currencies.

### Description

You may optionally provide a description of your yield curve; you may modify a yield curve's description at any time.

### Structure Type

Another required attribute for each yield curve is its Structure Type. Structure Type supports both Standard and Hybrid yield curve definitions. Hybrid yield curves are

re-expressions of one or more pre-existing Standard yield curves. For additional information, see Hybrid Term Structure Tab under Interest Rate Code Tabs below. Once you have saved the yield curve, you may not change the Structure Type selection.

## Volatility Curve

You can select the Volatility Curve option to indicate the curve selected will contain volatility rates. If you select this option, all other curve attributes become disabled and the curve is used exclusively for managing volatility details. Both the Terms tab and Historical Rates tab are available with this option. Once you have saved the yield curve, you may not change the Volatility Curve selection.

**Note:** Volatility curves are used in Funds Transfer Pricing for calculating Rate Lock Option Costs.

## Risk Free

This is for tagging IRC's as risk free. This field is an optional field. This flag is editable both in new and edit modes. It is available for non-hybrid curves and hybrid curves and not available for Volatility Curves.

## Display for all currencies

This option allows you to designate certain Interest Rate Curves that you would like to make available for assumption mapping to any currency. Typically, assumption rules will filter the list of Interest Rate Codes based on the currency, when defining assumptions for a specific product/currency combination. When this option is enabled the Interest Rate Code will appear in assumption rules for all currencies.

## Interest Rate Code Tabs

Interest Rate Code tabs are used to define your yield curve and to add, edit, or delete historical interest rate data. The Interest Rate Code tabs are:

- Attributes
- Terms
- Historical Rates
- Parameters
- Hybrid Term Structure





## Navigating Between Interest Rate Code Tabs

For new yield curves, you must begin with the Attributes tab. Once you have selected attributes for a yield curve, you will typically not change them. When you have finished assigning attributes, navigate to the Terms tab in order to establish a term structure for your yield curve or volatility curve, i.e., an overnight rate, a one month rate, a three month rate, etc. To navigate to the Terms tab, you may either select the Apply button on the Attribute tab or you may simply click the Terms tab.

**Additional Information:** You must have specified an Interest Rate Code, a Name, and a Reference Currency in the Interest Rate Code Details container before you can navigate to the Terms tab.

As with your yield curve attributes, once you have established a term structure for your yield curve you will only rarely come back to change it. The first time you navigate to the Terms tab, an initial 1 month term point is provided, but even if this is the one and only term point you want for your curve, you must select the Apply button to tell the system that you have finished your term structure specification. In future revisions to your curve's definition, you may navigate directly to the Historical Rates tab simply by clicking on it, but if you modify your term structure in any way, you must always select the Apply button on the Term tab before you can navigate to the Historical Rates tab.

The Historical Rates tab is used to input interest rate or volatility data. This is the tab you will most often return to for maintaining your interest rates database over time. To navigate to the Historical Rates tab, you may either select the Apply button on the Terms tab or you may simply click the Historical Rates tab if you have already established your term structure.

**Additional Information:** You must have specified (1) an Interest Rate Code, a Name, and a Reference Currency in the Interest Rate Code Details container and (2) a term structure in the Terms tab before you can navigate to the Historical Rates tab.

## Attributes Tab

Yield curve attributes include Rate Format, Compounding Basis, Accrual Basis, and Curve Identifier. Once you have initially saved a yield curve, you typically will not change these attributes, but Rate Management will allow you to do so.

Attributes	Terms	Historical Rates	Parameters	Hybrid Term Structure
Rate Format*	Zero Coupon Yield	Curve Identifier		
Compounding Basis*	Annual	Accrual Basis*		
<input type="button" value="Apply"/>				

**Note:** All Attribute fields will be disabled, if Volatility Curve is

checked.

## Rate Format

As part of your yield curve definition, you must select either the Zero Coupon or Yield-to-Maturity rate format. Regardless of which format you select, rates entered into Rate Management (in the Historical Rates tab) are always entered in nominal form, e.g., 5.125% or 6.875%, not as discount factors. For details on how the two rate formats affect internal cash flow engine calculations, see the *Oracle Financial Services Analytical Applications Cash Flow Engine Reference Guide*.

## Compounding Basis

You must also select a compounding basis for your yield curve: Annual, Semiannual, Monthly, or Simple. Annual is the most common method. The Monthly option is enabled based on Rate Format selection (if Rate Format is selected as "Yield to Maturity"). For details on Compounding Basis and how different compounding bases affect cash flow calculations in OFSAA, see the *Oracle Financial Services Analytical Applications Cash Flow Engine Reference Guide*.

## Accrual Basis

You must also select an accrual basis for your yield curve. The Accrual Basis list depends on Compounding Basis selection. If the Compounding Basis is selected as **Annual**, **Semiannual**, or **Monthly**, then the following Accrual Basis types are available:

Actual/Actual

30/365

Actual/365

If the Compounding Basis is selected as **Simple**, then the following Accrual Basis types are available:

30/360

Actual/360

Actual/Actual

30/365

30/Actual

Actual/365

For details on Accrual Basis and how different accrual bases affect cash flow calculations in OFSAA, see *Oracle Financial Services Analytical Applications Cash Flow Engine Reference Guide*.

## Curve Identifier

This is a drop-down list that contains the 6 curve identifier types, that is, Par Treasury, Zero-coupon Treasury, Par LIBOR/Swap, Zero-coupon LIBOR/Swap, Prime Lending Rate, and Cost of Funds Index. These curve identifiers can be mapped to the Adjustable Rate Mortgage (ARM) indices used for ADCO prepayment model processing. The Reference Currency for these indices is always US Dollar.

**Note:** This identifier is optional when the IRC is not being used for ADCO prepayment model processing. This is applicable only in ALM and HM applications.

## Terms Tab

Use the Terms tab to construct your yield curve's term structure. You may specify as many yield curve terms as you wish ranging from 1 day to 100 years.

Term	Multiplier
5	Months
10	Months
15	Months

Note, when constructing a volatility curve, there are two term types available, e.g. Contract Term and Expiration Term. You must add the relevant terms for each of these dimensions. Select the Apply button after defining terms for each dimension to save the assumptions before proceeding.

## Adding New Term Points

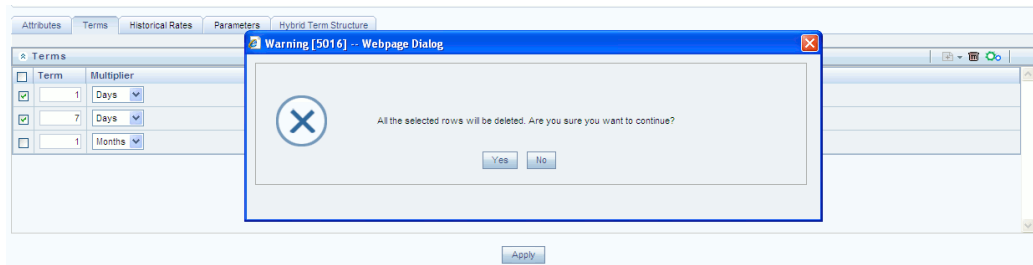
Click the Add control to add new term points. After clicking the Add control, select a Term value and a Multiplier (e.g., 7 days, 2 months, 5 years, etc). You can also add term points using the Data Input Helper.

Term	Multiplier
5	Months
10	Months
15	Months

## Deleting Existing Term Points

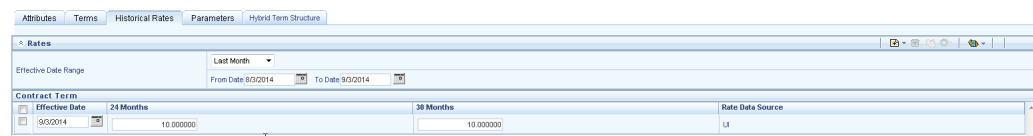
If you wish to delete an existing term, select the term point (or terms) you wish to delete and click the Delete control, and confirm that you want to delete the term (or terms) you

have selected.



## Historical Rates Tab

Use the Historical Rates tab to enter, modify, or view interest rate data. Data should be entered as simple percentages (e.g., 5.125, 4.875, etc). If you are entering historical rates for a volatility curve, you will have to enter volatilities for the combination of contract term and expiration term. Select the desired expiration term from the drop list to complete the volatility matrix. Effective dates should be entered separately for each expiration term in the list.



By default, the Historical Rates tab will display interest rate data for the past month (i.e., for the 30 days leading up to the current date). Click the Effective Date Range drop-down list box to expand your view to the last 3 months, 6 months, one year, 3 years, 6 years or all rate data.

**Note:** Volatility curves are only applicable to FTP Rate lock option cost calculations.



If you are entering historical rates for a volatility curve, you will have to enter volatilities for the contract term. Select the desired expiration term from the droplist to complete the volatility matrix. Effective dates should be entered for each expiration term.

The Rate Data Source is a parameter that depicts from where the rates have been taken from, either they are entered through the UI or loaded through the data loader or generated using the Generate Rates of Hybrid IRC.

## Generate Graph

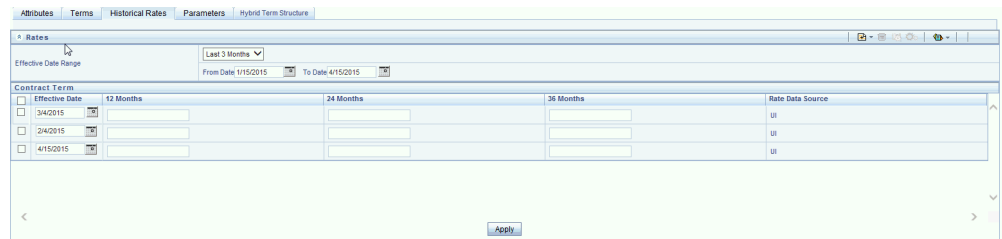
Generate Graph option allows you to generate the graph for selected Historical rates.

To generate a graph, follow the steps given below:

1. Select the Effective Date Range for which you want to generate the graph.

The From Date and To Date fields will be automatically updated after selecting the Effective Date Range.

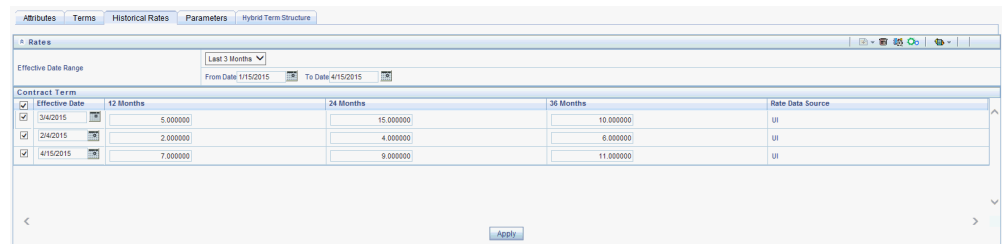
2. Select the Effective Date using corresponding calendar options.



The screenshot shows the 'Rates' interface with the 'Historical Rates' tab selected. The 'Effective Date Range' is set to 'Last 3 Months', with 'From Date' 1/15/2015 and 'To Date' 4/15/2015. The 'Contract Term' section has three columns: '12 Months', '24 Months', and '36 Months'. The 'Effective Date' column has three rows with dates 3/4/2015, 2/4/2015, and 4/15/2015. The 'Rate Data Source' column has 'UI' for all rows. An 'Apply' button is at the bottom.

3. Enter the term points in respective fields and click Apply button.

4. Select the Terms using the corresponding check-boxes.

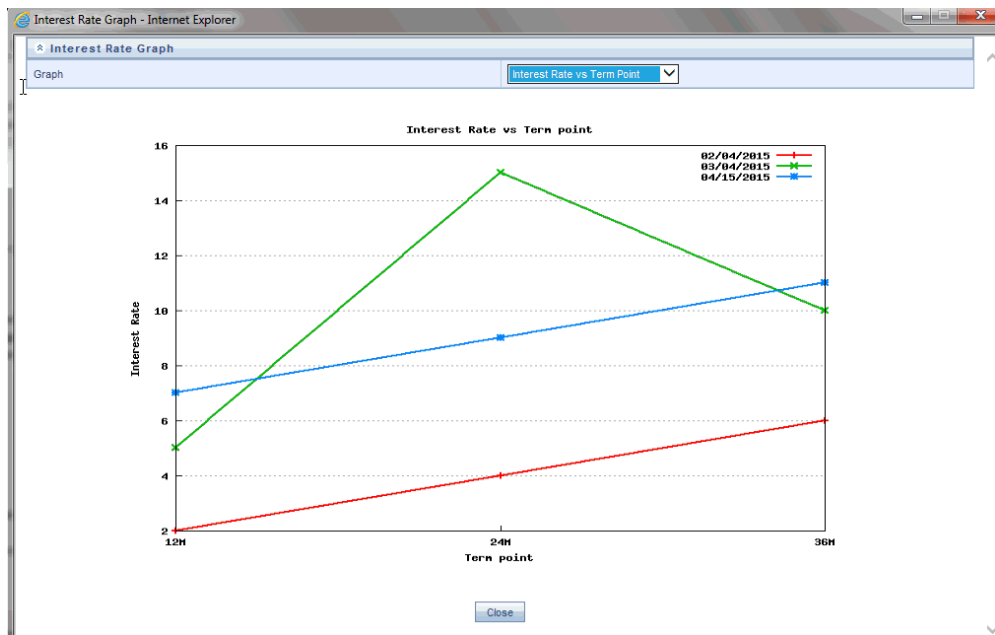


The screenshot shows the 'Rates' interface with the 'Contract Term' section. The 'Effective Date' column has three rows with dates 3/4/2015, 2/4/2015, and 4/15/2015. The '12 Months' column has values 5.000000, 2.000000, and 7.000000. The '24 Months' column has values 15.000000, 4.000000, and 9.000000. The '36 Months' column has values 10.000000, 6.000000, and 11.000000. The 'Rate Data Source' column has 'UI' for all rows. An 'Apply' button is at the bottom.

5. Click on Generate Graph icon.

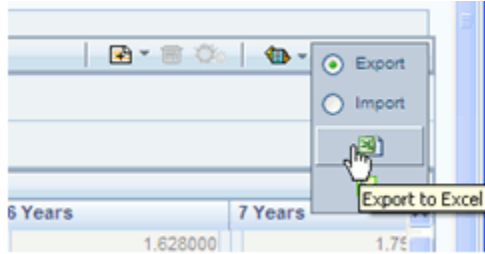


6. The graph will be generated. Here, you can view the graph for Interest Rate vs Effective Date or Interest Rate vs Term Point.

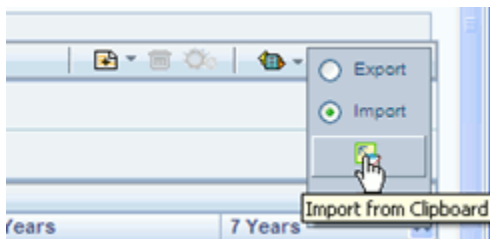


## Excel Import/Export

To aid in data entry, use the excel import/export functionality to add or edit rate data to historical rates. On the rates tool bar, click the excel icon. Click the 'export' toggle box to export data for the chosen selected effective date range. Within the same block, choose to export to excel. Doing so will launch the excel application and output the data grid, including headers.



You can add rows to the grid in the same format. After all data is input (or existing data is edited), copy the range of the grid you want to append, and go back to the rates screen. In the same block, click the 'import' toggle box, and directly below click the import from clipboard icon. The data copied from excel will appear in the rate history grid.



1. If appending data that preexisted for the same effective date, the import it will overwrite existing data.
2. In some cases, there are fields that will be output to the grid that are not editable, such as bucket start and end dates (when defining forecast assumptions). Be sure to only add or edit data in the columns that would be editable in the UI itself.

### Deletion of Historical Rates

You can delete historical rates entered by selecting one or more rows and then clicking the delete control.

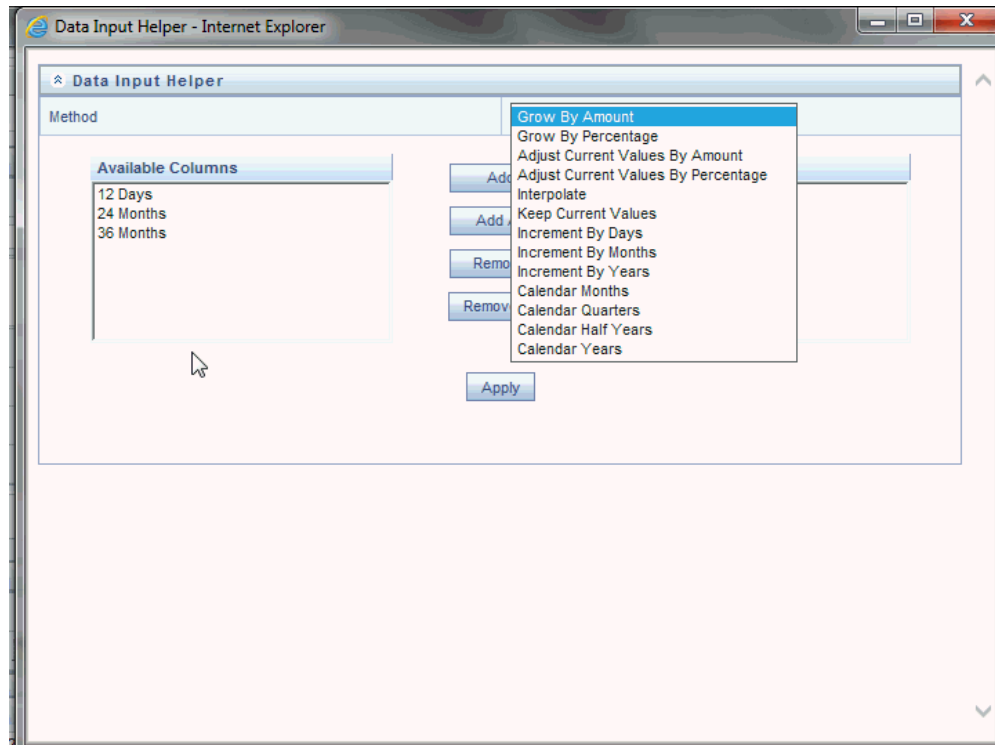
### Data Input Helper

You may want to utilize the Data Input Helper to copy from a row where you have already defined the interest rate definition or apply a fixed value down the page. The following optional steps describe how to use this feature.

1. Select the checkbox next to the rows that you want to work with or use the "Select ALL" option by selecting the checkbox on the header row.
2. Select the Data Input Helper icon.

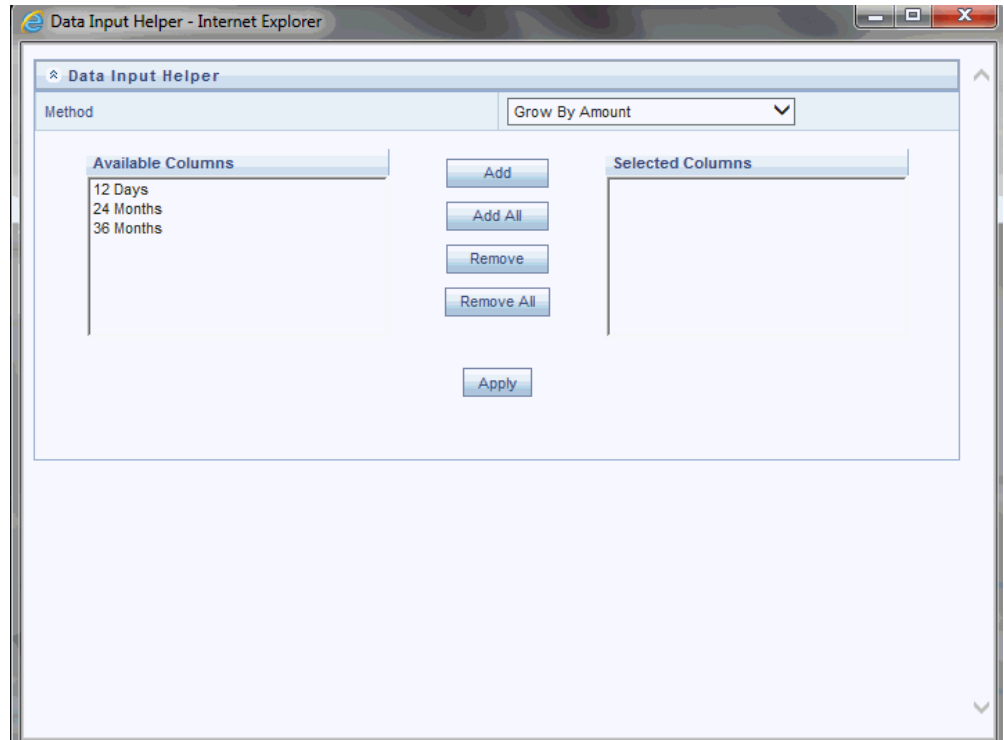


3. From the Data Input Helper – popup screen, select **Method** – "Grow by Amount" or some other appropriate method.

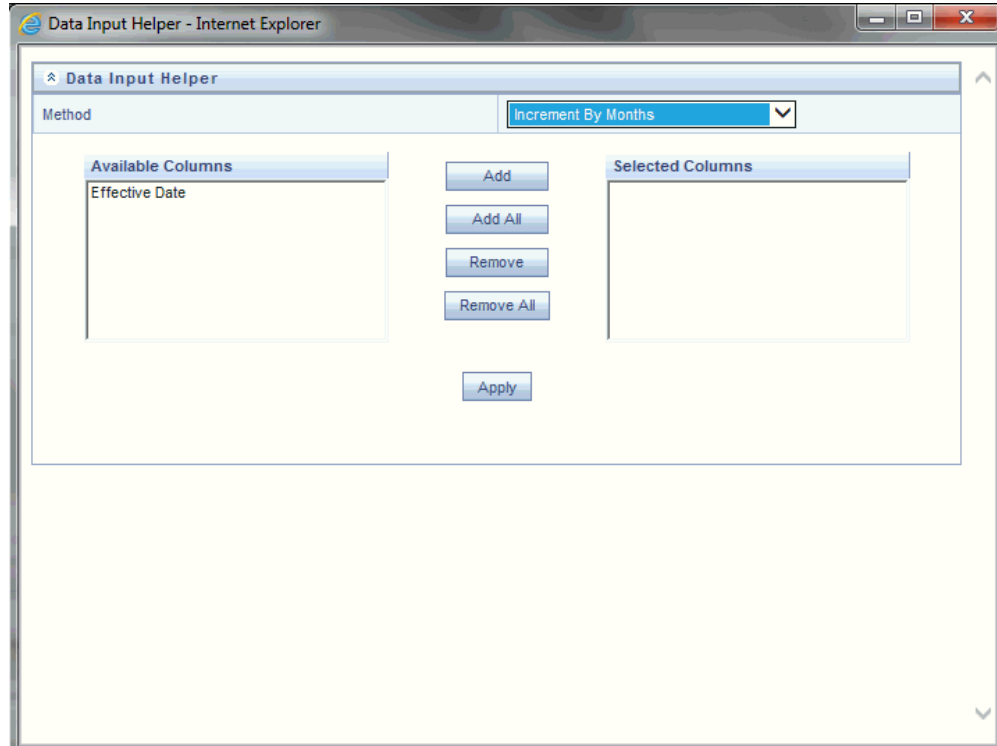


4. Select the term points from the left side (Available Columns) of the shuttle box.

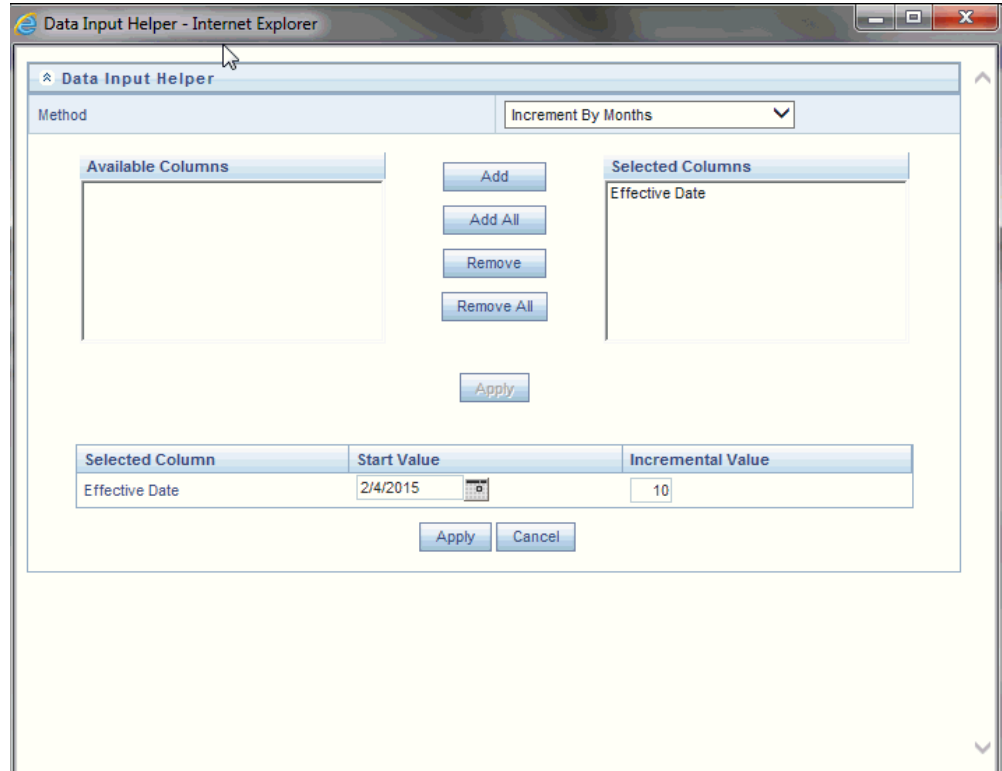




Based on selected **Method**, the list of **Available Columns** will vary. If **Method** is selected as "Increment By Months", "Increment By Days", or "Increment By Years", then only Effective Date option will be displayed in **Available Columns** list.



After clicking on **Apply** button, you can modify the Start date and enter the Incremental Value.



5. Select **APPLY**.

### Rate Lookup Behavior Between Term Points

The OFSAA cash flow engine is common to OFSAA Funds Transfer Pricing, OFSAA Pricing Management (Transfer Pricing Component), OFSAA Asset Liability Management, and OFSAA Balance Sheet Planning. In looking up rates from OFSAA Rate Management, the cash flow engine will, where necessary, perform an interpolation between yield curve term points. For example, in determining a straight term transfer rate (common for products such as time deposits), the engine may need to determine a three month rate from a yield curve that contains only a one month rate and a six month rate. In such a case, the cash flow engine will perform an interpolation to determine the implied three month rate. While each of the above applications supports simple linear interpolation, OFSAA Transfer Pricing and OFSAA Asset Liability Management also support cubic and quartic spline interpolation methods. These more advanced methods will be supported for all OFS Analytical Applications in a future release.

### Rate Lookup Behavior Beyond Term Points

In cases where the cash flow engine needs to determine a rate from a yield curve for a term point smaller than the first term point of the yield curve, the engine will utilize the first term point of the yield curve. For example, if the engine needs to determine an overnight rate from a yield curve whose first term point is one month, the engine will

utilize the one month rate. Similarly, in cases where the cash flow engine needs to determine a rate from a yield curve for a term point greater than the longest term point on the yield curve, the engine will utilize the last term point of the yield curve. For example, if the engine needs to determine a 30 year rate from a yield curve whose last term point is 10 years, the engine will utilize the 10 year rate.

### **Rate Lookup Behavior Between Effective Dates**

In looking up rates from OFSAA Rate Management for a business date, the cash flow engine may find that there is no rate data for that specific business date. For example, in generating an original term transfer rate for an instrument with an origination date of June 14, 2010, the cash flow engine may find rate data for May 31, 2010 and for June 30, 2010 but no rate data for any dates between May 31, 2010 and for June 30, 2010. In such cases, the cash flow engine always falls back to the latest available rate data prior to the business date of interest (May 31, 2010 in this case).

### **Parameters Tab**

Fixed income instruments are used for forecasting and simulating the Cash Flows. The Cash Flow Engine needs interest rate models to simulate the evolution of interest rates. The Cash Flow Engine uses these models as part of the stochastic engine. You can enter the parameters for these models in several ways:

- System-generated calculations via Parameter Estimation
- Direct input into the UI
- Excel Import
- UI entry via Data Input Helper methods
- Data Loader

Following interest rate models are available:

- Extended Vasicek
- Ho and Lee
- Merton
- Vasicek

#### **Parameter Estimation**

This section explains the procedure to calculate estimated parameters.

#### **Conditions for Parameter Estimation**

If the following conditions are met, you can calculate parameters for any Term Structure Model for a given Effective Date, based on your relative lookback term and a

sufficient number of observations (available historical rates) for the IRC. If you rerun with a different lookback term, it will overwrite the existing parameters for the selected Term Structure Model on that IRC's Effective Date.

Conditions:

- **Term point:** Underlying historical rates must be available for a 30-Day or 1-Month term point.

- **Minimum number of historical rates:**

A total of at least 10 historical rates ("observations") are required, on appropriate lookback dates.

- **Lookback dates:** Historical rates must be available on dates looking back from the Parameter's Effective Date (the End Date), in roughly 30-day intervals moving backwards from End Date to Start Date, for a minimum of 10 intervals.

For example: If the first rate's Effective Date is 1 Jan. 2013, then the second rate's date should be 2 Dec. 2012 (1 Jan. 2013  $\pm$  30 days = 2 Dec. 2012), and so on. If a rate is not found for the required date, the engine looks for a rate within the neighborhood of 5 days up or down (therefore a total range of 10 days), searching iteratively starting with Date -1, then Date +1, through Date +5, then Date -5. The next rate lookup would be 60 days prior to the End Date, and so on.

The minimum relative term for all lookbacks must be at least 300 Days (i.e., to accommodate a minimum of ten 30-day intervals). Using the above logic, if a rate is not found for the lookup date (or date within the neighboring range), an error will be logged in FSI\_PROCESS\_ERRORS with ID\_Number there identifying the Interest Rate Code, then the parameter estimation engine will exit.

## Procedure

The screenshot shows the 'Interest Rate Code' configuration window. The 'Parameters' section includes a toolbar with buttons for 'Add', 'Delete', 'Data Input Helper', 'Refresh', and 'Excel Export/Import'. Below the toolbar is a table with the following data:

Effective Date	Term Structure Model	Mean Reversion Speed	Long Run Rate	Volatility	Rate Data Source
<input type="checkbox"/> 12/08/2015	Extended Vasicek	2.000000	0.000000	0.01	LI <a href="#">Calc</a>

1. If you wish to edit or recalculate existing Parameters, you can enter the Effective Date Range filter.

2. Following Standard toolbar buttons are available here:

Add

Delete

Data Input Helper

Refresh

Excel Export/Import

Initially, default parameters for the Extended Vasicek Model will be displayed for one Effective Date (the system date on which the Interest Rate Code was created). You can edit these parameters. You can also add new parameters using the Add button. Use the Refresh button to return to existing Parameters.

**Note:** Steps 3 and 4 are applicable only if you are Adding or Editing Parameters.

If you are adding or editing parameters, you can use the Data Input Helper or Excel Import/Export. For more details, refer Excel Import/Export, page 10-14 and Data Input Helper, page 10-15.

3. Enter the Effective Date. Here, Effective Date cannot be greater than Current System Date.

4. Select the Model from Term Structure Model drop-down list. Effective Date + Term Structure Model combination must be unique within this IRC.

The following term structure models are utilized in stochastic modeling of interest rates in OFSAA Transfer Pricing and OFSAA Asset Liability Management:

- Extended Vasicek
- Ho and Lee
- Merton
- Vasicek

The parameters needed by the models are as follows:

Model	Parameter 1	Parameter 2	Parameter 3
Extended Vasicek	Volatility	Mean Reversion Speed	
Ho and Lee	Volatility		
Merton	Volatility		
Vasicek	Volatility	Mean Reversion Speed	Long Run Rate

Values for Long Run Rate and Volatility are assumed to be percentages.

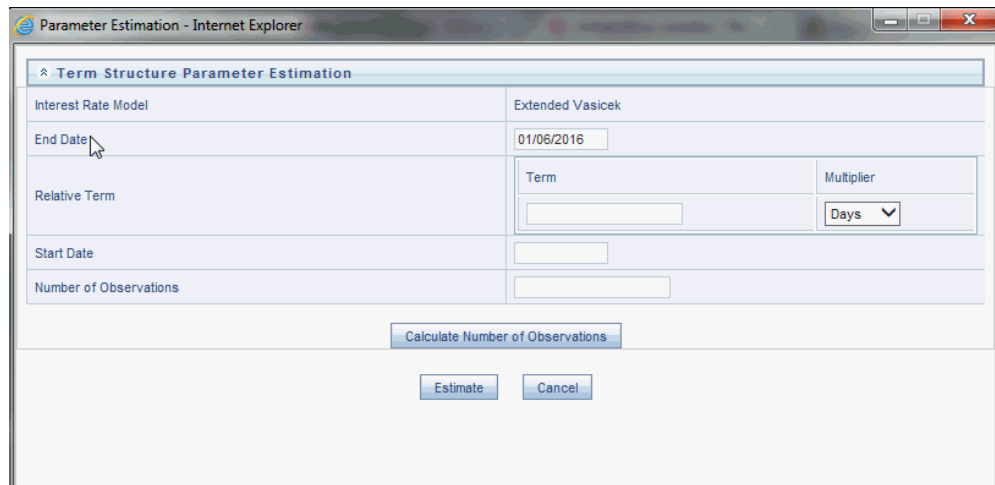
For example, a long run rate of 5% is displayed as 5.000. To maintain the integrity of your data, Rate Management restricts the input values it accepts. Note the valid range and default setting for each parameter.

Parameter	Valid Range	Default Value
Volatility	0% to 500%	0.01
Mean reversion speed	0.00 to 500	0.0
Long run rate	0.00% to 500%	0.0

5. Rate Data Source will indicate if you have directly entered Parameters through the UI. It will also allow you to Calculate the Parameters to display system-generated values.
6. When you select **Calculate** option, the following **Term Structures Parameter Estimation** window is displayed:

If you are directly entering the Parameters, then enter values appropriate to the

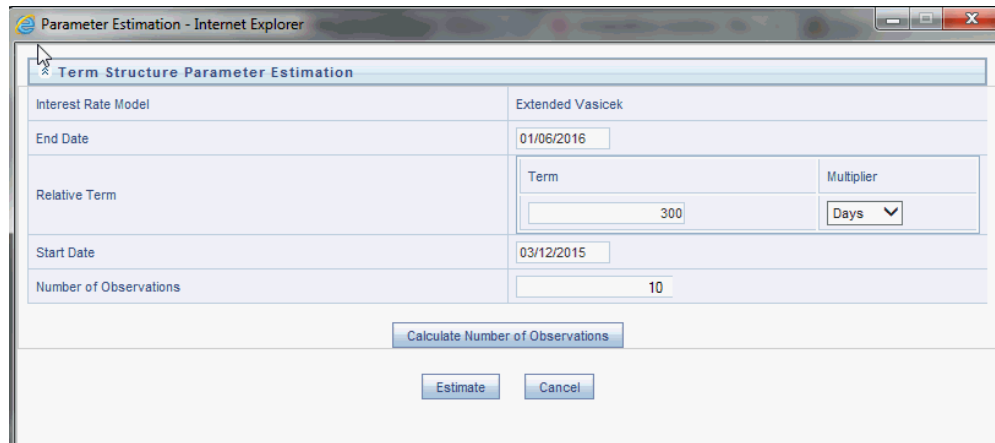
Model, as noted above, then click **Apply** else click **Calculate**.



7. End Date will be auto-populated with Effective Date. Enter the Relative Term with Multiplier to define the rate lookback period.

The Term/Multiplier value should be at least 300 Days.

8. Start Date is automatically updated after entering Relative Term.



9. Click Calculate Number of Observations to confirm number of rates found for appropriate dates within the Relative Term. If there are at least 10 observations, the Estimate button will become active. For more information, refer to Conditions for Parameter Estimation section.
10. Click Estimate to Calculate the Parameters and store them in the historical parameters table (FSI\_IRC\_TS\_PARAM\_HIST). You will then see a confirmation box. Click Ok. The calculation will complete and you will be directed back to the Parameters screen.



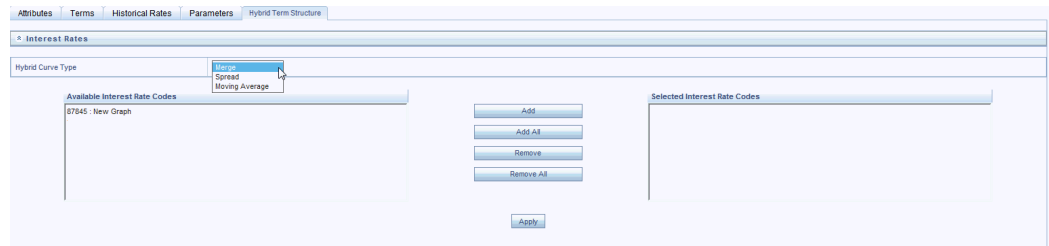
Similar to the validation used for direct input from the UI, if any of the calculated parameters are outside of the valid range, the engine will write an error message.

You can delete parameters by selecting one or more rows and then clicking Delete. For details on term structure models and stochastic processing, refer to *Oracle Financial Services Funds Transfer Pricing User Guide*, *Oracle Financial Services Asset Liability Management (OFSALM) User Guide*, and *Oracle Financial Services Analytical Applications Cash Flow Engine Reference Guide*.

## Hybrid Term Structure Tab

Hybrid term structures will allow you to specify three types of hybrid yield curves:

- Spread
- Moving Average
- Merge



**Note:** The Parameters and Hybrid Term Structure tabs will be disabled, if Volatility Curve is checked.

Hybrid yield curves are built up from either one or more standard yield curves. When you add, modify, or delete any historical rate data from a standard yield curve, the data associated with any related hybrid yield curve should also be updated (see Generate Historical Rates below). Once defined, Hybrid Yield Curves are used like any other interest rate curve in the system. You can reference these curves within OFSAA application business rules that allow selection of an Interest Rate Code.

### Spread

A Spread hybrid yield curve is defined as the difference between two standard yield curves. The "spread" type of hybrid yield curve may be useful in establishing liquidity risk or basis risk yield curves.

### Moving Average

Moving average hybrid yield curves represent moving average data of a single underlying standard yield curve. These curves are typically used in Funds Transfer Pricing.

## Merge

Merge hybrid yield curves represent a blending of two or more underlying yield curves. In constructing a "merge" type of hybrid yield curve, you specify the percentage weighting applicable to each of the underlying standard hybrid yield curves.

## Defining a Hybrid Curve

To define a hybrid curve select the Source Type: Hybrid, in the Hybrid Term Structure tab, select the Hybrid Curve Type (Spread, Moving Avg., or Merge), and select the Interest Rate Code(s) for the hybrid type. Click "Apply."

The screenshot shows two parts of a software interface. The top part is the 'Interest Rate Code Details' tab, which includes fields for 'Interest Rate Code' (909979), 'Name' (Hybrid Curve), 'Description', 'Volatility Curve', 'Risk Free', 'Display for All Currencies', and 'Reference Currency' (AUD). It also has a 'Structure Type' dropdown set to 'Hybrid'. The bottom part is the 'Interest Rates' tab, which shows 'Hybrid Curve Type' set to 'Moving Average'. It features two panes: 'Available Interest Rate Codes' (containing '07845: New Graph') and 'Selected Interest Rate Codes' (empty). Between the panes are buttons for 'Add', 'Add All', 'Remove', 'Remove All', and 'Apply'.

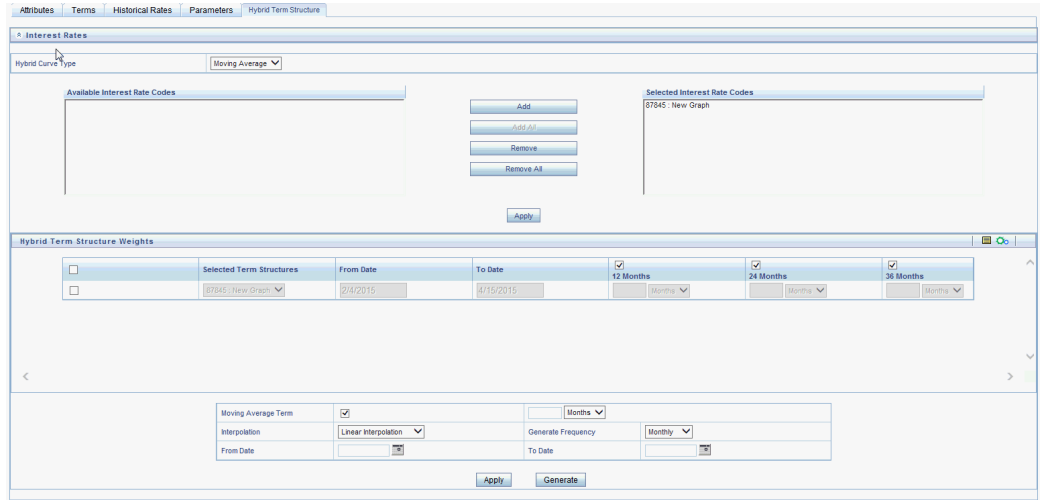
## Generate Historical Rates

Once a hybrid curve is defined, you can generate historical rates as far back as the rate source curves allow. The Generate Frequency determines the frequency of the historical rates populated with the Generate function. If you choose the generate frequency of monthly, it will generate month end values only. If you choose daily, it will generate the maximum number of historical values.

To generate the rates, select the interpolation method (Linear, Cubic or Quartic), select the Generate Frequency (Daily, Weekly, Bi-Weekly, or Monthly) and enter the specific date range (From Date / To Date), Click the "Generate" button. The rates will be populated and you will be directed to the Historical Rates tab to view the results.

The screenshot shows a form for generating historical rates. It has two rows of input fields. The first row has 'Interpolation' set to 'Linear Interpolation' and 'Generate Frequency' set to 'Monthly'. The second row has 'From Date' and 'To Date' fields, each with a calendar icon. Below the form are two buttons: 'Apply' and 'Generate'.

If Hybrid Curve Type selected as Moving Average, then you can select the Moving Average Term in Days, Months, or Years.



## Automate (Schedule) the Generate Rates Action in Hybrid IRCs

The generation of the Hybrid IRC rates which is currently available within the Rate Management user interface > Hybrid IRC, as a manual process, can additionally be scheduled to run through an ICC Batch process or through a Simplified Batch process.

When running Generate Rates through the user interface, there are 3 parameters provided by the user.

1. Interest Rate Code: For example, the user is in edit mode for a particular Hybrid IRC when they execute the Generate Rates option, so the IRC is implied.
2. FROM DATE: this is the start date of the generate rates process
3. TO DATE: this is the date to which hybrid rates will be computed

When generating Hybrid Rates through a batch (ICC or Simplified), specify 'ALL' in the Parameter list to generate rates for all Hybrid IRCs. On the other hand, a list of IRCs can be specified by means comma separated values within quotes.

### Example

'IRC\_Code1, IRC\_Code2, IRC\_Code3' and so on

**Note:** If you want to use all IRCs, then use 'ALL' in the Parameter list.

Additionally, the "TO DATE" is determined based on the Effective Date specified for the Batch and the "FROM DATE" for each IRC is determined by referring to the last (maximum) effective date in the current historical rates table +1 day.

There is one exception to the calculated "FROM DATE". In cases where a new Hybrid IRC is generating rates for the first time, then the minimum Effective Date from the Parent IRC is used as the "FROM DATE".

**Note:** Hybrid Rates generated by the Generate Rates procedure are written to the FSI\_IRC\_RATE\_HIST table. Outputs from the procedure can be verified within the Interest Rates UI or by querying this table directly.

The following topics are covered in this section:

- Dependent Tables , page 10-28
- Prerequisites to running - Hybrid IRC batches, page 10-28
- Batch Creation and Running Batches, page 10-29
- Viewing Log Messages, page 10-31

## Dependent Tables

FSI\_IRCS: Holds header information of all Interest Rate Codes.

FSI\_IRC\_HYBRID\_STRUCT\_WEIGHT: Holds the Hybrid IRCs' - interest rate term, interest rate term mult and rate weightage. It is the child Table of FSI\_IRCS.

FSI\_IRC\_RATE\_HIST: This Output table holds calculated rates for the Hybrid IRCs, as well as all historical rates for non-hybrid IRCs input through the Interest Rates UI or loaded directly using the interest rates data loader program.

FSI\_MESSAGE\_LOG: Holds error log information.

DATE\_TASK\_MASTER: Located in the Config Schema, this table should have a seeded date for IRC\_HYBRID\_SCHEDULER DT.

DATE\_TASK\_STEP\_PRECEDENCE : Similar to DATE\_TASK\_MASTER, this table should also have an entry for IRC\_HYBRID\_SCHEDULER DT

## Prerequisites to Running Hybrid IRC Batches

- The Function FN\_FSI\_IRC\_HYBRID\_SCHEDULER should be in "compiled" status in the ATOMIC schema. Sometimes, the functions created in Database can be in invalid state due to some issues (by the installer), so you can use compile option in DB to get them in valid state.
- Users can create the ICC batch using the "IRC\_HYBRID\_SCHEDULER" rule name, which is seeded with the installation.
- Hybrid IRC rates are calculated based on their underlying standard IRC rates, which are also stored in the FSI\_IRC\_RATE\_HIST table. Historical Rates should already exist for all parent and dependent IRCs for the relevant effective date range.

**Note:** Seeded data related to Batch information should be present in the DATE\_TASK\_MASTER and DATE\_TASK\_STEP\_PRECEDENCE tables in the Config schema.

## Batch Creation

As mentioned earlier, there are two methods for creating and running batch processes, ICC Batch and Simplified Batch. The following section describes how to setup and run Hybrid Rate Generation using both approaches.

### Running Hybrid Rate Generation using ICC Batch:

1. Navigate to: *Common Object Maintenance > Operations > Batch Maintenance > Create Batch*

- Component = "Transform Data"

- Rule Name = "IRC\_HYBRID\_SCHEDULER"

- Parameter List = 'IRC\_Code'

**Note:** If you want to use all IRCs, then use 'ALL' in the Parameter list.

The screenshot shows the 'Batch Maintenance' application window. It features a search bar at the top with fields for 'Batch ID Like' (containing 'ALMINFO\_'), 'Batch Description Like' (containing 'NewBatch1'), and 'Module'. Below the search bar is a table with columns for 'Batch Name', 'Batch ID', 'Batch Description', and 'Batch Edit/Non Edit'. The table contains one entry: 'ALMINFO\_BATCH1' with 'NewBatch1' as the description and 'E' as the edit status. Below the table is a 'Task Details' section with columns for 'Task ID', 'Task Description', 'Metadata Value', 'Component ID', and 'Precedence'. The table contains one entry: 'Task1' with 'null' as the description, 'IRC\_HYBRID\_SCHEDULER' as the metadata value, 'TRANSFORM DATA' as the component ID, and an empty precedence field.

2. Save the batch
3. Navigate to: *Applications > Common Object Maintenance > Operations > Batch Execution*
4. Search for and Select the Batch created under Batch Maintenance.
5. Input the "Information Date" for the batch.
6. Select "Execute Batch"

**To schedule a future Hybrid Rate Generation Batch Process, or to schedule Hybrid Rate Generation Batch Process on a recurring basis, do the following:**

1. Navigate to *Applications > Common Object Maintenance > Operations > Batch Scheduler*.

2. Search for and select the Batch to schedule.
3. Select New Schedule or Existing Schedule:  

**Note:** An Existing Schedule can be selected only if there are existing scheduled batches to view.
4. If New Schedule is selected, the New Schedule grid appears. Enter the Scheduled task name.  

\_ To run the Hybrid Rate Generation process once, select once. Go to Step 6, page 10-30.

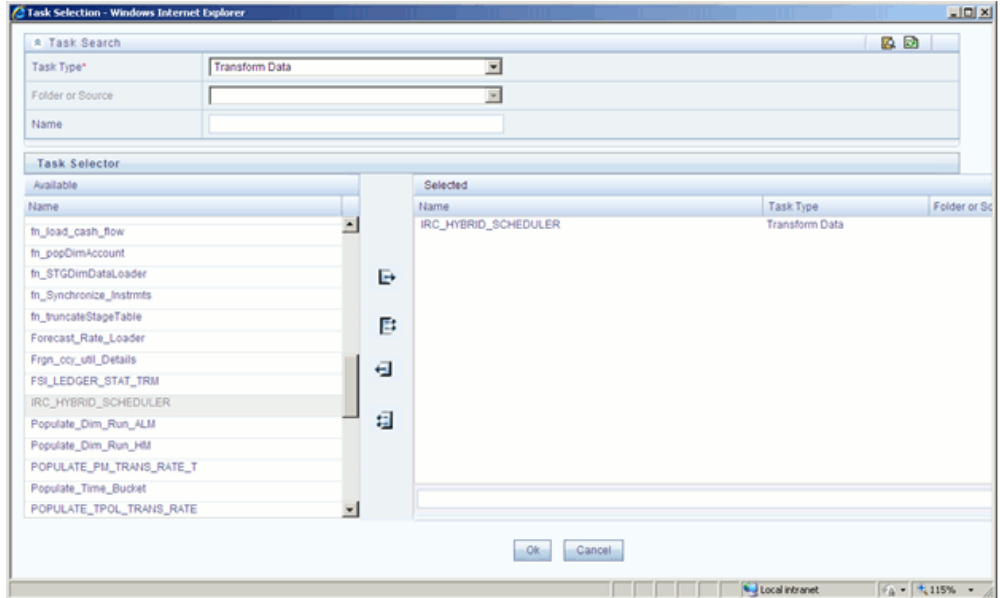
\_ To schedule the Hybrid Rate Generation on a recurring basis, select Daily, Weekly, Monthly or Adhoc.
5. In the Schedule Task grid, in the Date field, enter the start date and end date.
6. In the Run Time field, input the time for the next validation to be run.
7. Click **Save** to set the schedule as specified or **Cancel** to drop your changes.  

Any error messages or warnings generated during the Hybrid Rate Generation process are displayed in the View Log. (See Viewing the Messages, page 10-31)

### Running Hybrid Rate Generation using Simplified Batch

To run Hybrid Rate Generation using Simplified Batch, use the following steps:

1. Under Financial Service Applications, click *Applications > Common Object Maintenance > Operations > Simplified Batch > Add*.
2. From the Task Details block, click Select Task. In the Task Selection window, choose Task Type as Transform Data. Then, click Search. In the Task Selector, Scroll down the left shuttle box (Available tasks) and select IRC\_HYBRID\_SCHEDULER (move to right shuttle box), then click **Ok**.



3. Enter the parameters and click **Save**.
4. In the Simplified Batch summary page, search for and select your Hybrid Rate Generation batch, then click the Run icon.
5. Click YES to confirm you want to continue, enter a date (this will be your "TO DATE") and click **Ok** to continue.
6. You will receive a message that the batch has been successfully launched.
7. Click **Ok**. When the batch is complete, optionally navigate to Operations > View Log to view the processing log.

Any error messages or warnings are accessible from the View Log screen. (See Viewing the Messages, page 10-31)

**Note:** Simplified Batch does not yet provide access to logs for Transform Data tasks.

## Viewing Log Messages

Any error messages or warnings generated during the Rate Generation Batch are displayed in the Log Information window. To access this window:

1. Click *Operations > View Log*.
2. Enter search criteria: Data Transformation and related Batch ID

3. Select the Task ID hyperlink to view the log information

Users can additionally query the FSI\_MESSAGE\_LOG table directly to view the error log details.

## Data Loader

The Data Loader Icon executes a function to import historical interest rates and parameters for all defined IRCs. For more information on setting up the automated process, see *Oracle Financial Services Analytical Applications Data Model Utilities User Guide*.

To execute a data load, click the Data Loader icon. A warning message will appear *Update all available interest rates and parameters?*

**Note:** Upon clicking the data loader icon, the loader will execute all interest rates and parameters.

The screenshot shows the 'Interest Rates' application window. At the top, there is a search bar with fields for 'Code', 'Name', 'Currency', and 'Rate Format'. Below the search bar is a table with columns: Code, Name, Rate Format, Compound Basis, Accrual Basis, Currency, Curve Type, Creation Date, Created By, Last Modification Date, and Last Modified By. The table contains five rows of data. A red box highlights the 'Data Loader' icon in the table's toolbar.

Code	Name	Rate Format	Compound Basis	Accrual Basis	Currency	Curve Type	Creation Date	Created By	Last Modification Date	Last Modified By
1	IRcone	Zero Coupon Yield	Annual	Actual/Actual	US Dollar	Interest Rate Curve	8/19/2014 10:31:34	JILNA	8/28/2014 11:38:14	JILNA
2	irc2	Zero Coupon Yield	Annual	Actual/Actual	Dollar	Interest Rate Curve	8/28/2014 06:51:37	JILNA	8/28/2014 06:51:50	JILNA
55	fgfgg	Zero Coupon Yield	Annual	Actual/Actual	Dollar	Interest Rate Curve	8/28/2014 08:16:44	ALM#M80USER		
78	sd	Zero Coupon Yield	Annual	Actual/Actual	Dollar	Interest Rate Curve	8/28/2014 07:48:46	ALM#M80USER	8/28/2014 07:48:55	ALM#M80USER
131	PAR_TSY_1YR	Zero Coupon Yield	Annual	Actual/Actual	US Dollar	Interest Rate Curve	11/7/2012 17:35:57	JOBUSER28	11/7/2012 17:36:02	JOBUSER28

## Currency

Upon initially navigating to Common Object Maintenance > Rate Management > Currency, a summary screen displays a comprehensive list of more than 170 seeded ISO currency codes.



Currencies					
<input type="text"/>					
Currency Code		<input type="text"/>	Currency Name		<input type="text"/>
Status	<input type="text"/>		Reporting Currency	<input type="text"/>	

Currencies					
<input type="checkbox"/> Code ▲	Currency Name	Reference Interest Rate Code	Reporting Currency	Status	
<input type="checkbox"/>			No	Inactive	
<input type="checkbox"/>	ALL	Albanian Lek	Yes	Active	
<input type="checkbox"/>	AMD	Armenia Dram	No	Active	
<input type="checkbox"/>	AUD	Australian Dollar	IRC21 Test	No	Active
<input type="checkbox"/>	AWE	hello	Yes	Active	
<input type="checkbox"/>	EUR	Euro (European EMU)	1. ING Yield Curve	Yes	Active
<input type="checkbox"/>	GBP	Pound Sterling	GBP Libor	Yes	Active
<input type="checkbox"/>	RUR	Russian Ruble		Yes	Active
<input type="checkbox"/>	USD	US Dollar	1 YR Treasury Index	Yes	Active

## Search Container

A Search container is provided in which you may search for currencies by Name, by Currency (by ISO currency code), by status or by reporting currency.

## Search Control

Enter your desired search criteria and click on the Search control.

## Reset Control

Clicking on the Reset control removes search constraint you may have specified and refreshes the screen.

## Currencies Container

The Currencies container presents a grid containing all of the currencies that meet your search criteria. The Currencies summary grid offers several controls that allow you to perform different functions when a currency is selected.

To select a currency, click on a check box in the first column of the grid. More than one currency can be selected at a time but this will cause some of the controls to become disabled. Clicking on a checkbox a second time de-selects the currency.

You may select or deselect all of the currencies in the summary grid by clicking on the check box in the upper left hand corner of the summary grid directly to the left of the Code column header.

## Add

Clicking on the Add control begins the process of adding a new currency. The Add control is disabled if any rows in the grid have been selected.

## Edit

Selecting a single row out of the grid enables the Edit control. Clicking on the Edit control allows you to modify an existing currency. The Edit control is only enabled when a single currency has been selected.

**Note:** You can control the number of rows to display on screen by selecting the "Pagination Options" icon from the action bar.

## Delete

Selecting one or more rows out of the grid enables the Delete control. Clicking on the Delete control deletes the currency or currencies you have selected.

## Check Dependencies

Select a currency and then click the Check Dependencies control to generate a report on all rules that utilize your selected currency.

The Check Dependencies control is only enabled when a single currency has been selected.

## Currencies Summary Grid

The following columns categorize each currency shown in the summary grid:

- Code
- Currency Name
- Reference Interest Rate Code
- Reporting Currency
- Status

## Code

For seeded currencies, these are ISO Currency Codes. For user-defined currencies, these may be any pure character string (no numbers) up to a length of 3 characters.

## Currency Name

For seeded currencies, these are ISO Currency Codes. For user-defined currencies, these may be any string up to a length of 40 characters.

## Reference Interest Rate Code

Reference Interest Rate Code is the Interest Rate Code with which a currency is associated for forecasting purposes. You may define multiple yield curves each of which has the same Reference Currency, but a currency may only have one Reference Interest Rate Code.

## Reporting Currency

A reporting currency is an active currency to which balances in other currencies may be consolidated in order to facilitate reporting. Balances in reporting currencies may be, in turn, consolidated to the functional currency. For example, an American multinational bank might consolidate its holdings in Asian currencies to the Japanese yen (reporting currency) and its balances in European currencies to the Euro (reporting currency) after which it might consolidate these reporting currencies to the U.S. dollar (functional currency).

## Status

The status of any currency may be either Active or Inactive. You must "activate" a currency before you can:

- Define that currency as a Reference Currency for a yield curve (see Reference Currency above under the section entitled Interest Rates Detail Screen)
- Enter exchange rate data for a currency (see the section below entitled Currency Rates)
- Define Forecast Rates for that currency within OFSAA Asset Liability Management (see Forecast Rates in the *Oracle Financial Services Asset Liability Management (OFSALM) User Guide*)

## Editing Currencies

To edit a currency, select a currency and then click on the Edit control. You may not modify any currency Code value. You may, however, modify Currency Name, the Reference Interest Rate Code, the Reporting Currency value (limited to Yes or No), or the currency's Status (limited to Active or Inactive).

You may not inactivate any currency that is:

- Defined as the Reference Currency for any yield curve
- Associated with any exchange rate data
- Utilized within any Forecast Rates rule within OFSAA Asset/Liability Management

Once you have completed your edits, click **Save**.

## Adding Currencies

The first row in the Currencies container is an empty row that is ready for you to edit as a new currency. You may select this empty row, click on the Edit control, and generate a new currency. You may also generate a new currency by clicking on the Add control. This will generate another empty row at the top of the Currencies container that is ready for you to edit.

## Deleting Currencies

Click on one or more currencies and then select the Delete control. You may not delete any currencies that are utilized elsewhere in the system (see exclusions above under Editing Currencies).

## Currency Rates

Upon navigating to Common Object Maintenance > Rate Management > Currency Rates, the Currency Rates screen is displayed. Within this screen, you may manage historical exchange rates between currencies.



The screenshot shows the 'Currency Rates' screen with a 'Currency Selection' section. The form contains the following fields:

Currency Selection			
From Currency*	US Dollar	To Currency *	
Rate Type*	Floating Rate	Effective Date Range	Last Month
From Date	12.Feb.2013	To Date	12.Mar.2013

For ALM, TP and PFT, **From Currency** is to be defaulted to the Initial Currency selection from the Assumption Management Defaults in the active Application Preferences UI. You may select another From Currency. The From Currency drop-down list displays all Active currencies.

## Preparing to Work with Exchange Rate Data

In order to begin the process of viewing, entering, modifying, or deleting exchange rate data, you must supply a "To Currency" value. As with the From Currency, the To Currency drop-down list box displays only Active currencies.

Currency Rates As of Date: 25/06/2014

---

**▲ Currency Selection**

From Currency*	US Dollar	To Currency *	Albanian Lek
Rate Type*	Floating Rate	Effective Date Range	Last Month
From Date	16/06/2015	To Date	16/07/2015

---

**▲ Floating Currency Rates** Exchange Rate per 1 unit of Albanian Lek

<input type="checkbox"/>	Effective Date	Albanian Lek	Status	Data Source Code
<input type="checkbox"/>				
<input type="checkbox"/>	13/07/2015	4.000000000	Valid	UI

After having selected a To Currency value, select a value for Rate Type: Floating Rate or Fixed Rate (the default selection is Floating Rate). Once you have selected a To Currency value, a second container is displayed: Floating Currency Rates (if you have chosen a Rate Type of Floating Rate) or Fixed Currency Rates (if you have chosen a Rate Type of Fixed Rate).

## Floating Rates

Floating exchange rates, such as those between the US Dollar (USD), the Pound Sterling (GBP), the Japanese Yen (JPY), and the Euro (EUR), are market driven and may change from day-to-day, hour-to-hour, or minute-to-minute.

## Fixed Rates

Some countries, especially smaller countries or countries that have experienced significant inflation in the recent past, may wish to "peg" their currency to a larger, more stable currency such as the US Dollar, Japanese Yen, or Euro.

## Adding Exchange Rate Data

Once you have specified a value for To Currency, the Floating Currency Rates container appears. If you wish to define a Fixed Rate relationship, select the "Fixed Rate" Rate Type and the Floating Currency Rates container will be replaced by the Fixed Currency Rates container.

Both Currency Rates containers initially display a single blank row followed by the most recent month's exchange rate data (if any such exchange rate data already exists). To enter a single new exchange rate data point, enter your data into the blank row and click **Save**.

## Effective Date

Directly enter a date or select the calendar control to choose an effective date for your new exchange rate data point.

Rate Management stores historical exchange rate data. You may not enter exchange rate data for dates greater than the current date. For more information regarding rate forecasts and the relationship between historical exchange rates for forecasted exchange rates, see *Forecast Rate Scenarios* chapter. If you have gaps in your historical exchange rate data, any OFS Analytical Application that needs to perform a rate translation function will fall back to the most recent date for which exchange rate data exists. For example, if an OFS Analytical Application needs to translate a rate from USD to EUR for February 22, 2010 and the latest available USD to EUR rate data in the Rate Management database is February 11, 2010, the application will utilize the exchange rate for February 11, 2010.

## Status

Status is a read-only display which is updated after the Currency Rates Validation has been run. For more information, refer to Currency Exchange Rate Validation, page 10-41

## Data Source Code

The Data Source Code is displayed read only and indicates whether the rates were input through the UI or via the data loader.

## Currency Exchange Rate

For both Floating Rates and Fixed Rates, units of the From Currency are converted to one unit of the To Currency. For example:

From Currency	To Currency	Approximate Rate
USD – US Dollar	GBP – Pound Sterling	1.50

USD – US Dollar	EUR – Euro	1.36
USD – US Dollar	JPY – Japanese Yen	0.01105

### Adding Multiple Exchange Rates

Click **Add** to add additional blank rows into which you may enter additional Effective Dates and Exchange Rates. When you have finished adding multiple new exchange rates, click **Save**.

### Editing Exchange Rate Data

Clicking on the check box on the left hand side of any row of data enables the **Edit**. After clicking **Edit**, the row becomes active and you may edit Effective Date and/or the Exchange Rate after which you may Save your changes.

### Viewing Exchange Rate Data

By default, both the Floating Currency Rates container and the Fixed Currency Rates container display the most recent month of historical exchange rate data. You can control the amount of data displayed by selecting a different value from the Effective Date Range drop-down list box in the Currency Selection container.

As of Date: 25/06/2014

**Currency Selection**

From Currency\*  To Currency\*

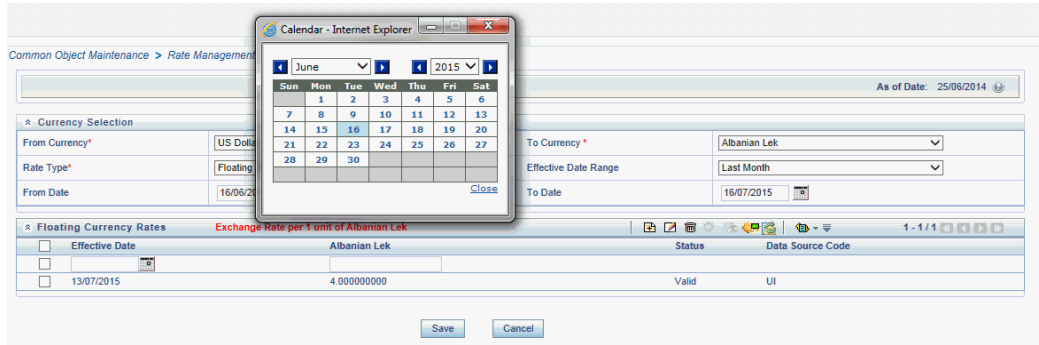
Rate Type\*  Effective Date Range

From Date  To Date

**Floating Currency Rates** Exchange Rate per 1 unit of Albanian Lek

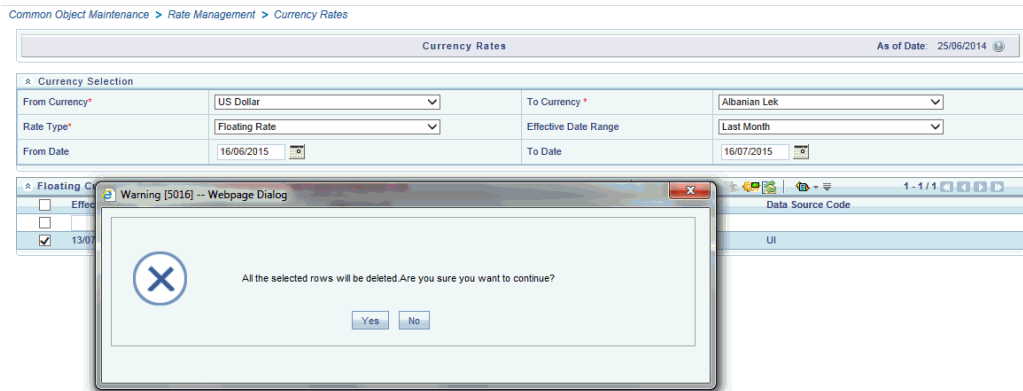
<input type="checkbox"/> Effective Date	Albanian Lek	Status	Data Source Code
<input type="checkbox"/> 13/07/2015	4.00000000	Valid	UI

You may also choose to view a specific range of effective dates by modifying the From Date, the To Date, or both dates within the Currency Rates container.



## Deleting Exchange Rate Data

Clicking on one or more check boxes on the left hand side of any row of data enables the Delete button. After clicking **Delete**, you will be asked to confirm that you wish to delete the rows you have selected.



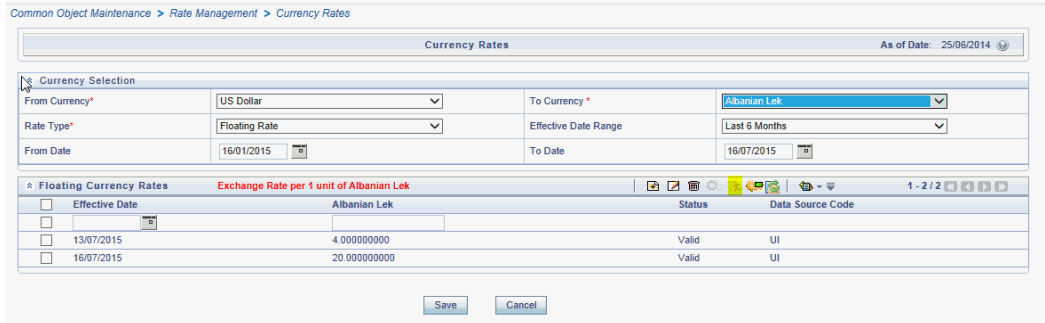
## Data Loader

The Data Loader Icon executes a function to import historical Currency rates for all defined Currencies. For more information on setting up the automated process, see *Oracle Financial Services Analytical Applications Data Model Utilities User Guide*.

To execute a data load, click on the Data Loader icon. A warning message will appear *Upload all available Currency Rates?*

**Note:** Upon clicking on the data loader icon, the loader will execute all currency rates.

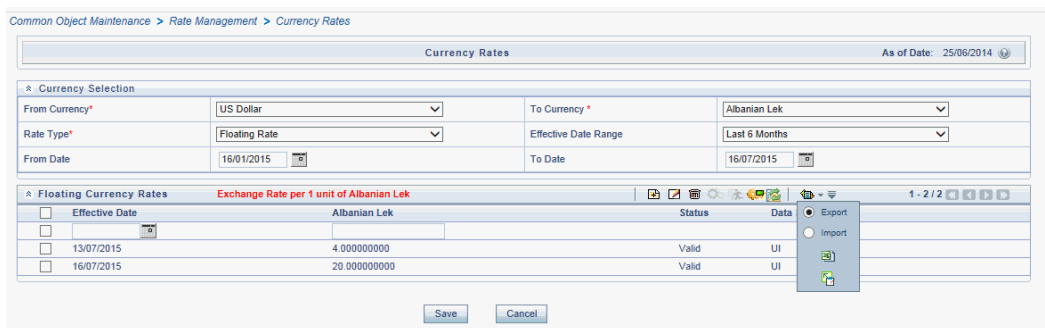




## Excel Import/Export

Excel import/export functionality is used for adding/editing historical exchange rates. For more details, refer Excel Import/Export, page 10-14 .

**Note:** To export exchange rates, "Enable visual style buttons and controls in webpages" option in Internet Explorer should be enabled. Otherwise, it may show error message.



## Currency Exchange Rate Validation

### Currency Rate Validation – Overview

#### Features:

Exchange Rate Validation contains the following features:

- Movement of historical exchange rates to the Currency Direct Access table.
- Calculation of inverse exchange rates for reporting currencies.
- Calculation of triangulated exchange rates where possible.

**Note:** This feature is equivalent to the Rate Validation capability in OFSA 4.5 Rate Manager.

## Exchange Rate Validation – Feature Description

The goal of exchange rate validation is to ensure that exchange rates from all active currencies to all reporting currencies are available for processing in OFSAA applications. Some of these rates may come from the validated direct input, others are calculated based on relationships with other rates. To support triangulation, all fixed exchange rates are available for all currencies that make up a conversion that needs to be triangulated. In addition, a direct exchange rate between each Child currency and each reporting currency is calculated and supplied to support quick access to exchange rates. If a Child currency is a reporting currency, then exchange rates are calculated for all currencies having an exchange relationship with the Parent currency.

## Currency Rate Validation – Procedure

1. Load currency rates through the Rate Management UI or by using the Historical Rate Data Loader. Notice the initial status is "Not Yet Validated".
2. Execute the Currency Rate Validation engine.

For more information, refer to Running an Exchange Rate Validation, page 10-44.

### Example

Navigate to: *Operations > Batch Maintenance > Create Batch*

- Component = "Transform Data"

- Rule Name = "Rate\_Validation"

- Parameter List (Required) = FROM\_DATE and TO\_DATE, for example, '20110101', '20110131'

**Note:** After completion of the validation process, notice the status in the Currency Rates UI changes to **Valid** or in case there is an issue, **Invalid**.

3. View both input and calculated results in the FSI\_EXCHNG\_RATE\_DIRECT\_ACCESS table.
4. All of the OFSAA processing engines read from this table for sourcing historical exchange rates.

**Note:** Executing Rate Validation is a **required** step when multi-currency setup is enabled. All of the OFSAA processing

engines require exchange rates to be validated through this process in order to convert results from base currency to a selected reporting currency. If exchange rate validation is not run or required exchange rates are not available, the engines will use default exchange rates = 1.

## Validating Exchange Rate Relationships

Users should run the exchange rate validation process after adding or modifying exchange rate data. You can run the process immediately or schedule one or more to be run in the future.

Each exchange rate is placed in one of the following statuses:

---

Status	Description
Not Yet Validated	The exchange rate has been input or loaded but not yet validated
Valid	The exchange rate has been validated.
Invalid	The exchange rate has violated one or more acceptance rules.

---

Only exchange rates in Valid status are available for processing and they are not subject to future validation unless you edit them.

The rate validation status is displayed in the Rate Management > Currency Rates UI.

## Exchange Rate Validation Criteria

In the rate validation process all exchange rate relationships in the database are examined for compliance with the following criteria. Error messages and warnings are displayed if one or more criteria are not met. (See *Viewing the Messages* section.)

1. If a currency is defined as a Child in a fixed exchange relationship then it must not be in any floating (standard) exchange rate relationship at the same time. Consequently all floating exchange rates to or from the Child currency must be defined through the Parent currency. If this criterion is not met then the following message is displayed : *Invalid fixed relationship – Child currency exists in a standard exchange rate within the same time period.*
2. A Child currency within a fixed relationship must not be a Child currency in any other fixed relationship during the same time period. If this criterion is not met then

the following message is displayed : *Invalid fixed relationship—Child currency already exists in a fixed relationship for same time period.*

3. A circular relationship must not exist. In other words, a Child currency cannot link back to its Parent in any other fixed rate relationship within the same time period. If it does, then the following message is displayed : *Invalid fixed relationship creates circular relationship with other fixed exchange rates.*
4. Regarding new floating (standard) exchange rates, From and To currencies must not exist as Child currencies within any fixed exchange rate relationships. If this criterion is not met then the following message is displayed : *From/To/Both currency(ies) in new exchange rate already exist in a fixed relationship for the same time period.*
5. If any exchange rate is equal to 0, then a warning message is displayed. Generally speaking, 0 is a valid value. You can use it, for example, to designate an exchange rate with a currency of a country that no longer exists.

If two exchange rate relationships fail to meet these criteria then both of them will be labeled Invalid. (Exception: if one of the relationships is already in Valid status, then the other one will be labeled Invalid.) For example, if a currency is defined as a Child in a fixed rate relationship and is also defined as being in a floating relationship at the same time, then both fixed and floating rates for that currency will be labeled Invalid.

If there are both direct and inverse floating exchange rates defined for any two currencies (in other words, one currency is both a To and a From currency in relation to the other), then both relationships will be marked Valid.

### **Running an Exchange Rate Validation**

You can run a validation immediately or schedule one or more for later. The validation status is displayed in the Rate Management > Currency Rates UI.

#### **Running a Validation Immediately**

You can execute exchange rate validation using the "Currency Rates validation" option from the toolbar.

To execute exchange rate validation from the Currency Rates user interface, the following two options are available:

- **Specify Dates:** When you select this option, a **Select Dates** section will be displayed that allows you to input/verify the FROM\_DATE and TO\_DATE parameters and these dates will be passed to the batch for execution.

FROM\_DATE: This is defaulted to the date of last rate validation.

TO\_DATE: This is defaulted to the current date.

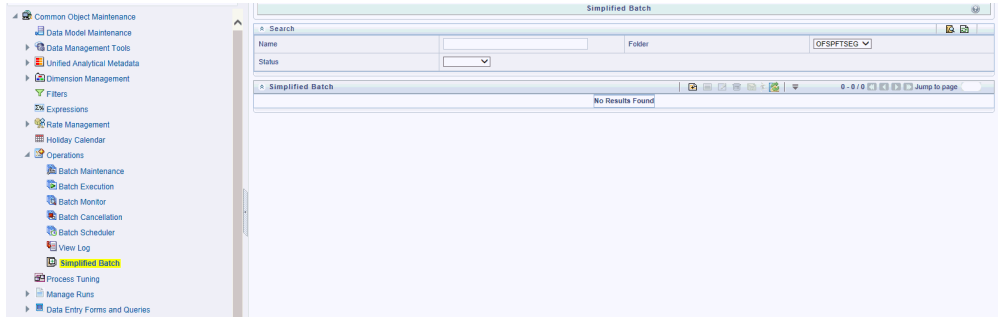
- **Validate For All Dates:** If you select this option, then it will validate all rates irrespective of dates.

**Note:** This option will replace all of the validated exchange rate history and can be a time consuming process depending on the amount history available to be processed.

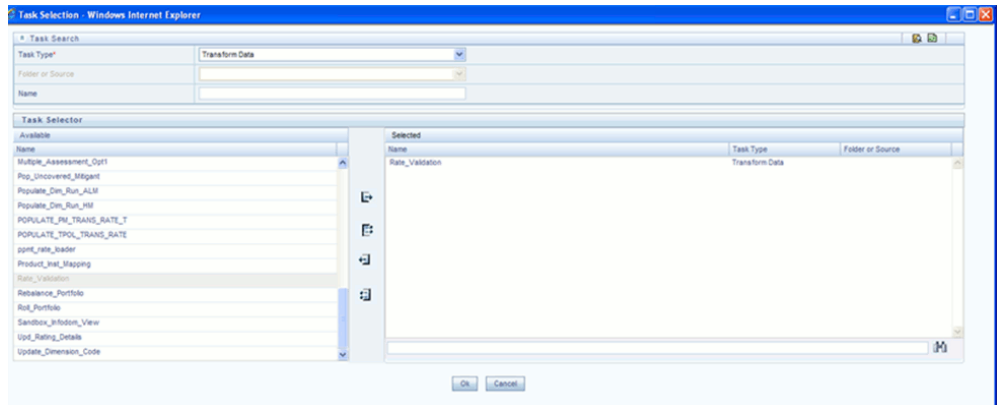
You can execute rate validation using a Simplified Batch process or from the ICC Batch Screen, within the OFSAAI framework. You can also launch it from the Currency Rates UI (Currency Rates Validation toolbar button).

To run the validation using Simplified Batch, perform the following steps:

1. Click Common Object Maintenance-> Simplified Batch -> Add.



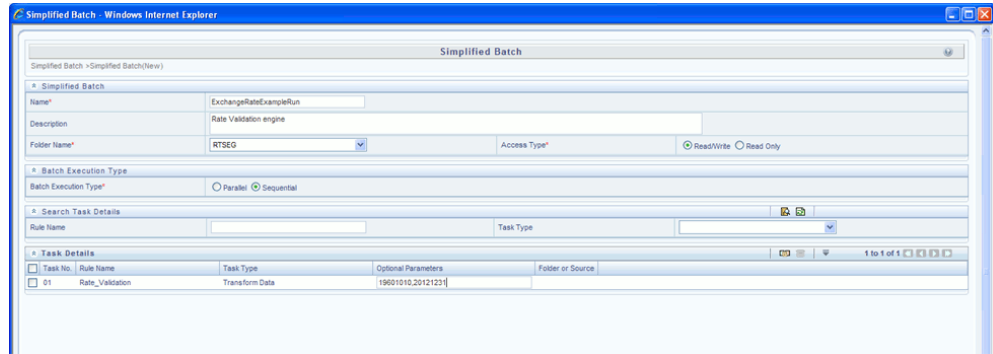
- From the Task Details block, click Select Task. In the Task Selection window, choose Task Type as Transform Data. Then, click Search. In the Task Selector, Scroll down the left shuttle box (Available tasks) and select Rate\_Validation (move to right shuttle box), then click **Ok**.



- Back in the Simplified Batch definition window, enter the optional parameters to specify the From and To dates, using the format 'YYYYMMDD','YYYYMMDD'.

**Note:** FROM\_DATE and TO\_DATE should not be the same value. Set FROM\_DATE equal to the last rate validation date and TO\_DATE to the current date. This will ensure that the Effective To Date for the prior record is set correctly.

Then click **Save**.



4. In the Simplified Batch summary page, search for and select your batch, then click Run.
5. Click Yes to confirm you want to continue, enter a date and click **Ok** to continue.
6. You will receive a message that it has been successfully launched.
7. Click **Ok**. When the batch is complete, optionally navigate to Operations -> View Log to view the processing log.

Any error messages or warnings are displayed in View Log. (See Viewing the Messages, page 10-51)

**Note:** Simplified Batch does not yet provide access to logs for Transform Data tasks.

To run the validation using the ICC Batch Framework, perform the following steps:

1. Navigate to Operations -> Batch Maintenance -> Add, and create a new batch.
2. Search for the above batch, and select it.
3. In the Task Details block (toolbar), click Add. In the Task Selection window, choose Task Type as Transform Data. Then, click Search. In the Task Selector, Scroll down the left shuttle box (Available tasks) and select Rate\_Validation (move to right shuttle box), then click **Ok**.
4. Back in the Task definition window, select the Rule Name Rate\_Validation and enter the optional parameters to specify the From and To dates, using the format 'YYYYMMDD','YYYYMMDD'.

**Note:** FROM\_DATE and TO\_DATE should not be the same value. Set FROM\_DATE equal to the last rate validation date and TO\_DATE to the current date. This will ensure that the Effective To



Date for the prior record is set correctly.

Then click **Save**.

5. Navigate to Operations -> Batch Execution. Search for and select your batch, enter Information Date, then click **Execute Batch**.
6. Click **Ok** to confirm you want to continue.
7. A message is displayed stating Batch triggered successfully, also displaying the Batch Run ID.
8. Click **Ok**.
9. To view rates, query the database table FSI\_EXCHNG\_RATE\_DIRECT\_ACCESS after the run is complete.

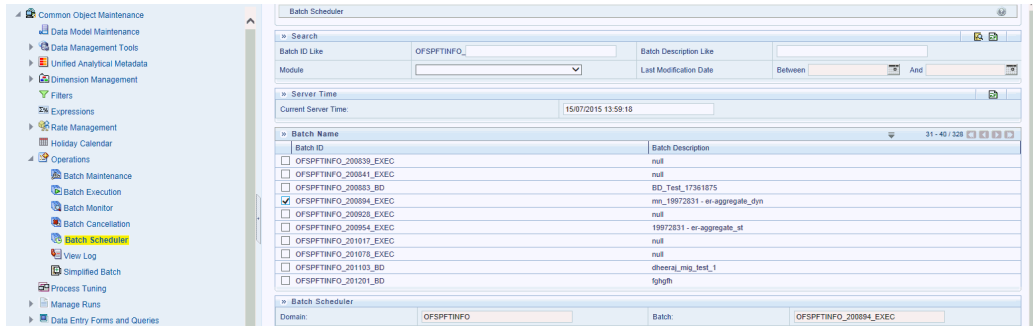
FSI\_EXCHNG\_RATE\_DIRECT\_ACCESS: This output table holds the valid currency codes and their exchange rate with respect to the reporting currency for a period of time say "from date" value to optional "to date" value. When Exchange Rate Validation runs, if data already exists for the selected date range, the Rate Validation package will overwrite the existing values. If no dates are given, the Rate Validation package truncates this table and re-loads data for the entire historical date range. The following describes the structure of the FSI\_EXCHNG\_RATE\_DIRECT\_ACCESS table:

Column Name	Nullable	Data Type
FROM_CURRENCY_CD	Not Null	varchar2(15)
TO_CURRENCY_CD	Not Null	varchar2(15)
EFFECTIVE_FROM_DATE	Not Null	Date
EFFECTIVE_TO_DATE	Not Null	Date
EXCHANGE_RATE	Not Null	Number(15,9)
EXCHANGE_RATE_CONV ERT_TYPE_CD	Not Null	Number(5)
EXCHANGE_RATE_CONV _FORMULA	Not Null	Number(15)

- When the batch is complete, optionally navigate to Operations -> View Log to view the processing log.

Any error messages or warnings are displayed in View Log. (See Viewing the Messages, page 10-51)

## Scheduling One or More Validations



To schedule a future validation, or to schedule validations on a recurring basis, do the following:

- Navigate to Operations -> Batch Scheduler.  
The Batch Scheduler window appears.
- In the Batch Name block, select the Scheduled Batch ID.  
An unchecked box means that no validation is scheduled to run.
- Select New Schedule or Existing Schedule:  
Existing Schedule can be selected only if there are existing schedule batches to view.  
If New Schedule is selected, the New Schedule grid appears. Enter the Scheduled task name.  
\_ To run the validation once, select once. Go to Step 5.  
\_ To schedule the validation on a recurring basis, select Daily, Weekly, Monthly or Adhoc.
- In the Schedule Task grid, in the Date field, enter the start date and end date.
- In the Run Time field, input the time for the next validation to be run.
- Click **Save** to set the schedule as specified or **Cancel** to drop your changes.  
Any error messages or warnings generated during the validation process are displayed in the View Log. (See Viewing the Messages, page 10-51)

## Viewing the Messages

Any error messages or warnings generated during the exchange rate validation process are displayed in the Log Information window. To access this window: Click Operations -> View Log.

Click the Task ID. The Log Information window will display.

These exception messages could also be seen in FSI\_MESSAGE\_LOG table with the help of the batch\_id which was used during execution.

## Economic Indicators Summary Screen

When you first navigate to Common Object Maintenance > Rate Management > Economic Indicators, an empty screen will be displayed. After you have constructed one or more Economic Indicators, navigating to Common Object Maintenance > Rate Management > Economic Indicators will display a summary screen showing each of the Economic Indicators that you have previously built.



Name	Country	Creation Date	Created By	Last Modification Date	Last Modified By
Econom	Argentina	8/18/2014 07:05:33	JILNA		

## Search Container

A Search container is provided in which you may search for Economic Indicators by Name or by Country. Each Economic Indicators rule is specific to one country.

## Search Control

Enter your desired search criteria and click on the Search control.

## Reset Control

Clicking on the Reset control removes any Name or Country constraint you may have specified and refreshes the screen.

## Economic Indicators Container

The Economic Indicators container presents a grid containing all of the Economic Indicators that meet your search criteria. The Economic Indicators summary grid offers several controls that allow you to perform different functions when an Economic Indicators is selected.

To select an Economic Indicators, click on a check box in the first column of the grid. More than one Economic Indicators can be selected at a time but this will cause some of the controls to become disabled. Clicking on a checkbox a second time de-selects the row.

You may select or deselect all of the Economic Indicators in the summary grid by clicking on the check box in the upper left hand corner of the summary grid directly to the left of the Name column header.

### **Add**

Clicking on the Add control begins the process of building a new Economic Indicator. The Add control is disabled if any rows in the grid have been selected.

### **View**

Selecting a single row out of the grid enables the View control. Clicking on the View control allows you to view the contents of an Economic Indicator on a read-only basis. The View control is only enabled when a row has been selected.

### **Edit**

Selecting a single row out of the grid enables the Edit control. Clicking on the Edit control allows you to modify a previously saved Economic Indicator. The Edit control is only enabled when a single row has been selected.

### **Delete**

Selecting one or more rows out of the grid enables the Delete control. Clicking on the Delete control deletes the Economic Indicators you have selected.

### **Copy**

Selecting a single row out of the grid enables the Copy control. Clicking the Copy control allows you to create a copy of an existing economic indicator. The Copy control is only enabled when a single economic indicator has been selected.

### **Check Dependencies**

Select an interest rate curve and then click the Check Dependencies control to generate a report on all rules that utilize your selected economic indicator.

The Check Dependencies control is only enabled when a single economic indicator has been selected.

### **Data Loader**

The Data Loader Icon executes a function to import historical economic indices for all defined Economic Indicators. For more information on setting up the automated process, see *Oracle Financial Services Analytical Applications Data Model Utilities User*

*Guide.*

To execute a data load, click on the Data Loader icon.

A warning message will appear "Upload all available Economic Indicators?" Click Ok, and all historical indices will be loaded.

## **Economic Indicators Summary Grid**

The following columns categorize each Economic Indicator in the summary grid:

- Name
- Country
- Creation Date
- Created By
- Last Modification Date
- Last Modified By

### **Name**

Displays the Economic Indicator's short name. Performing a "mouse-over" on a row within the grid displays the Economic Indicator's detailed description.

### **Country**

Displays the Country to which an Economic Indicator applies.

### **Creation Date**

Displays the date and time at which an Economic Indicator was created.

### **Created By**

Displays the name of the user who created an Economic Indicator.

### **Last Modification Date**

Displays the date and time at which an Economic Indicator was last modified.

### **Modified By**

Displays the name of the user who last modified an Economic Indicator.

## Economic Indicators Detail Screen

When you Add, Edit, or View an Economic Indicator, the Economic Indicator Detail Screen is displayed. The Economic Indicator detail screen is comprised of an Economic Indicator Details container, an Economic Indicators – Historical Data Container, and an Audit Trail container.

The Audit Trail container is a standard footer container for every OFSAA rule type. It displays Created By, Creation Date, Last Modified By, and Modification Date on the Audit Trail tab. The User Comments tab may be used to add comments to any rule, subject to a maximum of 4000 characters.

## Economic Indicator Details Container

When creating a new Economic Indicator, you must supply a Name, a Frequency, a Value Type, and a Country. You may optionally provide a Description.



Economic Indicators			
Master Maintenance > Rate Management > Economic Indicators			
Economic Indicator Details			
Name *	10th Feb Economic		
Description	hi		
Frequency *	Monthly	Value Type *	Numeric
Country *	United States of America		

### Name

The name you give to your Economic Indicator is the means by which you will subsequently refer to your rule within other OFS Analytical Applications. You may not rename existing Economic Indicators.

### Frequency

The frequency of your Economic Indicator should match the frequency which with the indicator's data is made public. Unemployment statistics, for example, are generally released on a monthly frequency. Select a frequency from the Frequency drop-down list box. Available frequencies are Weekly, Monthly, Quarterly, Semi-Annually, and Annually.

### Value Type

Select a Value Type from the Value Type drop-down list box. Available Value Types are Numeric, Percentage, and Amount.

---

Value Type

Value Range

---

Numeric	0-999999
Percentage	-100 to +100
Amount	0-999999

## Country

Select a country to which your Economic Indicator applies from the Country drop-down list box. The value set of Countries is drawn from the seeded Country dimension. OFSAA is seeded with over 70 country values, and you may also add your own user-defined countries (see Chapter 6: OFSAA Dimension Members).

## Economic Indicators – Historical Data Container

Once you have made your selections in the Economic Indicator Details container, you may save your new rule. To build out your historical data, you must enter data within the Economic Indicators – Historical Data container.

The Economic Indicators – Historical Data container initially displays a single blank row followed by the most recent period's data (if data has previously been stored in the database).

## Start Date & End Date

Select the calendar control immediately adjacent to the End Date to choose an ending date for your Economic Indicator data point. The application will automatically populate the Start Date based on your Economic Indicator's frequency. For example, if your Economic Indicator is an unemployment statistic that has a monthly frequency, select an end date that is the last day of the month that the unemployment rate describes. In this example, the application will automatically populate the Start Date with the first day of the month you have chosen.

## Value

Enter the value for your Economic Indicator (e.g., the unemployment rate).

## Adding Multiple Data Points

Click on the Add control to add additional blank rows into which you may enter

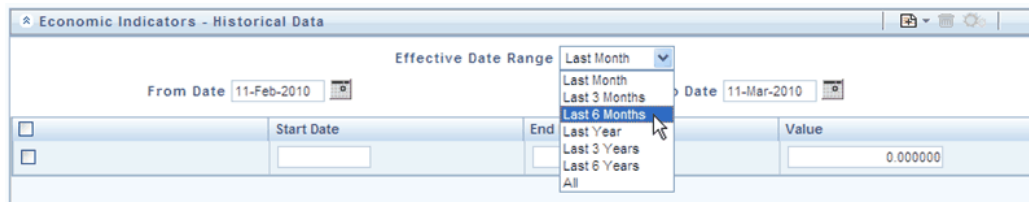
additional Economic Indicator data. When you have finished adding data, click **Save**.

## Editing Economic Indicators – Historical Data

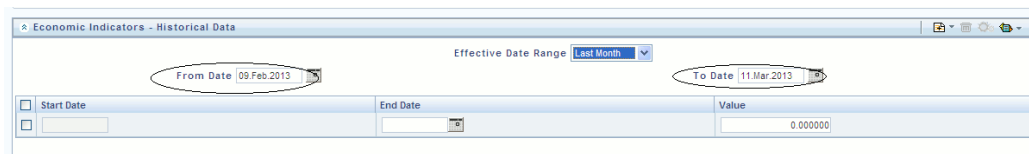
Clicking on a single check box on the left hand side of any row of data enables the Edit control. After clicking on the Edit control, the row you have selected becomes active. You may edit this row and subsequently save your changes.

## Viewing Economic Indicators – Historical Data

By default, the Economic Indicators – Historical Data container displays the most recent month of historical data. You can control the amount of data displayed by selecting a different value from the Effective Date Range drop-down list box.



You may also choose to view a specific date range by modifying the From Date, the To Date, or both dates within the Economic Indicators – Historical Data container.



## Deleting Economic Indicators – Historical Data

Clicking on one or more check boxes on the left hand side of any row of data enables the Delete control. After clicking on the Delete control, you will be asked to confirm that you wish to delete the rows you have selected.

## Data Loader

The Data Loader Icon executes a function to import historical economic indicators for all defined economic indicators. For more information on setting up the automated process, see *Oracle Financial Services Analytical Applications Data Model Utilities User Guide*.

To execute a data load, click the Data Loader icon. A warning message will appear "Upload all available Economic Indicators?"

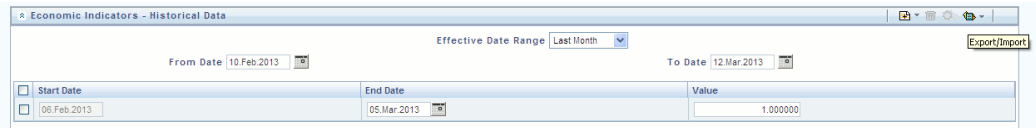


**Note:** Upon clicking the data loader icon, the loader will execute all economic indicators.



## Excel Import/Export

Excel import/export functionality is used for adding/editing historical economic indicators. For more details, refer Excel Import/Export, page 10-14.





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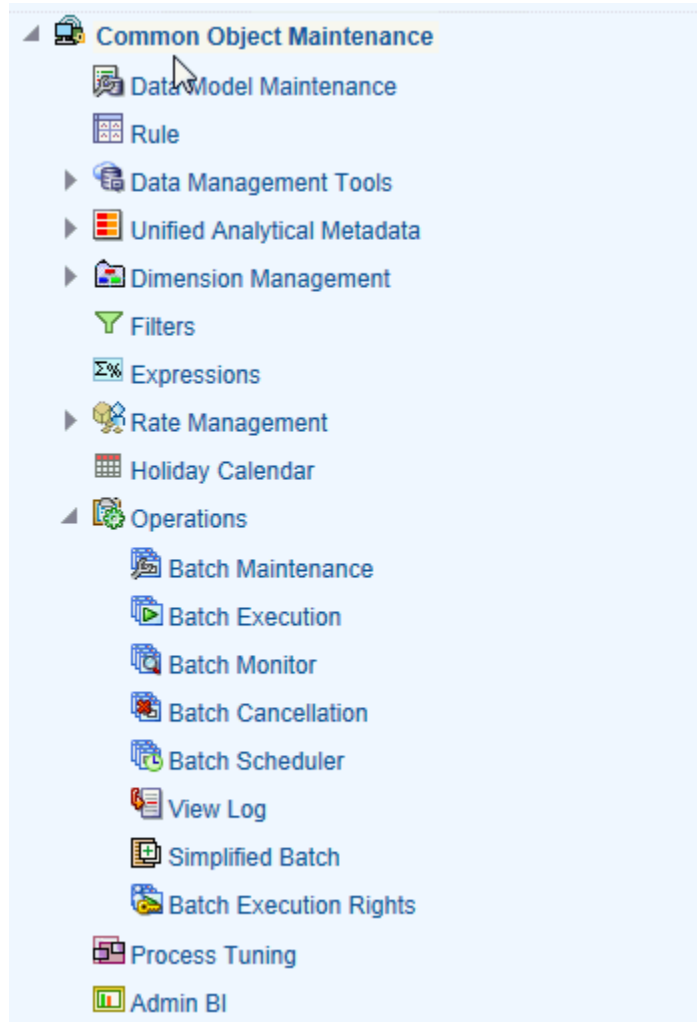
## Simplified Batches

### Overview of Simplified Batches

Simplified Batches provide a streamlined version of the functionality available in the broader standard Oracle Financial Services Analytical Applications (OFSAA) Infrastructure batch module (Common Object Maintenance > Operations). The Simplified Batch feature is designed to facilitate creation, maintenance, and execution of batches for the EPM application engines and various other OFSAA components. Users will find its drag-and-drop approach to task selection especially helpful in the management of large batches.

### Standard OFSAA Infrastructure Batching Functionality

You may view, execute, schedule, and monitor Simplified Batches within the broader OFSAA Infrastructure Operations batching framework. However, Simplified Batches may be built and maintained only through summary and detail screens with Common Object Maintenance > Operations > Simplified Batch user interfaces.



## Batch Maintenance

You may view Simplified Batches here, but they will be noneditable. You can create and modify them within the Simplified Batch screens, described later in this chapter.

## Batch Execution

Simplified Batches may be executed either from the Simplified Batch summary screen (see details as follows) or from OFSAA Infrastructure > Operations > Batch Execution.

## Other Operations Batch Functionality

Other Operations batch functionality including Batch Scheduler, Batch Monitor, Batch Processing Report, Batch Cancellation, and View Log apply equally to Simplified Batches and to batches that have been built under Common Object Maintenance > Operations > Batch Maintenance.

The remainder of this chapter describes the creation, maintenance and execution of Simplified Batches. Specifically, this chapter will cover:

- Simplified Batch Summary and Detail Screens
- Navigation within the Simplified Batch Summary Screen
- Navigation within the Simplified Batch Detail Screen
- Task Selection
- Running a Simplified Batch
- Viewing the Task Logs of a Simplified Batch
- Additional Batch Options

## Summary and Detail Screens

When you initially navigate to Common Object Maintenance > Operations> Simplified Batch, it displays a summary screen listing any existing Simplified Batch rules. Using search criteria, you can control the set of batches that are displayed.

When you Add, Edit, or View a rule, a detail screen is displayed.

## Navigation within the Summary Screen

The Simplified Batch summary screen presents two containers: a Search container and Simplified Batch container (the summary grid). When you first navigate to the Simplified Batch summary screen, the batches stored within your preferred Folder are presented in a summary grid. Your **preferred** Folder is determined by the set of Application Preferences that were last saved in which you selected the **Active for Master Maintenance** checkbox.

### Search Container

The Search container allows you to restrict the batches visible within the summary grid by any combination of Name, Folder, or Status. Searches by Name are wildcard searches, that is, searching for Name like *pricing* will find all batches that include *pricing* within their names.

#### Search Control

Enter your desired search criteria and click the **Search** control.

#### Reset Control

Click the **Reset** control to clear any search criteria you may be using and refresh the

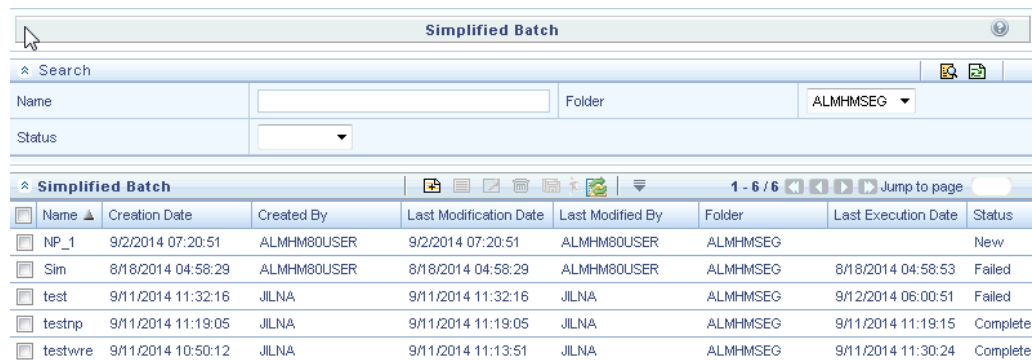
Simplified Batch summary grid.

## Simplified Batch Container

The Simplified Batch container presents a grid containing all of the batches that meet your search criteria. The Simplified Batch summary grid offers several controls that allow you to create a new batch or perform different functions when a batch is selected.

To select a batch rule, click a checkbox in the first column of the grid. More than one batch can be selected at a time but this will cause some of the controls to become disabled. Clicking on a checkbox a second time deselects the batch. You may select or deselect all of the batches in the summary grid by clicking on the checkbox in the upper left hand corner of the summary grid directly to the left of the Name column header.

You can sort on any column in the summary grid by clicking on the column header (the column name).



<input type="checkbox"/>	Name	Creation Date	Created By	Last Modification Date	Last Modified By	Folder	Last Execution Date	Status
<input type="checkbox"/>	NP_1	9/2/2014 07:20:51	ALMHM80USER	9/2/2014 07:20:51	ALMHM80USER	ALMHMSEG		New
<input type="checkbox"/>	Sim	8/18/2014 04:58:29	ALMHM80USER	8/18/2014 04:58:29	ALMHM80USER	ALMHMSEG	8/18/2014 04:58:53	Failed
<input type="checkbox"/>	test	9/11/2014 11:32:16	JILNA	9/11/2014 11:32:16	JILNA	ALMHMSEG	9/12/2014 06:00:51	Failed
<input type="checkbox"/>	testnp	9/11/2014 11:19:05	JILNA	9/11/2014 11:19:05	JILNA	ALMHMSEG	9/11/2014 11:19:15	Complete
<input type="checkbox"/>	testwre	9/11/2014 10:50:12	JILNA	9/11/2014 11:13:51	JILNA	ALMHMSEG	9/11/2014 11:30:24	Complete

### Add

Clicking the **Add** control begins the process of building a new Simplified Batch. The Add control is disabled if any rows in the grid have been selected.

### View

Selecting a single row in the grid enables the **View** control. Clicking the View control allows you to view the detailed definition of a Simplified Batch on a read-only basis. The View control is only enabled when a single batch has been selected.

### Edit

Selecting a single row in the grid enables the Edit control. Clicking the **Edit** control allows you to modify an existing Simplified Batch. The Edit control is only enabled when a single batch has been selected.

### Delete

Selecting one or more rows in the grid enables the Delete control. Clicking the **Delete** control deletes the batch or batches you have selected.

### Copy

Selecting a single row in the grid enables the Copy control. Clicking the **Copy** control allows you to create a copy of an existing Simplified Batch. The Copy control is only enabled when a single Simplified Batch has been selected. You can also duplicate a batch using the Save As option from the detail page, as described later in this chapter.

### Run

Selecting a single row in the grid enables the Run control. Clicking on the **Run** control executes the selected Simplified Batch rule. The Run control is only enabled when a single Simplified Batch rule has been selected. The As-of-Date and other parameters applicable to each task within a Simplified Batch will vary by task type (for details, see Specifying Task Parameters chapter in *Oracle Financial Services Analytical Applications Infrastructure User Guide*).

### Refresh

Click the **Refresh** control to refresh the Simplified Batch summary grid, including updates to the Last Execution Date and Status.

## Simplified Batch Summary Grid

The following columns categorize each Simplified Batch in the summary grid:

- Name
- Creation Date
- Created By
- Last Modification Date
- Last Modified By
- Folder
- Last Execution Date
- Status

### Name

Displays the Simplified Batch rule's short name. Performing a **mouse-over** on a batch name displays the rule's system identifier, long name, and description. Note that the rule's long name consists of a concatenation of the Information Domain (InfoDom) and the rule's short name. This long name is the name under which the batch is submitted internally through Oracle Financial Services Analytical Applications (OFSAA) Infrastructure.

**Creation Date**

Displays the date and time at which a Simplified Batch rule was created.

**Created By**

Displays the name of the user who created a Simplified Batch rule.

**Last Modification Date**

Displays the date and time at which a Simplified Batch rule was last modified.

**Last Modified By**

Displays the name of the user who last modified a Simplified Batch rule.

**Folder**

Displays the name of the Folder in which a Simplified Batch rule is stored.

**Last Execution Date**

Displays the date and time at which a Simplified Batch was last executed.

**Status**

Displays the latest status for a batch rule and includes the following possible values:

- Complete
- Failed
- New
- Ongoing
- Cancelled

## Navigation within the Detail Screen

When you Add, Edit, or View a batch, the Simplified Batch Detail Screen is displayed. The detail screen presents five containers for defining and maintaining your batch:

- Simplified Batch - header level information such as Rule Name, and so on
- Batch Execution Type - Sequential vs. Parallel
- Search Task Details - Search container
- Task Details - Task Details grid



- Audit Trail

The Audit Trail container is a standard footer container for every OFSAA rule type. It displays Created By, Creation Date, Last Modified By, and Modification Date on the Audit Trail tab. The User Comments tab may be used to add comments to any rule, subject to a maximum of 4000 characters.

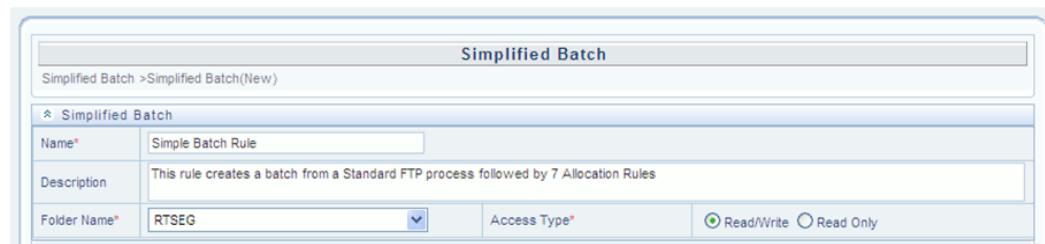
The detail page also provides action buttons specific to the mode you are using (Add, Edit, or View). In View mode, you can duplicate the rule using the Save As button. This will allow you to specify the basic identifiers for the new rule, for example, Name, Description, Folder, and the Access Type selection.

## Simplified Batch Container

Specify the Simplified Batch Name and Description, select a Folder in which the batch is to be stored, and specify whether you want the batch rule to be **Read/Write** or **Read Only** (Access Type). Naming your batch is required before it can be saved.

### Note:

- Unlike other OFSAA rules, you cannot edit the Name after you have created the rule.
- The maximum length for the Name is based on len (name+infodom), subject to the total length not exceeding 42 characters. Underscore (\_) is the only special character allowed for simplified batch name.
- The maximum length for the Description is 300 characters. Allowed special characters for Simplified Batch description are underscore (-), hyphen (-), Colon(:), Dot(.), Space( ).

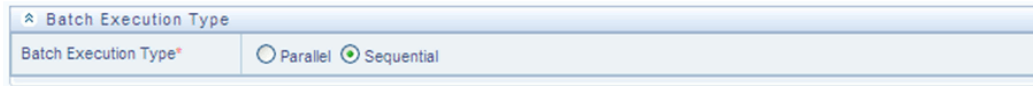


Simplified Batch	
Simplified Batch > Simplified Batch(New)	
^ Simplified Batch	
Name*	Simple Batch Rule
Description	This rule creates a batch from a Standard FTP process followed by 7 Allocation Rules
Folder Name*	RTSEG
Access Type*	<input checked="" type="radio"/> Read/Write <input type="radio"/> Read Only

## Batch Execution Type Container

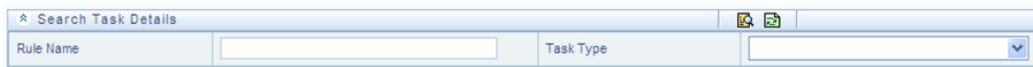
Select whether you want the tasks in your batch to run in Parallel or to run Sequentially. Should you wish to run some tasks sequentially and some in parallel, you must utilize the OFSAA Infrastructure Operations batching framework to construct your batch. The Simplified batching framework provides a simpler and faster pathway to specify many

of the batches that you will require, but the Infrastructure Operations framework offers you more flexibility.



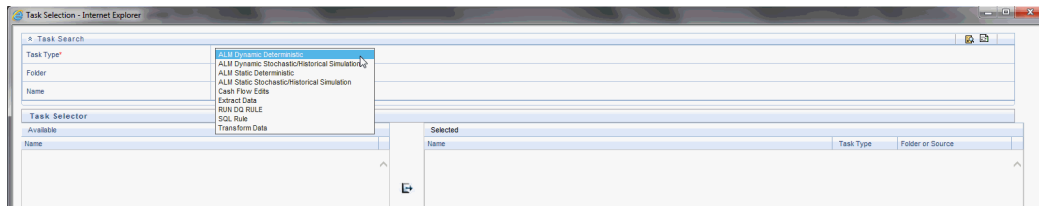
## Search Container

You may sometimes construct batches containing dozens or even hundreds of tasks. In such cases it may become difficult to isolate a specific task. The Search container allows you to **focus** the Task Details display to a specific task name or task type. The Rule Name search is a wildcard search. Click the **Search** control to execute a search. Click the **Refresh** control to remove your search criteria and refresh the Task Details Container to display all tasks within the batch.



## Task Details Container

For a new batch rule, the Task Details container will initially be empty. Through the use of the Task Selector described below, you will populate the Task Details container with the processes that you wish to run in your batch. For a Sequential batch, the Task Details container presents the tasks in the order in which they will be run. For a Parallel batch, all tasks will be initiated in parallel.



### Task Number

Each task is itemized serially by task number.

### Rule Name

Displays the task's short name, such as an Allocation rule name. The complete or **long name** under which the task is submitted for execution (becoming the task's Batch Run ID) is a concatenation of several identifiers, as noted below in the View Log section.

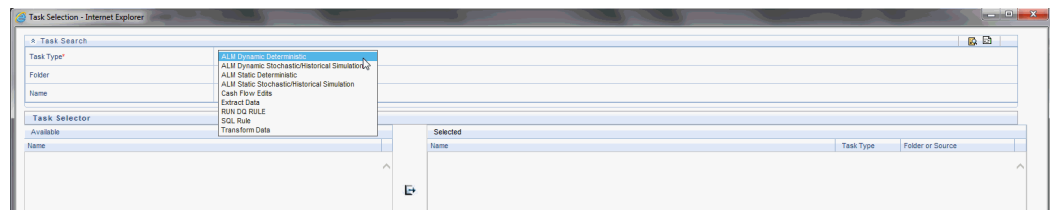
### Task Type

Using Simplified Batches you may submit different tasks for each of the application

engines and various other components. For ALM, the task types you may submit within a Simplified Batch include:

- ALM Dynamic Deterministic
- ALM Dynamic Stochastic/Historical Simulation
- ALM Static Deterministic
- ALM Static Stochastic/Historical Simulation
- Cash Flow Edits
- Extract Data
- RUN DQ RULE
- SQL Rule
- Transform Data

This list will vary based on installed Application pack(s).



### As of Dates and Additional Parameters

The As-of-Date applicable to each task within a Simplified Batch will vary by task type. Some task types also accept runtime parameters. For additional information on task parameters, see *Specifying Task Parameters* chapter in *Oracle Financial Services Analytical Applications Infrastructure User Guide*.

### Folder or Source

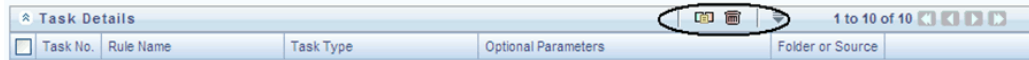
For Extract Data tasks, values in this column represent Sources. For Transform Data tasks, this column is not applicable and is left blank. For all other task types, values in this column represent the Folder in which a rule is stored.

## Task Selection

### Controls on the Task Details Container

The Task Details container provides a Task Selector control that invokes a pop-up

screen to support the maintenance of tasks in your batch. The Task Details container also provides a Delete control for removing tasks from your batch.



## Delete

Selecting one or more rows out of the Task Details grid enables the Delete control. Clicking on the **Delete** control deletes the task or tasks that you have selected. You can also remove tasks through the Task Selection pop-up screen.

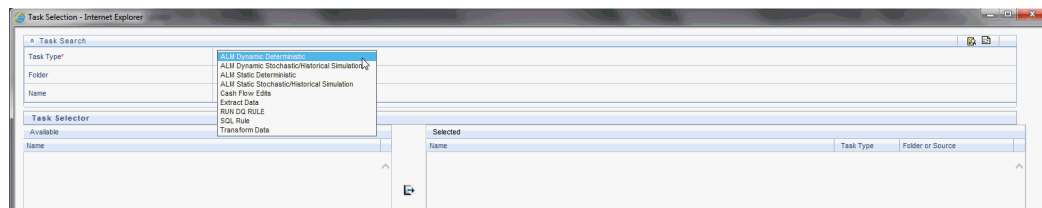
## Task Selector

The Task Selector control is always enabled. Clicking on the **Task Selector** invokes the Task Selection pop-up screen.

## Navigation within the Task Selection screen

Use the Task Selection screen to:

- Choose tasks to include in your batch
- Remove tasks from your batch
- Re-order tasks within your batch



## Task Search Container

When you initially invoke the Task Selection screen, the list of **Available** tasks on the left-hand side of the Task Selector container is blank. To populate the list of available tasks, you must execute a search using the Search control. Prior to clicking on the Search control, you must select a specific type of task from the Task Type list box, and optionally specify search criteria for Folder (or Source) and Name, where applicable to the task type.

## Selecting Task Types

For ALM, the available task types include:

- ALM Dynamic Deterministic

- ALM Dynamic Stochastic/Historical Simulation
- ALM Static Deterministic
- ALM Static Stochastic/Historical Simulation
- Cash Flow Edits
- Extract Data
- RUN DQ RULE
- SQL Rule
- Transform Data

This list will vary based on installed Application pack(s).

### Source or Folder

- Extract Data Task

When you choose the Extract Data task, you must select a data source prior to executing your search.

The screenshot shows a 'Task Search' window with the following fields:

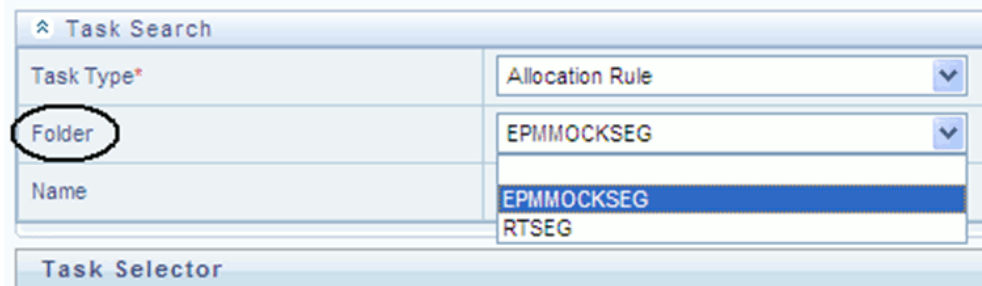
- Task Type\***: Extract Data
- Source\***: PRICING\_PRC (highlighted in the dropdown list)
- Name**: (empty)
- Task Selector**: Available

- Transform Data Task

When you choose the Transform Data task, it is not necessary for you to select a Folder prior to executing your search.

- All Other Task Types

When you select any other Task Type, you may constrain your search to a particular folder. Alternatively, you may search for your tasks in all Folders by selecting **blank** (all folders).



Executing a search for tasks always refreshes the Available list of tasks, but never has any impact on tasks that you have already selected (tasks on the right-hand side of the screen entitled **Selected**).

## Name

You may further refine your search by entering a task Name. Searches by Name are wildcard searches, that is, searching for Name like *rate* will find all tasks that include *rate* within their Name.

## Task Selector Container

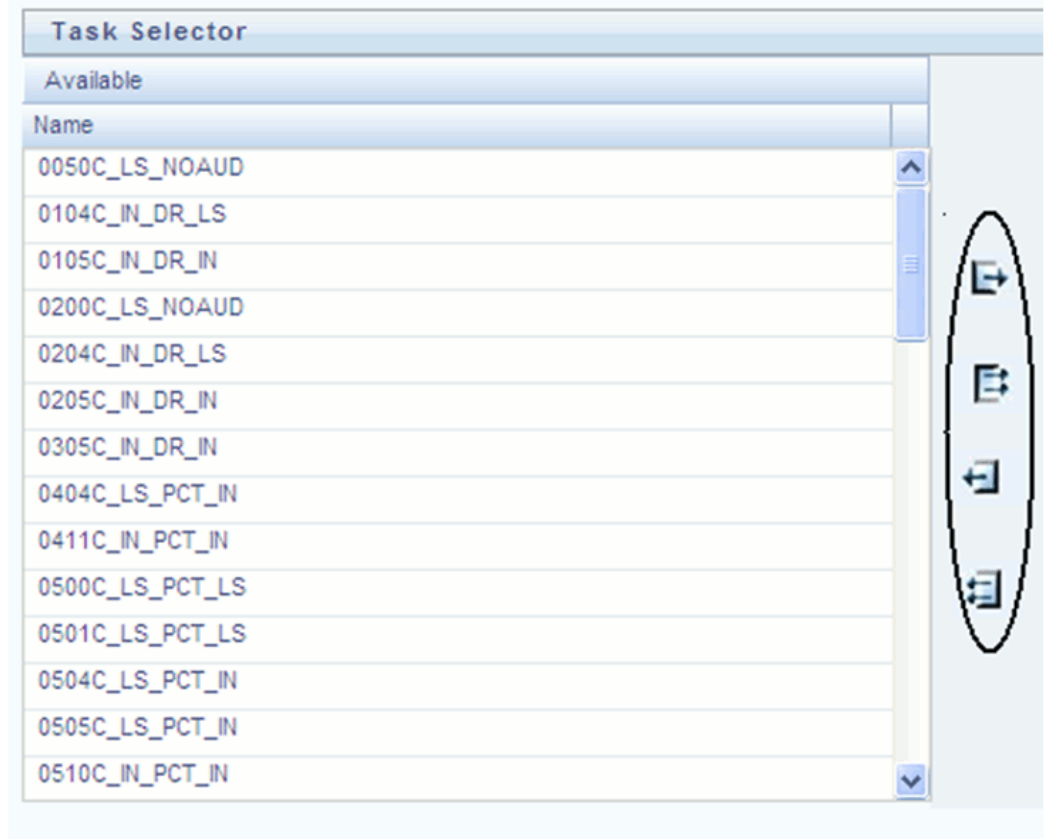
### Navigating the list of Available tasks

For task types with potentially large volumes of tasks, the Available list is divided into pages. Use the vertical scrollbar to navigate to the bottom of each page, then click **more** to display the names in the next page. To navigate back a page, scroll to the top of the page and click the hyperlink to return to the Previous page. You can control the number of tasks listed per page by changing the setting in `SIMPLE_BATCH_PAGE_SIZE` parameter in `FusionApps.properties` file in `WEB-INF/props` under context root. The recommended default value is 50 records/page. As you increase the value over a certain amount, you will start to see a slower response in the UI.

### Moving tasks between the Available and Selected lists

You may use the Select or Select All shuttle controls to move rules from the displayed page of the Available list to the Selected list or vice versa. The Select control moves rules from the left to the right, adding rules from the Available list to the bottom of the Selected list. Moving rules from the right to the left removes rules from the Selected list. You can also use the drag-and-drop feature (described as follows) to place the rules in a specific position in the Selected list to specify execution order for a Sequential type batch.

On both the Available side and the Selected side, you may highlight multiple tasks. To select a range of tasks, click on the first task, hold down the Shift key, and then click on the last task. To select a non-sequential list of tasks, you may select them individually while holding down the Control key.



Tasks within the Available list of tasks are disabled (greyed-out) once they have been selected (that is, included within the Selected list of tasks).

### Drag and Drop Operations

The Task Selector also supports drag and drop operations for choosing Available tasks, removing Selected tasks, or rearranging the sequence of your Selected tasks.

- You may click on an Available task and then drag and drop it anywhere within the Selected list, where the targeted placement is displayed in red line.
- Dragging a task from the Selected list and dropping it into the Available list removes that task from the Selected list.
- To select or deselect a range of tasks, click first task in the range to be selected, hold the Shift key down, click last task in the range to be selected, and then drag and drop your set of tasks.
- To select or deselect a set of tasks which are not in sequence, click each task individually while holding down the Control key; after clicking on the last task you may drag and drop the set of tasks.

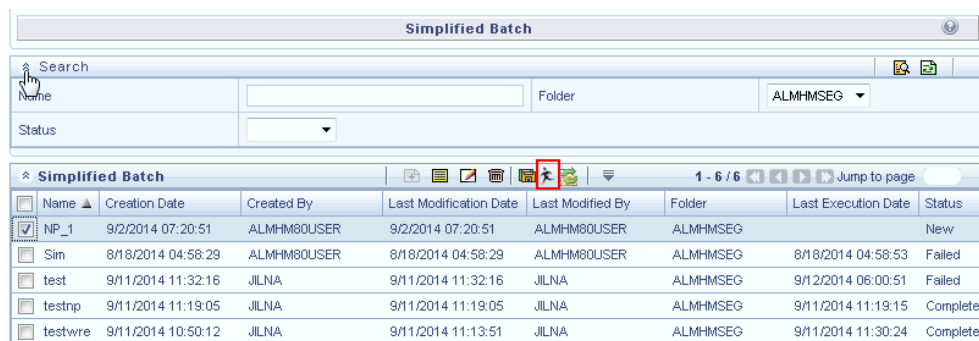
## Finding a Selected Task

To search for any of your selected tasks, enter the task name or partial name in the field under the Selected list, then click the **adjacent** button to find each successive match.

## Running a Simplified batch

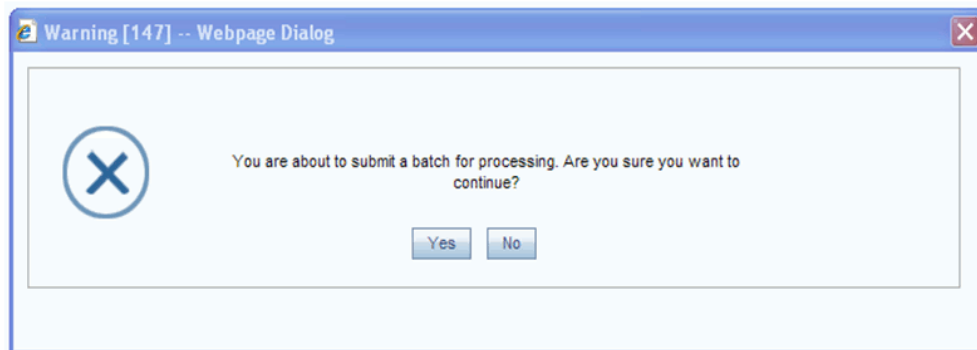
To run a Simplified Batch from the Simplified Batch summary page, complete the following steps:

1. Select a Simplified Batch from the summary grid.



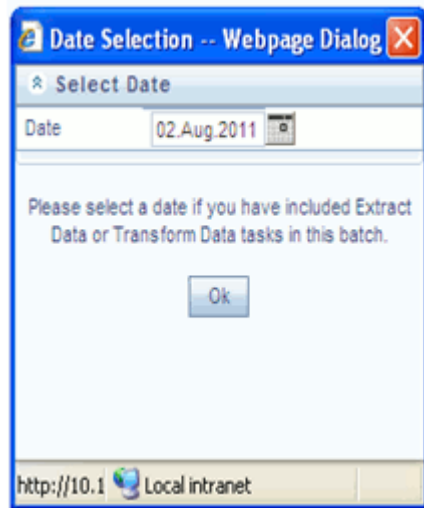
Name	Creation Date	Created By	Last Modification Date	Last Modified By	Folder	Last Execution Date	Status
NP_1	9/2/2014 07:20:51	ALMHM80USER	9/2/2014 07:20:51	ALMHM80USER	ALMHMSEG		New
Sim	8/18/2014 04:58:29	ALMHM80USER	8/18/2014 04:58:29	ALMHM80USER	ALMHMSEG	8/18/2014 04:58:53	Failed
test	9/11/2014 11:32:16	JILNA	9/11/2014 11:32:16	JILNA	ALMHMSEG	9/12/2014 06:00:51	Failed
testnp	9/11/2014 11:19:05	JILNA	9/11/2014 11:19:05	JILNA	ALMHMSEG	9/11/2014 11:19:15	Complete
testwre	9/11/2014 10:50:12	JILNA	9/11/2014 11:13:51	JILNA	ALMHMSEG	9/11/2014 11:30:24	Complete

2. Click **Run** to execute the batch.
3. A popup window will appear asking for confirmation before proceeding. Click **Yes** to proceed, or **No** to return to the summary page.



4. If you clicked **Yes** to proceed, you will see a Date Selection popup. If you have included any Extract Data or Transformation Data tasks in your batch, select the appropriate date for use in processing (it will ignore this date for all other task types). The date defaults to the system date. If you wish to change the date, you can either directly enter a date in the format displayed, or you can use the Calendar tool to select a date.





5. Click **Ok** to proceed.
6. You will now see a message indicating the batch has been launched. Click **Ok** to proceed.



7. You can monitor the status from the summary grid or detail page.
  1. To monitor from the summary grid, click **Refresh**. The summary grid will update the Last Execution Date with the current date and the Status at completion (for example, **Complete**, or **Failed** if there was a critical problem).
  2. To monitor from the detail page, please refer to the section on Viewing the Task Logs.

**Note:** This currently applies to all task types except Extract Data and Transform Data.

## Viewing the Task Logs

**Note:** This currently applies to all task types except Extract Data and Transform Data.

To view the processing log for each task in your batch, you can navigate to the log from the Simplified Batch detail page:

1. Select your batch from the summary grid.
2. Click **View** to navigate to the detail page.
3. For a specific task in the Task Details container, navigate to the processing log through View Log.

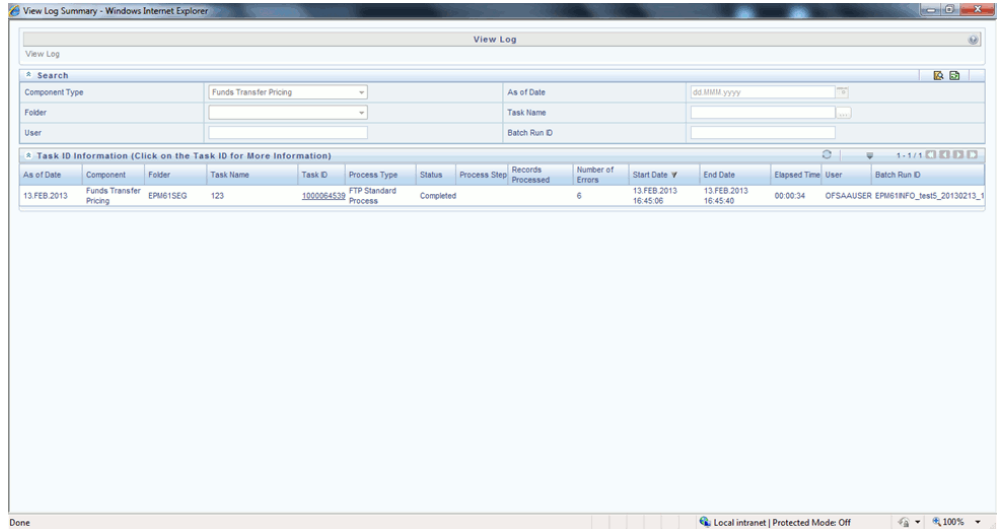
The screenshot displays the 'Simplified Batch' detail page. The 'Task Details' section is expanded, showing a table with the following data:

Task No.	Rule Name	Task Type	Optional Parameters	Folder or Source	View Log
01	SMB FTP Charge Credit Cards 1	Allocation Rule		RTSE0	VIEW LOG

The 'Audit Trail' section at the bottom shows the following information:

System ID	Created By	Last Modified By	Creation Date	Last Modification Date
40016278	QTUSER	QTUSER	08/06/2011 05:36:34	08/06/2011 05:36:34

4. In the View Log page, you can drill down to the log details through the Task ID hyperlink.



The Task ID represents the System ID of the task (for example, in Profitability Management, an Allocation Rule's System ID).

The task's Batch Run ID is a concatenation of several identifiers. For example, Batch Run ID 'OELPMINFO\_Task1\_smb alloc2\_20110805\_2' represents the following:

- Information Domain name (for example, OELPMINFO)
- Task sequence within the Simplified Batch (for example, Task1)
- Simplified Batch rule name (for example, smb alloc2)
- The run date in YYYYMMDD format and the sequential run number for that date (for example, 20110805\_2, for the second execution on August 5, 2011).

## Additional Batch Options

As noted in the Overview for this chapter, you may also view, execute, schedule, monitor, cancel, and view task logs for Simplified Batches within the broader OFSAA Infrastructure Operations batching framework.



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## Holiday Calendar

This chapter discusses the procedure for creating a Holiday Calendar and generating a list of weekend and holiday dates. Individual applications may consume the holiday calendar events in different ways, so please refer to application specific user guides and/or the Cash Flow Engine Reference Guide for more details.

This chapter covers the following topics:

- Overview of Holiday Calendars
- Searching for a Holiday Calendar
- Creating a Holiday Calendar
- Executing Holiday Calendar
- Holiday Exceptions

### Overview of Holiday Calendars

A Holiday is a day designated as having special significance for which individuals, a government, or some religious groups have deemed that observance is warranted and thus no business is carried on this day. The Holiday Calendar code can range from 1 to 99999.

The procedure for working with and managing a Holiday Calendar is similar to that of other OFSAA business rules. It includes the following steps:

- Searching for a Holiday Calendar.
- Viewing and Updating a Holiday Calendar.
- Copying a Holiday Calendar.
- Deleting a Holiday Calendar.
- Check Dependencies in the Holiday Calendar definitions.

- Refresh the Holiday Calendar summary page.

## Searching for a Holiday Calendar

Search for a Holiday Calendar to perform any of the following tasks:

- View
- Edit
- Copy
- Delete
- Check Dependencies
- Refresh

The screenshot shows the Oracle Holiday Calendars interface. At the top, there is a search bar with the label "Search" and a search icon. Below the search bar is a table with the following columns: Name, Created By, Creation Date, Last Modified By, Last Modification Date, and Status. The table contains five rows of data:

Name	Created By	Creation Date	Last Modified By	Last Modification Date	Status
Bug 16751123	CHANNAMMA	9/4/2014 17:34:44	CHANNAMMA	9/4/2014 17:49:25	Processed
copyadSfsdgtfhgjhkhkjhkijlklj;	ALMHM80USER	8/18/2014 10:42:24	ALMHM80USER	8/18/2014 10:42:57	Defined
HM_Holiday_Calender1	ALMHM80USER	8/18/2014 18:42:41	ALMHM80USER	8/18/2014 18:42:41	Defined
Holiday	ALMHM80USER	8/18/2014 10:39:18	JILNA	8/20/2014 10:31:36	Defined
Holi	ALMHM80USER	8/18/2014 10:38:58	ALMHM80USER	8/18/2014 10:40:32	Defined

## Prerequisites

Predefined Holiday Calendar

## Procedure:

1. Navigate to the Holiday Calendar summary page. This page is the gateway to all Holiday Calendars and related functionality. You can navigate to other pages relating to Holiday Calendar from this page.
2. Enter the Search criteria.
  - Enter the name of the Holiday Calendar.
  - Click the Search icon.

Only holiday calendars that match the search criteria are displayed.

**Note:** You can control the number of rows to display on screen by selecting the "Pagination Options" icon from the action bar.

## Related Topics

Overview of Holiday Calendar, page 12-1

## Creating a Holiday Calendar

You create holiday calendars to capture holidays for a given date range for any organization. It is possible to create and use multiple holiday calendars.

### Procedure:

1. Navigate to the Holiday Calendar summary page.
2. Click Add Holiday Calendar.
3. The Holiday Calendar details page is displayed.
4. Enter a code value for the new holiday calendar.

**Note:** The code, is a numeric identifier for the holiday calendar. The code value must be a number between 1 and 99999. The code value you assign to the new holiday calendar must be unique.

5. Enter the name and a brief description for the holiday calendar.

**Note:** The name you assign to the holiday calendar must be unique. Name can hold a maximum of 30 characters.

6. In the Holiday Properties grid, select not more than two weekend days. Then choose the Holiday Period. The Holiday Period can be defined for a range of up to 40 years less than the current date and 40 years greater than the current date, totally spanning a maximum of 80 years.
7. In the Holiday Details grid, define the Holiday details for the any period within the holiday range defined in step 6. There are two types of holidays that can be defined: **Fixed** and **Moving**.

A **fixed holiday** is one which is deemed as a holiday for every year in the holiday period, for that particular day.

## Example

25th December – Christmas, is a fixed holiday.

**Note:** To define a fixed holiday, input the holiday date for the first occurrence in the date range. For example, if your Date Range runs from 01-JAN-2000 to 31-DEC-2050, you should input the fixed holiday, Christmas, as 25-DEC-2000. The holiday calendar procedure will populate all subsequent 25-DEC entries in the holiday list table (FSI\_HOLIDAY\_LIST).

The holiday calendar procedure will also ensure that holiday and weekend entries are not duplicated. For example, if weekends are defined as Saturday/Sunday and Christmas falls on a weekend day, there will be only one entry in the FSI\_HOLIDAY\_LIST table.

A **moving holiday** is one which is deemed as a holiday only for that particular date and year, and not for every year in the holiday period. All occurrences of a moving holiday must be input manually.

## Example

20th August 2012 is a moving holiday on account of the muslim festival, Ramzan.

- Once the holiday calendar definition is saved, its status in the summary page is marked as **defined**.
- A holiday calendar created can also be deleted. Select one or more rows of holiday calendar definitions and click the Delete control.

## Excel Import / Export

Excel import/export functionality is used for adding/editing holiday calendar definitions. For more details, refer Excel Import/Export, .

The screenshot shows the Oracle Holiday Calendar web interface. The page title is "Holiday Calendar - Edit - Windows Internet Explorer". The main content area is titled "Holiday Calendar" and shows a form for editing a holiday calendar definition. The form has several sections:

- Holiday Calendar:** Fields for "Holiday Code" (value: 100) and "Name" (value: "BB test Excel Ie").
- Holiday Properties:** Checkboxes for "Weekend Days" (Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday) and a "Holiday Period" (From: 02.Sep.2000, To: 02.Sep.2020).
- Holiday Details:** A date range selector (31.Oct.2009 And 31.Oct.2011) and a table with columns "Name", "Date", and "Holiday Type".

On the right side, there are "Export" and "Import" buttons.



## Related Topics

Overview of Holiday Calendar, page 12-1

## Executing Holiday Calendar

You execute a holiday calendar definition to generate calendar dates listing the various types of holidays for a given holiday period.

## Prerequisites

Predefined Rules

## Procedure:

1. Navigate to the Holiday Calendar summary page.
2. Search for a rule.
3. Select a Holiday Calendar and Click the **Generate Calendar Dates** icon to execute the selected holiday calendar. **Holiday list for holiday ID #1 generated successfully** message appears (**where #1 is the holiday calendar code**). The holiday list can be confirmed by querying the FSI\_HOLIDAY\_LIST table.

The status of a holiday calendar where holiday dates have been generated displays as "processed" in the status column in the summary page.

**Important:** In case you do not want to Generate Calendar dates immediately, you can select that particular holiday calendar anytime later from the summary page with its status defined, and then click the **Generate Calendar Dates** icon to execute the selected holiday calendar.

4. The generated holiday list is no longer valid if
  1. There is a change in the definition of the holiday calendar.
  2. There is any update or modification to the Holiday Exceptions defined for that holiday calendar.

In such a case, the user will get a message "This holiday calendar has been modified, Please generate the holiday list again" and the holiday calendar state will be changed to "Defined" until the holiday list is regenerated with new definition.

## Related Topics

Overview of Holiday Calendar, page 12-1

## Holiday Exceptions

**Note:** This section is applicable to Release Version 6.1 and higher.

1. You can specify exceptions to holidays. As a prerequisite, a holiday calendar should have been properly defined and the status of the holiday calendar in the summary page should be **Processed**. Generating the holiday list will populate the holidays (weekends, fixed and moving) along with the working days. Then the **Show Exceptions** button is enabled in the detail page. Any changes in the holiday definition will disable the "Show Exceptions" button. The user must generate the holiday list again to define or view the exceptions.

2. Click **Show Exceptions** in the Holiday Exceptions grid. The Holiday Exceptions window opens.

3. The search block in the Exceptions page has 6 fields: From(Year) , To(year), Fixed Holidays, Moving Holidays, Holiday Date and All Exceptions.

**From and To** - Denotes the range of years which is a subset out of the holiday list generated, for which exceptions are required to be defined.

**Fixed Holidays** – You can filter the list of holidays by the type of Fixed Holidays.

**Moving Holidays** – You can filter the list of holidays by the type of Moving Holidays.

**Holiday Date** – For a particular known holiday date, exceptions can be defined.

**All Exceptions** - This checkbox when selected lists all the exceptions, if already defined, for the holidays within the From, To Date range.

The search result gives the list of all holidays based on the selection of the above search criteria fields.

4. In the Holiday Exceptions block, there are two types of exceptions that can be defined: **Not a holiday** and **Shift to**.

Any holiday can be marked as not a holiday, in which case that day is removed from the Holiday List. If the dropdown in the exception type is selected as "Not a Holiday", then the "shift to" date picker field is disabled.

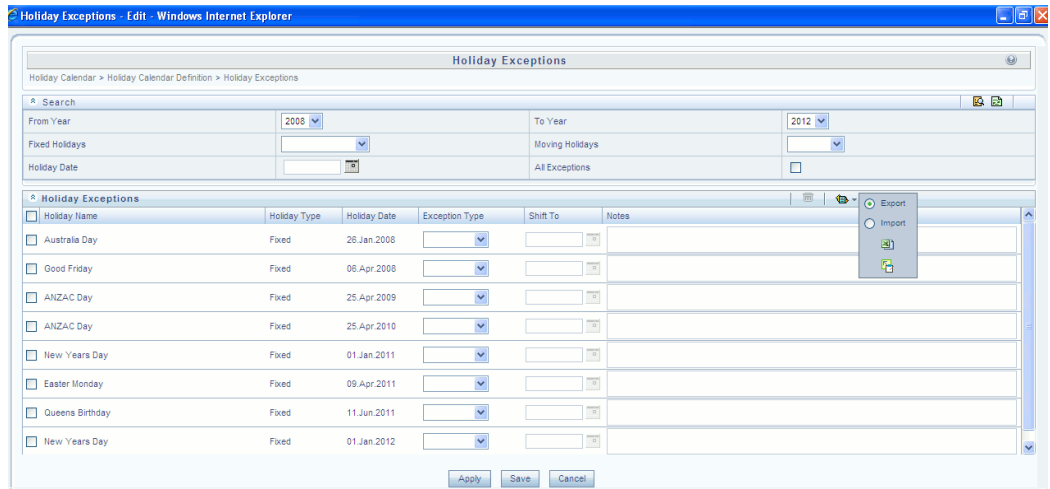
### **Example**

Spring earlier considered as a holiday in the holiday calendar can be marked as Not a Holiday in the Exceptions Window. Further the user can write his comments or remarks in the Notes Text Box next to the Exception Type dropdown.

Any holiday can be shifted to another day, in which case the earlier declared holiday is removed from the Holiday List, while the shifted to day is included as a holiday.

## Excel Import/ Export

Excel import/export functionality is used for adding/editing holiday exceptions. For more details, refer Excel Import/Export, .





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## The Oracle Hedge Management Process

This section describes the steps that you need to follow to define and execute the end to end Hedge Management Process.

Oracle Hedge Management is based on the Oracle Financial Services Analytical Applications Infrastructure (OFSAAI). OFSAAI is the central, integrated data source and Administration layer on which Oracle Financial Services Analytical Applications (OFSA) are built. This description of the Oracle Hedge Management Process assumes that your system administrator has setup the OFSAAI data repository and has populated it with your enterprise wide business data.

This chapter covers the following topics:

- Overview of the Process
- Reconciling the Data
- Cleansing the Data by performing Cash Flow Edits
- Setting Application Preferences
- Activating Currencies and Loading Exchange Rates
- (Mandatory) Deciding on historical rate information and managing by creating Interest Rate Codes
- Capturing Instrument Behavior for non-standard instruments
- (Mandatory) Defining Time Buckets
- (Mandatory) Defining Product Characteristics
- (Mandatory - Deterministic) Defining Forecast Rate Scenarios
- Defining Prepayments
- Defining Discounting Methods
- (Mandatory) Defining and Running the Hedge Management Process
- Reviewing Processing Errors
- Accessing Hedge Management, Detail Cash Flow Results for Audit Purposes

- Accessing Hedge Management, Interest Rate Audit Results
- Analyzing Results
- Re - processing Erroneous Accounts
- User Roles

## Overview of the Process

Oracle Financial Services Hedge Management (OFS HM) is designed to model balance sheets under a variety of rate environments. OFS HM functionality uses several key concepts and has evolved from the continual iterations of building simulated management processes.

## Reconciling the Data

Reconciliation is the process of comparing the information carried in the Instrument tables to the general ledger balances (contained in Ledger Stat).

Many ledger accounts have corresponding data in the Instrument tables. In such instances, the balances from the instrument data must be compared with the corresponding ledger balances.

The reconciliation process involves defining a level at which some piece of information in the Instrument tables is to be compared to the General Ledger data carried in the Management Ledger (also known as LEDGER\_STAT). That level can be one dimension (to reconcile for each general ledger account number, for example, General Ledger Account ID) or multiple dimensions (to reconcile for each general ledger account number within each business unit, for example, General Ledger Account and Organization Unit).

The most common type of reconciliation is to compare the current balance of Instrument table data to the general ledger ending balance. The data carried in the database is a snapshot of the portfolio as of a given date. Consequently, comparing the current balances from the Instrument table to the general ledger ending balance measures the degree to which the extracted data is in balance with, or reconciles to, the general ledger.

Variances between the Instrument table and the Management Ledger table should be corrected. If the magnitude of the variances is within an accepted tolerance, plug entries should be created to force the reconciliation to zero. An Instrument table (FSI\_D\_LEDGER\_STAT\_INSTRUMENT) has been seeded in the database to hold these plug balances and any Ledger Specific balances that you wish to include as instrument balances for HM processing.

## Cleansing the Data by performing Cash Flow Edits

It is extremely important that the data in the Instrument tables is clean, accurate, and

complete before it is used to generate cash flows and for further processing. Oracle HM provides seeded Cash Flow Edit rules to edit (clean and prepare) Instrument table data. You can create multiple Cash Flow Edit Processes depending on the data to be cleansed. In addition, you can view actual results of Cash Flow Edits by accessing the audit data written into the FSI\_PROCESS\_ERRORS table.

You can also select the preview mode option so that you can preview the changes that will be made to the Instrument table data as a result of cash flow edits before those changes are applied in the Instrument tables.

It is highly recommended that you create and run Cash Flow Edits before processing data to generate any type of cash flow-related results. See: Cash Flow Edits Rules, page 16-1

## Related Topics

Cash Flow Edits, page 16-1

## Setting Application Preferences

Application Preferences allow users to set the current as of date and configure default values used throughout the application.

## Related Topics

Application Preferences, page 15-1

## Activating Currencies and Loading Exchange Rates

Rate Management under "Master Maintenance" handles all currency definitions for OFSAA applications. Currencies are conveniently referred to by code and written description. A comprehensive list of ISO-defined currencies is included, and you can define and add your own. Upon installation, one currency is active and ready for processing: the one identified by your organization as the functional currency. You can activate other currencies and define and activate newly-created currencies when needed. In addition, you can designate key currencies to be used for reporting. These alone will be available for cross-currency consolidation.

The Rate Management > Currencies screen enables you to select currencies for reporting and for establishing interest rates and exchange rates. It allows you to activate relevant currencies and classify as:

- Functional Currency
- Reporting Currencies
- Other Active Currencies

Before defining the classifications, let's begin by discussing two types of currencies: ISO-defined and user-defined.

## Currency Definitions and Classifications

OFSA Rate Management provides a list of ISO-defined currencies for you to activate as needed. (The functional currency is activated upon installation). You can also define and add your own. Any currency except the functional currency can be deactivated or deleted.

Currencies are displayed in alphabetical order by currency code.

### The Functional Currency

At the time of installation, Rate Management requires the installer to designate a functional, or primary currency for the organization (stored in the FSI\_DB\_INFO table). A German multinational bank would therefore designate the Euro as its functional currency. Only one functional currency is allowed per organization, and once assigned it cannot be changed. The functional currency is both an active and a reporting currency.

### Reporting Currencies

A reporting currency is an active currency that balances in other currencies are consolidated to, to facilitate reporting. Balances in reporting currencies are, in turn, consolidated to the functional currency. For example, an American multinational bank might consolidate its holdings in Asian currencies to the Japanese Yen and its balances in European currencies to the Euro. Then it would consolidate the sums to the U.S. dollar.

### Other Active Currencies

An active currency is any currency the organization works with. When OFSA is installed only the functional currency is active and available for processing. If your institution has holdings in more than one currency then you need to activate those currencies. A Mexican bank doing business in the United States and Canada, for instance, would activate the U.S. dollar and the Canadian dollar.

For more information on loading exchange rate data using the staging area and the related data loader utility, see *Oracle Financial Services Analytical Applications Data Model Utilities User Guide, Stage History Rates Loader chapter*.

For more information on loading exchange rate data using the Currency Rates user interface, see *Currency Rates*,

## Related Topics

OFSA Rate Management, Currency ,



## **(Mandatory) Deciding on historical rate information and managing by creating Interest Rate Codes**

The quality and availability of interest rate information varies throughout the world. In many markets, gathering comprehensive rate information is a challenge because of insufficient security types, inconsistent quoting conventions, and lack of liquidity.

OFSAA Rate Management facilitates the process of inputting and viewing interest rates and yields by supporting multiple rate formats and other rate attributes to give you data storage capabilities appropriate to your market. For example, you can store the following data attributes for each interest curve:

- Rate format (zero-coupon or yield-to-maturity)
- Accrual basis
- Compound basis

Term structure parameters provide insight into the stability and direction of future rates. Rate Management enables you to define and store—up to daily—term structure parameters for any and all currently supported term structure models.

When you add an Interest Rate Code, the Add/Edit page appears with four tabbed pages. The pages display interest rate code characteristics and enable you to define, input, modify, and view data. The tabs are Attributes, Terms, Rates, and Parameters. You can only define interest rates where you have an active currency. See: Interest Rates,

For more information on loading interest rate data using the staging area and the related data loader utility, see *Oracle Financial Services Analytical Applications Data Model Utilities User Guide, Stage History Rates Loader chapter*.

For more information on loading interest rate data using the Interest Rates user interface, see Historical Rates,

### **Related Topics**

OFSAA Rate Management, Interest Rates,

## **Capturing Instrument Behavior for non-standard instruments**

Payment and repricing characteristics for most instruments can be accommodated through the data attribute values in the Instrument tables. However, certain instruments may not have contractual cash flows or may have cash flows that are based on unique payment and repricing patterns that are too complex to be accommodated in the standard fields of the Instrument tables. Oracle Hedge Management allows you to define custom behavior, payment and repricing patterns to accurately model the unique

characteristics for such instruments.

## Defining Payment Patterns

In a user defined payment pattern, you can assign a unique amortization type code to a set of payment events, which may include some of the following customized features:

- Changes in payment frequency
- Seasonal payment dates
- Nonstandard or variable payment amounts

Once you create a payment pattern, you can use it by entering the payment pattern code as the amortization type code for the instrument.

## Payment Pattern Structure

Oracle Hedge Management allows you to build three types of payment patterns:

- Absolute, page 13-8
- Relative, page 13-9
- Split, page 13-9

These payment patterns differ in terms of how they address payment schedules, which determine whether the payment events constituting the pattern are determined by calendar dates or periods. Absolute patterns are defined with sets of payment characteristics scheduled on specific calendar dates. Relative patterns are defined with sets of payment characteristics scheduled for certain periods of time.

You can also define a payment pattern with both absolute and relative payment events. This type of pattern is called a split pattern.

In addition, for each payment pattern, you need to specify a payment type, either conventional, level principal, or non-amortizing. Your choice of the pattern type and the payment types will determine the fields that are used for calculation.

**Note:** Oracle Hedge Management's Payment Pattern interface supports simultaneous multiple-user access.

## Related Topics

User Defined Payment Patterns, page 17-1

## Payment Events

You must define one or more payment event to complete a payment pattern. A

payment event is a set of payment characteristics, which define the time line and amount of a specific payment in the payment pattern.

Though the characteristics of the payment phase change based on whether you are defining an absolute, relative, or split pattern, there are two characteristics that are required for all amortizing patterns:

- Payment method
- Value

## Payment Method

The payment methods determine the payment amount for the payment event. There are six different methods.

The following table describes the different payment methods.

### *Payment Methods*

<b>Method</b>	<b>Description</b>
% of Original Balance	This method calculates the payment as a percentage of the original balance; the percentage being defined by the input percent. This method is useful for apportioning the starting balance on a level principal instrument over several payments. This method is only available for payment patterns defined with a level principal payment type.
% of Current Balance	This method calculates the payment as a percentage of the current balance prior to payment; the percentage being defined by the input percent. This method is only available for payment patterns defined with a level principal payment type.
% of Original Payment	This method calculates the payment as a percentage of the original payment column from the detail instrument data. This percentage is defined by the input percent.

Method	Description
% of Current Payment	This method calculates the payment as a percentage of the previous payment; the percentage being defined by the input percent. This payment is calculated on the payment date based on the characteristics of the instrument at the time of the payment, including the current rate, current balance, and current payment frequency.
Absolute Payment	This is an input payment amount. This amount represents both principal and interest for a conventional payment type, and represents only principal for a level principal payment type. For both types of patterns, absolute value payment amounts are entered as gross of participations.
Interest Only	This is a calculated payment amount. An interest-only payment is calculated during processing as balance times rate times accrual factor.

## Value

The value reflects the percentage or payment amount based on the method chosen for the payment event. Value is disabled for phases using the Interest Only payment method.

Payment amounts for conventional pattern phases must reflect both principal and interest payments. Payment amounts for level principal pattern phases only reflect the principal portion of the payment. For level principal pattern phases, the total cash flow on a payment date is the principal amount stored as the payment plus the calculated interest.

**Note:** The payment method and value columns are not displayed for payment patterns defined with a non-amortizing payment type. All payments are assumed to be interest only for this type of payment pattern.

## Absolute Payment Patterns

Absolute payment patterns are commonly used for instruments that pay on a seasonal schedule, such as agricultural or construction loans that require special payment handling based on months or seasons.

Take the example of a loan that follows a seasonal payment pattern, in which the payment patterns for January, February and March are scheduled for interest-only payments. As revenues for the customer increase, the payment amount also increases. Therefore, the payments for April and May are 80% of the original payment, and June through September is 100% of the original payment. The payment decreases as the production season slows. The payment for October is decreased to 80% of the original payment, and the payments for November and December are decreased again to 50% of the original payment.

**Note:** You can define absolute payment patterns only up to a year. This is because all entries are automatically ordered by date and are scheduled in a single year rotation.

#### Related Topics

User Defined Payment Patterns, page 17-1

#### Relative Payment Patterns

Relative payment patterns are commonly used for modeling instruments with irregular payment frequencies or for instruments where the payment type changes over time. Take the case of a four-year loan for example. The payment for the first 12 months could only be interest. The first 35 payments are scheduled for 50% of the currently scheduled payment, and the last payment is a balloon payment for the balance of the loan. See: Defining Relative Payment Patterns, page 17-6

#### Related Topics

User Defined Payment Patterns, page 17-1

#### Split Payment Patterns

A split pattern contains multiple sets of payment patterns under a single amortization code. You use a split pattern for financial instruments that make principal payments along two concurrent amortization schedules. Each separate amortization schedule is termed a time line and assigned a percentage of the balance. A Split Pattern can constitute both absolute and/or relative payment patterns within itself. See: Defining a Split Payment Pattern, page 17-10

#### Related Topics

User Defined Payment Patterns, page 17-1

#### Defining Repricing Patterns

User defined repricing patterns provide a mechanism to capture the repricing structure of instruments whose rates change according to complex schedules which cannot be captured in the standard fields of instrument tables. See: User Defined Repricing

Patterns, page 18-1

The user defined repricing pattern allows you to define multiple changes to various elements affecting repricing including:

- Rates
- Margins
- Frequency

A repricing pattern has two major components:

- User Defined Repricing Pattern, page 13-10
- User Defined Repricing Event, page 13-10

**Note:** Oracle Hedge Management Repricing Pattern interface supports simultaneous multiple-user access.

### User Defined Repricing Pattern

The user defined repricing pattern provides you with the ability to define a series of repricing patterns and events that describe the interest rate adjustment characteristics over the life of a cash flow instrument. One repricing pattern can be assigned to many cash flow instruments. There are two types of repricing patterns that you can define:

- Absolute Repricing Pattern, page 13-12
- Relative Repricing Pattern, page 13-12

### User Defined Repricing Event

The events of a repricing pattern define changes to the interest rates of an instrument during its life. Every pattern begins with an initial event, which describes the behavior for the initial period.

The second event describes the change in behavior after the initial period is over. A third event describes the next change in behavior and so on. In relative repricing patterns, you can also define the number of times an event will be repeated before the next event is triggered.

At least one event must be defined for a repricing pattern. All events are listed in the Repricing Events table. The repricing pattern type, absolute or relative, determines the data required to be populated in the events table.

**Caution:** You have the option to change the repricing pattern type at any time during the create process. However, changing the repricing

pattern type causes the system to automatically refresh the Repricing Events table, and the loss of all the data that you previously entered.

## Event Detail

You define each event with a repricing type of either flat rate or indexed rate. The repricing types determine the event detail characteristic that are available.

## Flat Rate

Selecting the flat rate repricing type allows you to set the rate of the instrument to a fixed value. For example, 6%. The following table describes the event detail characteristics that are available when the flat rate repricing type is selected.

### *Event Detail Characteristics: Flat Rate*

Characteristic	Description
Net Rate	The new net rate value
Gross Rate	The new gross rate value
Transfer Rate	The new transfer rate value

**Note:** Flat rate always overrides the caps and floors defined on the instrument record.

## Indexed Rate

Selecting the indexed rate repricing type allows you to set the rate of the instrument to an adjustable value, defined as the index rate plus a margin. The following table describes the event detail characteristics that are available when the indexed rate repricing type is selected:

### *Event Detail Characteristics: Indexed Rate*

Characteristic	Description
Interest Rate Code	Reference interest rate used as the index rate to set gross and net rates. This list of values is pulled from the current Historical Rates database.

<b>Characteristic</b>	<b>Description</b>
Transfer Rate Interest Rate Code	Interest rate used to calculate the transfer rate.
Yield Curve Term	Term used in interest rate code lookups; if left blank, defaults to the term until the next repricing; set with a value and multiplier.
Net Margin	Added to index rate to get net rate.
Gross Margin	Added to index rate to get gross rate.
Transfer Margin	Added to index rate to get transfer rate.
Rate Cap Life	The upper limit for gross rate.
Rate Floor Life	The lower limit for gross rate.
Rate Set Lag	Period by which the date of the interest rate used for calculation precedes the event date; set with a value and a multiplier.

## Related Topics

User Defined Repricing Patterns, page 18-1

## Absolute Repricing Pattern

The absolute repricing pattern is used for instruments that are date dependent. Each specific date is a separate event.

You may have up to one year of defined events that repeat for the life of the instrument. For example, you could define one event for each day of the year; the maximum number of events that you can define is 365. However, you can only define one event for any given date. See: Defining Absolute Repricing Pattern, page 18-4

## Relative Repricing Pattern

The relative repricing pattern is a series of repricing events that are driven by user defined time lines. It is used for instruments where the repricing is determined by elapsed time since origination. You specify the duration of each repricing period (frequency) and the number of times the event should occur (repeat) before calculating the next event in the pattern.

For example, an event can be defined with a frequency of 1, a multiplier of Months, and a repeat value of 3. This translates into an event that reprices every month for a



duration of 3 consecutive months.

You may have a graduated rate mortgage that requires three rate changes over the life of the instrument. You will have three events following the initial event. If you wish the instrument to retain the behavior defined for the last event, the repeat value should be set to 999. This prevents *wrapping*, or the recycling of all the defined events until the life of the instrument runs out. See: Defining Relative Repricing Pattern, page 18-7

## Pricing with Balance Tiers

Repricing Patterns include the option to set rates based on the balance of the instrument being priced. This selection is optional and users can select "None", meaning there are no balance tiers needed, or they can select "Current Balance". If Current Balance is selected, then users can define balance tier ranges and include different pricing details for each balance tier. This option is useful for applying pricing to products such as Savings Accounts or Money Market Accounts that pay different levels of interest based on the account balance.

Balance tiered pricing can be applied to detailed instrument records or to aggregate balances. When applying to aggregate balances, it is important to define the mix percentage of the portfolio for which the pricing will be applied. This is necessary because the original mix of accounts containing the related balance information is lost when the data is aggregated. The mix percentage input solves this problem. When balance tiered pricing is applied to detailed accounts, the mix percentage input is not required.

Example:

Suppose the repricing pattern is defined with the following balance tiers:

Balance > 0 and < 25,000 then current rate = 0.00%, mix % = 50%

Balance >=25,000 then current rate = 2.5%, mix % = 50%

**Scenario 1**, the instrument table contains detailed account records

Account #1 = \$10,000

Account #2 = \$10,000

Account #3 = \$10,000

Account #4 = \$10,000

Account #5 = \$10,000

Account #6 = \$50,000

The resulting rate will be  $[(\$50,000 \times 0.00\%) + (\$50,000 \times 2.50\%)] / \$100,000 = 1.25\%$

**Scenario 2**, the instrument table contains 1 aggregated instrument record

Account #1 = \$100,000

**Note:** In scenario 2, the mix percentage is needed.

The resulting rate will be  $(0.00 \times .50) + (2.50 \times .50) = 1.25\%$

## Loading Payment Schedule details

Supporting instrument records that have completely unique payment characteristics is the Payment Schedule option. User can directly load cash flows for individual instrument contracts into the FSI\_D\_PAYMENT\_SCHEDULE table.

Instrument records are associated with Payment Schedules through the Amortization Type Code (AMRT\_TYPE\_CD) column. If the cash flow engine encounters an AMRT\_TYPE\_CD = 800, 801 or 802 it understands that the instrument record is associated with a Payment Schedule and will perform a lookup in the Payment Schedule table based on the ID\_NUMBER and INSTRUMENT\_TYPE\_CD of the record being processed.

## Related Topics

Cash Flow Engine Reference Guide > Cash Flow Calculations > Initializing Schedule Records

Cash Flow Engine Reference Guide > Cash Flow Dictionary > Amortization Type Code

## (Mandatory) Defining Time Buckets

Time buckets allow you to specify the time periods used for storing and reporting results. Within the Time Bucket rule, income simulation buckets (also known as Modeling Buckets) set the modeling horizon for date-related business rules. When you change the number or frequency of the modeling buckets, existing rules are affected, so use caution before changing your active time bucket rule.

**Note:** Forecast Rules that have time bucket dependencies do not adjust dynamically if you change the modeling buckets in your Time Bucket Rule.

Within a Time Bucket rule, you can specify any combination of days, months, and years when setting up the buckets. Although all Oracle HM cash flows are generated on a daily basis, they are aggregated into defined modeling buckets when results are stored. For example, you can define monthly modeling buckets but generate a quarterly income statement. On the other hand, you cannot generate a weekly balance sheet if all modeling buckets are monthly.

If you want to use different configurations of modeling buckets, such as all monthly or all quarterly, you should create a separate Time Bucket rule for each, and use a naming convention to identify the distinctions. All date-related assumption rules should be

defined and used in the context of a single set of modeling buckets or a single Time Bucket rule.

**Note:** Defining Time Buckets is a mandatory step in setting up and configuring the Oracle HM application.

## Related Topics

Time Buckets, page 19-1

## (Mandatory) Defining Product Characteristics

Product Characteristic rules allow you to define payment, pricing and repricing characteristics. They are also used to specify general calculation attributes for existing accounts.

Defining a Product Characteristics rule is a mandatory step in setting up and configuring the Oracle HM Application.

## Related Topics

Product Characteristics, page 20-1

## (Mandatory - Deterministic) Defining Forecast Rate Scenarios

Forecast Rate scenarios allow you to define your deterministic modeling scenarios including projections for future interest rates and future currency exchange rates. The cash flow engine uses interest rate forecasts to project cash flows, including pricing new business, re-pricing existing business, calculating prepayments, determining discount methods and in determining rate dependent forecast assumptions. The HM process uses currency exchange rate forecasts to account for the effects of currency fluctuations on market valuation.

The Forecast Rates scenario rules use interest rate codes and currency codes defined / stored in Rate Management, including all the active and reporting currencies and the primary, or functional, currency at your institution.

Defining a Forecast Rate Scenario is a mandatory step in setting up and configuring the Oracle HM Application.

## Related Topics

Forecast Rate Scenarios, page 21-1

## Defining Prepayments

One of the major business risks faced by financial institutions engaged in the business of lending is prepayment risk. Prepayment risk is the possibility that borrowers might choose to repay part or all of their loan obligations before the scheduled due dates. Prepayments can be made by either accelerating principal payments or refinancing.

Prepayments cause the actual cash flows from a loan to a financial institution to be different from the cash flow schedule drawn at the time of loan origination.

A Prepayment Rule contains methodologies to model the prepayment behavior of various amortizing instruments and quantify the associated prepayment risk. See: Prepayment Methodologies and Rules, page 13-16

Prepayment methodologies are associated with the product-currency combinations within the Prepayment rule. See: Prepayment Rules, page 22-1

### Related Topics

Overview of the Process, page 13-2

Defining Prepayment Methodologies, page 22-3

### Prepayment Methodologies and Rules

You can use any of the following four methods in a Prepayment rule to model the prepayment behavior of instruments:

- Constant Prepayment method, page 13-16
- Prepayment Model method, page 13-17
- PSA method, page 13-19
- Arctangent method, page 13-20

### Related Topics

Defining Prepayment Methodologies, page 22-3

Defining Prepayments, page 13-16

### Constant Prepayment Method

The Constant Prepayment method calculates the prepayment amount as a flat percentage of the current balance.

You can create your own origination date ranges and assign a particular prepayment rate to all the instruments with origination dates within a particular origination date

range.

## Related Topics

Prepayment Methodologies and Rules, page 13-16

Defining Prepayment Methodologies, page 22-3

## Prepayment Model Method

The Prepayment Model method allows you to define more complex prepayment assumptions compared to the other prepayment methods. Under this method, prepayment assumptions are assigned using a custom Prepayment model.

You can build a Prepayment model using a combination of up to three prepayment drivers and define prepayment rates for various values of these drivers. Each driver maps to an attribute of the underlying transaction (age/term or rate ) so that the cash flow engine can apply a different prepayment rate based on the specific characteristics of the record.

**Note:** All prepayment rates should be input as annual amounts.

## Prepayment Model Structure

A typical Prepayment model structure includes the following:

- **Prepayment Drivers:** You can build a Prepayment model using one to three prepayment drivers. A driver influences the prepayment behavior of an instrument and is either an instrument characteristic or a measure of interest rates.
- **The Prepayment Driver Nodes:** You can specify one or more node values for each of the prepayment drivers that you select.
- **Interpolation or Range method:** Interpolation or Range methods are used to calculate prepayment rates for the prepayment driver values that do not fall on the defined prepayment driver nodes.

## Types of Prepayment Drivers

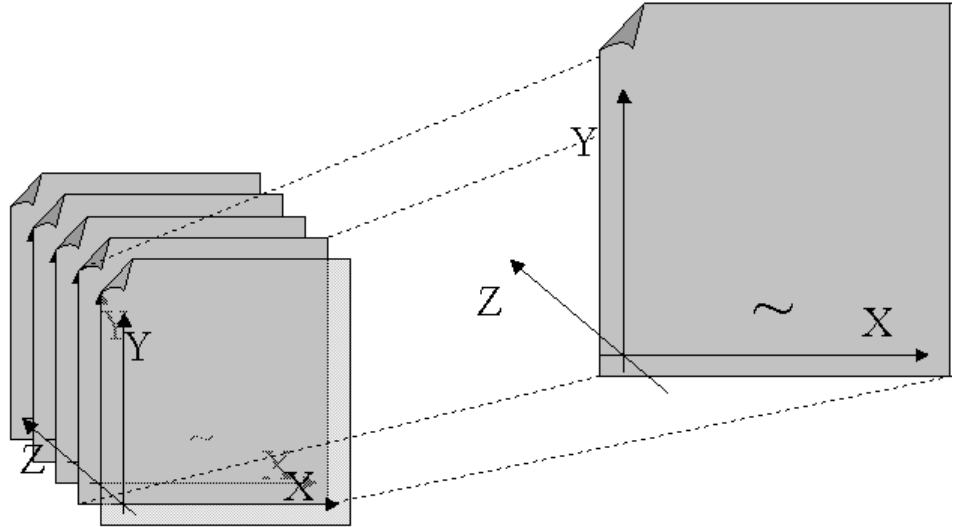
The prepayment drivers are designed to allow the calculation of prepayment rates at run time depending on the specific characteristics of the instruments for which cash flows are being generated. Although nine prepayment drivers are available, a particular prepayment model can contain only up to three prepayment drivers.

The prepayment drivers can be divided into the following two categories:

- **Age/Term Drivers:** The Age/Term drivers define term and repricing parameters in a Prepayment model. All such prepayment drivers are input in units of months. These Drivers include:

- **Original Term:** You can vary your prepayment assumptions based on the contractual term of the instrument. For example, you could model faster prepayment speeds for longer term loans, such as a 10-year loan, than for short term loans, such as a 5-year loan. You would then select the Original Term prepayment driver and specify two node values: 60 months and 120 months.
- **Repricing Frequency:** You can vary your prepayment assumptions based on the repricing nature of the instrument being analyzed. Again, you could specify different prepayment speeds for different repricing frequencies and the system would decide which one to apply at run time on a record by record basis.
- **Remaining Term:** You can specify prepayment speeds based on the remaining term to maturity. For example, loans with few months to go until maturity tend to experience faster prepayments than loans with longer remaining terms.
- **Expired Term:** This is similar to the previous driver but instead of looking at the term to maturity, you base your assumptions on the elapsed time. Prepayments show some aging effect such as the loans originated recently experiencing more prepayments than older ones.
- **Term to Repricing:** You can also define prepayment speeds based on the number of months until the next repricing of the instrument.
- **Interest Rate Drivers:** The Interest Rate drivers allow the forecasted interest rates to drive prepayment behavior to establish the rate-sensitive prepayment runoff. Interest Rate Drivers include:
  - **Coupon Rate:** You can base your prepayment assumptions on the current gross rate on the instrument.
  - **Market Rate:** This driver allows you to specify prepayment speeds based on the market rate prevalent at the time the cash flows occur. This way, you can incorporate your future expectations on the levels of interest rates in the prepayment rate estimation. For example, you can increase prepayment speeds during periods of decreasing rates and decrease prepayments when the rates go up.
  - **Rate Difference:** You can base your prepayments on the spread between the current gross rate and the market rate.
  - **Rate Ratio:** You can also base your prepayments on the ratio of current gross rate to market rate.

The following diagram illustrates a three-driver prepayment model:



The ~ signifies a point on the X-Y-Z plane. In this example it is on the second node of the Z-plane. The Z -plane behaves like layers.

Oracle Hedge Management allows you to build prepayment models using the Prepayment Model rule. The Prepayment Model rule can then be referenced by a Prepayment Rule. See: Prepayment Model Rules.,

#### Related Topics

Prepayment Methodologies and Rules, page 13-16

Defining Prepayment Methodologies, page 22-3

Defining the Prepayment Model Rule Method, page 22-9

#### PSA Method

The PSA Prepayment method (Public Securities Association Standard Prepayment Model) is a standardized prepayment model that is built on a single dimension, remaining term. The PSA curve is a schedule of prepayments which assumes that prepayments will occur at a rate of 0.2 percent CPR in the first month and will increase an additional 0.2 percent CPR each month until the 30th month and will prepay at a rate of 6 percent CPR thereafter ("100 percent PSA"). PSA prepayment speeds are expressed as a multiple of this base scenario. For example, 200 percent PSA assumes annual prepayment rates will be twice as fast in each of these periods -- 0.4 percent in the first month, 0.8 percent in the second month, reaching 12 percent in month 30 and remaining at 12 percent after that. A zero percent PSA assumes no prepayments.

You can create your own origination date ranges and assign a particular PSA speed to all the instruments with origination dates within a particular origination date range.

**Additional Information:** PSA speed inputs can be between 0 and 1667

### Arctangent Calculation Method

The Arctangent Calculation method uses the Arctangent mathematical function to describe the relationship between prepayment rates and spreads (coupon rate less market rate).

**Note:** All prepayment rates should be input as annual amounts.

User defined coefficients adjust this function to generate differently shaped curves. Specifically:

$$CPR_t = k_1 - (k_2 * ATAN(k_3 * (-C_t/M_t + k_4)))$$

where  $CPR_t$  = annual prepayment rate in period t

$C_t$  = coupon in period t

$M_t$  = market rate in period t

$k_1 - k_4$  = user defined coefficients

A graphical example of the Arctangent prepayment function is shown below, using the following coefficients:

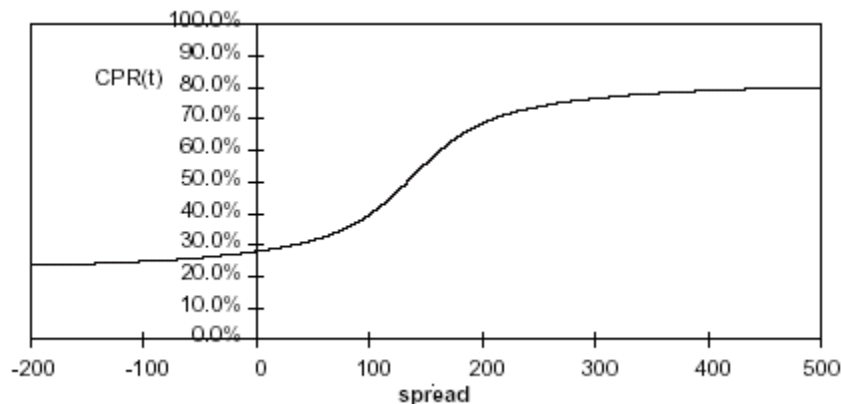
$$k_1 = 0.3$$

$$k_2 = 0.2$$

$$k_3 = 10.0$$

$$k_4 = 1.2$$

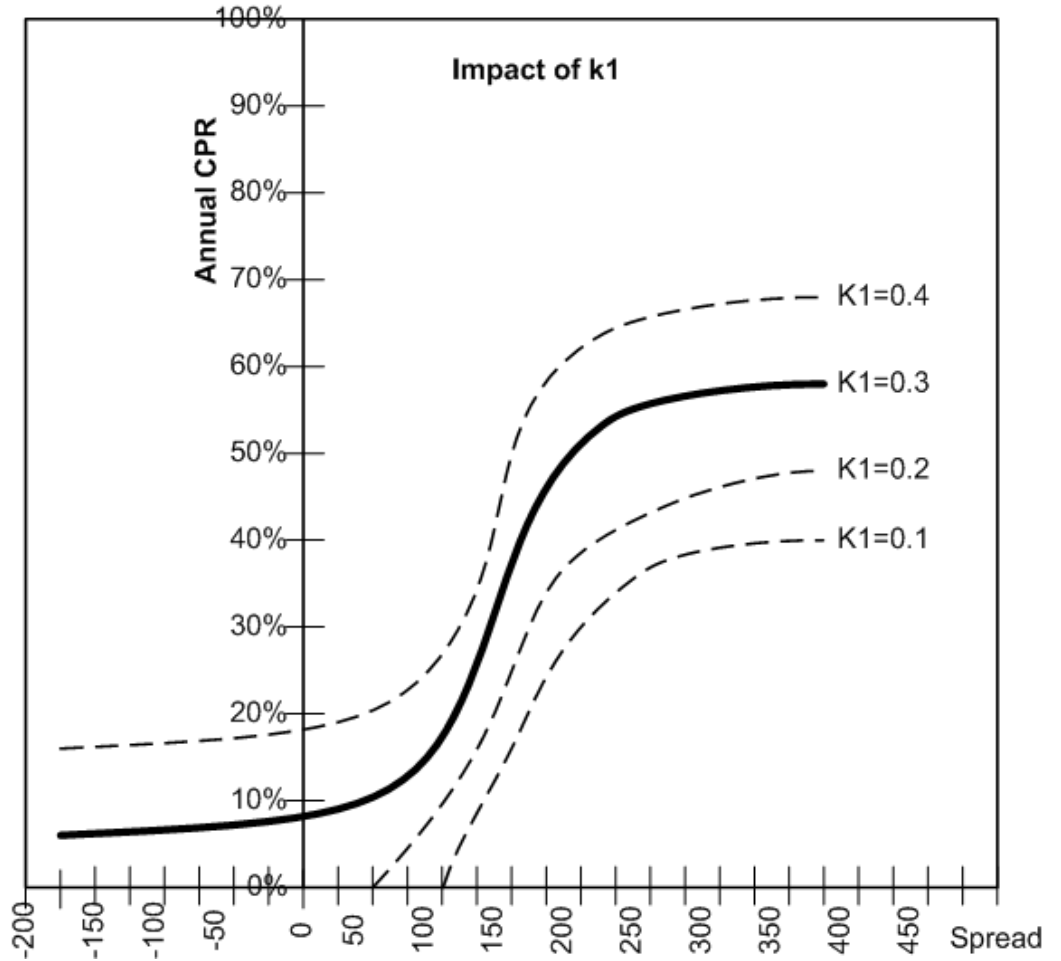
Each coefficient affects the prepayment curve in a different manner.



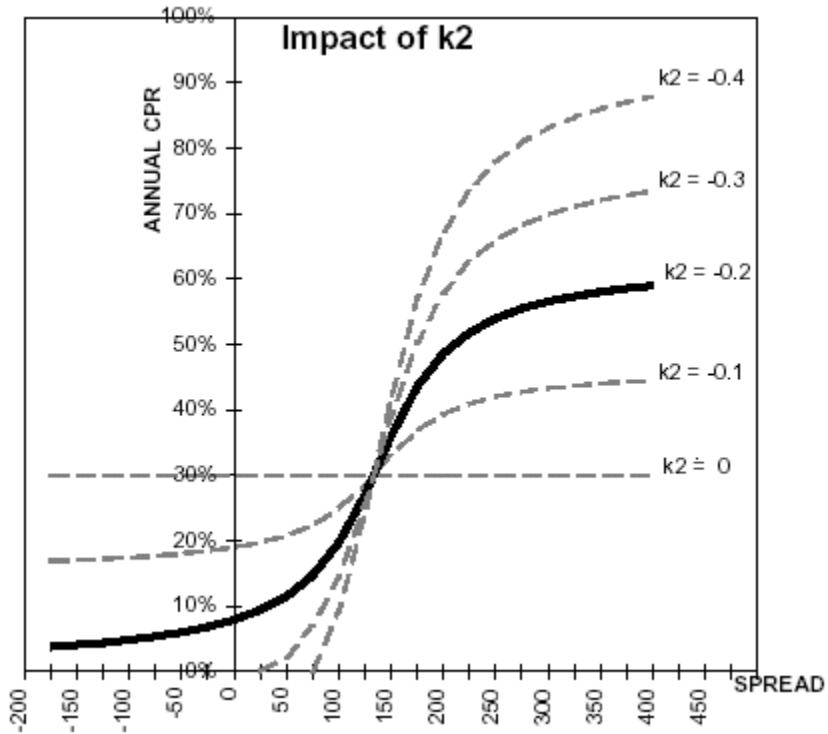
The following diagram shows the impact of  $K_1$  on the prepayment curve.  $K_1$  defines the midpoint of the prepayment curve, affecting the absolute level of prepayments.



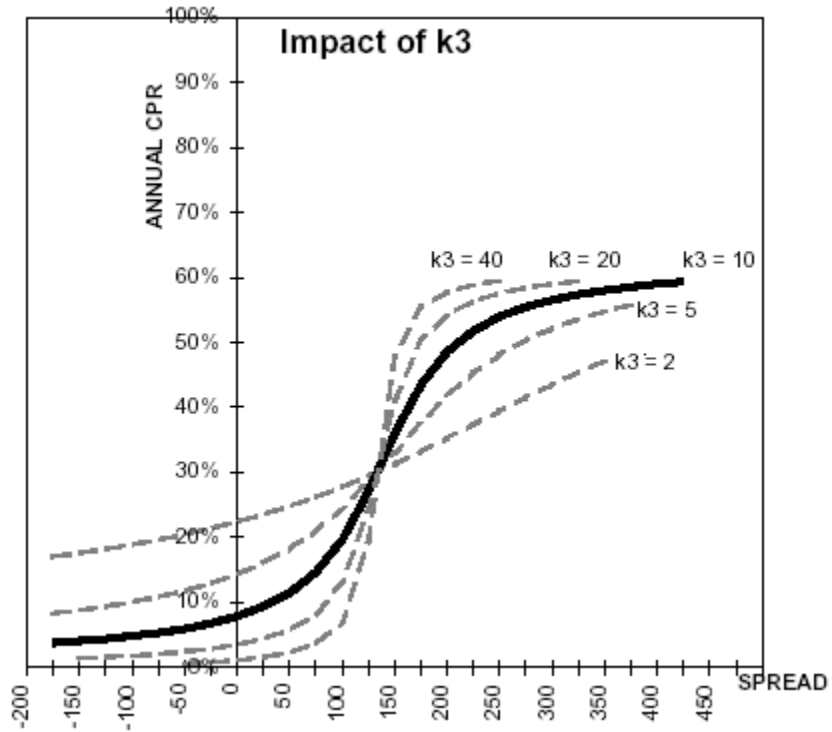
Adjusting the value creates a parallel shift of the curve up or down.



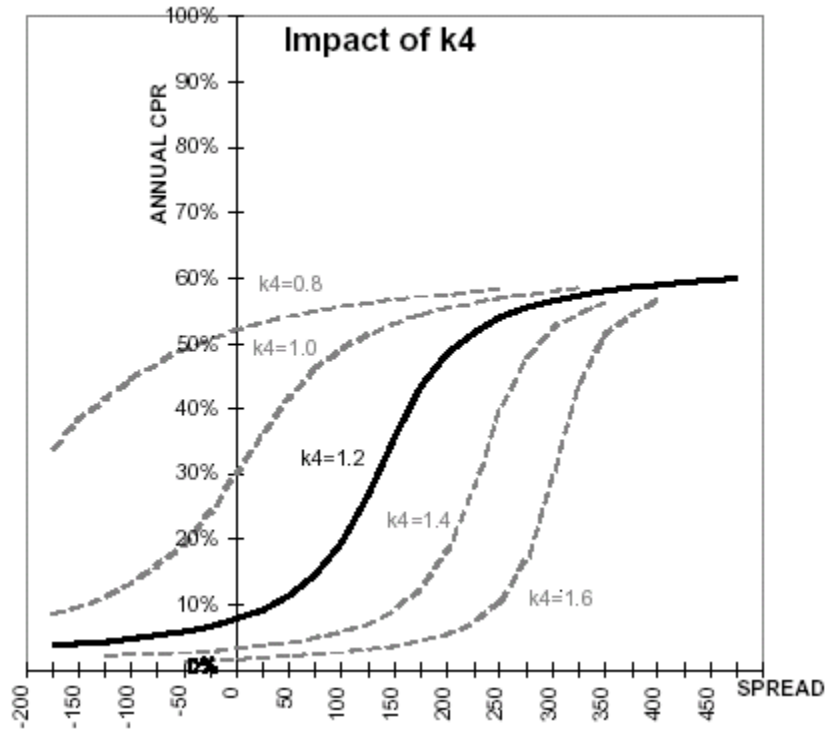
The following diagram shows the impact of K2 on the prepayment curve. K2 impacts the slope of the curve, defining the change in prepayments given a change in market rates. A larger value implies greater overall customer reaction to changes in market rates.



The following diagram shows the impact of K3 on the prepayment curve. K3 impacts the amount of torque in the prepayment curve. A larger K3 increases the amount of acceleration, implying that customers react more sharply when spreads reach the hurdle rate.



The following diagram shows the impact of K4 on the prepayment curve. K4 defines the hurdle spread: the spread at which prepayments start to accelerate. When the spread ratio = k4, prepayments = k1.



## Defining Discounting Methods

Discount Method rules allow you to define, based on your product hierarchy, the method for discounting projected cash flows for market value purposes. For each product and currency, you can choose one of the following discount methods and the corresponding reference rates (IRC) for discounting:

- Spot Input
- Spot Interest Rate Code
- Forecast (Original Term)
- Forecast (Remaining Term)
- Effective Interest Rate

## Related Topics

Discount Methods, page 24-1

## **(Mandatory) Defining and Running the Hedge Management Process**

When all of the assumptions for a forecast are defined, users can define and execute HM Processes where they combine the relevant assumptions into an HM simulation run. HM Processes initialize all selected assumption data and call the cash flow engine to execute the selected calculation processes and generate a results set. An HM Process requires specific inputs, including:

- Product Hierarchy / Data Source selection
- Calculation Elements
- Process Assumption Rules
- Output Preferences
- Audit Preferences
- Processing Parameters

Defining options within each of these pages and saving the process, creates a unique Process Identifier for individual forecasting objectives.

### **Related Topics**

HM Processing, page 25-1

### **Reviewing Processing Errors**

There is always the possibility that errors may occur during the execution of an HM Process. A log of such errors is generated during processing and can be accessed by selecting the "View Log" link from the HM Process summary page.

Within this log, the report lists the specific transaction for which an error was generated and provides the internally generated identifier of the HM Process that generated it.

As part of the rectification process, it is advisable to determine what caused the error and what should be done to correct it for the next run.

### **Accessing Hedge Management, Detail Cash Flow Results for Audit Purposes**

Detailed cash flow results for individual account records can be written to an audit table for validation purposes. If you select the Detailed Cash Flows audit option on the HM Process - Audit Block, the detailed cash flow results are written to the FSI\_O\_PROCESS\_CASH\_FLOWS table.

## Related Topics

HM Processing > Audit Preferences, page 25-6

Application Preferences > Maximum Number of Instrument Records to Include in Detail Cash Flow Output, page 15-4

## Accessing Hedge Management, Interest Rate Audit Results

Forecast Rates can be written to an audit table to facilitate validation of results and for reporting and analysis.

Within the HM Process - Audit Block, selecting the Forecast Rates option allows you to output the interest rates, and currency rates values for each scenario used in your HM simulation run.

The Deterministic – Forecast Rates audit results are written to the FSI\_INTEREST\_RATES\_AUDIT table.

## Related Topics

HM Processing > Audit Preferences, page 25-6

## Analyzing Results

You should always analyze results obtained from the HM Engine. For example, you should review the forecast rate – audit information to ensure that the new business rates and resulting interest accruals have been generated correctly for each scenario.

In addition, you should review both your beginning balances and resulting balances in each forecast period as well as your scenario specific behavioral assumptions to verify that assumptions have been defined and applied correctly.

## Re - processing Erroneous Accounts

While reviewing your results, you might discover accounts with invalid results that need to be reprocessed. Oracle HM Processes allow you to rerun a subset of information to make corrections to appropriate products when needed.

If you need to reprocess a portion of your instrument data, make sure that you reprocess all the Product dimensions members, across all instrument tables where relevant data exists.

## Related Topics

HM Processing > Processing Parameters, page 25-7

## User Roles

This section describes the user roles present in the Risk Management Cell of a financial institution with their responsibilities and rights with respect to multiple tasks/ UIs to ensure the security.

### HM Administrator

HM Administrator has following rights:

- Delegates the responsibility of configuration of the HM application, definition and maintenance of the standard business rules
- Setting up the HM application in a functional manner
- Works as a business user with the System Administrator in carrying out certain tasks
- HM Administrator sets the standard definitions for various preferences. These definitions are used in the HM Process.

### HM Analyst

HM Analyst has following rights and responsibilities:

- Maintains some or all of the assumptions within the HM application
- Uses the application to make the changes in assumptions on an on-going business
- Maintains the HM application on a routine basis, this includes defining/ modifying new/ existing assumptions for classification/ reclassification, and so on.

### System Administrator

System Administrator

- Takes care of Technology department and data management
- Delegates the responsibility of security issues, creating user roles and assigning rights to them
- Performs other data administration tasks, which are typically carried at the time of setting up the HM application

## Data Management Analyst

A Data Management Analyst has following rights and responsibilities:

- Manages the data load processes, reconciling instrument data to the GL Balances, validating data quality and executing the cash flow edit routines from time-to-time.
- Validates the data and handing over to the HM team for model maintenance and HM processing

## HM Reporting Analyst

A HM Reporting Analyst has following rights and responsibilities:

- Responsible for building, maintaining and running all of the HM reports as required by the business user group
- Generates the reports either periodically and/ or at a specified frequency or as and when required (the reports can be either for VIEW ONLY or can be interactive in nature and would be in the form of dashboards)



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## Common Rule Management Tasks

This section focuses on the rule management tasks that are common across all rules in this application.

This chapter covers the following topics:

- Overview of Common Rule Management Tasks
- The Rule Summary Page
- Searching for Rules
- Creating Rules
- Viewing and Editing Rules
- Copying Rules
- Deleting Rules
- Dependency Checking

### Overview of Common Rule Management Tasks

The rule management tasks that are common to business rules in this and other OFSAA applications are as follows.

- The Rule Summary Page, page 14-2
- Searching for Rules, page 14-4
- Creating Rules, page 14-5
- Viewing and Editing Rules, page 14-6
- Copying Rules, page 14-6
- Deleting Rules, page 14-7

**Additional Information:** You can perform these tasks from the Summary page for the type of rule with which you are working. Depending on the rule type, some tasks might not be available.

The procedures for carrying out these tasks are the same for each rule type, except for rule-specific steps explicitly stated in the rule-specific documentation.

## The Rule Summary Page

The Rule summary page is the gateway to all rules and related functionality of the application. From there, you can navigate to other related pages.

On the header of the Rule summary page, you can perform simple queries on Folder, Rule Name and in many cases, the dimension upon which the rule is based.

The following table shows the page components.

Name	Type	Default Value	Required/ Optional	Updatable	LOV, additional information
Folder	Drop Down	Set in Application Preferences	Required - for filtering the rules under the folder	No – Only able to select from presented list.	N/A
(Rule) Name	Text Box	None	Optional – for filtering the rules on Rule Name	Yes	You can specify all or part of a rule name. For example, if you want to see only those Rules which start with 'A' – Enter A in the text field.
Dimension	Drop Down	Set in Application Preferences		No - Only able to select from presented list	N/A

<b>Name</b>	<b>Type</b>	<b>Default Value</b>	<b>Required/ Optional</b>	<b>Updatable</b>	<b>LOV, additional information</b>
Search	Button	N/A	N/A	No	Initiates rule search based on specified criteria.
Reset	Button	N/A	N/A	No	Restores default search criteria.
Add	Button	N/A	N/A	No	Initiates the Data or Ledger Loader rule creation process
(Rule) Name	Display Value	N/A	N/A	No	Mouseover shows the rule description and in some cases also displays the unique system id number.
Created By	Display Value	N/A	N/A	No	Who created the Rule version.
Creation Date	Display Value	N/A	N/A	No	When was the rule created.
Last Modified By	Display Value	N/A	N/A	No	Who last modified the rule.

<b>Name</b>	<b>Type</b>	<b>Default Value</b>	<b>Required/ Optional</b>	<b>Updatable</b>	<b>LOV, additional information</b>
Last Modified Date	Display Value	N/A	N/A	No	When the rule was last modified.
View	Icon	N/A	N/A	N/A	Opens the selected rule in read only mode.
Edit	Icon	N/A	N/A	N/A	Opens the selected rule in edit mode.
Delete	Icon	N/A	N/A	N/A	Deletes the selected Rule.
Copy	Icon	N/A	N/A	N/A	Initiates process for copying rules. Explained later in this document.
Run	Button	N/A	N/A	N/A	Initiates process for running Rules. Explained later in this document.
Pagination Options	Icon	Set in Global Preferences	N/A	N/A	Indicates the number of rows to display per page in the summary table.

## Searching for Rules

Search for a business rule to perform any of the following tasks:

- Update, Copy, delete or run existing rules
- Define methodologies for products or define other processing assumptions

### Procedure:

1. Navigate to the rule summary page, page 14-2 for the appropriate rule type.
2. Search for the rule, as follows:
  1. Select the folder in which the rule is stored.
  2. (Optional) Enter the name of the rule.
  3. Click Search.

Only rules that match the search criteria are displayed.

For more information, please refer to Overview of Common Rule Management Tasks, page 14-1

## Creating Rules

You create a rule to specify the way you want a particular task or business process to be carried out by the application. Creating a rule is a process, in which you specify the properties for the rule itself.

### Procedure to Create a Rule:

1. Navigate to the summary page, page 14-2 of the rule you want to create.
2. Click Add to display the rule definition page.
3. Enter a name for the rule.

**Important:** The name of a rule must be unique within the selected folder for each rule type.

4. Select the folder in which you want to store the rule.
5. (Optional) Enter a description for the rule.

6. Select the required access for other users.
7. Click Apply or Save, depending on the rule type.
8. Specify any other properties or options that may apply for the rule that you are creating.

## Viewing and Editing Rules

You can view existing rules, and you can edit existing rules, provided you have read / write privileges.

### **Procedure:**

1. Navigate to the summary page, page 14-2 of the rule you want to update.
2. Search for a rule. For further information, see Searching for Rules, page 14-4.
3. Select the appropriate rule and click Edit to open the rule you want to update.

### **Procedure to Update a Rule**

1. Update the Name or Description.
2. Click Apply or Save, depending on the rule type.

## Copying Rules

You can copy rules to avoid having to enter data multiple times. This saves time and effort and also reduces mistakes.

### **Procedure:**

1. Navigate to the summary page, page 14-2 of the rule you want to copy.
2. Search for a rule. For further information, see Searching for Rules, page 14-4.
3. Select the appropriate rule and click Copy corresponding to the rule that you want to duplicate.
4. Select a folder.
5. Enter a unique name for the new rule.
6. (Optional) Enter a brief description for the rule.

7. Select the access type.
8. Click Save.

## Deleting Rules

You can delete rules that are no longer needed.

**Caution:** Once deleted, a rule cannot be retrieved.

Restrictions on deleting rules are:

- You cannot delete rules if you have only Read privileges. Only users with read/write privilege and rule owners can delete rules.
- You cannot delete a rule that has dependency.

### Procedure:

1. Navigate to the summary page, page 14-2 of the rule you want to delete.
2. Search for a rule. For further information, see Searching for Rules, page 14-4.
3. Select the appropriate rule and click the Delete icon.

Please refer to Overview of Common Rule Management Tasks , page 14-1for more information.

## Dependency Checking

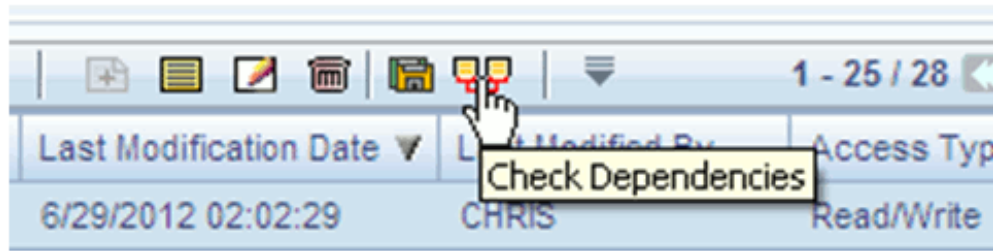
You can check dependencies for rules to know where a particular rule, dimension, member, attribute, IRC has been used. Also, this prevents accidental deletion of rules having dependencies.

### Procedure:

1. Navigate to the summary page, page 14-2 of the rule you want to check dependencies.
2. Search for a rule. For further information, see Searching for Rules, page 14-4.
3. Select the appropriate rule(s) and click check dependencies corresponding to the rule that you want to check for.

**Note:** You can select more than one rule at a time to check

dependencies.



4. The Dependency Information window opens containing the following information: Child object Name, Child Object Type, Folder, Parent Object Name, Parent Object Type, Folder.

Dependency Information					
Product Characteristics > Dependency Information					
Dependency Information					
Child Object Name	Child Object Type	Folder	Parent Object Name	Parent Object Type	Folder
Prod Char 1 (for testing)	Product Characteristics	RTSEG	CS VaR (7 day)	Static Stochastic ALM Process	RTSEG
Prod Char 1 (for testing)	Product Characteristics	RTSEG	bb test output dimension	Static Stochastic ALM Process	RTSEG

**Example**

If a Product Characteristics rule 'A' which has been used in a static deterministic process 'P' is checked for dependencies, then the following information is displayed in the Dependency Information window.

Child object Name –A

Child Object Type – Product Characteristics

Folder – The folder name in which A resides

Parent Object Name - P

Parent Object Type – Static Deterministic Process

Folder - The folder name in which P resides

**Caution:** You cannot delete a child object which has dependencies. You will get a message: Dependencies found. Cannot delete.

In order to delete the child, you must first delete the outermost parent object which uses the child.



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## Application Preferences

This module discusses the Procedure for defining and maintaining your HM Application Preference settings.

This chapter covers the following topics:

- Overview of HM Application Preferences
- Updating HM Application Preferences

### Overview of HM Application Preferences

Application Preferences allow both Administrators and End Users to establish default values and to manage other core application parameters that affect the way business rules are created and the way HM Processes are run.

The procedure for working with and managing Application Preferences includes the following steps:

- Updating Application Preferences.

### Related Topics

[Overview of OFSAA Infrastructure > Application Preferences, page 2-14](#)

### Updating HM Application Preferences

Updating Application Preferences is a one-step process. You navigate to the Application Preferences screen and you define your Preferences.

#### **Procedure:**

This table describes key terms used for this procedure.

## Selected Terminology

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Term	Description
Show Preferences For	<p>There are two modes in which you can access Application Preferences:</p> <p><b>Administrator:</b> If the user has Administrator privileges, he can define preferences for the "All User" group and for his own personal account, which may be the same or different from the "All User" settings. The Administrator can also designate the "All User" preferences as Editable or Non-editable on a row by row basis. If the individual preference is checked as " is Editable", then End Users can update or override the Administrator's default value for their own individual account. If the " is editable" box is not checked, then End Users are not able to change the default for their own account.</p> <p><b>End User:</b> If the user does not have administrator privileges, then certain preference items may have been pre-set by the administrator and the user may not be allowed to change the value. All Application Preference settings are displayed, regardless of access privilege.</p>
Active for Master Maintenance	<p>If a user has more than one application available on their Left Hand menu, then they will need to designate Application Preferences from one of their applications as "Active for Master Maintenance". Certain preferences such as the default folder and read / write access setting will be referenced by items within Master Maintenance based on this selection.</p>
Security Map	<p>This option allows you to select an existing mapper definition. Based on Mapper selection, list of Legal Entity will vary. For more information on Security Mapping refer to <i>Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) User Guide Release 7.3.5.0.0</i>.</p>

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Term	Description
As of Date	All Hedge Management processes reference this date at run time to determine the data to include in the process. Each period, when a new set of data has been loaded, this parameter should be updated to reflect the new date.
Show Execution Parameters Runtime Parameters	If this option is selected, then a pop window appears during the execution of process to select the Legal Entity.
Legal Entity	<p>This parameter allows you to define the Legal Entity. If Show Execution Parameters option is not selected and Legal Entity is defined, then this Legal Entity will be auto populated.</p> <p>If Show Execution Parameters option is selected, then you can edit the Legal Entity during the execution of process.</p> <p>Using the <b>Erase</b> button next to Legal Entity, you can erase the existing dimension leaf member.</p> <p><b>Note:</b> The list of Legal Entities in Hierarchy Browser will depend on selected Security Mapper.</p>
Default Total Error Message Limit	HM Processes log error details into the FSI_O_PROCESS_ERRORS table. This parameter defines the limit on the total number of errors that will be logged for any HM Process.
Default Error Message Limit Per Item	This parameter defines the total number of errors that will be logged for a given type of error.

Term	Description
Debugging Output Level	<p>The debugging output level determines the amount of sql that will be written to the processing log. There are three levels available:</p> <ol style="list-style-type: none"> <li data-bbox="873 453 1344 516">1. <u>Do not output SQL to log file</u>: A log file will not be created.</li> <li data-bbox="873 558 1365 653">2. <u>Show Significant Calculation SQL</u>: Log file is created and will contain those SQLs that are tagged as significant.</li> <li data-bbox="873 695 1360 789">3. <u>Show all SQL</u>: Log file is created and will contain all the SQL that the engines execute.</li> </ol> <p>The log files can be accessed by the system administrator in the following location on the server:</p> <p><b>\$FIC_HOME/ficdb/log/FusionApps/ folder</b></p> <p>The file names will be prefixed with the application initials and will also contain the unique batch run id of the execution request.</p> <p>for example: <b>ofsrn.&lt;batch-run-id&gt;.log</b></p>
Net Change Date	<p>The Date the HM effectiveness process will look back to when effectiveness type is set to Net. This is applicable for retrospective effectiveness testing.</p>
Maximum Number of Instrument Records to Include in Detail Cash Flow Output	<p>This parameter allows administrators to define the maximum number of instrument records that any user can select within a process for outputting detailed cash flows. If you wish to remove the limit, you can leave the setting blank and upon selecting APPLY, you will notice "No Limit" text will appear. It is recommended however, that this value be set to 100 or less.</p>

Term	Description
Maximum Number of Rate Paths for Monte Carlo Processing	This parameter allows administrators to limit the number of rate paths that can be selected by a user when running a monte carlo based process. The maximum value is 2,000.
Enable Holiday Calendar Adjustments	<p>Select this option to enable the Holiday Calendar Adjustment capability for the ALM Application. If this option is not selected, the ALM Cash Flow Engine will ignore all Holiday Calendar information, including instrument level inputs and assumption rule level inputs.</p> <p>Logic for applying Holiday Calendar assumptions is as follows:</p> <ul style="list-style-type: none"> <li>• If Application Preferences – 'Enable Holiday Calendar Adjustments' checkbox is on, then the CFE will handle these Holiday Calendar assumptions based on the Account Level values first.</li> <li>• If Application Preferences – 'Enable Holiday Calendar Adjustments' checkbox is on, and if Holiday Calendar inputs are not defined at the Account Level, then the CFE will refer to the Product/Currency assumptions (TP rule and Adjustment rule).</li> <li>• If Application Preferences – 'Enable Holiday Calendar Adjustments' checkbox is on, and if Holiday Calendar inputs defined at the Account Level AND Product/Currency Assumption level, then the CFE will refer to the Account level inputs.</li> <li>• If Application Preferences – 'Enable Holiday Calendar Adjustments' checkbox is off, then no Holiday Calendar assumptions will be applied.</li> </ul>

Term	Description
Folder Name	This parameter allows you to set the default folder location. This selection is made for convenience and can be changed within all business rules at the users' discretion.
Access Type	This parameter allows you to set the default access type setting. Selections include Read / Write and Read Only. This selection acts as the starting value for convenience only and users can change at their discretion.
Initial Currency Selection ("Business Rule Currency")	This parameter allows you to select the starting currency to be displayed within all business rules. This selection is made for convenience and can be changed within all business rules at the users' discretion.
Product Dimension	<p>Oracle HM requires users to declare one of the "Product" dimensions as the HM Product dimension. The model is seeded with 3 possible selections:</p> <ul style="list-style-type: none"> <li>• Product</li> <li>• Common COA</li> <li>• GL Account</li> </ul> <p>Users can also add user defined product dimensions, which would also appear in the above list. HM business rules are based on the Product dimension selected here. The suggested default is the "Product" dimension.</p>
Default Product Hierarchy	The list of values for Default Product Hierarchy is based on the Default Product Dimension selection. The hierarchy selected here will be the default hierarchy selection in all business rules that support node level assumptions. This selection acts as the starting value for convenience only and users can change at their discretion within each business rule.

Term	Description
Organizational Unit Dimension	Reserved for future release.
Hierarchy Members Navigation Size	<p>This setting will control the maximum number of hierarchy members that would be included in the Assumption Browser and Hierarchy Browser</p> <p><b>Note:</b> Click <b>more</b> to expand the list. Recommended values are 50 to 100. Higher value settings could impact screen refresh performance.</p>
<p><b>ADCO Parameters:</b> National Housing Price Index (NHPI)</p>	<p>This is an input parameter for ADCo definition purpose, that the user has to select from the dropdown containing the list of all economic indicators defined from Rate Management. The user is required to set up a NHPI economic index as if they desire to override the base Adco NHPI forecast. This is an optional step, in the setting up of an ADCO process.</p>

1. Navigate to the HM Application Preferences page.

Application Preferences			
^ Select Preferences For			
Show Preferences For	GUIUSER		
Active for Master Maintenance	<input type="checkbox"/>		
^ Parameters - General			
Property Name	Property Value		Is Editable
Security Map	None		<input type="checkbox"/>
As of Date	06/25/2014	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Show Execution Parameters	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Runtime Parameters	Leaf Description		<input type="checkbox"/>
Legal Entity		<input type="checkbox"/>	<input type="checkbox"/>
^ Processing - General			
Property Name	Property Value		Is Editable
Default Total Error Message Limit	250		<input checked="" type="checkbox"/>
Default Error Message Limit Per Item	25		<input checked="" type="checkbox"/>
Debugging Output Level	Do not output SQL to log file		<input checked="" type="checkbox"/>
^ Processing - Application Specific			
Property Name	Property Value		Is Editable
Net Change Date	06/25/2014	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Maximum Number of Instrument records to include in detail cash flow output	10		<input checked="" type="checkbox"/>
Maximum Number of Rate Paths for Monte Carlo Processing	10		<input checked="" type="checkbox"/>
Enable Holiday Calendar Adjustments	<input type="checkbox"/>		<input checked="" type="checkbox"/>
^ Assumption Management Defaults			
Property Name	Property Value		Is Editable
Folder Name	SANITY		<input checked="" type="checkbox"/>
Access Type	<input type="radio"/> Read Only <input checked="" type="radio"/> Read/Write		<input checked="" type="checkbox"/>
Initial Currency Selection ["Business Rule Currency"]	Australian Dollar		<input checked="" type="checkbox"/>
^ Dimensions and Hierarchies			
Property Name	Property Value		Is Editable
Product Dimension	Common Chart of Accounts		<input checked="" type="checkbox"/>
Default Product Hierarchy	CS OTP 3 - Common		<input checked="" type="checkbox"/>
Organizational Unit Dimension	Organizational Unit		<input type="checkbox"/>
Hierarchy Members Navigation Size	100		<input checked="" type="checkbox"/>
^ ADCO Parameters			
Property Name	Property Value		Is Editable
National Housing Pricing Index			<input checked="" type="checkbox"/>

2. Input values for all line items.

**Note:** If you are the application administrator, define default values for the "All User" group by making the appropriate selection from the "Show Preference For", drop list at the top of the page. Pay particular attention to the "Is Editable" status and determine which items require administrative control and which items non-administrative users will be able to set for themselves.

3. Select Apply to confirm changes

4. Select the Reset to Default option if you would like to clear all previously applied inputs and return to the original default state.



---

## Cash Flow Edits

This module discusses the procedure for validating and cleansing your Instrument table data before you process it to generate cash flow based results.

This chapter covers the following topics:

- Overview of Cash Flow Edit Processes
- Creating Cash Flow Edit Processes
- Executing Cash Flow Edit Processes

### Overview of Cash Flow Edit Processes

Cash Flow Edit processes allow you to verify the accuracy and check the completeness of your Instrument table data. See: *Cleansing the Data by performing Cash Flow Edits*, page 13-2

The procedure for working with and managing a Cash Flow Edit process is similar to that of other Oracle Funds Transfer Pricing, Oracle Hedge Management and IFRS Valuations and Oracle Asset Liability Management Processes. It includes the following steps:

- Searching for Cash Flow Edit processes. See: *Searching for Rules*, page 14-4.
- Viewing and Updating Cash Flow Edit processes. See: *Viewing and Updating Rules*, page 14-6.
- Copying Cash Flow Edit processes. See: *Copying Rules*, page 14-6.
- Deleting Cash Flow Edit processes. See: *Deleting Rules*, page 14-7.
- Check Dependencies in the Cash Flow Edit processes.
- Refresh the Cash Flow Edit summary page.

Cash Flow Edits							
							Active Time Bucket: testing
* Search							
Name						Folder	EPM61SEG
Dimension	Common Chart of Accounts						
* Cash Flow Edits							
<input type="checkbox"/>	Name ▲	Folder	Creation Date	Created By	Last Run Date	Last Run By	Status
<input type="checkbox"/>	CFE_CFE	EPM61SEG	27.Feb.2013 23:04:52	OFSAUSER			
<input type="checkbox"/>	ji	EPM61SEG	28.Feb.2013 15:38:25	OFSAUSER			
<input type="checkbox"/>	ji_bugtest2	EPM61SEG	28.Feb.2013 15:42:16	OFSAUSER			
<input type="checkbox"/>	TESTCFEDIT	EPM61SEG	09.Jan.2013 00:29:17	OFSAUSER			

Ideally, you should create and run Cash flow Edit Processes on your Instrument table data before you submit cash flow engine based rules for processing. See:

- Creating Cash Flow Edit Processes, page 16-2
- Executing Cash Flow Edit Processes, page 16-5

## Related Topics

Cash Flow Edit Logic, *Oracle Financial Services Cash Flow Engine Reference Guide*

Standard Navigation Paths,

## Creating Cash Flow Edit Processes

Creating a Cash Flow Edit process is a one-step process. You define both the attributes that uniquely describe a particular Cash Flow Edit process and the data to be validated or cleansed by that process on the Create Cash Flow Edit process page.

### Procedure:

This table describes key terms used for this procedure.

#### ***Selected Terminology***

Term	Description
Filters	One of the two components that determine the data that will be cleansed by Cash Flow Edit processes. This field allows you to select a subset of data for processing by selecting a Filter that was previously created. Its default value is "No Filter".

Term	Description
Source Selection	One of the two components that determine the data that will be cleansed by Cash Flow Edit processes. This field allows you to select the Instrument tables that need to be included in a Cash Flow Edit process. Alternatively, you can select a hierarchy and then select the desired product members that will be included in the process. Note that the Source selection and Hierarchy selection options are mutually exclusive. You can define your dataset by selecting one or the other, but not a combination of both.
Preview Mode	Selecting this check box allows you to view the results of running a Cash Flow Edit process before the system updates the underlying records in the Instrument tables. The default value is checked.
Source Selection: Available Tables	When the "Source Selection" option is made, you are presented with two Shuttle Control windows which contain the names of the Instrument Tables available for inclusion during a Cash Flow Edit process.
Source Selection: Selected Tables	One of the two Shuttle Control windows, it contains the names of the tables that have already been selected for processing by the Cash Flow Edit process.
Cash Flow Edit Rules	The Cash Flow Edit Rule section provides a summary of all seeded cash flow edit rules. Users can refer to this list to understand the validations that are applied to the cash flow fields on the instrument records and also view the default values that are applied when errors are found.

1. Navigate to the Cash Flow Edits summary page.
2. Click Add.

The Create Cash Flow Edits Process page is displayed.

Active Time Bucket: Default Time Bucket Rule      Cash Flow Edits Process      As Of Date: 30-Nov-2007

**A Cash Flow Edit Details**

Name: Cash Flow Edit Process 1  
 Description: This process should be run prior to executing any cash flow engine based processes.  
 Folder: OFSAASEG      Preview Mode:

**A Filter Selection**

Filter Type: No Filter  
 Folder: OFSAASEG      Filters:

**A Hierarchy Selection**

Source Selection:  CommercialLoans >> ConsumerLoans  
 Folder: OFSAASEG      Product Hierarchy: Common COA Hierarchy (for demo)

**A Cash Flow Edit Rules**

Error Code	Error Condition	Assignment	Error Level	Warning	Description
9136	AMRT_TTYPE_CD = 600 and PMT_INCR_CYCLE < 0	Set PMT_INCR_CYCLE equal to 0.	2	Pmt Incr Cycle < 0	Payment increase cycle cannot be less than zero (Neg Am Instruments only)
9132	(CUR_PAYMENT > 0 and CUR_PAR_BAL > 0) or (CUR_PAYMENT < 0 and CUR_PAR_BAL < 0)	Set CUR_PAYMENT equal to 0.	2	Pmt, bal opposite signs	Current payment and current balance can not have opposite signs
9147	REMAN_NO_PMTS_C < 1	REMAN_NO_PMTS_C = 1	2	Rem No Pmts < 1	There has to be at least 1 payment left
9148	DATF_SFT_LAG > 0	DATF_SFT_LAG > 0	2	Set 1 am < 0	Date set item can not be negative

- Complete standard steps for this procedure. See: Creating Rules, page 14-5

**Note:** At this point, you can input the components to ensure that the data processed by Cash Flow Edits will be clean. If you save the Rule without selecting Instrument tables or selecting product members from the hierarchy, the Process will be saved but no data would be selected for cleansing.

- (Optional) Select a Filter.
- Select the Instrument tables or use a hierarchy to make Product member selections.

**Note:** Use the Source Selection: Shuttle Control to select the Instrument tables that you want to include in the Cash Flow Edit process. You can move Instrument tables from Available Tables into Selected Tables and vice versa by using Move, Move All, Remove, and Remove All. These tables can also be reordered to change the order of processing.

Initially, the selected tables list is empty. However, during subsequent runs, the selected tables list retains the names of the tables that you selected previously. For example, if you select two tables and save the Cash Flow Edits Process, the system shows them the next time you open the rule.

A table name shown in the Selected Tables list does not appear in the Available Tables.

6. Click Save.

The Cash Flow Edits process is saved and the summary page is displayed.

## Related Topics

Cleansing the Data by performing Cash Flow Edits, page 13-2

Overview of Cash Flow Edits Rules, page 16-1

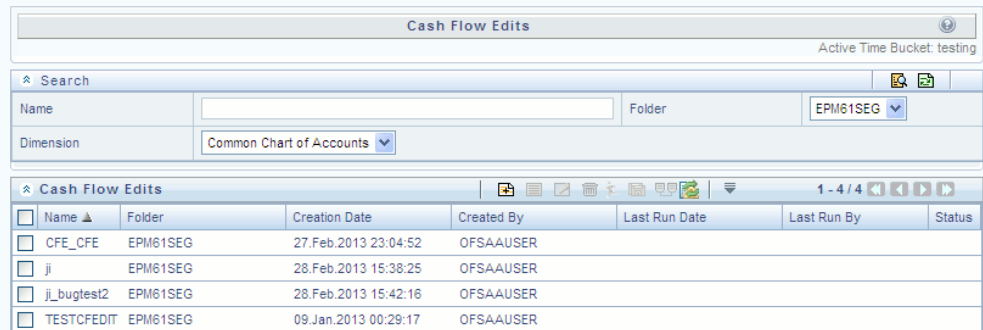
Standard Navigation Paths,

## Executing Cash Flow Edit Processes

You execute a Cash Flow Edit process to check the accuracy and the completeness of your Instrument table data.

## Prerequisites

- Predefined Rules



The screenshot shows the 'Cash Flow Edits' summary page. At the top, there is a search bar with 'Name' and 'Folder' fields, and a 'Dimension' dropdown set to 'Common Chart of Accounts'. Below the search bar is a table with the following data:

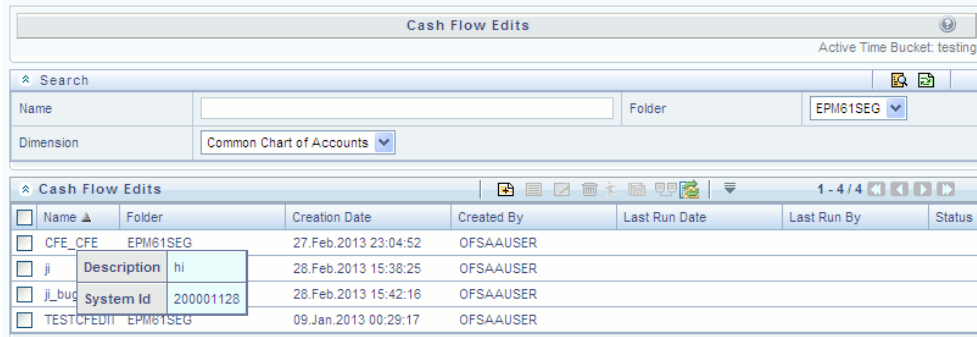
Name	Folder	Creation Date	Created By	Last Run Date	Last Run By	Status
CFE_CFE	EPM61SEG	27.Feb.2013 23:04:52	OFSAUSER			
ji	EPM61SEG	28.Feb.2013 15:38:25	OFSAUSER			
ji_bugtest12	EPM61SEG	28.Feb.2013 15:42:16	OFSAUSER			
TESTCFEDIT	EPM61SEG	09.Jan.2013 00:29:17	OFSAUSER			

### Procedure:

1. Navigate to the Cash Flow Edits summary page.
2. Search for a rule, page 14-4
3. Select a process and Click the Run icon to execute the selected process. The Cash Flow Edits run confirmation page is displayed. The status of the process is displayed in the status column. Upon completion of the process, you can navigate to the Log Viewer page by selecting the "View Log" hyperlink. From the Log Viewer, you can access a report that provides details of any cash flow edit errors that were identified by the process.

**Note:** You can view the results of running a Cash Flow Edits rule

before the system updates the underlying records in the Instrument tables, provided you selected Preview Mode while defining it.



**Important:** In case you do not want to run the process immediately, make a note of the System ID displayed by doing a mouse-over on the Name. You can use the System ID to schedule the execution of the process on the Operations: Batch Scheduling screen. See: Batch Execution/Scheduling, OFSAAI User Guide

## Related Topics

Cleansing the Data by performing Cash Flow Edits, page 13-2

Overview of Cash Flow Processes, page 16-1

Standard Navigation Paths,

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## User Defined Payment Patterns

This module describes the procedure for capturing instrument payment patterns that are too complex to be accommodated in the standard fields of Instrument tables.

This chapter covers the following topics:

- Overview of User Defined Payment Patterns
- Searching for Payment Patterns
- Creating Payment Patterns

### Overview of User Defined Payment Patterns

User defined payment patterns allow you to define custom repayment patterns for products in your portfolio. You can include a payment pattern while generating cash flows by entering the payment pattern code as the amortization type code for the instrument.

### Searching for Payment Patterns

Search for a payment pattern to perform any of the following tasks:

- View
- Edit
- Copy
- Delete
- Check Dependencies

## Creating Payment Patterns

You create payment patterns to capture the repayment behavior of instruments that are too complex to be accommodated through use of the standard instrument table fields.

### Procedure:

1. Navigate to the Payment Pattern summary page.
2. Click Add Payment Pattern.  
The Add Payment Pattern page is displayed.
3. Enter a code value for the new payment pattern.

**Important:** The code, also known as an amortization type code, is a numeric internal identifier for the payment pattern. The code value must be a number between 1000 and 69999. The code value you assign to the new pattern must be unique. In addition, the code must be mapped to the appropriate instrument records (AMRT\_TYPE\_CD field) to connect the instrument to the appropriate pattern.

4. Enter a brief description for the pattern.
5. Select the Payment Pattern Type: Absolute, Relative, or Split.
6. Define the Payment Pattern Term Specifications for payment phases.

The selection of the payment pattern type made in the previous step determines the information you must provide to successfully define that pattern type. See:

- Defining Absolute Payment Patterns, page 17-3
- Defining Relative Payment Patterns, page 17-6
- Defining Split Patterns, page 17-10

**Note:** The Payment Pattern Details page displays the specifications associated with the Absolute Payment Pattern Type, which is the default Payment Pattern Type value. Should you decide to change this value for any of the other two alternatives, Relative or Split, the system will refresh the payment specifications corresponding to the new Pattern Type. Although you can change your selection of the Pattern Type at any point in this procedure, sometimes this might



cause loss of data related to any prior selection.

## Related Topics

Defining Payment Patterns, page 13-6

Overview of User Defined Payment Patterns, page 17-1

Standard Navigation Paths, page C-1

## Defining Absolute Payment Patterns

Absolute payment patterns are commonly used for instruments that are on a seasonal schedule, such as agricultural or construction loans that require special payment handling based on months or seasons.

When working with absolute payment patterns, it is sufficient to define payments for one calendar year. Once the term exceeds a year, the payment schedule will loop until the instrument matures.

## Prerequisites

- Select Absolute as the Pattern Type.

## Procedure:

This table describes key terms used for this procedure.

### ***Selected Terminology***

<b>Term</b>	<b>Description</b>
Month	This drop-down list allows you to select the month of the payment phase being defined.
Day	Used to specify the day of the month the payment is due.
Add	Used to add one or more rows
Delete	Used to delete a row.

The screenshot displays two forms. The top form, 'Payment Pattern Details', includes fields for 'Code', 'Description', 'Pattern Type' (set to 'Absolute'), and 'Payment Type' (set to 'Conventional'). The bottom form, 'Absolute Pattern Definition - Conventional', features a table with columns for checkboxes, 'Month', 'Day', 'Cash Flow Type' (set to 'Principal and Interest'), 'Payment Method', and 'Value'.

1. Select the Payment Type from the drop-down list: Conventional, Level Principal, or Non-Amortizing.

**Note:** The Payment Type determines the type of information required to successfully define the Payment Phase. See Relation between Payment Phase Attributes and Payment Types, page 17-5.

2. Define the Payment Phases.

**Note:** A Payment Phase is a set of payment characteristics that defines the time line of the instrument's amortization.

1. Select a Month for the pattern.
2. Enter a Date for the pattern.
3. Select the Payment Method.

**Note:** The available Payment Methods depend on the Payment Type. See: Relation between Payment Method and Payment Types, page 17-6 for details. Payment Methods do not apply to the Non-Amortizing Payment Type.

4. Enter the Value for the Payment Method you selected in the previous step for applicable Payment Types.

**Note:** If you selected the Interest Only Payment Method in the previous step, the Value field does not apply.

5. Click Add Another Row to add additional Payment Phases to the Pattern and click Delete corresponding to the rows you want to delete.

**Important:** A Payment Pattern must have at least one valid

Payment Phase to be successfully defined. The system raises a warning if you try to save a Payment Pattern with an incomplete Payment Phase. You can define up to 365 Payment Phases for each Payment Pattern.

3. Click Save.

The Payment Pattern is saved and the Payment Pattern summary page is displayed.

### Excel Import/Export

Excel import/export functionality is used for adding/editing absolute payment pattern information. For more details, refer Excel Import/Export, .

### Guidelines

When a detail instrument using an Absolute Payment Pattern is processed for Remaining Term cash flow processing, the Next Payment Date is internally calculated to determine which Payment Phase should be used. The calculated Next Payment Date is only used for this purpose. The Next Payment Date stored on the Instrument record in the Instrument table is always the date used for processing the initial payment.

The following table describes the relationship between Payment Phase properties and Payment Types.

***Relationship between Payment Phase Attributes and Payment Types***

	<b>Conventional</b>	<b>Level Principal</b>	<b>Non Amortizing</b>
Month	Yes	Yes	Yes
Day	Yes	Yes	Yes
Payment Method	Yes	Yes	
Value	Yes	Yes	

The following table describes relationship between Payment Method and Payment Types.

### ***Relationship between Payment Method and Payment Types***

<b>Payment Method</b>	<b>Conventional</b>	<b>Level Principal</b>	<b>Non-Amortizing</b>
Percentage of Original Balance		Yes	
Percentage of Current Balance		Yes	
Percentage of Original Payment	Yes	Yes	
Percentage of Current Payment	Yes	Yes	
Absolute Payment	Yes	Yes	
Interest Only	Yes	Yes	

#### **Related Topics**

Defining Payment Patterns, page 13-6

Creating Payment Patterns, page 17-2

#### **Defining Relative Payment Patterns**

You create Relative Payment patterns for instruments that have irregular scheduled payments.

#### **Prerequisites**

- Select Relative as the Pattern Type.

#### **Procedure:**

This table describes key terms used for this procedure.

### ***Selected Terminology***

---

<b>Term</b>	<b>Description</b>
Frequency	The frequency of the payment.
Multiplier	The unit of time applied to the frequency. The choices are: <ul style="list-style-type: none"><li>• Days</li><li>• Months</li><li>• Years</li></ul>
Repeat	The number of times the Payment Phase should be repeated.
Move Up	Allows you to move a particular Payment Phase row up by one position.  <b>Note:</b> The Move Up icon for the first row of the table is always inactive.
Move Down	Allows you to move a particular row down by one position.  <b>Note:</b> The Move Down icon for the last row of the table is always inactive.
Delete	Allows you to delete a row.

---

Payment Pattern Details - Edit - Windows Internet Explorer

Active Time Bucket: testing Payment Patterns As Of Date: 11 Jan 2013

ALM Maintenance > Patterns > Payment Patterns

Payment Pattern Details

Code: 1001

Description: Relative Pattern

Pattern Type: Relative Payment Type: Conventional

Relative Pattern Definition - Conventional						
	Frequency*	Multiplier*	Repeat*	Cash Flow Type*	Payment Method	Value
<input type="checkbox"/>	1	Months	1	Principal and Interest	% of original payment	10
<input type="checkbox"/>	1	Months	1	Principal and Interest	% of original payment	10
<input type="checkbox"/>	1	Months	1	Interest Only		

1. Select the Payment Type from the drop-down list: Conventional, Level Principal, or Non-Amortizing.

The payment type determines the available characteristics for defining the payment amount.

2. Define the Payment Phase.

**Note:** The payment type determines the type of information required to successfully define the payment phase. See: Relation between Payment Phase Attributes and Payment Types., page 17-9

1. Enter the Frequency for each payment phase.
2. Select the appropriate Multiplier for each payment phase.
3. Enter the number of times each Payment Phase should be repeated in the Repeat column.
4. Select the Payment Method.

**Note:** The available Payment Methods depend on the Payment Type. See: Relation between Payment Method and Payment Types, page 17-6 for details. Payment Methods do not apply to the Non-Amortizing Payment Type.

5. Type the Value for the Payment Method you selected in the previous step for applicable Payment Types.
6. Click Add Another Row to add additional Payment Phases to the Pattern and click Delete corresponding to the rows you want to delete.

**Important:** A Payment Pattern must have at least one valid

Payment Phase to be successfully defined. The system raises a warning if you try to save a Payment Pattern with an incomplete Payment Phase. You can define upto 365 Payment Phases for each Payment Pattern.

3. Click **Apply**.

The payment pattern is saved and the Payment Pattern home page is displayed.

**Note:** Any empty rows are ignored and not saved with the payment pattern.

### Excel Import/Export

Excel import/export functionality is used for adding/editing relative payment pattern information. For more details, refer Excel Import/Export, .

### Guidelines

It is not necessary to set up relative payment patterns for the complete term of an instrument. The payment pattern automatically repeats until maturity date. Suppose a payment pattern is created to make monthly payments for the first year and quarterly payments for the next three years. If you apply this pattern to an instrument record with an original term of five years, the payment pattern wraps around and the fifth year is scheduled for monthly payments.

An easy way to set up payment patterns for instruments with varying original terms is to use the repeat value of 999 in the last row of the payment pattern. For example, a payment pattern that pays monthly for the first year and quarterly thereafter, can be set up with two rows. The first row shows 12 payments at one month. The second row shows 999 payments at three months. When this payment pattern is processed it repeats the three-month payment frequency until the maturity date is reached.

The following table describes the relationship between payment phase attributes and payment types.

***Relationship between Payment Phase Attributes and Payment Types***

<b>Payment Phase Attributes</b>	<b>Payment Types: Conventional</b>	<b>Payment Types: Level Principal</b>	<b>Payment Types: Non-Amortizing</b>
Frequency	Yes	Yes	Yes

<b>Payment Phase Attributes</b>	<b>Payment Types: Conventional</b>	<b>Payment Types: Level Principal</b>	<b>Payment Types: Non-Amortizing</b>
Multiplier	Yes	Yes	Yes
Repeat	Yes	Yes	Yes
Payment Method	Yes	Yes	
Value	Yes	Yes	

## Related Topics

Defining Payment Patterns, page 13-6

Creating Payment Patterns, page 17-2

## Defining Split Payment Patterns

You use a Split payment pattern for financial instruments that make principal payments along two concurrent amortization schedules. Split patterns may be a combination of Absolute and Relative Payment Patterns for example, and contain multiple sets of payment phases under a single amortization code. These patterns could further use a combination of Conventional, Level Principal, and Non-Amortizing Payment Types.

## Prerequisites

- Select Split as the pattern type.

## Procedure:

This table describes key terms used for this procedure.

### ***Selected Terminology***

<b>Term</b>	<b>Description</b>
Percent	The percent value represents the percentage weight of the time line being defined for the individual payment phases (each row). The sum of the percentage weights must total 100%.



Payment Pattern Details			
Code*	8100		
Description*	split pattern definition		
Pattern Type*	Split	Payment Type*	Conventional

Split Pattern Definition			
	Payment Pattern*	Payment Type*	Percent*
<input type="checkbox"/>	Absolute	Conventional	50.00
<input type="checkbox"/>	Absolute	Conventional	50.00

1. Select Pattern Type Split.

The Create Term Specifications page is displayed.

2. Select the required Pattern Type for each leg.

- Absolute
- Relative

3. Enter the percentage value for each split.

**Important:** The sum of the percent values of all splits must add up to 100.

4. Select the Payment Type for each Payment Phase or Split.

**Tip:** The payment pattern term specifications for different payment phases or splits vary depending on whether you select the Absolute or Relative Pattern Type. You can define the term specifications for the splits following the steps described previously for defining payment phases for these patterns. See:

- Defining Absolute Payment Patterns, page 17-3
- Defining Relative Payment Patterns, page 17-6

5. Select one of the legs and then select Apply to define pattern details for the leg.

6. Click Save.

The Split payment pattern is saved and the Payment Pattern summary page is displayed.

### Excel Import/Export

Excel import/export functionality is used for adding/editing split payment pattern information. For more details, refer Excel Import/Export, .

## **Related Topics**

Defining Payment Patterns, page 13-6

Creating Payment Patterns, page 17-2

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## User Defined Repricing Patterns

This module discusses the procedure for working with and managing user defined repricing patterns.

This chapter covers the following topics:

- Overview of Repricing Patterns
- Searching for Repricing Patterns
- Creating Repricing Patterns

### Overview of Repricing Patterns

User defined repricing patterns provide a mechanism to capture instrument repricing patterns that are too complex to be accommodated through the use of the standard account table fields. See: *Defining Repricing Patterns*, page 13-9

The procedure for working with and managing repricing patterns is, similar to that of other Oracle Hedge Management business rules. It includes the following steps:

- Searching for Repricing Patterns, page 18-2
- Creating Repricing Patterns, page 18-2
- Viewing and Editing Repricing Patterns. See: *Viewing and Editing Rules*, page 14-6
- Copying Repricing Patterns. See: *Copying Rules*, page 14-6
- Deleting Repricing Patterns. See: *Deleting Rules*, page 14-7

### Related Topics

Standard Navigation Paths, page C-1

## Searching for Repricing Patterns

Search for a repricing pattern to perform any of the following tasks:

- View
- Edit
- Copy
- Delete
- Check Dependencies

### Prerequisites

- Predefined repricing patterns

### Procedure:

1. Navigate to the Repricing Pattern summary page. This page is the gateway to all repricing patterns and related functionality. You can navigate to other pages relating to repricing patterns from this point.

2. Enter the Search criteria.

1. Enter the code or description of the pattern.

2. Select the Search icon.

Only patterns that match the search criteria are displayed.

### Related Topics

Overview of Repricing Patterns, page 18-1

Standard Navigation Paths, page C-1

## Creating Repricing Patterns

You create Repricing patterns to capture the repricing behavior of instruments whose rates change according to complex schedules.

## Procedure:

1. Navigate to the Repricing Pattern summary page.

2. Click Add Repricing Pattern.

The Add Repricing Pattern page is displayed.

3. Type a code value for the new Repricing Pattern.

**Important:** The code is a numeric internal identifier for the repricing pattern. The code value must be a number between 500 and 4999 and the code value you assign to the new pattern must be unique. In addition, the code must be mapped to the appropriate instrument records (ADJUSTABLE\_TYPE\_CD field) to connect the instrument to the appropriate pattern.

4. Type a brief description for the pattern.

5. Select the Repricing Pattern Type: Absolute or Relative.

The selection of the repricing pattern type determines the fields that are displayed in the Repricing Events table and the information you must provide to successfully define that pattern type. See:

- Defining Absolute Repricing Patterns, page 18-4
- Defining Relative Repricing Patterns, page 18-7

**Note:** The Add Repricing Pattern page displays the parameters associated with the Absolute repricing pattern type, which is the default repricing pattern type value. If you change this value to Relative, the system refreshes the repricing specifications corresponding to the new pattern type, and any data entered previously is lost. However, a warning message is displayed when you change the pattern type. The data is discarded only after your confirmation.

## Related Topics

Overview of Repricing Patterns, page 18-1

Defining Repricing Patterns, page 13-9

Standard Navigation Paths, page C-1

## Defining Absolute Repricing Patterns

The Absolute repricing pattern is used for instruments that are date dependent. Each specific date is a separate event. You need to enter the month and day for each event, except for the initial event.

Month*	Day*	Repricing Type*
Initial		Indexed
January	12	Indexed
February	12	Indexed
March	12	Flat
April	12	Flat

### Prerequisites

- Selecting Absolute as the pattern type.

### Procedure:

This table describes key terms used for this procedure.

#### ***Selected Terminology***

Term	Description
Month	In conjunction with the Day field, this drop-down menu, allows you to specify a unique month-day combination for a repricing event.
Day	In conjunction with the Month drop-down menu, this field allows you to specify a unique month-day combination for a repricing event.
Repricing Type	A drop list, it displays the repricing type, Flat rate or Indexed rate, associated with a particular event.
Add Row	Allows you to Add one or more repricing events.

Term	Description
Delete	Allows you to delete specific rows in the Repricing Events table.

1. Click Add Event.

2. Select the Repricing Type: Flat or Indexed.

The default is Flat. If you select Indexed, the system automatically changes the fields available for entry. See: Indexed Repricing, page 18-6

**Note:** You can change your selection of the repricing type at any point in this process. Sometimes it may cause a loss of data.

### Flat Rate

A Flat rate is a specific rate—it is directly input. See: User Defined Repricing Event, page 13-10

To define a Flat Rate Event, select check box for the event you are going to define and select the **Define** button. Notice the bottom half of the screen refreshes, displaying the required inputs. Complete the following steps on the Add Repricing Events page:

1. Select Balance Tier option:

- None
- Current Balance

If None is selected, then Balance Tiered pricing is not applied.

If Current Balance is selected, then users can define balance tiers and associate different rates with the corresponding balance tier level.

2. Specify the required month-day combination for the event.

**Note:** You cannot specify a month-day combination for the first event as this row is reserved for the initial period.

3. Enter the Net Rate.
4. Enter the Gross Rate.
5. Enter the Transfer Rate.

**Important:** You must enter a valid value for at least one of these rate fields.

6. Click Apply.

The Event summary Page is displayed. Note the status indicator has changed from Red to Green indicating that details for the event have been defined.

At this point, you have the option of defining additional events or saving. To add an additional event, repeat Step 1: Click Add Event, page 18-5. If you want to save the repricing pattern and events, advance to the next step.

### Indexed Repricing

An Indexed rate is a set of parameters used to calculate a rate. See: User Defined Repricing Event., page 13-10

To define an Indexed Repricing Event, select check box for the event you are going to define and select the **Define** button. Notice the bottom half of the screen refreshes, displaying the required inputs. Complete the following steps on the Add Repricing Events page:

Balance Tiers		Mix Percentage	Interest Rate Code*	Transfer Interest Rate Code*	Yield Curve Term	Net M
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
From	To	Percentage				
<input type="checkbox"/>	<input type="checkbox"/>		[USD] User defined repricing tests (405)	[USD] User defined repricing tests (405)	2 Months	2

**Note:** Select the checkbox above each column that you want to include in the repricing event.

1. Select a Balance Tier option:
  - None
  - Current Balance

If None is selected, then Balance Tiered pricing is not applied.



If Current Balance is selected, then users can define balance tiers and associate different rates with the corresponding balance tier level.

2. Select the Interest Rate Code.
3. Select the Transfer Interest Rate Code.
4. Enter the Net Margin.
5. Enter the Yield Curve Term and select the appropriate Multiplier.
6. Enter the Gross Margin.
7. Enter the Transfer Rate Margin.
8. Enter the Rate Cap Life.
9. Enter the Rate Floor Life.
10. Enter the Rate Set Lag and select the appropriate Multiplier.
11. Click Apply.

The Event Summary page is displayed.

At this point, you have the option of defining additional events or saving. To add an additional event, repeat Step 1 Add Create Event , page 18-5. If you want to save the repricing pattern and events, advance to the next step.

3. Click Save at the bottom of the page.

The repricing pattern is saved and the Repricing Pattern summary page is displayed.

## **Excel Import/Export**

Excel import/export functionality is used for adding/editing absolute repricing pattern information. For more details, refer Excel Import/Export, .

## **Related Topics**

Defining Repricing Patterns, page 13-9

Creating Repricing Patterns, page 18-2

## **Defining Relative Repricing Patterns**

The Relative repricing pattern is used for instruments where the repricing is determined by elapsed time since origination. Defining a Relative repricing pattern involves the

definition of a series of repricing events applicable to a specific repricing pattern code. You need to specify the length of each repricing period and the number of times that event should occur before calculating the next event in the pattern.

## Prerequisites

- Selecting Relative as the pattern type.

## Procedure:

This table describes key terms used for this procedure.

### ***Selected Terminology***

<b>Term</b>	<b>Description</b>
Frequency	In conjunction with the Multiplier drop-down menu, this field allows you to specify how often repricing occurs.
Multiplier	The unit of time applied to the frequency. The choices are: <ul style="list-style-type: none"> <li>• Days</li> <li>• Months</li> <li>• Years</li> </ul>
Repeat	Allows you to specify the number of times a repricing event should be repeated.
Repricing Type	A drop list, it displays the repricing type, Flat rate or Indexed rate, associated with a particular event.

<b>Term</b>	<b>Description</b>
Add	Allows you to Add one or more repricing events.
Move Up	Allows you to move a particular row up by one position.  <b>Note:</b> This action for the first and second rows is not active.
Move Down	Allows you to move a particular row down by one position.  <b>Note:</b> This action for the first and last rows is not active.
Delete	Allows you to delete specific rows in the Repricing Events table.

The steps to create Relative repricing patterns are similar to creating Absolute repricing patterns. See: Defining Absolute Repricing Patterns., page 18-4

The only difference is that the fields in the Repricing Events table are different. You need to specify the following parameters in the Repricing Events table for a Relative repricing pattern:

- Frequency
- Multiplier
- Repeat

### **Excel Import/Export**

Excel import/export functionality is used for adding/editing relative repricing pattern information. For more details, refer Excel Import/Export, .

### **Related Topics**

Defining Repricing Patterns, page 13-9

Creating Repricing Patterns, page 18-2



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## Time Buckets

This module describes the procedure for working with and managing Time Bucket rules.

This chapter covers the following topics:

- Overview of Time Bucket Rules
- Creating Time Bucket Rules
- Defining Time Bucket Rules

### Overview of Time Bucket Rules

Time Bucket rules allow users to create the various time bucket definitions used for computing and outputting aggregated cash flows. Time Bucket rules determine the granularity of cash flow output and can be set at any frequency through a combination of daily, monthly and yearly buckets. Time Buckets can be defined for the following type of HM output:

- Income Simulation

You can specify any combination of days, months, and years when setting up the buckets. Although, all Oracle HM cash flows are generated on a daily basis, they are aggregated into defined income simulation buckets when results are stored.

**Income Simulation** Bucket definitions are referenced by all including Forecast Rates, and also by HM Deterministic Processes during HM engine processing.

**Note:** Business rules that are dependent on Income Simulation Buckets do not adjust dynamically if you change the underlying Bucket definition. Be cautious when changing Time Bucket definitions when known dependencies exist.

The procedure for working with and managing Time Bucket rules is similar to that of other Hedge Management business rules. It includes the following steps:

- Searching for Time Bucket rules. See: Searching for Rules, page 14-4
- Creating Time Bucket Rules, page 19-2
- Viewing and Editing Time Bucket rules. See: Viewing and Editing Rules, page 14-6
- Copying Time Bucket rules. See: Copying Rules, page 14-6
- Deleting Time Bucket rules. See: Deleting Rules, page 14-7

## Creating Time Bucket Rules

You create Time Bucket rules to specify the time periods used for storing and reporting HM results.

### Procedure:

1. Navigate to the Time Buckets summary page.

Time Buckets						
						Active Time Bucket: testing
^ Search						
Name					Folder	EPM61SEG
^ Time Buckets						
<input type="checkbox"/>	Name	Creation Date	Created By	Last Modification Date	Last Modified By	Folder
<input checked="" type="checkbox"/>	gdfg	25.Jan.2013 21:07:59	OFSAAUUSER	25.Jan.2013 21:17:38	OFSAAUUSER	EPM61SEG
<input type="checkbox"/>	test excel	15.Jan.2013 01:04:06	OFSAAUUSER	15.Jan.2013 01:04:06	OFSAAUUSER	EPM61SEG
<input type="checkbox"/>	testing	04.Jan.2013 21:25:15	OFSAAUUSER	04.Jan.2013 21:25:15	OFSAAUUSER	EPM61SEG

2. Complete standard steps for this procedure. See: Creating Rules, page 14-5

### Related Topics

Overview of Time Bucket Rules, page 19-1

Standard Navigation Paths, page C-1

## Defining Time Bucket Rules

The definition of a Time Bucket rule is part of the Create or Edit Time Buckets rule process. When you click Save in the Create Time Buckets rule process, the rule is saved and the Time Buckets rule summary page is displayed. However, Time Bucket assumptions may not have been defined at this point. Typically, you would start defining your Time Bucket assumptions before clicking Save.

## Prerequisites

- Performing basic steps for creating or editing a Time Bucket rule, page 19-2

### Procedure:

From the Time Bucket details screen, you have one tab available for creating Time Bucket definitions

- Income Simulation Buckets (required)

From the Income Simulation tab, do the following:

1. Click the Add Rows button and input the desired number of rows corresponding to the number of Income Simulation Buckets you would like to create.

Srt No	Frequency	Multiplier	Start Date	End Date	Federal Tax Percentage	State Tax Percentage	Dividend Amount
1		Months			0	0	0

**Note:** You can select a pre-defined number of rows from the list, For example, 3, 5 or 10, or you can input the exact number of rows you would like to add. The maximum number of buckets you have under any tab is **240**.

2. Under Frequency, input a numeric value, For example 1. The Frequency column displays the duration of the multiplier. The frequency in conjunction with the multiplier displays the duration of the buckets. The frequency can be any number from 1 to 999.

**Note:** Limit the definition of Income Simulation buckets to the date range that is relevant to your reporting requirement. It is not necessary to create "catch-all" buckets at the end of the series. When large buckets are created, for instance, 99 Years, this can result in the following error:

```
INSERT Oracle Error: ORA- 01426: numeric overflow  
Driver  
Function: drv_oci::Execute()
```

3. Under Multiplier, select an appropriate value from the list. The Multiplier column includes Daily, Monthly, or Yearly choices.
4. Continue adding frequencies and multipliers as needed,

## Example

Frequency	Multiplier
1	Month
1	Month
1	Month
1	Month
1	Month .....

After you fill in the frequencies and multipliers, the start and end dates are calculated automatically based on the As of Date, defined in your Application Preference settings.

The screenshot shows the 'Time Buckets' application window. At the top, there is a header with 'Time Buckets' and 'As Of Date: 11-Jan-2013'. Below this is a form with fields for 'Name' (gfgfg), 'Description' (dfgfg), 'Active' (checkbox), 'Folder' (EPM01SEG), and 'Access Type' (Read Only / Read/Write). Below the form are three tabs: 'Income Simulation Buckets', 'Interest Rate Gap Buckets', and 'Liquidity Buckets'. The 'Income Simulation Buckets' tab is active, showing a table with the following data:

Serial Number	Frequency	Multiplier	Start Date	End Date	Federal Tax Percentage	State Tax Percentage	Dividend Amount	Dividend Percentage
1	99	Months	12-Jan-2013	11-Apr-2021	0	0	0	0
2	999	Months	12-Apr-2021	11-Jul-2104	0	0	0	0
3	9	Months	12-Jul-2104	11-Apr-2105	0	0	0	0
4	999	Months	12-Apr-2105	11-Jul-2188	0	0	0	0
5	99	Months	12-Jul-2188	11-Oct-2199	0	0	0	0

At the bottom of the window are buttons for 'Save As', 'Save', and 'Cancel'.

**Note:** You may want to utilize the Data Input Helper to copy from a row where you have already defined the time bucket definition or apply a fixed value down the page. The following optional steps describe how to use this feature.

1. Select the checkbox next to the rows that you want to work with or use the "Select ALL" option by selecting the checkbox on the header row.
2. Select the Data Input Helper icon.



Income Simulation Buckets		Interest Rate Gap Buckets	Liquidity Buckets					
Bucket Number	Frequency	Multiplier	Start Date	End Date	Federal Tax Percentage	State Tax Percentage	Dividend Amount	Dividend Percentage
1	99	Months	12-Jan-2013	11-Apr-2021	0	0	0	0
2	999	Months	12-Apr-2021	11-Jul-2104	0	0	0	0

- From the Data Input Helper – popup screen, select **Method** – "Keep Current Values" or some other appropriate method.
- Select the Frequency and/or Multiplier from the left side of the shuttle box.

**Data Input Helper**

Method: Keep Current Values

**Available Columns**

Dividend Amount  
Federal Tax Percentage  
State Tax Percentage  
Dividend Percentage

Add

Add All

Remove

Remove All

Apply

**Selected Columns**

Frequency  
Multiplier

Selected Column	Start Value
Frequency	1
Multiplier	Months

Apply
Cancel

- Select **APPLY** to copy assumptions to the selected rows.
- After defining time bucket frequencies, move across each row to input the appropriate Federal Tax Percentages and State Tax Percentages.
 

Tax percentages are used in HM when processing with the auto-balancing option selected. Type **35.00** for 35%. The tax rate entered is interpreted as the tax rate for that bucket regardless of the frequency of the bucket. That is, 35% entered for a monthly bucket is applied as a 35% monthly rate to the taxable income forecast for that month.
- Under Dividend Amount, type a value. Dividend amounts are used in HM when processing with the auto-balancing option selected. The values you enter here will be paid out as dividends for all rate scenarios.
- Under Dividend Percentage, type a value. Dividend percentages are used during auto-balancing calculations. The dividend percentage is defined as a percent of the net income after tax that will be paid out as dividends for the period.
 

Total Dividends = Dividends Amount + (Dividends Percent x Net Income after Tax)

8. Select **SAVE** if you are finished.

### Excel Import/Export:

Excel import/export functionality is used for adding/editing time bucket information. For more details, refer Excel Import/Export, .

### Additional Required Steps:

1. All users must have an "Active" Time Bucket Rule at all times. There is a checkbox at the top of the page, above the Bucket tabs. If you wish to "Activate" a particular Time Bucket Rule, simply check this box and Save the Rule. You will note the Active Time Bucket rule for your user appears on the Title bar in green text.

The screenshot shows the 'Time Buckets' configuration page. The 'Active' checkbox is checked and highlighted with a red box. The title bar shows 'Active Time Bucket: SS\_Test\_Time Bucket'. The page includes fields for Name, Description, Folder, Access Type, and Read/Write permissions.

2. Each time you change the As of Date in your Application Preferences screen, you must re-save your "Active" Time Bucket Rule to update the calculated Bucket Start Date and Bucket End Date values. You will receive an alert when you enter the Time Bucket rule indicating the As of Date has changed.

The screenshot shows the 'Income Simulation Buckets' table with an 'Information' dialog box overlaid. The dialog box contains the message: 'As of date has been changed. Please resave the data for updating this definition.' The table has columns for Srl No, Frequency, Multiplier, Start Date, End Date, Federal Tax Percentage, and State Tax Percentage.

Srl No	Frequency	Multiplier	Start Date	End Date	Federal Tax Percentage	State Tax Percentage
1	1	Months	06/17/2010	D10	0	0
2	1	Months	07/17/2010	D10	0	0
3	1					
4	1					
5	1					

After selecting OK, to close the message popup window, select **SAVE** to re-save the Time Bucket Rule.

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## Product Characteristics

This module describes the procedure for working with and managing Product Characteristic rules.

This chapter covers the following topics:

- Overview of Product Characteristic Rules
- Creating Product Characteristic Rules
- Defining Product Characteristic Rules
- Copying Assumptions Across Currencies and Products

### Overview of Product Characteristic Rules

Product Characteristic rules are used to define payment, pricing and repricing characteristics for current business. They are also used to specify general calculation attributes for existing accounts.

The procedure for working with and managing Product Characteristics is similar to that of other Hedge Management business rules. It includes the following steps:

- Searching for Product Characteristic rules. See: Searching for Rules, page 14-4.
- Creating Product Characteristic Rules, page 20-2.
- Viewing and Editing Product Characteristic rules. See: Viewing and Editing Rules, page 14-6.
- Copying Product Characteristic rules. See: Copying Rules., page 14-6
- Deleting Product Characteristic rules. See: Deleting Rules., page 14-7

As part of creating and editing Product Characteristic rules, you assign product attribute assumptions to applicable products from your product hierarchy. See: Defining Product Characteristics, page 20-3.

**Note:** Oracle Hedge Management provides you with the option to copy, in total or selectively, the product assumptions contained within HM business rules from one currency to another currency or a set of currencies or from one product to another product or a set of products. See: Copying Assumptions Across Currencies and Products, page 20-5

## Creating Product Characteristic Rules

You create a Product Characteristics rule to assign attributes to your products.

### Procedure:

1. Navigate to the Product Characteristics summary page.
2. Complete standard steps for this procedure. See: Creating Rules, page 14-5

The screenshot shows the Oracle Hedge Management interface for creating a Product Characteristics rule. The window title is "Product Characteristics" and the "Active Time Bucket" is "Monthly\_TBS". The "As Of Date" is "06/25/2014". The interface is divided into several sections:

- Product Characteristics Details:** Includes fields for Name (set to "New"), Description, Folder (set to "SANTY"), and Access Type (with radio buttons for "Read Only" and "ReadWrite").
- Select Product Hierarchy:** Includes fields for Folder (set to "SANTY"), Product Hierarchy, and Code ID.
- Select Currency:** Includes a field for Currency (set to "Australian Dollar").
- Assumption Browser:** A tree view showing a hierarchy of products. The "Product" field is set to "2" and the "Status" is "Organ Branch".

At the bottom of the form, there are "Save" and "Cancel" buttons.

**Important:** In addition to the standard steps for creating rules, the procedure for creating Product Characteristics involves one extra step. After Standard Step 6, you need to select a product hierarchy. You can define methodologies at any level of the hierarchical product dimension. The hierarchical relationship between the nodes allows inheritance of methodologies from parent nodes to child nodes.

## Related Topics

Overview of Product Characteristic Rules, page 20-1

## Defining Product Characteristic Rules

The definition of a Product Characteristics rule is part of the Create or Edit Product Characteristics rule process. When you click Save in the Create Product Characteristics rule process, the rule is saved and the Product Characteristics rule summary page is displayed. However, Product Characteristic assumptions have not yet been defined for any of your products at this point. Typically, you would start defining your Product Characteristic assumptions for product-currency combinations before clicking Save.

### Defining Product Characteristics Using Node Level Assumptions

Node Level Assumptions allow you to define assumptions at any level of the Product dimension Hierarchy. The Product dimension supports a hierarchical representation of your chart of accounts, so you can take advantage of the parent-child relationships defined for the various nodes of your product hierarchies while defining rules. Children of parent nodes on a hierarchy automatically inherit the assumptions defined for the parent nodes. However, assumptions directly defined for a child take precedence over those at the parent level.

### Prerequisites

Performing basic steps for creating or editing a Product Characteristics rule, page 20-2

### Procedure:

From the Assumption Browser screen, select the product(s) and the currency for which you want to define Product Characteristics and select the "Add New" button to launch the Product Characteristic Details screen.

To define a Product Characteristics rule, complete the following steps:

1. Choose the Currency.

**Note:** To define assumptions for all currencies with the selected product, choose the "Default Currency".

2. From the Assumption Browser, choose the product or products that you want to define.
3. Select the Add Assumption icon.
4. Type a value for each mandatory field. Mandatory input fields are marked with a red asterisk.

**Note:** You can optionally select one of the seeded Product Profile templates or a user defined Product Profile to pre-populate the appropriate Product Characteristic fields.

5. From the File menu, select Save.

**Hint:** Using the default currency to setup assumptions can save data input time. At run time, the calculation engine uses assumptions explicitly defined for a product currency combination. If assumptions are not defined for a currency, the engine uses the assumptions defined for the product and the default currency. If the assumptions are the same across some or all currencies for a specific product, you can input assumptions for the default currency. Be careful using this option on screens where an Interest Rate Code is a required input. In most cases, you will want to use a currency specific interest rate curves for pricing instruments within each specific base currency. The Default Currency option, if used will apply a selected Interest Rate Code across all currencies.

## The Product Characteristic Details screen

The details screen has one input tab.

- All Business

### The All Business tab:

The screenshot shows the 'Product Characteristics' screen with the 'All Business' tab selected. The interface includes the following sections and fields:

- Product Characteristics Details:** Name (new), Description.
- Product and Currency Details:** Product (3\_50 TM Leaf700102), Currency (Albanian Lek).
- Product Characteristics Assumptions - All Business:**
  - Model with Gross Rates:
  - Option Adjusted Spread: 0.0
  - Currency Gain/Loss Basis: None
  - Holiday Calendar: [Dropdown]
  - Interest Calculation Logic:  Shift Dates Only  Recalculate Payment
  - Interest Credited:
  - Percent Taxable: 0.0
  - Pay Equivalent Compounding Convention: None
  - Rolling Convention: Unadjusted

Buttons for 'Apply' and 'Cancel' are located at the bottom of the form.

Assumptions made on the All Business tab apply to current position data.

The three common Product Characteristic fields listed on the ALL Business tab are as follows:

<b>Field</b>	<b>Behavior</b>
Model with Gross Rates	This option is used for participated instruments which are not fully owned by the institution. For these instruments, both a net and gross rate will be calculated within the cash flow engine and both gross and net rate financial elements will be output. The gross rate will be used for prepayment and amortization. The net rate will be used for income simulation.
Interest Credited	This option allows interest payments to be capitalized as principal on simple/non-amortizing instruments.
Pay Equivalent Compounding Convention	In most cases, interest rates are not adjusted for the differences in pay-basis between the quote basis of the pricing index and the payment frequency of the account to which the index is assigned. Some instruments, notably Canadian Mortgages, follow a convention that the interest rates are adjusted. In this case, the Pay-Equivalent Compounding Convention should be set to Semi-Annual Quoting Convention. For other accounts, the convention should be set to Do Not Adjust.

## Copying Assumptions Across Currencies and Products

This functionality provides you with the option to copy, in total or selectively, the product assumptions contained within the HM assumption rules from one currency to another currency or a set of currencies, or from one product to another product or set of products.

Copy of assumptions enhances the usability of Oracle Hedge Management in a multi-currency environment. For example if you have 10 currencies enabled in the application, you need to input only one set of assumptions and then copy those assumptions across all enabled currencies, instead of having to input 10 full sets, thereby saving a significant amount of input time.

This functionality also reduces the risk associated with data input errors as you need to audit inputs for just a single set of assumptions before executing the copy procedure. The copy across currencies process requires users to select a replacement yield curve for each target currency. These currency specific IRC's replace the IRC selection made for each product in the source currency selection set. It is possible to edit the target assumptions after the initial copy processes has been completed.

## Prerequisite

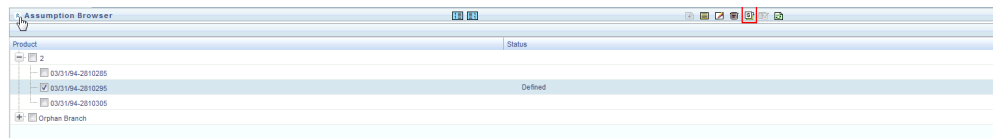
Define HM rule related product assumptions. See:

- Defining Product Characteristics, page 20-3
- Defining Discount Methods, page 24-1
- Defining Prepayment Methodologies, page **ERROR: unexpected chapter type in link**

## Procedure

Use the following procedure to copy assumptions across currencies or products:

1. Navigate to the appropriate HM business rule assumption browser.
2. Define assumptions for the source currency / product set.
3. Save the assumptions.
4. Select the defined product assumptions using the check boxes corresponding to each product (or Node on the hierarchy) that you want to include in the copy process.
5. Click the Copy Across icon.



6. On the Copy Across details page, select the listed currencies either individually using the corresponding check boxes or in total using Select All.



Copy Across Options      Currency ▾

Currencies		
<input type="checkbox"/>	Currency Name	Interest Rate Code
<input checked="" type="checkbox"/>	Australian Dollar	zz AUD Yield Curve ▾
<input checked="" type="checkbox"/>	British Pound	zz GBP Yield Curve ▾
<input type="checkbox"/>	Canadian Dollar	BA_30d ▾
<input checked="" type="checkbox"/>	Euro (European EMU)	zz EUR Yield Curve ▾
<input type="checkbox"/>	Hong Kong Dollar	▾
<input type="checkbox"/>	Indian Rupee	▾
<input type="checkbox"/>	Japanese Yen	Japanese Yen IRC ▾
<input type="checkbox"/>	Nigerian Naira	Fidelity BN Yield Curve ▾
<input type="checkbox"/>	Thai Baht	▾
<input type="checkbox"/>	Turkish Lira	▾

Apply      Cancel

- Specify an interest rate code for each selected currency. This is necessary because each interest rate code is specific to a single currency. When copying product assumptions across currencies, you must define the interest rate code for each target currency to replace the interest rate code used for the source currency assumptions.
- Click **Apply** to initiate the copy process and to return to the Assumption Browser page.

**Note:** You can review the results of the copy process from the Assumption Browser by selecting a different currency and following the usual navigation to view or edit assumptions. The application displays new assumptions for each product included in the original source selection. The copy process replaces pre-existing assumptions for any product-currency combination that is included in the target selection.

- Click **Save** on the Assumption Browser page to save the assumptions to the database.

## Related Topics

Overview of Product Characteristics, page 20-1

Overview of Discount Methods,  
Overview of Prepayments,  
Standard Navigation Paths , page C-1

## Forecast Rate Scenarios

Forecast Rate scenario assumptions allow you to define future interest rates and future currency exchange rates. Use interest rate forecasts to project cash flows, including pricing new business, re-pricing existing business, calculating prepayments, and determining discount methods. Use currency exchange rate forecasts to account for the effects of currency fluctuations on income.

The Forecast Rate assumptions use interest rate and currency codes defined in Rate Management, including all the active and reporting currencies and the primary, or functional, currency at your institution. See *OFSAA Rate Management*, for information on how to define interest rates and currency exchange rates.

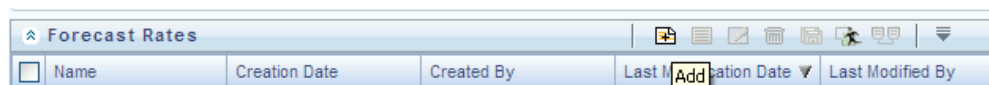
This module describes how to create a Forecast Rates assumption rule to forecast cash flows and, if you work with multiple currencies, to model relationships between interest rates and exchange rates.

This chapter covers the following topics:

- Creating a Forecast Rates Assumption Rule
- Currency Forecast Methods
- Interest Rate Forecast Methods
- Data Loader Procedure

### Creating a Forecast Rates Assumption Rule

1. From the Forecast Rates bar, select the "Add" icon.



2. Type a descriptive name for the rule.
3. Type a description for the rule. This is an optional field.

4. Select a reporting currency.
5. Select a folder.
6. Select the Access Type option.
7. Click Save.

The screenshot shows a 'Forecast Rates Details' form with the following fields and values:

- Name: (empty)
- Description: (empty)
- Reporting Currency: Albanian Lek
- Folder: RTSEG
- Access Type: Read/Write

## Features of Forecast Rates

The reporting currency you selected when creating the Forecast Rates assumption rule appears in the title bar. Each forecast scenario you create, up to nine, will appear under Current Scenarios. Forecast scenarios use the date buckets specified in the active Time Bucket Rule. You can also set minimum rates (or floors) on any rule created for Currency or Interest Rate. For example, if you want to run a -200bp rate scenario, with short term rates <2%, you can set the minimum rate to floor at 0%, although negative rates are allowed if desired.

The top screenshot shows the 'Currency Codes' table:

Currency Codes	Currency Forecast Method	Minimum Rate
USD - US Dollar	Flat	0.000000
ALL - Albanian Lek	Flat	0.000000
AMD - Armenia Dram	Flat	0.000000
AUD - Australian Dollar	Flat	0.000000
EUR - Euro (European EMU)	Flat	0.000000
AWE - helle	Flat	0.000000
GBP - Pound Sterling	Flat	0.000000
RUR - Russian Ruble	Flat	0.000000

The bottom screenshot shows the 'Interest Rate Code (Currency: USD: US Dollar)' table:

Interest Rate Code	Interest Rate Code Forecast Method	Interpolation Methods	Minimum Rate
110 - 1 YR Treasury Index	Change From Base	Linear Interpolation	0.000000
231 - 1. CS Break Funding Curve	Flat	Linear Interpolation	0.000000
7 - 1. CS Break Funding Curve	Flat	Linear Interpolation	0.000000
230 - 1. CS Break Funding Curve 2	Flat	Linear Interpolation	0.000000
108 - 1. CS Break Funding Curve 2	Flat	Linear Interpolation	0.000000
S1 - 101 MRR for FP	Flat	Linear Interpolation	0.000000
214 - 11th Dist COFI - Monthly (Code 214)	Flat	Linear Interpolation	0.000000

The active currencies defined under Rate Management > Currencies, are listed under the Currency Codes section. The selection under Currency Codes defaults to the reporting currency when you are not forecasting exchange rates. The list of IRCs under the Interest Rate Codes section is dependent on the selected currency. The IRCs, including a reference IRC for each currency, are loaded from Rate Management. When you select a currency other than the reporting currency, the options under Currency Forecast Method provide several ways to model relationships between exchange rates and interest rates. See "Currency Forecast Methods", page 21-3 for more information.

The IRCs for all active currencies (and reporting currencies, a subset of the active currencies) are listed under Interest Rate Codes. The options under Interest Rate Code Forecast Method provide several ways to model the effects on portfolio cash flows due to interest rate changes. See "Interest Rate Forecast Methods" , page 21-9 for more information.

## Currency Forecast Methods

The following currency forecast methods are available when you select a currency (other than the reporting currency) from the Currency Codes list.

Select	To
Flat	Forecast no change in the exchange rate for all dates beginning with the as-of date.
Structured Change	Forecast exchange rates as an incremental change from the previous period.
Direct Input	Type exchange rates to use in forecasting.
Parity *	Forecast the exchange rate between two currencies based on interest rate forecasts for the reference IRC associated with each of the currencies.
No Arbitrage *	Forecast the exchange rate required to maintain a no arbitrage condition between two currencies.

*\* The above methods are available when the selected currency has an associated reference IRC as defined in Rate Management.*

## Examples of Currency Forecasting

The examples below use the following data to demonstrate currency forecast methods:

- Reporting currency = U. S. dollars (USD is shown in the title bar)
- Local currency = Australian dollars – (converting from Australian dollars (AUD) to USD)
- Exchange rate loaded from Rate Manager = 1.108 AUD to 1 USD (rate in effect on the as-of date, 06/30/09)

- Modeling period = 07/01/2009 to 06/30/2010

**To Begin:** For all examples, begin by doing the following:

1. Create a new Forecast Rates assumption rule with USD as the reporting currency. (See "Creating Forecast Rates Assumption Rule", page 21-1 )
2. In the Forecast Rates window, add (or rename) a scenario:
  1. Click Add (or Rename).
  2. Type a name for the scenario.
  3. Click Apply.

**Flat Method:** Calculate the exchange rate of Australian dollars to \$1 U. S., modeling no change in the exchange rate during the modeling period.

In the Forecast Rates window, do the following:

1. From Currency Codes, select AUD: Australian Dollar.
2. From Currency Forecast Method, click Flat.
3. Click View.

Under Rate Value, you will see the exchange rate: \$1.108 AUD s equal \$1 USD. This rate is applied uniformly to all date buckets, based on the rate in effect at the as-of date in your Application Preferences.

Bucket Number	Start Date	End Date	Rate Value
Base Rate			1.108000
1	7/1/2009	7/31/2009	1.108000
2	8/1/2009	8/31/2009	1.108000
3	9/1/2009	9/30/2009	1.108000
4	10/1/2009	10/31/2009	1.108000
5	11/1/2009	11/30/2009	1.108000
6	12/1/2009	12/31/2009	1.108000
7	1/1/2010	1/31/2010	1.108000
8	2/1/2010	2/28/2010	1.108000
9	3/1/2010	3/31/2010	1.108000
10	4/1/2010	4/30/2010	1.108000
11	5/1/2010	5/31/2010	1.108000
12	6/1/2010	6/30/2010	1.108000

4. Click OK.
5. At the bottom of the page, click Save.

**Structured Change:** Model a change in the exchange rate so that the rate increases by a total of 0.5% over four months, levels off for four months, and then drops a total of 0.25% over three months.

In the Forecast Rates window, do the following:

1. From Currency Codes, select AUD: Australian Dollar.
2. From Currency Forecast Method, select Structured Change.
3. Click Define.
4. Add rows and type bucket numbers and rate changes as follows:

<input type="checkbox"/>	Start Bucket	End Bucket	From Date	To Date	Total Rate Change
<input type="checkbox"/>	1	1	7/1/2009	7/31/2009	0.000000
<input type="checkbox"/>	2	5	8/1/2009	11/30/2009	0.500000
<input type="checkbox"/>	6	9	12/1/2009	3/31/2010	0.000000
<input type="checkbox"/>	10	12	4/1/2010	6/30/2010	-0.250000

5. You can also use the Excel import/export feature to add the rate changes. For more details, refer Excel Import/Export, .
6. Click Apply.
7. Click View.

Bucket Number	Start Date	End Date	Rate Value
Base Rate			1.100000
1	7/1/2009	7/31/2009	1.100000
2	8/1/2009	8/31/2009	1.233000
3	9/1/2009	9/30/2009	1.358000
4	10/1/2009	10/31/2009	1.483000
5	11/1/2009	11/30/2009	1.608000
6	12/1/2009	12/31/2009	1.608000
7	1/1/2010	1/31/2010	1.608000
8	2/1/2010	2/28/2010	1.608000
9	3/1/2010	3/31/2010	1.608000
10	4/1/2010	4/30/2010	1.524667
11	5/1/2010	5/31/2010	1.441333
12	6/1/2010	6/30/2010	1.358000

8. Click OK.
9. At the bottom of the page, click Save.

**Direct Input:** Model a change in the exchange rate so that rates reflect a stronger U. S. dollar during the spring of 2010.

In the Forecast Rates window, do the following:

1. From Currency Codes, select AUD: Australian Dollar.
2. From Currency Forecast Method, select Direct Input.

3. Click Define.
4. Type rate values for the following dates:

Bucket Number	Start Date	End Date	Rate Value
Base Rate			1.108000
1	7/1/2009	7/31/2009	1.108000
2	8/1/2009	8/31/2009	1.108000
3	9/1/2009	9/30/2009	1.108000
4	10/1/2009	10/31/2009	1.108000
5	11/1/2009	11/30/2009	1.108000
6	12/1/2009	12/31/2009	1.108000
7	1/1/2010	1/31/2010	1.108000
8	2/1/2010	2/28/2010	1.108000
9	3/1/2010	3/31/2010	1.200000
10	4/1/2010	4/30/2010	1.250000
11	5/1/2010	5/31/2010	1.300000
12	6/1/2010	6/30/2010	1.108000

5. You can also use the Excel import/export feature to add the rate values. For more details, refer Excel Import/Export, .
6. Click Apply.
7. Click View to see the output table.

Bucket Number	Start Date	End Date	Rate Value
Base Rate			1.108000
1	7/1/2009	7/31/2009	1.11
2	8/1/2009	8/31/2009	1.11
3	9/1/2009	9/30/2009	1.11
4	10/1/2009	10/31/2009	1.11
5	11/1/2009	11/30/2009	1.11
6	12/1/2009	12/31/2009	1.11
7	1/1/2010	1/31/2010	1.11
8	2/1/2010	2/28/2010	1.11
9	3/1/2010	3/31/2010	1.20
10	4/1/2010	4/30/2010	1.25
11	5/1/2010	5/31/2010	1.30
12	6/1/2010	6/30/2010	1.11

8. Click OK.
9. At the bottom of the page, click Save.

**Parity:** Model a period of rising interest rates for the U. S. and Australian dollars. Use the parity method to forecast the exchange rate of Australian dollars to \$1 U. S. Parity is calculated based on the forecast interest rates of the reference IRCs of the Australian dollar and the U. S. dollar.

In the Forecast Rates window, forecast changes in the U. S. dollar interest rate:



1. From Currency Codes, select USD: US Dollar.
2. From Interest Rate Codes, select Treasury Index.
3. From Rate Forecast Method, click Direct Input.
4. Click Define.
5. Type interest rate changes for 02/01/2010 through 04/30/2010 as follows:

Bucket Number	Start Date	End Date	1 Months	3 Months	6 Months	12 Months	24 Months	36 Months	48 Months
Base Rate			1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
<input type="checkbox"/> 1	7/1/2009	7/31/2009	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.00
<input type="checkbox"/> 2	8/1/2009	8/31/2009	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.00
<input type="checkbox"/> 3	9/1/2009	9/30/2009	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.00
<input type="checkbox"/> 4	10/1/2009	10/31/2009	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.00
<input type="checkbox"/> 5	11/1/2009	11/30/2009	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.00
<input type="checkbox"/> 6	12/1/2009	12/31/2009	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.00
<input type="checkbox"/> 7	1/1/2010	1/31/2010	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.00
<input type="checkbox"/> 8	2/1/2010	2/28/2010	0.500000	0.750000	1.000000	1.250000	1.500000	1.750000	2.00
<input type="checkbox"/> 9	3/1/2010	3/31/2010	1.000000	1.250000	1.500000	1.750000	1.750000	2.000000	2.25
<input type="checkbox"/> 10	4/1/2010	4/30/2010	1.500000	1.750000	2.000000	2.500000	2.500000	2.750000	2.75
<input type="checkbox"/> 11	5/1/2010	5/31/2010	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.00

6. Click Apply.

In the Forecast Rates window, forecast changes in the Australian dollar reference Interest rate:

1. From Currency Codes, select AUD: Australian Dollar.
2. From Interest Rate Codes, select IRC AUD.
3. From Rate Forecast Method, click Direct Input.
4. Click Define.
5. Type interest rate changes for 02/01/2010 through 04/30/2010 as follows:

Bucket Number	Start Date	End Date	1 Days	1 Months	3 Months	6 Months	1 Years	3 Years	5 Years
Base Rate			4.250000	4.670000	4.770000	4.870000	4.850000	4.990000	5.100000
<input type="checkbox"/> 1	7/1/2009	7/31/2009	4.250000	4.670000	4.770000	4.870000	4.850000	4.990000	5.10
<input type="checkbox"/> 2	8/1/2009	8/31/2009	4.250000	4.670000	4.770000	4.870000	4.850000	4.990000	5.10
<input type="checkbox"/> 3	9/1/2009	9/30/2009	4.250000	4.670000	4.770000	4.870000	4.850000	4.990000	5.10
<input type="checkbox"/> 4	10/1/2009	10/31/2009	4.250000	4.670000	4.770000	4.870000	4.850000	4.990000	5.10
<input type="checkbox"/> 5	11/1/2009	11/30/2009	4.250000	4.670000	4.770000	4.870000	4.850000	4.990000	5.10
<input type="checkbox"/> 6	12/1/2009	12/31/2009	4.250000	4.670000	4.770000	4.870000	4.850000	4.990000	5.10
<input type="checkbox"/> 7	1/1/2010	1/31/2010	4.250000	4.670000	4.770000	4.870000	4.850000	4.990000	5.10
<input type="checkbox"/> 8	2/1/2010	2/28/2010	4.500000	4.750000	5.000000	5.200000	5.300000	5.500000	5.60
<input type="checkbox"/> 9	3/1/2010	3/31/2010	4.750000	5.000000	5.200000	5.500000	5.700000	5.900000	6.00
<input type="checkbox"/> 10	4/1/2010	4/30/2010	5.000000	5.200000	5.400000	5.800000	5.900000	6.200000	6.20
<input type="checkbox"/> 11	5/1/2010	5/31/2010	4.250000	4.670000	4.770000	4.870000	4.850000	4.990000	5.10

6. Click Apply.

7. At the bottom of the page, click Save.

**Note:** The View button is not available for the parity feature. If you want to view results, enable the "forecast rate" option in the ALM process – Audit Block, for the relevant interest rate codes. Audit results will be written to the FSI\_INTEREST\_RATES\_AUDIT table.

**No Arbitrage:** Forecast the exchange rates required to maintain equilibrium between the U. S. and Australian dollars. The forecast is based on the historical interest rates from the reference IRC of each currency. This example assumes that the following reference IRCs have been assigned in Rate Management:

- U. S. dollar: Treasury Index
- Australian dollar: IRC AUD

In the Forecast Rates window, do the following:

1. From Currency Codes, select AUD: Australian Dollar.
2. From Currency Forecast Method, click No Arbitrage.
3. At the bottom of the page, click Save.

**Note:** The View button is not available for the No Arbitrage feature. If you want to view results, enable the "forecast rate" option in the ALM process – Audit Block, for the relevant interest rate codes. Audit results will be written to the FSI\_INTEREST\_RATES\_AUDIT table.

## Interest Rate Forecast Methods

The following Interest Rate Forecast methods are available:

Select	To
Flat	Forecast no change in the interest rate for all dates beginning with the as-of date.
Structured Change	Forecast rate changes in terms of absolute or percent change, for any modeling period or interest rate term, such as: <ul style="list-style-type: none"><li>• +100 basis points on Day 1</li><li>• -200 basis points over the first 6 months</li><li>• Yield curve rotation (short point decreasing, long point increasing)</li></ul>
Direct Input	Type interest rates directly, for any modeling period or interest rate term.
Implied Forward	Forecast interest rates based on the yield-curve interest rates in effect at the as-of date and consistent with the modeling bucket definitions.  You can apply implied forward method directly to the interest rate curve, or shock the base IRC first by absolute rate or percent change, then apply implied forward.
Change from Base	Make incremental changes to an existing forecast scenario.
Yield Curve Twist	Flatten or steepen the yield curve around a specific point on the curve.

## Examples of Interest Rate Forecasting

As you follow the steps in the examples, substitute similar data at your site if this particular data is not available. See "To Begin", page 21-4 to set up the examples.

**Note:** You can generate the forecast rates for 360 calendar months. The first month corresponds to the first calendar month of As of Date. The subsequent months are full calendar months. For example, if As of Date is 30 APR 2013, then the first month is April 2013. The second month will be May 2013 and so on. ADCO requires two IRCs for an ARM instrument (First is 2 Yr, 10 Yr IRC and second is the Prepay Index IRC). For a fixed rate instrument, 2 Yr, 10 Yr IRC will only be passed.

1. You can forecast an IRC which has various term points including 2 Year and 10 Year term points. The term points 2 Year (or 24 Months) and 10 Year (or 120 Months) are available. Engine will identify 24 Months term point as 2 Years and 120 Months as 10 Years. If the term point(s) are not available, then engine will not be able to send the forecast rates for the IRC
2. You can generate forecast rates for 360 calendar months (from As of Date) using an IRC which has single term point. This is not applicable for Implied Forward and Yield Curve Twist forecast methods.

Engine will match the last day of the calendar month with the ISB (income simulation bucket) dates and fetch the rate corresponding to the term point to pass to ADCO while converting from ISB to 360 months. While converting from ISB to 360 months, if the total ISB size is less than 360 months, then the last available rate needs to be extended till 360th month. For example, if the ISB covers only 240 months, then 240th month rate will be applied from 241st to 360th months.

When "Show 360 months Buckets" check box is enabled, 2 year (24 months) and 10 year (240 months) term points will be highlighted in red color.

**Flat:** View U. S. dollar interest rates forecasted for the Treasury Index.

1. From Currency Codes, select USD: US Dollar.
2. From Interest Rate Codes, select US Treasury Curve.
3. From Rate Forecast Method, click Flat.
4. Click View.

After clicking **View**, the Interest Rate View window displays the rates forecasted for the Treasury Index in ISB view. Here, **Show Rates for 360 Months Buckets** check box is disabled by default. On checking this box, the results will be displayed for the 360 months view. You cannot enter the values against buckets for Flat method in 360 months or ISB view. The **Show 360 Months Buckets** box is available by default if the ADCO function is mapped to the user.

Interest Rate View Flat( 6522 : Treasury Curve)

Show 360 Months Buckets

Bucket Number	Start Date	End Date	3 Months	6 Months	1 Years	2 Years	3 Years	5 Years	7 Years	10 Years	20 Years	30 Years
Base Rate			0.350000	0.450000	0.550000	1.050000	1.240000	1.490000	1.750000	2.200000	2.750000	3.450000
1	7/1/2009	7/31/2009	0.350000	0.450000	0.550000	1.050000	1.240000	1.490000	1.750000	2.200000	2.750000	3.450000
2	8/1/2009	8/31/2009	0.350000	0.450000	0.550000	1.050000	1.240000	1.490000	1.750000	2.200000	2.750000	3.450000
3	9/1/2009	9/30/2009	0.350000	0.450000	0.550000	1.050000	1.240000	1.490000	1.750000	2.200000	2.750000	3.450000
4	10/1/2009	10/31/2009	0.350000	0.450000	0.550000	1.050000	1.240000	1.490000	1.750000	2.200000	2.750000	3.450000
5	11/1/2009	11/30/2009	0.350000	0.450000	0.550000	1.050000	1.240000	1.490000	1.750000	2.200000	2.750000	3.450000
6	12/1/2009	12/31/2009	0.350000	0.450000	0.550000	1.050000	1.240000	1.490000	1.750000	2.200000	2.750000	3.450000
7	1/1/2010	1/31/2010	0.350000	0.450000	0.550000	1.050000	1.240000	1.490000	1.750000	2.200000	2.750000	3.450000
8	2/1/2010	2/28/2010	0.350000	0.450000	0.550000	1.050000	1.240000	1.490000	1.750000	2.200000	2.750000	3.450000
9	3/1/2010	3/31/2010	0.350000	0.450000	0.550000	1.050000	1.240000	1.490000	1.750000	2.200000	2.750000	3.450000
10	4/1/2010	4/30/2010	0.350000	0.450000	0.550000	1.050000	1.240000	1.490000	1.750000	2.200000	2.750000	3.450000
11	5/1/2010	5/31/2010	0.350000	0.450000	0.550000	1.050000	1.240000	1.490000	1.750000	2.200000	2.750000	3.450000
12	6/1/2010	6/30/2010	0.350000	0.450000	0.550000	1.050000	1.240000	1.490000	1.750000	2.200000	2.750000	3.450000

**Structured Change:** Model a gradual increase for six months in U. S. dollar interest rates.

1. From Currency Codes, select USD: US Dollar.
2. From Interest Rate Codes, select US Treasury Curve.
3. From Rate Forecast Method, click Structured Change.
4. Click Define.
5. Type the following interest rate changes:

Interest Rate Code Structured Change( 6522 : Treasury Curve)

Shock Type  Rate  Percent

<input type="checkbox"/>	Start Bucket	End Bucket	From Date	To Date	3 Months	6 Months	1 Years	2 Years
<input type="checkbox"/>	1	1	7/1/2009	7/31/2009	0.000000	0.000000	0.000000	0.000000
<input type="checkbox"/>	2	7	8/1/2009	1/31/2010	1.000000	1.250000	1.500000	1.750000
<input type="checkbox"/>	8	12	2/1/2010	6/30/2010	0.000000	0.000000	0.000000	0.000000

6. You can also use the Excel import/export feature to add the interest rate changes. For more details, refer Excel Import/Export, .
7. Click Apply.
8. Click View.

After clicking **View**, the Interest Rate View window displays the results in ISB view. Here, **Show Rates for 360 Months Buckets** check box is disabled by default. On checking this box, the results will be displayed for the 360 months view. You cannot enter the values against buckets for this method in 360 months or ISB view. The **Show 360 Months Buckets** box is available by default if the ADCO function is mapped to the user.

9. The rate increases you typed in step 5 are apportioned equally over six months in this case August to January. Therefore, in monthly buckets 2-7, you will expect to see the following increments added to the Treasury Index interest rates:

3 month	6 month	1 year	2 year
1/6 of 1.00 = 0.1667	1/6 of 1.25 = 0.2083	1/6 of 1.50 = 0.25	1/6 of 1.75 = 0.2917

The interest rates in buckets 2-7 reflect the increases.

Bucket Number	Start Date	End Date	2 Years	10 Years
1	6/25/2014	7/25/2014	5.00	5.00

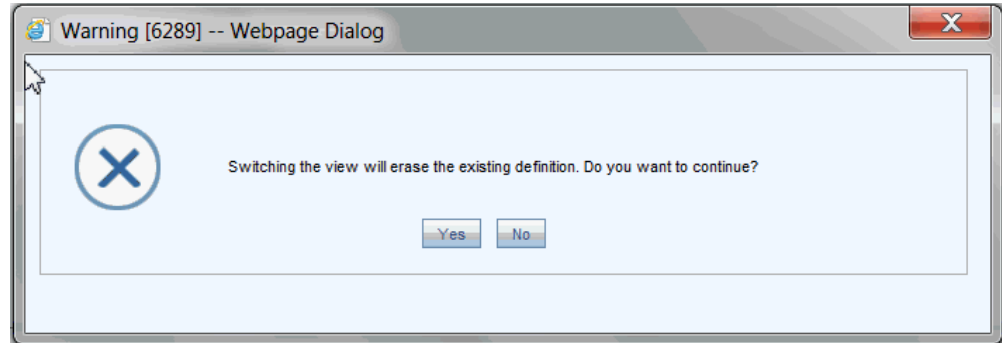
**Direct Input:** To use the Direct Input method, see Structured Change, page 21-11 with the following modifications:

- In step 3, click Direct Input
- In step 5, type interest rates (forecasted *rates* for each bucket rather than forecasted rate *changes* over a period of one or more buckets).
- During defining the Direct Input, "Show 360 Months Buckets" box is checked by default if the ADCO function is mapped to the user. If you enter the forecast rates against 360 months, the UI converts the same to across income simulation buckets.

Bucket Number	Forecast Month	2 Years	10 Years
1	JUN-14	1.000000	1.000000
2	JUL-14	1.000000	1.000000
3	AUG-14	1.000000	1.000000
4	SEP-14	1.000000	1.000000
5	OCT-14	1.000000	1.000000
6	NOV-14	1.000000	1.000000
7	DEC-14	1.000000	1.000000
8	JAN-15	1.000000	1.000000
9	FEB-15	1.000000	1.000000
10	MAR-15	1.000000	1.000000
11	APR-15	1.000000	1.000000
12	MAY-15	1.000000	1.000000
13	JUN-15	1.000000	1.000000
14	JUL-15	1.000000	1.000000
15	AUG-15	1.000000	1.000000
16	SEP-15	1.000000	1.000000
17	OCT-15	1.000000	1.000000

Similarly, user can enter the data for income simulation buckets after unchecking the "Show 360 Months Buckets". Now, UI will convert the rates from income simulation buckets to 360 months view.

When you switch from ISB to 360 months view or vice versa, you will get a message "Switching the view will erase the existing definition. Do you want to continue?" If you select YES, then the definition is erased. Else, it is retained. In effect, you will be restricted to do the following:



- Enter the data across income simulation buckets, check the "Show 360 Months Buckets" box and override that data for a few of the 360 months buckets.
- Enter the data across 360 months buckets, uncheck the "Show 360 Months Buckets" box and override that data for a few of the income simulation buckets.

After defining the rates in 360 Months buckets and clicking **View**, the Interest Rate View window displays the result in "360 Months" view. Here, "Show Rates for 360 Months Buckets" check box is enabled by default.

If you have defined the rates in ISB and click **View**, the Interest Rate View window displays the result in ISB view. Here, "Show Rates for 360 Months Buckets" check box is disabled by default. On checking this box, the results will be displayed for the 360 months view. You cannot enter the values against buckets for this method in 360 months or ISB view.

Bucket Number	Start Date	End Date	3 Months	6 Months	1 Year	2 Years	3 Years	5 Years	7 Years	10 Years
Base Rate	6/25/2014	7/25/2014	0.35	0.45	0.55	1.05	1.24	1.49	1.75	2.20

- You can also use the Excel import/export feature to add the interest rates. For more details, refer Excel Import/Export, .

**Implied Forward:** View U. S. dollar interest rates forecasted from the Treasury Index rates and terms in effect at the as-of date and consistent with the modeling buckets.

1. From Currency Codes, select USD: US Dollar.
2. From Interest Rate Codes, select US Treasury Curve.
3. From Rate Forecast Method, click Implied Forward.
4. Click Define and enter a shock amount to apply to the IRC prior to computing implied forwards. You can designate either absolute rate change or percent rate change. If no changes desired to base curve, leave at 0.0 and click apply.

5. You can also use the Excel import/export feature to add the absolute or percent rate changes. For more details, refer Excel Import/Export, .
6. Click view to view the implied forward rates.

After clicking **View**, the Interest Rate View window displays the results in ISB view. Here, **Show Rates for 360 Months Buckets** check box is disabled by default. On checking this box, the results will be displayed for the 360 months view. You cannot enter the values against buckets for this method in 360 months view. The **Show 360 Months Buckets** box is available by default if the ADCO function is mapped to the user.

Bucket Number	Start Date	End Date	3 Months	6 Months	1 Years	2 Years	3 Years	5 Years	7 Years	10 Years
Base Rate			0.35	0.40	0.55	1.05	1.24	1.40	1.75	2.20
1	6/26/2014	7/25/2014	0.36	0.46	0.55	1.05	1.24	1.40	1.75	2.20

**Change from Base:** Select a forecast rates scenario that you have already defined and saved and change it by typing incremental changes to rates. For example, you might want to forecast for a scenario 1 based on incremental changes to the rates in scenario 2.

3 Months	6 Months	1 Years	2 Years	3 Years	5 Years	7 Years	10 Years	20 Years	30 Years
0.350000	0.450000	0.550000	1.050000	1.240000	1.400000	1.750000	2.200000	2.750000	3.450000

After clicking **View**, the Interest Rate View window displays the results in ISB view. Here, **Show Rates for 360 Months Buckets** check box is disabled by default. On checking this box, the results will be displayed for the 360 months view. You cannot enter the values against buckets for this method in 360 months view. The **Show 360 Months Buckets** box is available by default if the ADCO function is mapped to the user.

**Yield Curve Twist:** Set up a scenario to steepen or flatten a given yield curve.

1. From Currency Codes, select USD: US Dollar.
2. From Interest Rate Codes, select US Treasury Curve.
3. From Rate Forecast Method, click Yield Curve Twist.
4. Click Define.
5. Type the following interest rate changes (flattening the curve around the 3 month term point):



6. Click Apply.
7. After clicking **View**, the Interest Rate View window displays the results in ISB view. Here, **Show Rates for 360 Months Buckets** check box is disabled by default. On checking this box, the results will be displayed for the 360 months view. You cannot enter the values against buckets for this method in 360 months view. The **Show 360 Months Buckets** box is available by default if the ADCO is function is mapped to the user.

Bucket Number	Start Date	End Date	3 Months	5 Months	1 Years	2 Years	3 Years	5 Years	7 Years	10 Years
1	6/26/2014	7/26/2014	0.35	0.45	0.55	1.05	1.24	1.49	1.75	2.20

## Editing a Forecast Rate

To edit a Forecast rate, follow the steps given below:

1. From Currency Codes, select the Currency Code (for example IND: INDS).

2. Here, initially the IRC is in Red color and after selection (that is, Editing of Currency Code) and clicking on Apply button, it turns to Green color.

**Note:** Selecting a different IRC means the addition of an IRC and not the deletion/Unselection of the rest of the IRCs. When you reopen the Forecast Rate, lowest IRC code will be checked by default.

## Data Loader Procedure

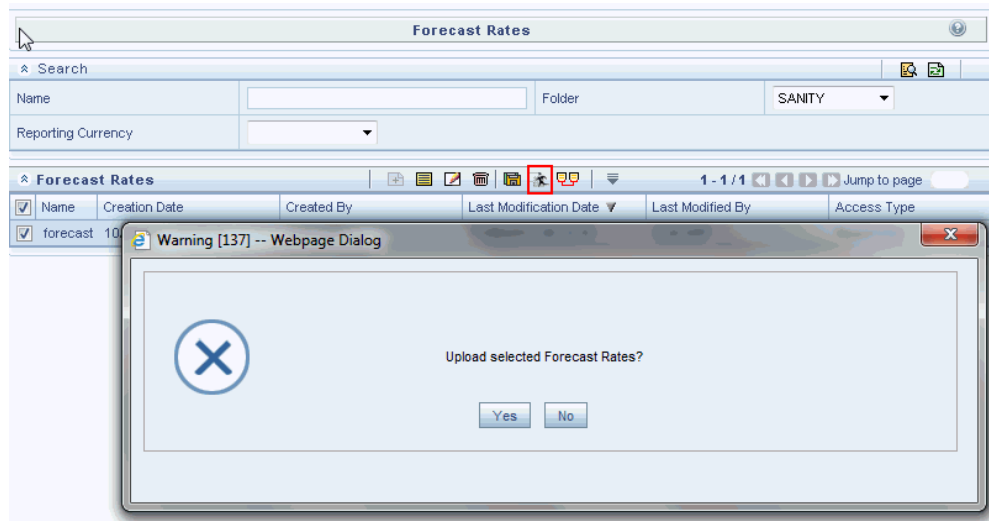
Stage Forecast Rate Loader procedure loads forecast rates definitions into OFSAA HM Forecast rates tables from staging tables. Forecast rate parameters for Direct Input and Structured Change methods within a scenario for exchange rates and, interest rates are loaded from staging to the Financial Services Data Model. After loading the forecast rates, user can view the information in Forecast Rate Assumptions UI.

For information on how to set up the procedure, see *Oracle Financial Services Analytical Applications Data Model Utilities User Guide, Stage Forecast Rates Loader* .

### Executing the Data Loader:

To execute the Data Loader Procedure:

1. Navigate to the Forecast Rates Main page.
2. Click the Data Loader Execution button on the action bar – This will execute all the available Forecast Rates set up in the data loader for Direct Input and Structured Change methods.
3. A warning message will appear: "Update all available Forecast Rates?"
4. Click "Yes"



---

## Prepayment Rules

This module describes the procedure for working with and managing Prepayment rules.

This chapter covers the following topics:

- Overview of Prepayment Rules
- Creating Prepayment Rules
- Defining Prepayment Methodologies
- Defining Early Redemption Assumptions
- Associating Conditional Assumptions with Prepayment Rules

### Overview of Prepayment Rules

Prepayment rules allow you to specify methodologies to model the loan prepayment and deposit early redemption behavior of products in your portfolio and quantify the associated prepayment risk in monetary terms. See: Defining Prepayments, page 13-16

The methodologies contained in the Prepayment rule are referenced by Transfer Pricing, HMIFRS and ALM Processes.

The procedure for working with and managing the Prepayment rule is similar to that of other Oracle Hedge Management business rules. It includes the following steps:

- Searching for Prepayment rules. See: Searching for Rules, page 14-4
- Creating Prepayment Rules, page 22-2
- Viewing and Editing Prepayment rules. See: Viewing and Updating Rules, page 14-6
- Copying Prepayment rules. See: Copying Rules, page 14-6
- Deleting Prepayment rules. See: Deleting Rules, page 14-7

As part of creating and updating Prepayment rules, you can also define prepayment methodologies for all relevant product / currency combinations. See:

- Defining Prepayment Methodologies, page 22-3
- Defining the Constant Prepayment Method, page 22-8
- Defining the Prepayment Model Method, page 22-9
- Defining the PSA Method, page 22-11
- Defining the Arctangent Calculation Method, page 22-12
- Associating Conditional Assumptions with Prepayment Rules, page 22-17

Oracle Hedge Management provides you with the option to copy, in total or selectively, the product assumptions contained within the Prepayment rules from one currency to another currency or a set of currencies or from one product to another product or a set of products. See: Copying Assumptions Across Currencies and Products, page 20-5

## Related Topics

Standard Navigation Paths, page C-1

## Creating Prepayment Rules

You create a Prepayment rule to define prepayment assumptions for new products.

### Procedure:

1. Navigate to the Prepayment rule summary page.
2. Complete standard steps for this procedure. See: Creating Rules, page 14-5

**Important:** In addition to the standard steps for creating rules, the procedure for creating a Prepayment rule involves one extra step. After Standard Step 6, you can select a product hierarchy. You can define methodologies at any level of the hierarchical product dimension. The hierarchical relationship between the nodes allows inheritance of methodologies from parent nodes to child nodes.

## Related Topics

Overview of Prepayment Rules, page 22-1

Standard Navigation Paths, page C-1

## Defining Prepayment Methodologies

The assignment of prepayment assumptions is part of the Create or Edit Prepayment rule process where assumptions about loan prepayments or deposit early redemptions are made for product-currency combinations. When you click Save in the Create Prepayment rules process, the rule is saved and the Prepayment rule Summary page is displayed. However, prepayment assumptions have not yet been defined for any of your products at this point. Typically, you would start defining your prepayment assumptions for product-currency combinations before clicking Save.

The Prepayment rule supports definition of prepayment assumptions for combinations of two dimensions: Product and Currency.

Once you have created a Prepayment rule, you can assign prepayment methodologies to product-currency combinations in either of the following two ways:

- By creating a conditional assumption using conditional logic. See: Associating

Conditional Assumptions with Prepayment Rules, page 22-17

- Directly on the Prepayment methodology page, as described here.

## Defining Prepayments Using Node Level Assumptions

Node Level Assumptions allow you to define assumptions at any level of the Product dimension Hierarchy. The Product dimension supports a hierarchical representation of your chart of accounts, so you can take advantage of the parent-child relationships defined for the various nodes of your product hierarchies while defining rules. Children of parent nodes on a hierarchy automatically inherit the assumptions defined for the parent nodes. However, assumptions directly defined for a child take precedence over those at the parent level.

## Prerequisites

Performing basic steps for creating or editing a Prepayment rule, page 22-2

## Procedure:

This table describes key terms used for this procedure.

### ***Selected Terminology***

<b>Term</b>	<b>Description</b>
Calculation Method	The method used to model prepayment behavior of instruments. Oracle Hedge Management provides four prepayment calculation methods: Constant, Prepayment Model, PSA, and Arctangent.

Term	Description
Cash Flow Treatment	<p data-bbox="971 310 1458 373">Allows you to specify one of the following two ways in which prepayments are made.</p> <ul data-bbox="971 394 1458 814" style="list-style-type: none"> <li data-bbox="971 394 1458 625">• <b>Refinance:</b> This is the most commonly used option. Select refinance to keep payment amounts after prepayment consistent with a portfolio-based assumption. This reduces the scheduled payment amount on each loan and maintains the same maturity term.</li> <li data-bbox="971 657 1458 814">• <b>Curtailment:</b> Select curtailment to change the periodic payment amounts due. The prepayments are treated as accelerated payments, with a payoff earlier than the originally scheduled term.</li> </ul>
Market Rate	<p data-bbox="971 877 1458 1035">The market rate is defined as the sum of the Index (the yield curve rate as described by the Interest Rate Code) and the Spread (the difference between the customer rate and market rate).</p>
Associated Term	<p data-bbox="971 1077 1458 1203">Allows you to define the term for the point on the yield curve selected in the Market Rate definition that will be used in obtaining the market rate.</p> <ul data-bbox="971 1224 1458 1591" style="list-style-type: none"> <li data-bbox="971 1224 1458 1287">• <b>Remaining Term:</b> The number of months remaining until the instrument matures.</li> <li data-bbox="971 1329 1458 1455">• <b>Reprice Frequency:</b> The frequency with which the instrument reprices. This defaults to the original term for a fixed rate instrument.</li> <li data-bbox="971 1497 1458 1591">• <b>Original Term:</b> The number of months that was the originally scheduled life of the instrument.</li> </ul>

Term	Description
Prepayment Rate Definition	This table allows you to specify constant annual prepayment rate, or the associated factors, that you want to apply to the instruments having origination dates in a particular date range.
Seasonality	<p>This table allows you to specify seasonality adjustments. Seasonality refers to changes in prepayments that occur predictably at given times of the year.</p> <p>Seasonality adjustments are based on financial histories and experiences, and should be modeled when you expect the amount of prepayments made for certain types of instruments to increase or decrease in certain months.</p> <p>The default value for seasonality factors is 1, which indicates that no seasonality adjustment is made for a month. Changing the seasonality factors is optional. You can change the seasonality factors for none, one, or multiple months.</p> <p>To make seasonality adjustments, you need to enter a value between 0.00 and 99.9999 for the seasonality factors associated with each month. Seasonality factors less than 1 mean that prepayments are decreased for a particular month. Seasonality factors greater than 1 indicate that prepayments are increased for a particular month.</p>

1. Navigate to the Prepayment assumption details page by selecting a currency and one or more products from the hierarchy.
2. Select a Calculation Method, Constant, Prepayment Model, PSA , or Arctangent.

**Note:** The default value for the Calculation Method drop down list is Constant. If you select "Do not calculate" as the calculation method, no prepayment assumptions will be assigned to the particular product-currency combination. This is a particularly useful option when using node level assumptions because it allows you to exclude a particular child from inheriting a parent



assumption.

Start Origination Date	End Origination Date	Percent
01-Jan-1900	30-Apr-2007	12.0000
01-May-2007	30-Apr-2009	10.0000
01-May-2009	31-Dec-2499	6.0000

3. Select a Cash Flow Treatment type, Refinance or Curtailment.

**Note:** Refinance is the most commonly used method.

4. Define the parameters and annual prepayment rates for the selected calculation method: Constant, Prepayment Model, PSA or Arctangent.

**Important:** The parameters displayed on the Prepayment methodology page vary depending on the calculation method (Constant, Prepayment Model, PSA or Arctangent) that you have selected. See:

- Defining the Constant Prepayment Method, page 22-8
- Defining the Prepayment Model Method, page 22-9
- Defining the PSA Method, page 22-11
- Defining the Arctangent Calculation Method, page 22-12

5. Click Apply.

The assumption browser definition page is displayed.

At this point you can:

- Continue defining additional methodologies for other product-currency combinations by repeating the above procedure.
- Complete the process by clicking Save.

**Note:** When you click Save, the prepayment assumptions are saved and the Prepayment rule summary page is displayed.

**Note:** Oracle Hedge Management provides you with the option to copy, in total or selectively, the product assumptions contained within the Prepayment rules from one currency to another currency or a set of currencies or from one product to another product or set of products. See: Copying Assumptions Across Currencies and Products, page 20-5

## Related Topics

- Prepayment Methodologies and Rules, page 13-16
- Copying Assumptions Across Currencies and Products, page 20-5
- Overview of Prepayment Rules, page 22-1
- Standard Navigation Paths, page C-1

## Defining the Constant Prepayment Method

Use this procedure to define prepayment assumptions using the Constant Prepayment method.

### Prerequisites

Performing basic steps for creating or updating a Prepayment rule, page 22-2

Prepayment Calculation Method			
Calculation Method	Constant	Cash Flow Treatment	Refinance
Prepayment Specification - Constant			
Formula : Base Annual PP rate = Constant rate			
<input type="checkbox"/>	Start Origination Date *	Do not calculate	End Origination Date *
<input type="checkbox"/>	01-Jan-1900		30-Apr-2007
			Percent *
			12.0000

### Procedure:

1. Select the Start Origination Date using the date picker. Alternatively, you can enter the Start Origination Date in the space provided.

**Note:** The first cell in the Start Origination Date column and all of the cells in the End Origination Date column are read only. This ensures that all possible origination dates have supporting reference values when Prepayment assumption lookups occur. Each row in the End Origination Date column is filled in by the system when you click Add Row or save the rule.

The first Start Origination Date (in row 1) has a default value of January 1, 1900. When you enter a Start Origination Date in the next row, the system inserts a date that is a day prior to the

previous End Origination Date field.

2. Enter the annual prepayment rate percent that you want to apply to the instruments having origination dates in a particular Start Origination-End Origination Date range.

**Note:** The Percent column represents the actual annualized prepayment percentage that the system uses to generate the principal runoff during the cash flow calculations.

3. Click Add Row to add additional rows and click the corresponding Delete icon to delete a row.

You can add as many rows in this table as you require. However you need to enter relevant parameters for each new row.

4. Define Seasonality assumptions as required to model date specific adjustments to the annual prepayment rate. Inputs act as multiplier, For Example, an input of 2 will double the prepayment rate in the indicated month.

## Related Topics

Constant Prepayment Method, page 13-16

Defining Prepayment Methodologies, page 22-3

Standard Navigation Paths, page C-1

## Defining the Prepayment Model Method

Use this procedure to define prepayment assumptions using the Prepayment Model Calculation method.

## Prerequisites

- Performing basic steps for creating or updating a Prepayment rule, page 22-2
- Creating Prepayment Model rule, page 23-2

Prepayments		Early Redemption	
Prepayment Calculation Method			
Calculation Method	Prepayment Model	Cash Flow Treatment	Refinance
Prepayment Specification -Prepayment Model			
Prepayment Model Type selection		<input checked="" type="checkbox"/> Custom <input type="checkbox"/> Standard	
Formula : Base Annual FP rate = PP table factor * PP table LOOKUP( dimension x, dimension y, dimension z)			
<input type="checkbox"/>	Start Origination Date *	End Origination Date *	Coefficient *
<input type="checkbox"/>	01-Jan-1900	30-Apr-2007	1.0000
<input type="checkbox"/>	01-May-2007	30-Apr-2009	1.0000
<input type="checkbox"/>	01-May-2009	31-Dec-2499	1.2500
Prepayment Model *			
ORG TERM/COUPON			
REM TERM/SPREAD			
REM TERM/SPREAD			
Market Rate Definition			
Index	US Treasury Curve	Spread	00.0000
Associated Term	Original Term		

## Procedure:

1. Define the source for the Market Rate by Selecting an Index (Interest Rate Code) from the list of values.
2. Enter the Spread.  
The spread is added to the rate from the underlying interest rate curve to determine the market rate.
3. Select an Associated Term: Remaining Term, Reprice Frequency, or Original Term.
4. Specify the Prepayment Model parameters.
  - Select the Start Origination Date using the date picker. Alternatively, you can enter the Start Origination Date in the space provided.
  - Enter the Coefficient (if needed) by which the Prepayment Rate should be multiplied.  
This multiple is applied to the instruments for which the origination date lies in the range defined in the Start Origination Date-End Origination Date fields.
  - Select a predefined prepayment model from the Prepayment model Rule list of values. Click the View Details icon to preview the selected Prepayment Model.  
The system uses the prepayment model assumptions to calculate the prepayment amounts for each period. You need to associate a prepayment model for every Start Origination-End Origination Date range.
  - Click Add Another Row to add additional rows and click the corresponding Delete to delete a row.  
You can add as many rows in this model as you require. However you need to enter relevant parameters for each new row.

- Define Seasonality assumptions as required to model date specific adjustments to the annual prepayment rate. Inputs act as multiplier, For example, an input of 2 will double the prepayment rate in the indicated month.

## Related Topics

Prepayment Model Method, page 13-17

Prepayment Model Rules, page 23-1

Defining Prepayment Methodologies, page 22-3

Standard Navigation Paths, page C-1

## Defining the PSA Prepayment Method

Use this procedure to define prepayment assumptions using the PSA Prepayment method.

## Prerequisites

Performing basic steps for creating or updating a Prepayment rule, page 22-2

The screenshot displays the configuration interface for the PSA Prepayment Method. It is divided into several sections:

- Product and Currency Details:** Product is set to 'Mortgage Fixed 20 YR' and Currency is 'Default Currency'.
- Prepayment Calculation Method:** Calculation Method is 'PSA' and Cash Flow Treatment is 'Refinance'.
- Prepayment Specification - PSA Method:**
  - Prepayment Model Type selection: Custom (unchecked), Standard (checked).
  - Formula:  $\text{Base annual PP rate} = 6\% * \min(1, n/30)$  for any n.
  - Table with columns: Start Origination Date, End Origination Date, PSA Speed, and Prepayment Model.

Start Origination Date	End Origination Date	PSA Speed	Prepayment Model
01-Jan-1900	30-Apr-2007	100	PSA MODEL
01-May-2007	30-Apr-2008	200	PSA MODEL
01-May-2008	31-Dec-2499	500	PSA MODEL

## Procedure:

- Select the Start Origination Date using the date picker. Alternatively, you can enter the Start Origination Date in the space provided.

**Note:** The first cell in the Start Origination Date column and all of the cells in the End Origination Date column are read only. This ensures that all possible origination dates have supporting reference values when Prepayment assumption lookups occur. Each row in the End Origination Date column is filled in by the system when you click Add Row or save the rule.

The first Start Origination Date (in row 1) has a default value of January 1, 1900. When you enter a Start Origination Date in the next row, the system inserts a date

that is a day prior to the previous End Origination Date field.

2. Enter the PSA speed that you want to apply to the instruments having origination dates in a particular Start Origination-End Origination Date range. The PSA method is based on a standard PSA curve. You can view the seeded model by selecting the View Details icon.

**Note:** The default value is 100 PSA and inputs can range from 0 to 1667.

3. Click Add Row to add additional rows and click the corresponding Delete icon to delete a row. You can add as many rows in this table as you require. However you need to enter relevant parameters for each new row.
4. Define Seasonality assumptions as required to model date specific adjustments to the annual prepayment rate. Inputs act as a multiplier, For example, an input of 2 will double the prepayment rate in the indicated month.

## Related Topics

Constant Prepayment Method, page 13-16

Defining Prepayment Methodologies, page 22-3

Standard Navigation Paths, page C-1

## Defining the Arctangent Calculation Method

Use this procedure to define prepayment assumptions using the Arctangent Calculation method.

## Prerequisites

Performing basic steps for creating or updating a Prepayment rule, page 22-2

Prepayments Early Redemption

Prepayment Calculation Method

Calculation Method: Arctangent Cash Flow Treatment: Refinance

Prepayment Specification -Arctangent Method

Formula: Base Annual PP Rate = K1 - (K2 \* ATAN (K3 \* (-CM + K4)))

Start Origination Date	End Origination Date	Constant Coe.K1	Constant Coe.K2	Constant Coe.K3	Constant Coe.K4
<input type="checkbox"/> 01-Jan-1900	30-Apr-2007	0.3000	0.2000	10.0000	1.2000
<input type="checkbox"/> 01-May-2007	30-Apr-2009	0.5000	0.4000	20.0000	1.0000
<input type="checkbox"/> 01-May-2009	31-Dec-2499	0.0000	0.0000	0.0000	0.0000

Market Rate Definition

Index: US Treasury Curve Spread: 00.0000

Associated Term: Original Term

## Procedure:

1. Define the source for the Market Rate by Selecting an Index (Interest Rate Code) from the list of values.
2. Enter the Spread.  
The spread is added to the rate from the underlying interest rate curve to determine the market rate.
3. Select an Associated Term: Original Term, Reprice Frequency, or Remaining Term.
4. Specify the Arctangent Argument table parameters.
5. Select the Start Origination Date using the date picker. Alternatively, you can enter the Start Origination Date in the space provided.
6. Enter the values for the Arctangent parameters (columns K1 through K4) for each Start Origination Date in the table. The valid range for each parameter is -99.9999 to 99.9999.
7. Click Add Another Row to add additional rows and click the corresponding Delete to delete a row.  
You can add as many rows in this table as you require. However you need to enter relevant parameters for each new row.
8. Define the Seasonality assumptions as required to model date specific adjustments to the annual prepayment rate. Inputs act as multiplier, For example, an input of 2 will double the prepayment rate in the indicated month.

## Related Topics

Arctangent Calculation Method, page 13-20

Defining Prepayment Methodologies, page 22-3

## Defining Early Redemption Assumptions

If you are working with deposit products, it is possible to define Early Redemption assumptions within the Prepayment Rule. While defining assumptions, the Prepayment rule will consider whether or not the product is an asset or liability (based on the account type attribute defined in dimension member management). If the product is an asset, then the Prepayments tab will be active in the prepayment assumption detail page. If the product is a liability, then the Early Redemption tab will be active.

### Prerequisites

- Performing basic steps for creating or updating a Prepayment rule,
- To define Early Redemption assumptions, the account type for the selected product must be a Liability

Start Maturity Date *	End Maturity Date *	Percent *
<input type="checkbox"/> 01/01/1900	04/30/2008	5.0000
<input type="checkbox"/> 05/01/2008	04/30/2012	0.0000
<input type="checkbox"/> 05/01/2012	12/31/2499	0.0000

### Procedure:

The procedure for defining Early Redemptions is the same as noted above for prepayments, with two exceptions:

- The list of Calculation Methods is limited to Constant and Prepayment Models
- The range definitions are based on Maturity Date ranges of the instruments rather than Origination Date ranges

Users also have two options for determining the timing of the early redemption assumption. Options include:

- **Use Payment Dates:** This is the default option. If selected early redemption runoff will occur on scheduled payment dates only
- **User Defined Redemption Tenors:** If selected, users can specify any runoff timing. For example, users might choose to define the early redemption to runoff on the first day of the forecast.

To define Early Redemptions within the Prepayment Rule, follow the steps given below:



## Use Payment Dates:

1. Select the "Use Payment Dates" option

The screenshot shows the 'Prepayments' configuration window for 'Early Redemption'. The 'Use Payment Dates' option is selected. The table below shows the configuration for Start Maturity Date, End Maturity Date, and Percent.

Start Maturity Date*	End Maturity Date*	Percent*
01/01/1900	12/31/2499	0.0000

2. Enter the Start Maturity and End Maturity Dates.

**Note:** The first cell in the Start Maturity Date column and all of the cells in the End Maturity Date column are read only. This ensures that all possible origination dates have supporting reference values when Prepayment assumption lookups occur. Each row in the End Origination Date column is filled in by the system when you click Add Row or save the rule. The first Start Origination Date (in row 1) has a default value of January 1, 1900. When you enter a Start Maturity Date in the next row, the system inserts a date that is a day prior to the previous End Maturity Date field.

3. Enter the annual prepayment rate percent that you want to apply to the instruments having origination dates in a particular Start Maturity-End Maturity Date range.

**Note:** The Percent column represents the actual annualized prepayment percentage that the system uses to generate the principal runoff during the cash flow calculations.

4. Click Add Row to add additional rows and click the corresponding Delete icon to delete a row.
5. You can add as many rows in this table as you require. However you need to enter relevant parameters for each new row.
6. You can use Data Input Helper feature. For more information, refer to *Data Input Helper*, page 10-14.

- You can also use the Excel import/export feature to add the Prepayment rate information. For more details, refer *Excel Import/Export*, page 10-13.

### User Defined Redemption Tenors:

- Select the User Defined Redemption Tenors option. This option allows you to specify the term to runoff for the particular row. E.g. if "1 Day" is defined, then the specified balance (redemption %), will runoff (mature) on the As of Date + 1 Day.

The screenshot shows the 'Prepayment/Early Redemption Details' form. The 'Early Redemption' tab is selected. Under 'Early Redemption Calculation Method', 'Constant' is chosen. The 'Early Redemption Specification - Constant' section is active, displaying the formula 'Formula: Base Annual PP rate + Constant rate' and the option 'Use Payment Dates' selected over 'User Defined Redemption Tenors'. Below this is a table for 'Early Redemption' with the following columns: Select, Start Maturity Date, End Maturity Date, Tenor, Multiplier, and Percent. Two rows are present:

Select	Start Maturity Date	End Maturity Date	Tenor	Multiplier	Percent
<input type="checkbox"/> Tenor(1)	01/01/1900	12/31/2499	1	Months	0.0000
<input type="checkbox"/> Tenor(2)		12/31/2499	1	Months	0.0000

- Enter the Start Maturity and End Maturity date ranges, add additional ranges as required using the Add Row button.
- Enter the term to runoff tenor and multiplier for each of the date ranges.
- Enter the early redemption runoff percentage for each of the date ranges.
- Click Add Row to add additional runoff % rows and click the corresponding Delete icon to delete a row.

This screenshot is identical to the one above, showing the 'Prepayment/Early Redemption Details' form with the 'Early Redemption' tab selected and the 'Early Redemption Specification - Constant' section active. The table for 'Early Redemption' is the same as in the previous screenshot.

- Define Seasonality assumptions as required to model date specific adjustments to the annual prepayment rate or early redemption rate. Inputs act as multiplier, for example an input of 2 will double the runoff rate in the indicated month.

## Related Topics

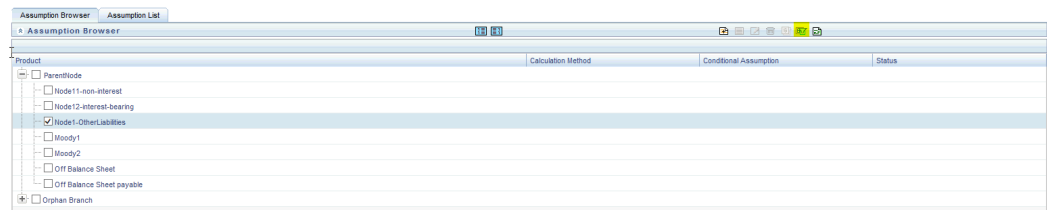
Constant Prepayment Method, page 13-16

Defining Prepayment Methodologies, page 22-3

Standard Navigation Path, page C-1

## Associating Conditional Assumptions with Prepayment Rules

HMIFRS extends setup and maintenance of assumptions by allowing users to integrate conditional logic (optional) into the setup of transfer pricing, prepayment, and TP adjustment methods. The Conditional Assumption UI is accessed from the Assumption Browser by selecting the Conditional Assumption icon.



The conditional logic is defined through use of Data Filters and/or Maps. These existing objects provide the building blocks for defining Conditional logic. For example, each Data Filter can provide the logic for a specific condition. In the example below, the where clause is "Adjustable Type Code = 'Adjustable Rate'". This type of Data Filter can be selected within the Conditional Assumption UI.

**Filter Definition**

Filters > Filter Definition (Edit mode)

**Filter Details**

Folder Name: EPM61SEG Access Type:  Read Only  Read/Write

Filter Name\*: CS Data Filter 1 for CA Description:

**Filter Type Selection**

Filter Type: Data Element

**Data Element Selection**

Data Element Selection: Portfolio Table-Adjustable Type Code Filter Method: Specific Values

**Specific Values**

Values	Select
S.1-Balance_Tiers_CB	<input type="checkbox"/>
778 Balance Tiers NB	<input type="checkbox"/>
Adjustable Rate	<input checked="" type="checkbox"/>
Dev_reprice	<input type="checkbox"/>
Fixed Rate	<input type="checkbox"/>
Floating Rate	<input type="checkbox"/>
None	<input type="checkbox"/>

Include Values  Exclude Values

Update

**Filter Conditions**

Conditions: Portfolio Table-Adjustable Type Code include Specific Values Exact Match: Adjustable Rate

Similarly, a Mapper object provides the necessary reference to one or more hierarchies, when dimension / hierarchy data is needed to define conditional logic. In the example below, this map refers to a hierarchy created on the Organization Unit dimension.

**Mapper Definition - CS Org Unit Map 2 for CA - 1361868780283 - 1 - CS Org Unit Map 2 for CA**

**Members**

- Mapper
- ca\_test
- CS Org Unit Map 1 for CA
- CS Org Unit Map 2 for CA
- HedgeMapper
- MAP\_2

**Hierarchies**

- Hedge Hierarchy
- ORG UNIT\_Chris
- Test-Hier
- Uttam\_Hier

**Selected Members**

- Mapper
- Hierarchies
- ORG UNIT

**Mapper Definition**

Description\*: CS Org Unit Map 2 for CA Effective From\*: 26-FEB-2013

Read only:  Effective To\*: 29-FEB-2016

Generate Hierarchy Security:  Database Entity name\*: CS\_ORG\_CA

Comments: created for Dev test

Save definition as new version:  Version description:

Save Close

**Note:** Maps are accessed from the Infrastructure (HOME) page. You can find them at the following path:

Common Object Maintenance > Unified Analytical Metadata > Map Maintenance

To create a map, use the following steps:

1. Navigate to Map Maintenance
2. Select icon to create new Map
3. On the left hand side, select one or more hierarchies that were enabled in the initial step
4. Fill in required information, e.g. Name, Effective Dates, and Entity Name
5. Save
6. From the Map Maintenance Summary page, select the Map and the icon for "Mapper Maintenance"
7. Here, you will see the hierarchy and all parent/child relationships

The range of product attributes supported for conditional assumptions and available for use within Data Filters is determined by columns which are part of the "Portfolio" definition. The "Portfolio" table class is seeded with the installation, and can be extended to include user defined columns.

For more information on adding user defined columns to the Portfolio table class, refer to *Data Model Utilities Guide, Chapter 2 – Object Management* [[http://docs.oracle.com/cd/E28033\\_01/homepage.htm](http://docs.oracle.com/cd/E28033_01/homepage.htm)].

When using mappers, Conditional Assumptions can be attached to any level of the hierarchy, allowing assumptions to be inherited from parent nodes by child nodes.

For example, you can use the Org Unit column to drive the assignment of Transfer Pricing Methods for all members of a particular Organization. You can create one Conditional Assumption to convey the entire Transfer Pricing Methodology logic and attach it to the top-level node of the Org Unit hierarchy. All nodes below the top-level node will inherit the same Transfer Pricing assumption.

The logic included in a Conditional Assumption determines the specific Transfer Pricing method, Prepayment assumption or Adjustment Rule that the system will assign to each individual instrument record at run time.

See: Overview of Conditional Assumptions,

The Conditional Assumption screen allows users to select explicit conditions (from Data Filters and/or Maps) and apply methods and rule selections to each condition directly. The Filter Conditions are processed by the engine in the order that they appear on the screen. As soon as a condition is satisfied, the related assumption is applied. The following screenshot displays a representative Conditional Assumption using a Data

Filter:

**Note:** If an instrument record does not meet any of the conditions, then the rule logic reverts to the standard assumption that is directly assigned to the Product / Currency combination. In the example below, you can see that Fed Funds has both a direct assignment and a conditional assumption. If the condition is not met, the "Fixed Rate" assumption (ELSE condition) will be applied. In the case of Reverse Repo's, there is only a Conditional Assumption. In the absence of an ELSE assumption, the engine will use the conditional assumption in all cases for the Product/Currency pair. To avoid this, users should define the Standard/Else assumption with an appropriate input.

Conditional Assumptions can be applied only to detailed account records (data stored in the Instrument Tables).

---

## Prepayment Models

This module describes the procedure to build prepayment models using Prepayment Model Rules.

This chapter covers the following topics:

- Overview of Prepayment Models
- Creating Prepayment Models
- Editing Prepayment Models
- Editing Prepayment Rates in a Prepayment Model
- Prepayment Rate Data Loader

### Overview of Prepayment Models

The Prepayment Model rule allows you to build custom prepayment models. These prepayment models can be referenced by a Prepayment Rule to model prepayment behavior of instruments based on a range of instrument level attributes. See: Prepayment Model Method, page 13-17 and Prepayment Rules, page 22-1

The procedure for working with and managing Prepayment Models is similar to that of other Oracle Hedge Management business rules. It includes the following steps:

- Searching for Prepayment Models. See: Searching for Rules, page 14-4
- Creating Prepayment Models,
- Viewing and Editing Prepayment Models. See:
  - Viewing and Editing Rules, page 14-6
  - Editing Prepayment Models,
- Copying Prepayment Models. See: Copying Rules, page 14-6

- Deleting Prepayment Models. See: Deleting Rules, page 14-7
- Loading Prepayment Models through a staging table. See: Using seeded data loaders ,

## Related Topics

Standard Navigation Paths, page C-1

## Creating Prepayment Models

Creating a Prepayment Model comprises the following sub procedures:

- Creating Prepayment Models, page 23-2
- Defining the structure of the prepayment model, page 23-4
- Assigning Node Values, page 23-5

### Procedure to create a Prepayment Model:

This table describes key terms used for this procedure.

#### *Selected Terminology*

<b>Term</b>	<b>Description</b>
Dimension	Influences the prepayment behavior of an instrument. You can build a prepayment model using up to three prepayment dimensions. Each dimension maps to an attribute of the underlying transaction (e.g. age/term or rate, etc.) so the cash flow engine can apply a different prepayment rate based on the specific characteristics of the record.



Term	Description
Lookup method	<p data-bbox="966 304 1472 472">Used to calculate prepayment rates for the prepayment dimension values that do not fall exactly on the defined prepayment dimension nodes. Oracle Hedge Management offers the following lookup methods:</p> <ul data-bbox="966 493 1472 913" style="list-style-type: none"> <li data-bbox="966 493 1472 682">• <b>Interpolation:</b> Under this method, the prepayment rates are determined by calculating an exact value on an axis. This method assumes that prepayment speeds change on a straight-line basis between the two nodes and calculates accordingly.</li> <li data-bbox="966 724 1472 913">• <b>Range:</b> Under this method, the prepayment rates are determined by calculating a range of values on an axis. This method assumes that the prepayment speed will remain the same for the entire range.</li> </ul> <p data-bbox="966 955 1472 1102">The following example explains the differences between these two lookup methods. The following lists show the age and corresponding prepayment rates of instruments.</p> <p data-bbox="966 1123 1015 1155"><b>Age</b></p> <ul data-bbox="966 1165 1047 1407" style="list-style-type: none"> <li data-bbox="966 1165 1047 1197">• 12</li> <li data-bbox="966 1228 1047 1260">• 24</li> <li data-bbox="966 1291 1047 1323">• 36</li> <li data-bbox="966 1354 1047 1386">• 60</li> </ul> <p data-bbox="966 1428 1177 1459"><b>Prepayment Rates</b></p> <ul data-bbox="966 1470 1047 1711" style="list-style-type: none"> <li data-bbox="966 1470 1047 1501">• 5</li> <li data-bbox="966 1533 1047 1564">• 10</li> <li data-bbox="966 1596 1047 1627">• 15</li> <li data-bbox="966 1659 1047 1690">• 20</li> </ul> <p data-bbox="966 1753 1356 1785">Under the Interpolation method, the</p>

Term	Description
	prepayment speeds increase gradually. In this example, the Interpolated prepayment rate of an instrument aged 30 months is 12.5%. This is exactly halfway between the 10% and 15% rate. However, under the Range method, the Prepayment speeds increase in steps. Using the Range method, the prepayment rate is 10%, as this rate percentage would apply to the range from 24 months to 35.9999 months.
Nodes	Exact points for each dimension where attribute information has been defined.

1. Navigate to the Prepayment Model summary page.
2. Complete standard steps for this procedure. See: Creating Rules, page 22-2

### Procedure to Define the Structure of the Prepayment Model

The Prepayment Model consists of the Prepayment Dimensions and the Bucket Values for these Dimensions which you select on this page. To define the prepayment model structure, you can select a maximum of three prepayment dimensions. Once the dimensions and the number of buckets (tiers) are defined, you need to assign values to the buckets.

**Note:** You can use the analogy of a three dimensional table to understand how to deal with the prepayment dimensions. The first dimension you select would resemble the row (X-axis). The second dimension would act as the column (Y-axis). The final third dimension will be the page (Z-axis).

3. Select the first Dimension.
4. Select a lookup method for that Dimension.
5. Enter the number of Buckets for the Dimension.  
This number may vary from dimension to dimension.
6. If required, repeat the previous three steps for up to two additional Dimensions.

**Important:** There are certain restrictions while defining Dimensions:

- You must select the Dimension type for a row and define the values for that dimension.
- You cannot define the second (row) dimension until you have defined the first (row) dimension. Similarly, the third dimension cannot be defined until you have defined the first two dimensions.

7. Click Apply.

The Define Dimensions page is refreshed. You can now assign the bucket values for each dimension. At this point, you can also modify the structure of the table, if required.

**Modifying the Table Structure**

- To add more buckets to a particular Dimension, update the number of buckets for the Dimension and click Apply.
- To delete buckets from a particular Dimension, reduce the number of buckets to the desired value and click Apply.

**Note:** To change the lookup method of a particular Dimension, select the required method from the corresponding list of methods from the Dimensions tab.

**Procedure to Assign Bucket Values**

8. Assign values for each of the buckets.

9. Click Apply.

The Prepayment Model, Prepayment Dimensions, and Buckets are saved.

10. Enter the Prepayment Rates in the Prepayment Model.

Bucket values for the row and column dimensions are displayed as a table, while the bucket values for the page dimensions (if selected) are shown in the drop down list.

11. Repeat the process for all bucket values of the page driver. To change the bucket value along the page driver, select the required value from the drop-down list.

**Note:** Bucket values will be displayed in the drop-down list only if you selected three drivers.

12. Click Apply. The Prepayment Rates are saved and the Prepayment Model Rule summary page is displayed.

## Related Topics

Prepayment Model Method, page 13-17

Standard Navigation Paths, page C-1

Overview of Prepayment Model Rules, page 23-1

## Editing Prepayment Models

As part of editing Prepayment models, you can modify Prepayment rates and the structure of the Prepayment Model. You can also modify the lookup methods (Range or Interpolation), the number of Buckets, and the actual values of the Buckets. However, if you update the dimensions your previously entered prepayment rate data may be lost.

### Prerequisites

- Predefined Prepayment Models.

### Procedure:

1. Search for the Prepayment Model, which you want to edit. See: Searching for Rules, page 14-4.
2. Select the check box next to the Prepayment Model and select the Edit icon.  
The Prepayment Model will open in Edit mode.

### Procedure to Update Rates

1. Modify the Prepayment Rates in the table as required. See Editing Prepayment Rates in a Prepayment Model, page 23-8

### Procedure to Update Dimensions Values

1. Click Update Dimensions Values.  
The Update Dimensions page is displayed.
2. Update the structure as required.
  - To add more Nodes to a particular Dimension, update the number of Nodes for the Dimension and click Go.
  - To delete Nodes from a particular Dimension, click the delete icon corresponding to the Node.

**Note:** Nodes cannot be deleted by reducing their numbers. Also, all Nodes cannot be deleted and at least one Node must exist in each Dimension.

- To change the method of a particular Dimension, select the required method from the corresponding list.

- To change the value of a Node, update the value in the corresponding field.
3. Click Apply.  
The Prepayment Model summary page is displayed.

## Related Topics

Prepayment Model Method, page 13-17

Standard Navigation Paths, page C-1

Overview of Prepayment Model Rules, page 23-1

## Editing Prepayment Rates in a Prepayment Model

Once the basic structure of the prepayment model has been created, prepayment rates can be added to, or modified for, each of the bucket values along the chosen dimensions. Use this procedure to add or edit annual prepayment rates in the prepayment model.

### Procedure:

1. Search for the Prepayment Model, for which you want to define prepayment rates.  
See: Searching for Rules, page 14-4
2. Select the check box next to the Prepayment Model and select the Edit icon.  
The Prepayment rate input page is displayed.
3. Enter the Prepayment Rates in the Prepayment Model for the required dimensions.  
Node values for the row and column dimension are displayed as a table on the Prepayment rate input, while the node values for page dimension (if selected) are shown in the drop down list.
4. Repeat the process for all node values of the page dimension. To change the node value along the page dimension, select the required node value from the drop-down list.

**Note:** Node values will be displayed in the drop-down list only if you selected three dimensions. If prepayment rates are left blank for any of the dimensions, prepayment rates are assumed to be zero.

5. Click Apply.

The table with updated prepayment rates is saved.

6. Click Save.

All updates to the Prepayment Model are saved and the Prepayment Model summary page is displayed.

### Excel Import/Export:

Excel import/export functionality is used for adding/editing prepayment rate information. For more details, refer Excel Import/Export, .

## Related Topics

Prepayment Model Method, page 13-17

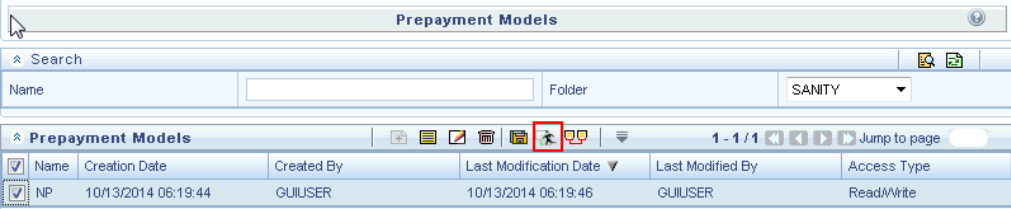
Standard Navigation Paths, page C-1

Overview of Prepayment Model Rules, page 23-1

## Prepayment Rate Data Loader

The Prepayment Rate Loader procedure populates prepayment model rates in OFSAA metadata tables from staging tables. This loader program can be used to update the prepayment model rates on a periodic basis. For more information on setting up the automated process, see *Oracle Financial Services Analytical Applications Data Model Utilities User Guide*.

To execute the Data loader process, click the Data Loader icon on the Prepayment Models rule bar. The process will load all of the data included in the staging tables as defined in the Data Model Utilities User Guide.



The screenshot shows the 'Prepayment Models' interface. At the top, there is a search bar and a folder dropdown menu set to 'SANITY'. Below that is a toolbar with various icons, including a red box around the Data Loader icon. The main area contains a table with the following data:

<input checked="" type="checkbox"/>	Name	Creation Date	Created By	Last Modification Date	Last Modified By	Access Type
<input checked="" type="checkbox"/>	NP	10/13/2014 06:19:44	GUIUSER	10/13/2014 06:19:46	GUIUSER	Read/Write





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## Discount Methods

This module describes the procedure for working with and managing Discount Method rules.

This chapter covers the following topics:

- Overview of Discount Method Rules
- Creating Discount Method Rules
- Defining Discount Method Rules

### Overview of Discount Method Rules

Discount Method rules allow users to define the method for discounting projected cash flows for market value and duration calculation purposes. For each combination of product and currency, you can choose one of the following discount methods:

- Spot Input
- Spot Interest Rate Code
- Forecast (Original Term)
- Forecast (Remaining Term)
- Effective Interest Rate

The methodologies contained in the Discount Method rules are referenced by the Hedge Management Process. See *Defining Discounting Methods*, page 13-24

The procedure for working with and managing Discount Method rules is similar to that of other Hedge Management business rules. It includes the following steps:

- Searching for Discount Method rules. See: *Searching for Rules*, page 14-4
- Creating Discount Method Rules, page 24-2

- Viewing and Editing Discount Method rules. See: Viewing and Editing Rules, page 14-6
- Copying Discount Method rules. See: Copying Rules, page 14-6
- Deleting Discount Method rules. See: Deleting Rules, page 14-7

As part of creating and editing Discount Method rules, you assign Discounting methodologies to applicable products. See: Defining Discount Methods, page 24-3

**Note:** Oracle Hedge Management provides you with the option to copy, in total or selectively, the product assumptions contained within HM business rules from one currency to another currency or a set of currencies or from one product to another product or a set of products. See: Copying Assumptions across Currencies and Products, page 20-5

## Creating Discount Method Rules

You create a Discount Methods rule to assign Discounting Methods to your products.

### Procedure:

1. Navigate to the Discount Methods rule summary page.
2. Complete standard steps for this procedure. See: Creating Rules, page 14-5

**Important:** In addition to the standard steps for creating rules, the procedure for creating a Discount Methods rule involves one extra step. After Standard Step 6, you need to select a product hierarchy.

You can define methodologies at any level of the hierarchical product dimension. The hierarchical relationship between the nodes allows inheritance of methodologies from parent nodes to child nodes.

## Related Topics

Overview of Discount Method Rules, page 24-1

Standard Navigation Paths, page C-1

## Defining Discount Method Rules

The definition of a Discount Methods rule is part of the Create or Edit Discount Methods rule process. When you click Save in the Create Discount Methods rule process, the rule is saved and the Discount Methods rule summary page is displayed. However, Discount Method assumptions have not yet been defined for any of your products at this point. Typically, you would start defining your Discount Method assumptions for product-currency combinations before clicking Save.

## Defining Discount Methods Using Node Level Assumptions

Node Level Assumptions allow you to define assumptions at any level of the Product dimension Hierarchy. The Product dimension supports a hierarchical representation of your chart of accounts, so you can take advantage of the parent-child relationships defined for the various nodes of your product hierarchies while defining rules. Children of parent nodes on a hierarchy automatically inherit the assumptions defined for the parent nodes. However, assumptions directly defined for a child take precedence over those at the parent level.

## Prerequisites

- Performing basic steps for creating or editing a Discount Methods rule, page 24-2

## Procedure:

From the Assumption Browser screen, select the product(s) and the currency for which you want to define a discount method(s) and select the "Add New" button to launch the Discount Method Details screen.

**Hint:** Using the default currency to setup assumptions can save data input time. At run time, the calculation engine uses assumptions explicitly defined for a product currency combination. If assumptions are not defined for a currency, the engine uses the assumptions defined for the product and the default currency. If the assumptions are

the same across some or all currencies for a specific product, you can input assumptions for the default currency. Be careful using this option on screens where an Interest Rate Code is a required input. In most cases, you will want to use a currency specific discount curve for discounting instruments within each specific base currency. The Default Currency option, if used will apply a selected Interest Rate Code across all currencies.

## The Discount Method Details screen

The screenshot shows the 'Discount Method Details' screen. At the top, it indicates the active time bucket as 'Manuel\_Bug\_1594825\_hatton' and the current date as 'As Of Date: 05/12/11'. The screen is divided into several sections:

- Discount Method Details:** Includes fields for 'Name' (containing 'New\_Test') and 'Description'.
- Product and Currency Details:** Includes 'Product' (set to '3\_50 TH Lease 700102') and 'Currency' (set to 'Albanian Lek').
- Assumption Details:** Includes 'Discount Method' (set to 'Forecast Remaining Term') and 'Cash Flow Interest Type' (set to 'Net Rate').
- Cash Flow Definition Details:** Includes radio buttons for 'Interest Only' (selected) and 'Principal and Interest', and a checkbox for 'Mature at Repricing'.
- Interest Rate Assumptions:** Includes 'Interest Rate Code' (set to 'ALLI FTP\_SANITY\_RC (6795)') and 'Interest Rate Parameters' with 'Input Rate' and 'Rate Spread' (set to '0.000000').

At the bottom of the screen, there are 'Apply' and 'Cancel' buttons.

## Discount Method

Select a method from the Discount Method list:

- Spot Input
- Spot Interest Rate Code
- Forecast (Original Term)
- Forecast (Remaining Term)
- Effective Interest Rate

The following table describes the methods and rate choices:

Method	Single Rate	Yield Curve
Spot Input	Discounts all cash flows by the Input Rate	Not applicable

Method	Single Rate	Yield Curve
Spot Interest Rate Code	Not applicable	Discounts each cash flow period by the equivalent term rate on the base yield curve chosen (the yield curve as of the start date selected in your HM Application Preferences). The term is defined by the remaining term of the cash flow.  Refer Note, page 24-5
Forecast (Original Term)	Not applicable	Discounts each cash flow period by the forecasted value of the point on the yield curve corresponding to each transaction record's original term.  Refer Note, page 24-5
Forecast (Remaining Term)	Not applicable	Discounts each cash flow period by the forecasted value of the point on the yield curve corresponding to the remaining term until each cash flow.  Refer Note, page 24-5
Effective Interest Rate		Discounts each cash flow by the effective interest rate which takes into consideration the premium or discounts and related fees.

**Note:** In the case of Spot Interest Rate Code, Forecast (Original Term) and Forecast (Remaining Term) methods, if the term point is not available, the engine will use linear interpolation to determine the interest rate to discount cashflows.

## Cash Flow Definition Details

The Cash Flow Definition Details section is used in unique instances to specify the

portion of the cash flow that is used to calculate a market value. Select from the following:

- Interest Only - ignores all principal runoff for market value purposes. Use this option for off-balance sheet items where principal is equal to notional principal, and is therefore not a true cash flow.
- Mature at Repricing - calculates a market value for a given transaction up to the repricing date. For market value purposes only, the transaction is assumed to mature on the repricing date.

## Cash Flow Interest Type

The Cash Flow Interest Type determines which interest component is included in the cash flow definition. The Cash Flow Interest Type can be one of three values:

- Net Rate
- Gross Rate
- Transfer Rate

For typical processing, you will use the Net Rate for the interest component of the cash flow. Special processing objectives, such as valuation of the funding center, may require you to use the other cash flow interest types.

## Interest Rate Parameters

One of the following interest rate parameters is available depending on which discount method you select:

- Input Rate - available when you select Spot Input. Type the rate you want to use for market value calculations.
- Rate Spread - available when you select Spot Interest Rate Code, Forecast (Original Term) and Forecast (Remaining Term). Type the percentage difference (+ or -) between the selected rate index and the value you want to use for the discount rate(s) within market value calculations.

## Defining a Discount Methods Rule Using Spot IRC: An Example

Define a Discount Methods rule for Total Loans using the spot IRC method.

1. From the Assumption Browser, select Currency (US Dollar) and Total Loans.
2. Select "Add New" to enter the Assumption Details page.
3. From the Discount Method list, select Spot IRC.

- From Interest Rate Code list, select an appropriate Interest Rate Code.

The list of Interest Rate Codes depends on the selected currency. If the selected currency is the default currency, all Interest Rate Codes appear. For other currency selections, the list of interest rate codes includes only interest rate codes whose reference currency is the same as the selected currency.

- Input a Rate Spread, type 1.0000.

A spread of 1% returns a discount rate of 1.00% above the reference interest rate. Type a negative number for a spread below the reference interest rate.

The screenshot shows a web-based form for configuring discount methods. The form is organized into several sections:

- Discount Methods Details:** Name: New\_Test, Description: (empty).
- Product and Currency Details:** Product: 3\_50 TH Leaf700102, Currency: Albanian Lek.
- Assumption Details:** Discount Method: Spot IRC, Cash Flow Interest Type: Net Rate.
- Cash Flow Definition Details:** Radio buttons for Interest Only (selected), Principal and Interest, and Mature at Repricing.
- Interest Rate Assumptions:** Interest Rate Code: [ALL] FTP\_SANITY\_IRC (6795), Interest Rate Parameters: Input Rate (empty), Rate Spread: 0.000000.

Buttons for 'Apply' and 'Cancel' are visible at the bottom of the form.

- From Cash Flow Interest Type, select Net Rate.
- Under Cash Flow Definition Details, use the default – Principal & Interest selection.
- Select **Apply** to commit the assumption and return to the Assumption Browser page.

**Note:** You can select more than one product at a time from the Assumption Browser page. After applying assumptions and returning to the Assumption Browser, notice in the above screenshot, that all of the children listed below the parent member have "inherited" the Spot IRC assumption.

- When Discount Method assumptions are defined for all required product / currency combinations, select **SAVE** from the Assumption Browser page.

## Discount Rate Method Examples

The following examples assume **the interest rate has a format of zero coupon yield with annual compounding.**

The instrument used in each example is an annual-pay, 2-year instrument originated on the as\_of\_date. See the *Oracle Financial Services Cash Flow Engine Reference Guide* for details on discount factor derivation used in cash flow calculations.

## Spot Input

In the Spot Input method, the discount factor does not vary with Forecast Rate - interest rate scenarios. The discount factor calculations assume the input interest rate to reflect a format of zero coupon yield, annual compounding, and actual/actual accrual basis.

### Example

Spot Input Rate = 6.00%

The formula for the market value of the account, for any rate scenario, is:

$$\text{Market Value} = \text{Cash Flow}_1 / (1 + 0.06) + \text{Cash Flow}_2 / ((1 + 0.06)^2)$$

Cash Flow<sub>1</sub> is the cash flow at the end of year 1. Cash Flow<sub>2</sub> is the cash flow at the end of year 2.

## Spot Interest Rate Code

In the Spot Interest Rate Code method, the discount factor depends on the term of the cash flow, but does not vary with interest rate scenario.

### Example

Interest Rate Code = Treasury Yield Curve

The formula for the market value of the account, for any rate scenario, is:

$$\text{Market Value} = \text{Cash Flow}_1 / (1 + 1 \text{ Year Treasury}) + \text{Cash Flow}_2 / ((1 + 2 \text{ Year Treasury})^2)$$

Cash Flow<sub>1</sub> is the cash flow at the end of year 1. Cash Flow<sub>2</sub> is the cash flow at the end of year 2. The values for 1 Year Treasury and 2 Year Treasury reflect the values from the historical interest rate data, beginning with the `as_of_date`.

## Forecast Remaining Term

The Forecast Remaining Term method uses forecasted interest rate data to determine the discount factor.

### Example

Interest Rate Code = Treasury Yield Curve

The formula for the market value of this account is:

$$\text{Market Value} = \text{Cash Flow}_1 / (1 + 1 \text{ Year Treasury Rate at the 1 year point in the forecast}) + \text{Cash Flow}_2 / ((1 + 2 \text{ Year Treasury Rate at the 2 year point in the forecast})^2)$$

Cash Flow<sub>1</sub> is the cash flow at the end of year 1. Cash Flow<sub>2</sub> is the cash flow at the end of year 2. The values for 1 Year Treasury and 2 Year Treasury reflect the scenario specific values from the forecast rates - interest rate data. Cash Flow<sub>1</sub> is discounted at the 1 year Treasury rate, from the 1 year point of the forecast and Cash Flow<sub>2</sub> is discounted at the 2 year Treasury rate, from the 2 year point of the forecast.



### **Forecast Original Term**

The Forecast Original Term method uses the forecasted interest rate data to determine the discount factor.

#### **Example**

Interest Rate Code = Treasury Yield Curve

The formula for the market value of the account is:

Market Value =  $\text{Cash Flow}_1 / (1 + 2 \text{ Year Treasury Rate at the 1 year point in the forecast})$   
+  $\text{Cash Flow}_2 / ((1 + 2 \text{ Year Treasury Rate at the 2 year point in the forecast})^2)$

Cash Flow<sub>1</sub> is the cash flow at the end of year 1. Cash Flow<sub>2</sub> is the cash flow at the end of year 2. Note that Cash Flow<sub>1</sub> is discounted at the 2 year Treasury rate. The 2 Year rate is used with this method, because the Forecast Original Term method always uses the term equivalent to the original term of the instrument.

### **Effective Interest Rate**

The Effective interest rate (EIR) method uses the effective interest rate calculated for the instrument. EIR utilizes the premium or discount (deferred\_amount) plus any related fees (Fees\_EIR)



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## HM Valuations Processing

When all the required assumptions are defined, HM Processing performs calculation processes and generates a result set.

The Process Rule guides you through the required inputs on the process flow screen.

This chapter covers the following topics:

- Overview of HM Processes
- Creating an HM Process Rule
- Executing an HM Process

### Overview of HM Processes

HM Processes allow you to perform the following tasks:

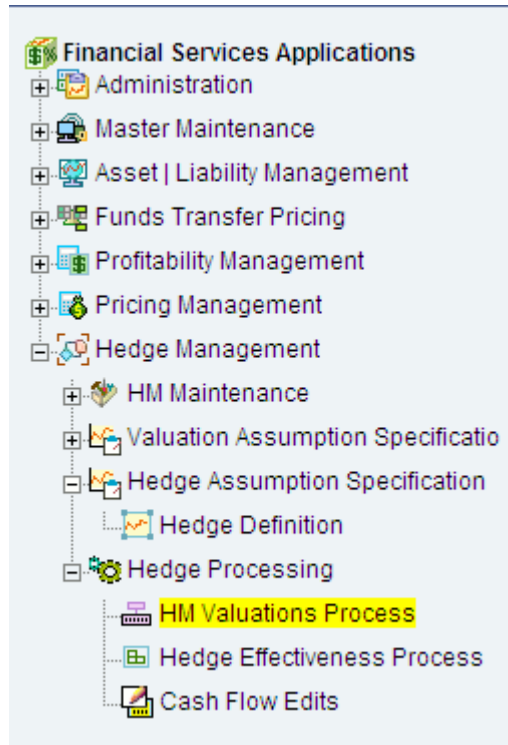
- Determine the data that you want to process (Product Hierarchy block).
- Submit to the HM processing engine the financial element results you want to calculate: (Calculation Elements).
- Specify to the HM processing engine the product characteristics, prepayments, discount methods and forecast rate assumptions to be used in the process (Rule Selection blocks).
- Define the output dimension and what additional attributes you want updated at the instrument level (Output Preferences block).
- Enable the output of detailed cash flows or forecast interest rates for audit purposes (Audit Options block).
- Define the processing parameters for a reprocess on an existing run or an entire new process (Processing Parameters block).

- Formulate and execute the HM processing request and generate results (HM Process Summary Page).

## Creating an HM Process Rule

To define an HM Process Rule, complete the following steps:

1. Select HM Valuations Process option.



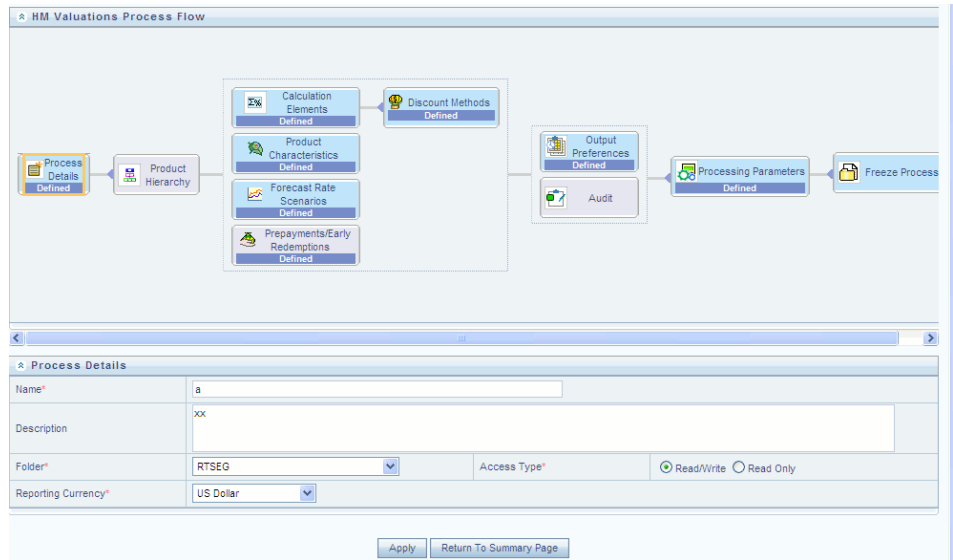
2. From the Summary Page, click the "Add New" icon.
3. The process will take you through a series of required steps to define the flow. For each of the blue highlighted boxes in the process flow area, you are required to make a selection.

**Note:** The gray boxes are optional but will have an effect on the result set if defined

### Creating an HM Process Rule:

1. Fill in the necessary details in the Process Details block:
  1. Name

2. Folder and Reporting Currency from respective drop down menus
3. Click "Apply". The process will take you to the Product Hierarchy selection options.



2. In the product Hierarchy Block,
  1. Select a Product Hierarchy and select nodes from the hierarchy corresponding to data you want to include in the process, OR
  2. Alternatively, select the Source Selection button, and select the instrument tables corresponding to the data you want to include in the process.
  3. Select a Filter (optional), to further constrain the data to be included in the process. Filters work as a secondary constraint, applied after the data set is determined based on Product Hierarchy member selection or Source Selection.

**Important:** Before using the product hierarchy approach for selecting data to include in your process, there is a procedure that must be run ("PRODUCT TO INSTRUMENT MAPPING"). This procedure can be executed from the Batch Scheduler – Run - interface.

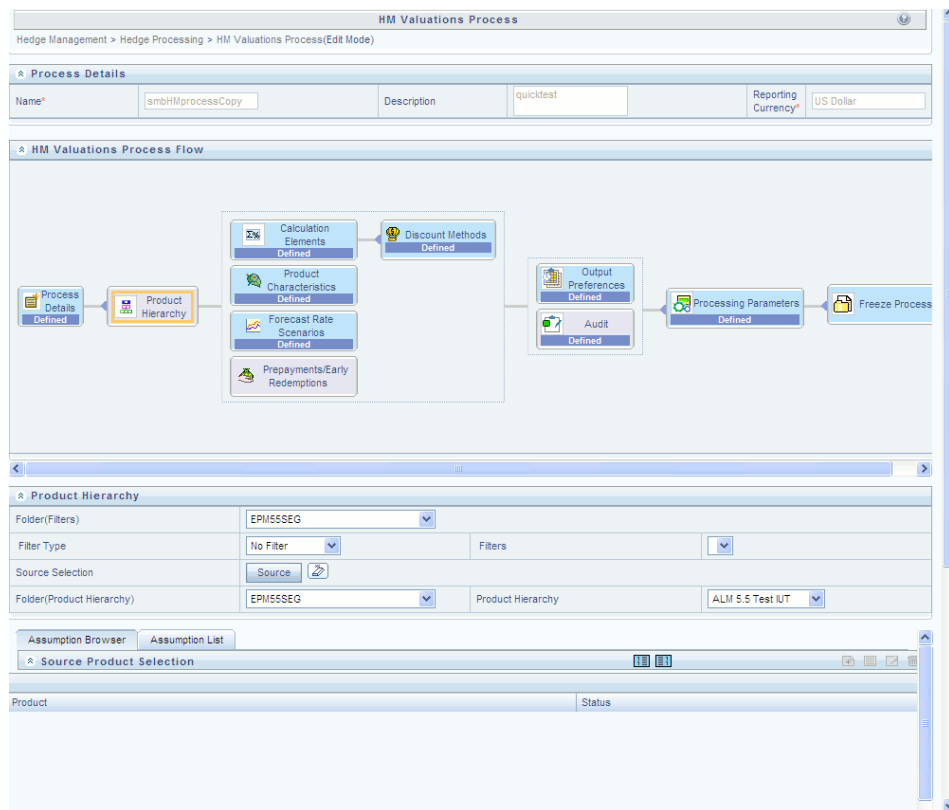
The purpose of the Product to Instrument mapping procedure is to scan all instrument tables (FSI\_D\_XXX) and populate the mapping table ( "FSI\_M\_PROD\_INST\_TABLE\_MAP" ) with a listing of the product dimension members that exist within each instrument table. When you select Products (parents or children) within an HM or ALM or FTP process definition, the

process refers to this mapping table to identify the instrument tables to include in the process.

It is recommended that you establish an internal process whereby this procedure is executed after every data load to ensure that mappings are up to date.

**Related Topics:**For more information on Product to Instrument mapping procedure, see *Oracle Financial Services Analytical Applications Data Model Utilities User Guide*.

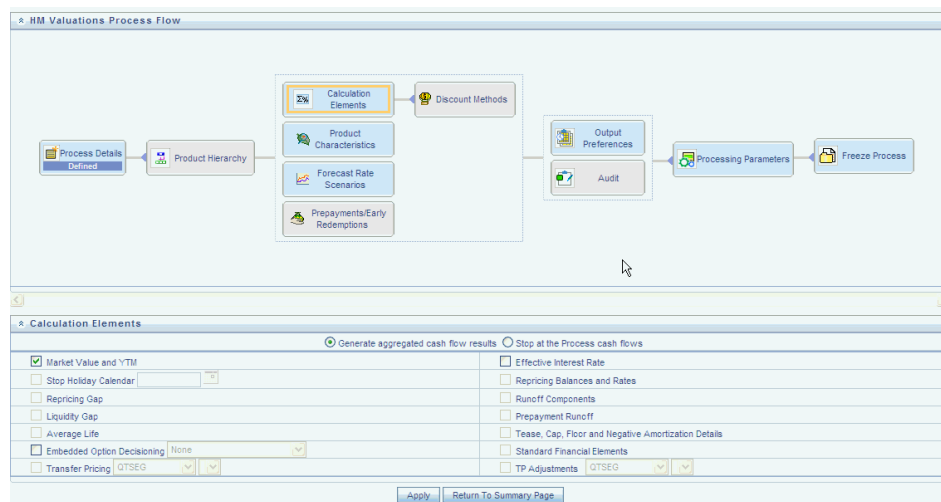
4. Select apply.



3. Rule Selection Blocks – The boxes in blue with the yellow highlight are required for the definition of the process.
  1. Choose the calculation elements to include in the process run: Market Value and YTM, and Effective Interest Rate.
  2. Click "Apply".
  3. If Market Value is chosen from step 1 above, the Discount Methods box will

become highlighted blue and need to be defined (see Discount Methods, , for rule set up). If no market value chosen, continue to step 5 below.

4. Select from the discount methods box the desired method (see Discount Methods, page 24-3, for set up) and click "Apply".
5. From the Product Characteristics bar, select the desired definition and click "Apply" (see Product Characteristics, page 20-3, for rule definition).
6. Select the Forecast Rates rule you want applied to the process, and click "Apply ". (see Forecast Rate Scenarios, page 21-1, to set up rate scenarios). The flow will now take you to output preferences. Or, if you want to add a prepayment rule to the process, continue to step 7 below.
7. Click the Prepayments/Early Redemptions box and choose the defined prepayment rule (see Prepayment Rules, page 22-1). This is an optional step.



#### 4. Output Preferences options

1. Select the output dimension from the drop down list (Options include: Product, Product/Currency, Organization/Product, Organization/Product/Currency).
2. Depending on the dimension chosen, you can Consolidate to Reporting Currency by checking the box if the dimension Product /Currency or Organization/Product/Currency was chosen.
3. You also have the option to update the Instrument Data Tables with financial measures by checking the box of the desired calculated item (Market Value, Macaulay Duration, Modified Duration, Convexity, Yield to Maturity, Average Life) as well as fair value output and Effective Interest Rate.

**Note:** Here, fair value output will be updated to FCT\_ACCOUNT\_FAIR\_VALUE table from FSI\_O\_FAIR\_VALUE table. Following three tasks are performed here:

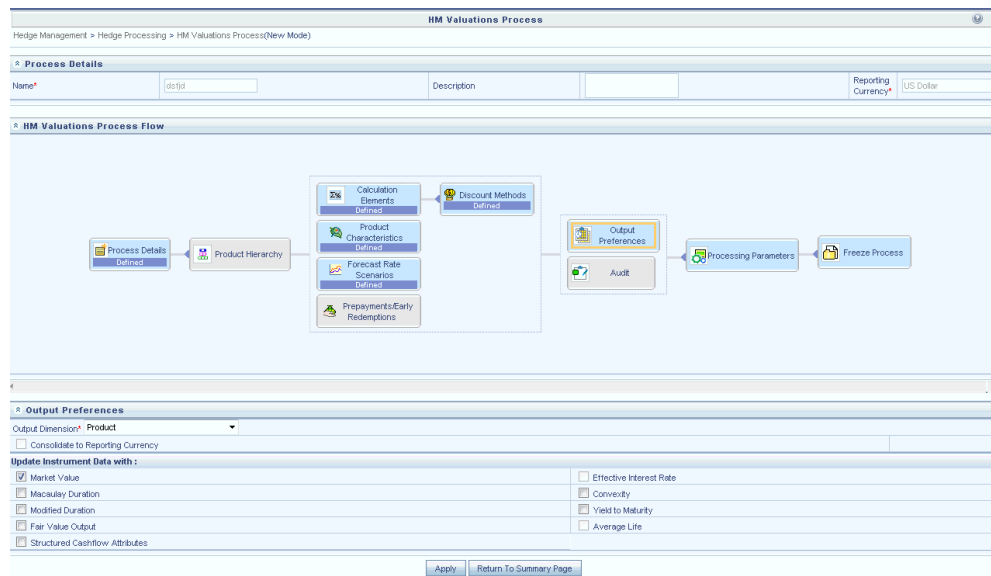
- Task1 HM Valuation Process: This task will call the engine to populate the FSI\_O\_FAIR\_VALUE table.
- Task2 TRANSFORM DATA: This task will populate DIM\_RUN table.
- Task3 TRANSFORM DATA: This task will populate the FCT\_ACCOUNT\_FAIR\_VALUE table.

Market value in fair value tables is translated to face value of 100 by using the following:  
 Market Value (in fair value) =  $MV * 100 / cur\_par\_bal$

Hence, the Market Value in fair value table appears to be lower when compared to result\_master table.

FSI\_O\_FAIR\_VALUE\_LEG has Market Value at leg level (pay and receive), where as the Market Value in FSI\_O\_FAIR\_VALUE table is net of these leg level Market Values.

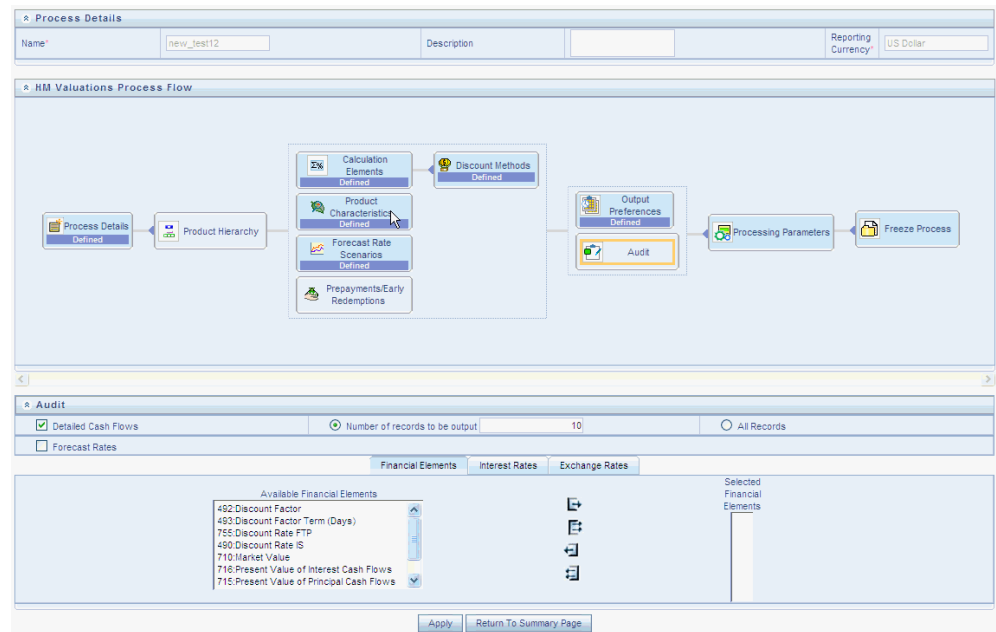
4. Click "Apply" after the page is defined. The process will take you to the Processing Parameters section. Or you can click the audit box for the following options: If no audit options are required, skip to #6, Processing Parameters.



5. Audit Preferences (optional)
  1. Detailed Cash Flow: Check the box to record the cash flows and repricing events occurring for the desired number of records processed. For each record, daily results are written to the FSI\_O\_PROCESS\_CASH\_FLOWS table. The data in this table uses the RESULT\_SYS\_ID, which identifies the Process used. Select from the options below:
    - Input the desired number of Records in the dialog box



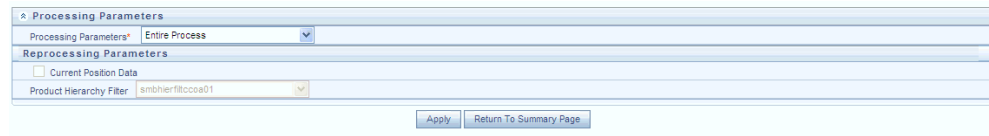
- Select all records to be output.
  - In the financial elements tab below, you have the option to select the FE's you want to output in the detail cash flows table. Highlight the items in the available section and move selection over to the selected section.
  - Click apply, or go to step 2 for Forecast rates output.
2. Forecast Rates: Select Forecast Rates to write forecast exchange or interest rates results to the following tables: FSI\_EXCHANGE\_RATES\_AUDIT and/or FSI\_INTEREST\_RATES\_AUDIT. For more information on the table structures, see the *Oracle Financial Services Analytical Applications Data Model Data Dictionary*.
- Highlight items from the available code section for the desired forecast type (Interest Rate or Exchange Rate) and move selection (or all) to the selected items box.
  - Click "Apply" and the screen will take you to Processing Parameters.



6. Processing Parameters:
1. The processing parameters allow you to run an entire process or re-process a portion of an existing run. From the drop down list, select Entire Process or Selective Reprocess.
  2. If Selective Reprocess is selected, you can click the box "Current Position Data"

to reprocess that particular data set. With selective reprocessing you can run a subset of the process to replace invalid products and to add new products. With Selective Reprocess, the Reprocessing components are enabled to selected components for reprocessing. When the Process Rule is executed, the data in the result tables are not immediately deleted. The data for the selected subset is replaced, but the rest of the results remain intact.

3. Select the desired product Hierarchy Filter from the drop down list to indicate which products should be re-processed.
4. Click "Apply" and the screen will take you to Freeze Process section.



7. Freeze Process
  1. Select Freeze to complete the process.
  2. Select Reset to erase all selections made previously within the process definition flow.
  3. Select Confirm.

## Executing an HM Process

To run a Process ID, complete the following steps:

1. Choose Process/Run from the list under the process bar.
2. Click the run icon to execute the process.
3. A popup window will appear including the execution ID. Click OK.
4. When the Status "View Log" appears, the run is complete.  
**Hint:** Click the refresh grid button to see the change in status.
5. Click the "View Log" status to ensure run was complete.
6. To view the error log, click the "Task id" number in the view log page.

---

## Hedge Management Effectiveness Process

This chapter covers the following topics:

- Overview of Effectiveness process
- Creating an Effectiveness process
- Executing an Effectiveness process

### Overview of Effectiveness process

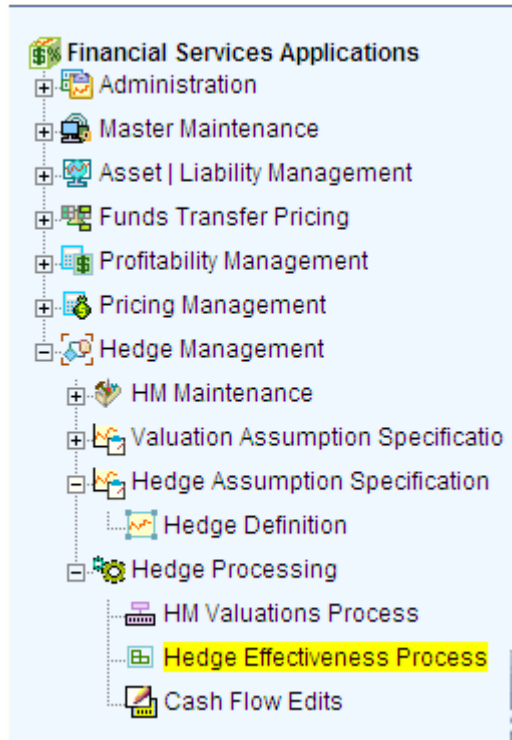
HM Effective Processes allow you to perform the following tasks:

- Determine the name, location, and access type of process rule that you want to perform (Process block).
- To select the Hedge definition (Hedges block)
- Submit to the HM engine the prospective and retrospective processing types
- Formulate and execute the HM processing request and generate results (HM Process Summary Page).

### Creating an Effectiveness process

To define an HM Effective Process Rule, complete the following steps:

1. Choose Hedge Effectiveness Process from the menu bar.



2. From the Summary Page, click the "Add New" icon.
3. The process will take you through a series of required steps to define the flow. For each of the blue highlighted boxes in the process flow area, you are required to make a selection.

**Note:** The gray boxes are optional but will have an effect on the result set if defined.

4. Fill in the necessary details in the Process Details block:
  1. Name
  2. Folder from respective drop down menu
  3. Select the Access Type as "Read/Write" or "Read Only".
  4. Click "Apply". The process will take you to the Hedges selection.

Active Time Bucket: tim Hedge Effectiveness Process Net Change Date: 12/11/2012  
 Hedge Management > Hedge Processing > Hedge Effectiveness Process

Process Details

Name:  Description:

Hedge Effectiveness Process Flow

Process Details → Hedges → Calculation Elements → Freeze Process

Process Details

Name: test  
 Description:   
 Folder: ERM1SEG Access Type:  Read/Write  Read Only

Apply Return To Summary Page

Audit Trail User Comments

System ID:  
 Created By:  Creation Date:   
 Last Modified By:  Last Modification Date:

5. In the Hedges Block,

1. Select the Hedge definition using the respective check box.

Active Time Bucket: tim Hedge Effectiveness Process Net Change Date: 12/11/2012  
 Hedge Management > Hedge Processing > Hedge Effectiveness Process

Process Details

Name: test12 Description:

Hedge Effectiveness Process Flow

Process Details Defined → Hedges → Calculation Elements → Freeze Process

Search

Name:  Folder: ERM1SEG

Hedges

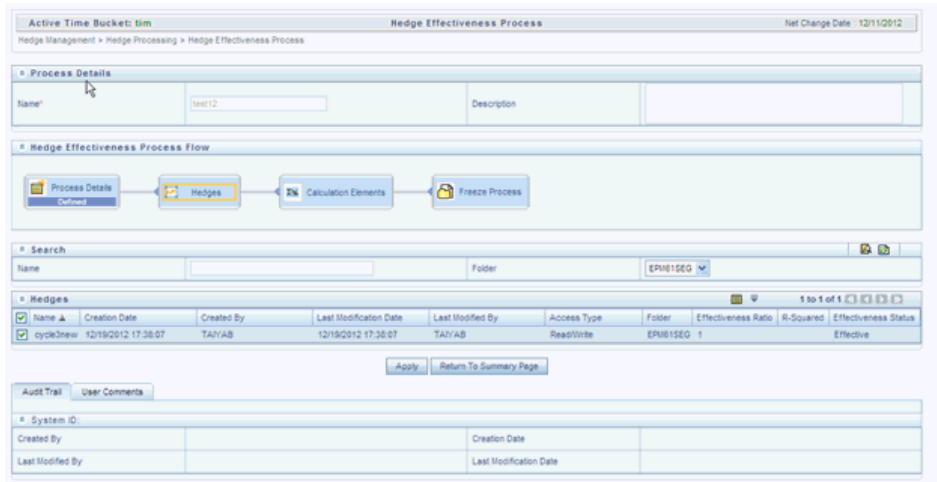
<input type="checkbox"/>	Name	Creation Date	Created By	Last Modification Date	Last Modified By	Access Type	Folder	Effectiveness Ratio	R-Squared	Effectiveness Status
<input type="checkbox"/>	cycle3new	12/19/2012 17:38:07	TAIYAB	12/19/2012 17:38:07	TAIYAB	Read/Write	ERM1SEG	1		Effective

Apply Return To Summary Page

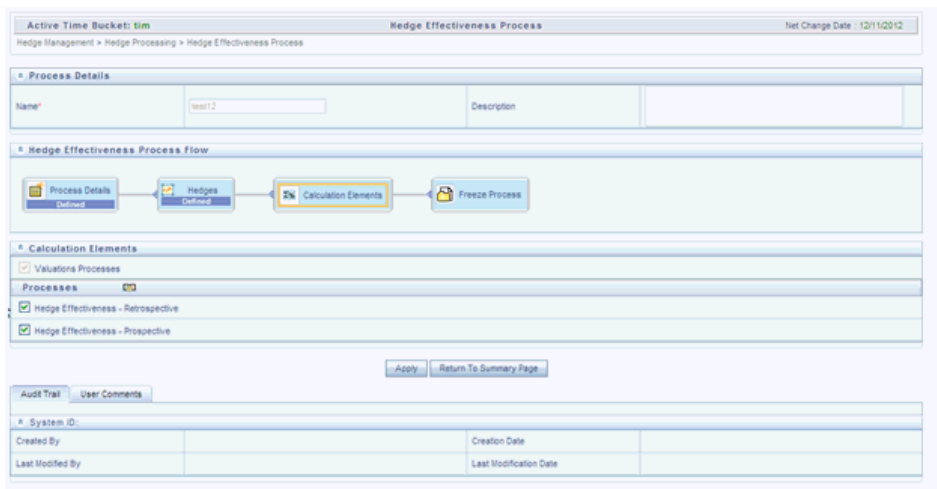
Audit Trail User Comments

System ID:  
 Created By:  Creation Date:   
 Last Modified By:  Last Modification Date:

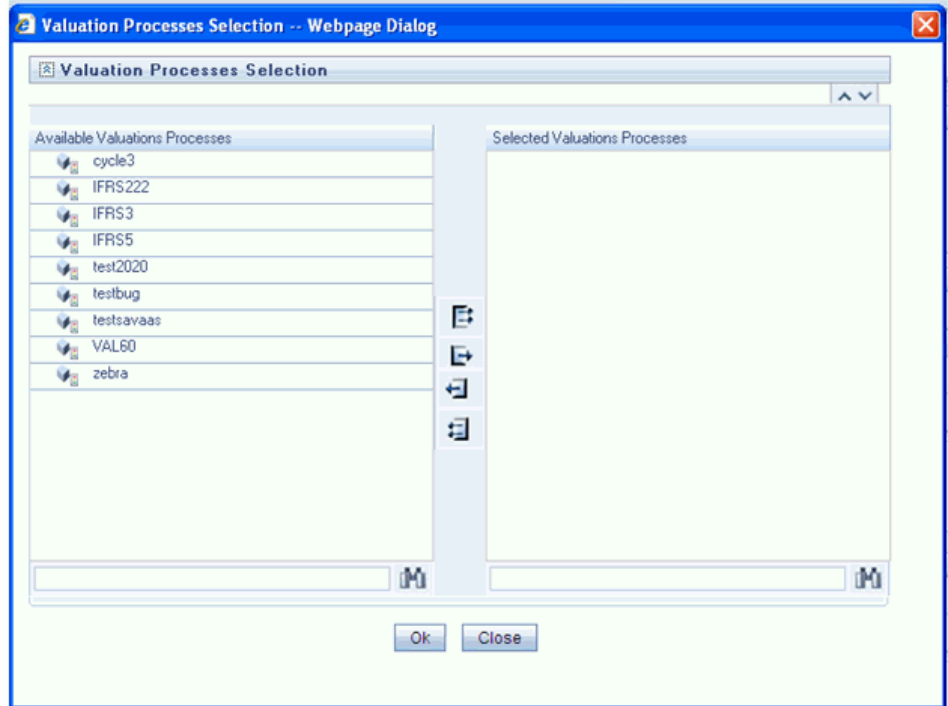
2. Click "Apply". The process will take you to the Calculation Element selection.



3. Rule Selection Blocks – The boxes in blue with the yellow highlight are required for the definition of the process.



6. In Calculation Block,
  1. Select a valuation process.



2. Select the Effectiveness of a Hedge. It can be either Retrospective Effectiveness calculation or Prospective Effectiveness calculation or both.

**Note:** Note: These calculation types are defined under the Hedge Definition.

3. Select Apply.
7. Freeze Process
  1. Select Freeze to complete the process.

Active Time Bucket: tim Hedge Effectiveness Process Net Change Date: 12/11/2012  
Hedge Management > Hedge Processing > Hedge Effectiveness Process

**Process Details**

Name: test12 Description:

**Hedge Effectiveness Process Flow**

Process Details (Defined) → Hedges (Defined) → Calculation Elements (Defined) → Freeze Process

**Freeze Process**

Freeze  Reset

Apply Return To Summary Page

**Audit Trail** User Comments

System ID: 1000064290

Created By	EPMS1USER	Creation Date	04/02/2013
Last Modified By	EPMS1USER	Last Modification Date	04/02/2013

2. Select Reset to erase all selections made previously within the process definition flow.
3. Select Apply.

## Executing an Effectiveness process

To run a Process ID, complete the following steps:

1. Choose Process/Run from the list under the process bar.
2. Click the run icon to execute the process.
3. A popup window will appear including the execution ID. Click OK.
4. When the Status "View Log" appears, the run is complete.

**Tip:** Click the refresh grid button to see the change in status.

5. Click the "View Log" status to ensure run was complete.
6. To view the error log, click the "Task id" number in the view log page.



---

## Hedge Definition

### Overview of Hedge Definition

The Hedge Definition allows user to define a hedging relationship for one product or for a group of products at a time. You can select the group of products through the Filter and product selection. The measurement methodology to test the effectiveness of the hedge is also specified.

**Note:** You will need to set up the proper filter rule definitions for each of the hedged instruments and hedging items in the Master Maintenance Filter Definition UI.

To define a new hedging relationship, this step is mandatory. This step will require a maker-checker workflow. The management of profit/ loss on valuation depends upon the type of hedge. A defined Hedge cannot be edited. At the time of definition, you can test the prospective effectiveness. It allows you to execute the process from this user interface and assess whether the hedge would be effective or not. The hedge comes into existence only if the results are found to be effective, else it does not qualify as an effective hedge.

### Searching for Hedge Definition

Search for a Hedge Definition to perform any of the following tasks:

- View
- Edit
- Copy
- Approve

- Reject
- Delete
- Check Dependencies

## Defining a Hedge Relationship

You can define a hedge for a portfolio of products having some common attributes.

### Procedure:

1. Navigate to the *Hedge Maintenance* summary page.

2. From the Hedge Maintenance bar, select the "Add" icon. The *Hedge Definition* window will display.

Audit Trail		User Comments	
System ID			
Created By	OTUSER	Creation Date	04/08/2013
Last Modified By	OTUSER	Last Modification Date	04/08/2013

### Selected Terminology

Term	Description
Type of Hedge	<p>The hedge is designated as any one of the following:</p> <p>Fair Value Hedge</p> <p>Cash Flow Hedge</p> <p>Net Investment Hedge</p> <p>Cashflow hedge and Fair Value hedge are similar in respect of the evaluation of hedge effectiveness in terms of the differences in the Fair Value. Net Investment hedge will be used in the context of hedge of currency risk in the net investment in a foreign entity</p>
Measurement Methodology of Inception	<p>At the time of Inception of the hedge, the user needs to measure the hedge effectiveness. This can be done using the Critical Terms Match method or Regression. The user has to choose a regression model if he chooses to test using Regression. Alternatively, the user can use the critical terms of the hedged items and hedging instruments such as the tenor and interest rate, match them to arrive at the hedge thereby computing the hedge effectiveness manually. In either method, if the hedge is found to be effective, then the same can be persisted into the system through an approval process.</p> <p>Note: Regression models require AAAI model setup.</p>
Hedge Start Date	Used to define the starting date of Hedge
Hedge End Date	Used to define the end date of Hedge. This cannot be earlier than the start date.

Term	Description
Measurement Methodology Prospective	<p>This is a forward looking test wherein the hedge effectiveness is computed using the prospective fair values of the instruments across different rate scenarios (stress testing). This can be Regression, Variability Reduction or Hypothetical Derivative. For regression testing, user has to setup a regression model in AAAI. The system uses the fair values of the hedged items and hedging instruments to compute the hedge effectiveness using variability reduction. The user can employ the Hypothetical Derivative method and setting up a hypothetical derivative instrument would be required as a pre requisite.</p>
Measurement Methodology Retrospective	<p>This is a historical data based test wherein the hedge effectiveness is computed using the retrospective fair values of the instruments. This can be Regression, Variability Reduction, Hypothetical Derivative or Dollar Offset. For regression testing, user has to setup a regression model in AAAI. The system uses the fair values of the hedged items and hedging instruments to compute the hedge effectiveness using Dollar offset and variability reduction methods. The user can employ the Hypothetical Derivative method and setting up a hypothetical derivative instrument would be required as a pre requisite.</p>
Fair Value selection	<p>Allows user to perform the Fair value computation using either the CFE or the pricing library:</p> <p>Dirty Price</p> <p>Clean price</p>
Effectiveness Type	<p>Effectiveness Testing can be done on a cumulative basis that means Fair Values since the inception till the test date will be used or on a net basis wherein the fair values for the specific periods alone will be used for testing. Note: The net change date is set in the App Preferences UI under 'app specific header'.</p>
<b>Hedge Effectiveness Limit:</b>	

<b>Term</b>	<b>Description</b>
Limit Folder and Limit Name	You set up the limits to benchmark the hedge effectiveness ranges. The limit folder and limit definition fetch the range setup into the screen.
R-Squared (Regression)	This is defined as the percentage of total variation in the dependent variable explained by the independent variable. For example, an R2 value indicates that the variation of the independent variable explains the 63% variation in the dependent variable. The limits set in the limit definition are fetched into the screen for display.
Hedge Effectiveness (Dollar Offset) – Upper Limit and Lower Limit	These are the placeholders displaying the upper and lower limits for hedge effectiveness set in Limit Management screen against Dollar Offset method. If the calculated value using Dollar offset method is within the upper and lower limit, then the system identifies the hedge as effective. Else, it is tagged ineffective.
Hedge Effectiveness (Hypothetical Derivative)	These are the placeholders displaying the upper and lower limits for hedge effectiveness set in Limit Management screen against Hypothetical Derivative method. If the calculated value using Hypothetical Derivative method is within the upper and lower limit, then the system identifies the hedge as effective. Else, it is tagged ineffective.
Hedge Effectiveness (Variability Reduction)	These are the placeholders displaying the upper and lower limits for hedge effectiveness set in Limit Management screen against Variability Reduction method. If the calculated value using Variability Reduction method is within the upper and lower limit, then the system identifies the hedge as effective. Else, it is tagged ineffective.
<b>Data set for Hedged Instruments</b>	
Filter Type, Folder and Filter Name	These fetch the statistics of the hedged instruments data into the screen.
Measures	This indicates all the measures of the hedged items fetched from the instrument tables
Number of Instruments	This gives the total number of instruments fetched by the data filter and identifies all the hedged items which

<b>Term</b>	<b>Description</b>
	are part of the hedge definition
Sum of End of Period Balances	This is the sum of the par balances of all the hedged items which are part of the hedge (for the As of Date)
Sum of Average Balances	This is the sum of the average balances of all the hedged items which are part of the hedge (for the As of Date)
Weighted Rate of Interest	This is the sum of the interest rates weighted by the par balances of all the hedge items which are part of the hedge (for the As of Date)
Weighted Average Life	This is the sum of the average life values weighted by the par balances of all the hedge items which are part of the hedge (for the As of Date)
Weighted Average Duration	This is the sum of the duration values weighted by the par balances of all the hedge items which are part of the hedge (for the As of Date)
<b>Dataset for Hedging Instruments:</b>	
Filter Type, Folder and Filter Name	These fetch the statistics of the hedging instruments data into the screen.
ID Number	This is the id number of the hedging instrument, possibly a derivative
Account Number	This is the account number of the hedging instrument
Currency	This is the transaction currency of the hedging instrument
Origination Date	This is the date on which the hedging instrument is originated
Maturity Date	This is the date on which the hedging instrument is maturing

<b>Term</b>	<b>Description</b>
Reprice Frequency	This is the reset frequency of the hedging instrument. If the instrument has legs, then this represents the frequency corresponding to the pay/leg as indicated against the leg type.
Net Rate	This is the net rate of the hedging instrument. If the instrument has legs, then this represents the net rate corresponding to the pay/receive leg as indicated against the leg type.
Current Balance	This is the current notional balance of the hedging instrument. If the instrument has legs, then this represents the balance corresponding to the pay/receive leg as indicated against the leg type.
Leg Type	If the hedging instrument has legs (for example, a swap), then this indicates the pay/receive leg.
<b>Inception/Retrospective Effectiveness Model:</b>	
Sandbox	This is the sandbox infodomain in which the inception/retrospective model is defined. This is applicable only where a regression or Rsquare model is used for inception, prospective, retrospective measurement methods, else sandbox will not appear.
Model Name	This is the regression model used to test hedge effectiveness at inception/retrospectively.
Time Hierarchy	This is the time hierarchy used within the regression model fetched into this screen for display to the user.
Independent Variable	This is the independent variable used within the regression model fetched into this screen for display to the user.
Dependent Variable	This is the dependent variable used within the regression model fetched into this screen for display to the user.
<b>Inception/Retrospective Effectiveness Statistics:</b>	

Term	Description
R-Squared	This is defined as the percentage of total variation in the dependent variable explained by the independent variable. For example, an R2 value indicates that the variation of the independent variable explains the 63% variation in the dependent variable. The calculated values from the inception/retrospective model are fetched into the screen for display
Standard Error	This measures the degree of variability of the actual values of the "Y" values of the regression equation with the estimated values. The calculated value from the inception/retrospective model is fetched into the screen for display
<b>Prospective Effectiveness Model:</b>	
Sandbox	This is the sandbox infodomain in which the prospective model is defined. This is applicable only where a regression or Rsquare model is used for inception, prospective, retrospective measurement methods, else sandbox will not appear
Model Name	This is the regression model used to test hedge effectiveness prospectively
Time Hierarchy	This is the time hierarchy used within the regression model fetched into this screen for display to the user.
Independent Variable	This is the independent variable used within the regression model fetched into this screen for display to the user.
Dependent Variable	This is the dependent variable used within the regression model fetched into this screen for display to the user.
<b>Inception/Prospective Effectiveness Statistics:</b>	



Term	Description
R-Squared	This is defined as the percentage of total variation in the dependent variable explained by the independent variable. For example, an R2 value indicates that the variation of the independent variable explains the 63% variation in the dependent variable. The calculated values from the prospective model are fetched into the screen for display
Standard Error	This measures the degree of variability of the actual values of the "Y" values of the regression equation with the estimated values. The calculated value from the prospective model is fetched into the screen for display

## Manage Hedge Relationships

After defining a Hedge Relationship, user can submit it for approval. Only the approved hedged will come into effect and hence can be processed/persisted in the HM system. [bb] note a separate user with approval credentials can only approve the definition.

**Note:** Once a relationship is defined, submitted, and approved, then user can create and apply it multiple times as required, and stress scenarios for prospective hedging strategies.

### Procedure:

1. Navigate to the Hedge Maintenance summary page.
2. Select a Hedge definition and click on Edit button.

**Note:** The Edit button will be activated only if the status of Hedge is "New".

Hedge Maintenance									
Search									
Name					Folder	SANTY			
Effectiveness Status					Status				
Hedge Maintenance									
Name	Creation Date	Created By	Last Modification Date	Last Modified By	Folder	Effectiveness Ratio	R-Squared	Effectiveness Status	Status
<input type="checkbox"/> ryryry	04/09/13 18:16:27	QTUSER	04/09/13 18:16:27	QTUSER	RTSEG	1		<span style="color: green;">●</span>	Sent for Approval
<input checked="" type="checkbox"/> Test123	04/09/13 17:09:34	QTUSER	04/09/13 17:09:34	QTUSER	RTSEG	1		<span style="color: green;">●</span>	New
<input type="checkbox"/> Test123	04/09/13 17:09:34	QTUSER	04/09/13 17:09:34	QTUSER	RTSEG	1		<span style="color: green;">●</span>	New
<input type="checkbox"/> Test123	04/09/13 17:09:34	QTUSER	04/09/13 17:09:34	QTUSER	RTSEG	1		<span style="color: green;">●</span>	New
<input type="checkbox"/> Test123	04/09/13 17:09:34	QTUSER	04/09/13 17:09:34	QTUSER	RTSEG	1		<span style="color: green;">●</span>	New
<input type="checkbox"/> Santy	03/28/13 22:05:53	QTUSER	03/28/13 22:05:53	QTUSER	RTSEG	1		<span style="color: green;">●</span>	Sent for Approval
<input type="checkbox"/> gfdgfsd	03/29/12 22:15:16	QTUSER	03/29/12 22:15:16	QTUSER	RTSEG	1		<span style="color: green;">●</span>	Expired
<input type="checkbox"/> gfdg	03/29/12 22:15:06	QTUSER	03/29/12 22:15:06	QTUSER	RTSEG	1		<span style="color: green;">●</span>	Expired
<input type="checkbox"/> hedge10	03/29/12 17:13:44	QTUSER	03/29/12 17:13:44	QTUSER	RTSEG	1		<span style="color: green;">●</span>	Sent for Approval
<input type="checkbox"/> test2011	07/25/11 12:47:53	QTUSER	07/25/11 12:47:53	QTUSER	RTSEG	1		<span style="color: green;">●</span>	Sent for Approval

3. Edit the details of hedge as required and click on Submit to submit it to approval.

Active Time Bucket: Manuel\_Bug\_15948825\_Hatton      Hedge Definition

Hedge Management > Hedge Assumption Specification > Hedge Definition

**Hedge Definition Details**

Name: Test123

Description: [Empty]

Folder: RTSEG      Access Type:  Read/Write    Read Only

---

**Effectiveness Calculation**

Type of Hedge: Net Investment      Measurement Methodology at Inception: Critical Terms Match

Hedge Start Date: 04/10/13      Hedge End Date: 04/30/13

Measurement Methodology - Prospective: Regression      Measurement Methodology - Retrospective: Variability Reduction

Fair Value Selection:  Dirty Price    Clean Price      Effectiveness Type:  Cumulative    Net

---

**Limits**

Limit Folder: RTSEG      Limit Name: bb-test

Lower Limit: R-Squared (Regression) 0.6      Upper Limit: 1.25

Hedge Effectiveness - Dollar Offset: [Empty]     

Hedge Effectiveness - Hypothetical Derivative: [Empty]     

Hedge Effectiveness - Variability Reduction: [Empty]     

---

**Data set for Hedged Instruments**

Filter Type: Data Filter      Folder: RTSEG      Filter: 5.2 Non-Maturity

Buttons: Save   Submit   Save As   Cancel

---

**Audit Trail**    User Comments

System ID: 40522362

Created By: QTUSER      Creation Date: 04/09/2013

Last Modified By: QTUSER      Last Modification Date: 04/09/2013

4. A notification will be displayed. Click Ok. Now, the status of the Hedge will be changed to "Sent for Approval".



## Calculation Logic for Hedge Effectiveness using Market Value

Below logic is used for calculation of HM effectiveness:

### 1. Case 1:

When Measurement Methodology Prospective = Variability Reduction or Hypothetical Derivative

Fair Value Selection = Dirty Price

Effective Type = Cumulative

Then for each instrument, Market Fairvalue is calculated as:

Market Value of Current Index - Base Market Value

Here,

Base Market Value is Start Date Index = 0 for first available Scenario

Market Value for Current Index is Start Date Index  $\diamond$  0 for each Scenario

### 2. Case 2:

When Measurement Methodology Prospective = Variability Reduction or Hypothetical Derivative

Fair Value Selection = Clean Price

Effective Type = Cumulative

Then for each instrument, Market Fairvalue is calculated as:

Market Value Clean of Current Index - Base Market Value Clean

Here,

Base Market Value Clean is Start Date Index = 0 for first available Scenario

Market Value Clean for Current Index is Start Date Index  $\diamond$  0 for each Scenario

### 3. Case 3:

When Measurement Methodology Prospective = Variability Reduction or Hypothetical Derivative

Fair Value Selection = Dirty Price

Effective Type = Net

Then for each instrument, Market Fairvalue is calculated as:

Current Market Value - Base Market Value

Here,

Base Market Value is Market Value for Start Scenario for Start Date Index  $\leq 0$

Current Market value is Market Value for Scenario Other than Start Scenario is Start Date Index  $> 0$

#### 4. Case 4:

When Measurement Methodology Prospective = Variability Reduction or Hypothetical Derivative

Fair Value Selection = Clean Price

Effective Type = Net

Then for each instrument, Market Fairvalue is calculated as:

Current Market Value Clean - Base Market Value Clean

Here,

Base Market Value Clean for Start Scenario for Start Date Index  $\leq 0$

Current Market Value Clean is Market Value for Scenario Other than Start Scenario is Start Date Index  $> 0$

For Measurement Methodology Prospective = Variability Reduction, Fair Value for each Scenario and Start Date Index is calculated as

IF Hedged Instruments MKT FV = 0 Then 1 Else 1 - (All Available Instruments Market FV / Hedged Instruments Market FV)

Here,

**Hedged Instruments Market FV** = POWER(Sum Of Market Fair Value of all the Hedged Instruments for Each Start Date Index,2)

**All Available Instruments (both Hedged and Hedging) Market FV** = POWER(Sum Of Market Fair Value of all the Instruments for Each Start Date Index ,2)

If the Fair Value lies between the limits (Defined for the Selected Limit Definition) then Hedge is "Effective" Else "Ineffective".

For Measurement Methodology Prospective = Hypothetical Derivative, Fair Value for each Scenario and Start Date Index is calculated as

IF Hedging Instruments MKT FV = 0 Then 1 Else 1 - (Hedged Instruments Market FV /

Hedging Instruments Market FV)

Here,

**Hedged Instruments Market FV** = Sum Of Market Fair Value of all the Hedged Instruments for Each Start Date Index

**Hedging Instruments Market FV** = Sum Of Market Fair Value of all the Hedging Instruments for Each Start Date Index

If the Fair Value lies between the limits (Defined for the Selected Limit Definition) then Hedge is "Effective" Else "Ineffective".



---

## Defining Limits

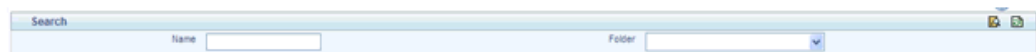
### Overview of Limit Management

Limit Management is a utility by which, the upper and lower limits of a dimension or measure can be set. Limit Management application is developed using the Forms Framework utility of the Oracle Financial Services Analytical Applications Infrastructure (OFSAAI), which requires a combination of xml and database table configuration mostly in Config schema. To begin using this utility certain requirements have to be met, which is detailed in the application installation manual. For more information, refer to *OFS Credit Risk Management User Guide*.

### Limit Summary Details

#### Search Container

Your default Folder functions as a search constraint. The value of your default Folder is set in Application Preferences. You may select a different Folder or you may remove the Folder constraint entirely by selecting the "blank" Folder, that is, no Folder. You may also search by Limit Name.



#### Search Control

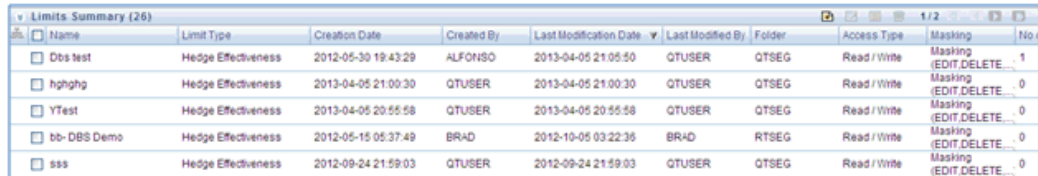
Enter your desired search criteria and click the Search control.

#### Reset Control

Clicking the Reset control clears any search criteria you may be using, resets Folder to your default Folder, and refreshes the screen.

## Limit Summary Container

The Limit Summary container presents a grid containing all of the Limits that meet your search criteria. The Limit Summary grid offers several controls that allow you to perform different functions when a Limit is selected.



<input type="checkbox"/>	Name	Limit Type	Creation Date	Created By	Last Modification Date	Last Modified By	Folder	Access Type	Masking	No. of Limits
<input type="checkbox"/>	Dbs test	Hedge Effectiveness	2012-05-30 19:43:29	ALFONSO	2013-04-05 21:05:50	QTUSER	QTSEG	Read / Write	Masking (EDIT,DELETE...)	1
<input type="checkbox"/>	hghghg	Hedge Effectiveness	2013-04-05 21:00:30	QTUSER	2013-04-05 21:00:30	QTUSER	QTSEG	Read / Write	Masking (EDIT,DELETE...)	0
<input type="checkbox"/>	YTest	Hedge Effectiveness	2013-04-05 20:55:58	QTUSER	2013-04-05 20:55:58	QTUSER	QTSEG	Read / Write	Masking (EDIT,DELETE...)	0
<input type="checkbox"/>	bb-DBS Demo	Hedge Effectiveness	2012-05-15 05:37:49	BRAD	2012-10-05 03:22:36	BRAD	RTSEG	Read / Write	Masking (EDIT,DELETE...)	0
<input type="checkbox"/>	sss	Hedge Effectiveness	2012-09-24 21:59:03	QTUSER	2012-09-24 21:59:03	QTUSER	QTSEG	Read / Write	Masking (EDIT,DELETE...)	0

To select a Limit, click a check box in the first column of the grid. More than one Limit can be selected at a time but this will cause some of the controls to become disabled. Clicking a check box a second time deselects a Limit. You may select or deselect all of the Limits in the summary grid by clicking the check box in the upper left hand corner of the summary grid directly to the left of the Name column header.

### Add

Clicking the Add control begins the process of building a new Limit. The Add control is disabled if any rows in the grid have been selected.

### View

Selecting a single row out of the grid enables the View control. Clicking the View control allows you to view the detailed definition of a Limit on a read-only basis. The View control is only enabled when a single Limit has been selected.

### Edit

Selecting a single row out of the grid enables the Edit control. Clicking the Edit control allows you to modify an existing Limit. The Edit control is only enabled when a single Limit has been selected.

### Check Dependencies

To generate a report on the OFSAA rules that utilize a selected Limit, select a single Limit and click the Check Dependencies control. The Check Dependencies control is only enabled when a single Limit has been selected. Delete Selecting one or more rows out of the grid enables the Delete control. Clicking the Delete control deletes the Limit or Limits you have selected.

**Note:** OFSAA Infrastructure will not allow you to delete any Limit that is utilized by another OFSAA rule (For example, a Transfer Pricing Processing rule, an Allocation rule, and so on). See Check Dependencies above.



## Limit Summary Grid

The following columns categorize each Limit in the summary grid:

- Name
- Description
- Limit Type
- Creation Date
- Created By
- Last Modification Date
- Last Modification By
- Folder
- Access Type

<input type="checkbox"/>	Name	Limit Type	Creation Date	Created By	Last Modification Date	Last Modified By	Folder	Access Type	Masking	No.
<input type="checkbox"/>	Obs test	Hedge Effectiveness	2012-05-30 19:43:29	ALFONSO	2013-04-05 21:05:50	QTUSER	QTSEG	Read / Write	Masking (EDIT,DELETE)	1

### Name

Displays the Limit's Name. Performing a "mouse-over" on a Hierarchy's Name displays the Hierarchy's Description.

### Created By

Created By displays the name of the user who created a Limit. If a Limit is saved as Read Only, only the user who created the rule, i.e., the owner, may modify the rule.

### Creation Date

Displays the date and time at which a Limit was created.

### Last Modification Date

Displays the date and time at which a Limit was last modified.

### Last Modification By

Displays the name of the user who modified it last.

### Access Type

The defined access type of Limit. It can be either Read Only or Read/Write.

## Navigation within the Detail Screen

When you Add, Edit, or View a Limit, the Limit Detail screen is displayed.

The screenshot shows the 'Limit Definition' screen. At the top, there's a breadcrumb trail: 'Limit Management >> Limits Summary >> Limit Management'. The main form has the following fields: 'Name' (text input), 'Description' (text input), 'Folder' (dropdown menu with 'GTSE0' selected), 'Access Type' (radio buttons for 'Read Only' and 'ReadWrite'), and 'Limit Type' (dropdown menu with 'Hedge Effectiveness' selected). There are 'Apply' and 'Cancel' buttons. Below the form is a table titled 'Limit Templates (0)' with columns: 'Financial Measure', 'Dimensions', 'Limits Defined', 'Default Lower Limit', and 'Default Upper Limit'. The table is currently empty, showing 'No Data Found'. At the bottom, there's an 'Audit Trail' section with 'System Id' and 'Comments' tabs. The 'Comments' tab is active, showing 'Created By: GTUSER', 'Created Date: 2013-04-08 21:18:02', 'Last Modified By: GTUSER', and 'Last Modification Date: 2013-04-08 21:18:02'.

The Audit Trail container is a standard footer container for every OFSAA rule type. It displays Created By, Creation Date, Last Modified By, and Modification Date on the Audit Trail tab. The User Comments tab may be used to add comments to any rule.

## Limit Definition

Specify a Limit's Name and Description, select a Folder in which the Limit is to be stored, and specify whether you want the Limit to be "Read/Write" or "Read Only" (Access Type). Naming your Limit is required before it can be saved. Default values for Folder and Access Type are stored in Application Preferences.

### Name and Description

Displays the Limit's name and description. Name is a required property; you cannot save a Limit until you supply a name.

### Folder

Select the folder in which you want the Limit to be stored.

### Access Type

You may set Access Type to Read-Only or Read/Write. When set to Read-Only, only the owner – the creator of a rule is its owner – may modify or delete the Limit.

## Limit Templates

The Limit Details container allows you to add a defined Template along with limit.

To define limits of a dimension, perform the following activities:

- Select the measure. To define the limits of the measure click the Add icon or else click the Edit icon to set the default limit values of the measure:
  - When the **Add** icon is clicked the Limit Template on Product Type screen is displayed. In this screen select the Input Type and the Mandatory Dimension Values from the drop-down and click Go. The mapped combination as selected in the Mapper Table in the Map Maintenance screen appears in the Editable

Grid. Enter the upper and lower limit values against each combination. These limit values are saved in Limit\_Definition\_Value table.

- When the **Edit** icon is clicked the Default Limit Definition screen is displayed. In this screen, select the Input Type and set the default lower and upper limits. These default values are stored in the Limit\_Definition\_Details table.
- Click Apply to save the newly defined Limit.

## Implementing Limit Definition in HM

Implementing the Limit details is the part of the Create or Edit Hedge Definition process.

To implement a Limit for a Hedge, follow the steps given below:

- Select the Folder Name and then select the Limit which is available under that. The Limit Details are editable once you click Save button.

Limit Folder	Limit Name	Lower Limit	Upper Limit
EMISSED	-		
R-Squared (Regression)			
Hedge Effectiveness - Dollar Offset			
Hedge Effectiveness - Hypothetical Derivative			
Hedge Effectiveness - Variability Reduction			

- You can edit the Upper and Lower Limits of Hedge Effectiveness Measurement Methodology types after defining them.

Limit Folder	Limit Name	Lower Limit	Upper Limit
EMISSED	cycle3		
R-Squared (Regression)			<input checked="" type="checkbox"/>
Hedge Effectiveness - Dollar Offset			<input checked="" type="checkbox"/>
Hedge Effectiveness - Hypothetical Derivative			<input checked="" type="checkbox"/>
Hedge Effectiveness - Variability Reduction			<input checked="" type="checkbox"/>

- When you click Edit, a Limit page will display for editing.

Limit Name : cycle3  
 Hedge Name : Bu/By  
 Lower Limit : 1  
 Upper Limit : 10  
 Template Name : R<sup>2</sup> Lower-Regression

Save Cancel

- Enter the Lower and Upper Limits, and click Save. A confirmation message box will be displayed.
- Defined Limit Details will display on Hedge Definition Page.

Limits			
Limit Folder*	Lower Limit	Limit Name*	Upper Limit
EPH11560		Cycle3	
R-Squared (Regression)	5		10 <input checked="" type="checkbox"/>
Hedge Effectiveness - Dollar Offset	6		8 <input checked="" type="checkbox"/>
Hedge Effectiveness - Hypothetical Derivative			<input checked="" type="checkbox"/>
Hedge Effectiveness - Variability Reduction			<input checked="" type="checkbox"/>

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# Creating and Implementing Regression and R-Square Models

## Defining a Model

Models are built based on various techniques associated with executable and related parameters based on the business purpose. In the Infrastructure system models are defined in the metadata abstraction layer using the underlying metadata objects such as Measures, Hierarchies, and Datasets along with statistical techniques.

Model Management in the Sandbox Information Domain of Infrastructure system facilitates you to construct multiple models based on the required parameters and output specifications.

The Model Management screen displays model definition details such as Model ID, Model Name, Version, Model Objective, Created By and Created Date. You can also view, modify, and delete model definitions.

**Note:** For more information, refer to *Oracle Financial Services Analytical Applications Infrastructure User* .

## Implementing Regression and R-Square Models

The definition of Sandbox info domain and Modeling details are the part of the Create or Edit Hedge Definition process. Here, user can define the technique for calculation. This information is defined under the Modeling section. The regression technique is applied on interest rates, being the independent variable, and fair values of the financial instrument, being the dependent variable.

When you select Measurement Methodology Retrospective is selected as Regression, the Inception/Retrospective Effectiveness Model and Inception/Retrospective Model Statistics sections will be displayed to Hedge Definition page. If Measurement Methodology – Prospective is selected as Regression, the Prospective Effectiveness

Model and Prospective Model Statistics sections will be displayed to Hedge Definition page.

Inception/Retrospective Effectiveness Model			
Sandbox*	--		
Model Name*	--	Independent Variable	
Time Hierarchy		Dependent Variable	
Inception/Retrospective Model Statistics			
R-Squared		Standard Error	
Prospective Effectiveness Model			
Sandbox*	--		
Model Name*	--	Independent Variable	
Time Hierarchy		Dependent Variable	
Prospective Model Statistics			
R-Squared		Standard Error	

**Note:** For more information, refer to Hedge Definition chapter.

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## Andrew Davidson and Company (ADCo) Prepayment Method

### Overview of ADCo Prepayment Method:

The Andrew Davidson & Co (ADCo) prepayment method calculates the prepayment amount for a combination of currency equal to US Dollar and Product Account equal to Type Earning Asset. ADCo related UI inputs and the CFE execution are available only for a user who is an ADCo Licensee and where the specific user has the ADCo function mapped to them.

### Deployment of ADCo Libraries on OFSAAI

#### Objectives:

- Deploy ADCo libraries on OFSAAI
- Enable ADCo prepayment-model functionality in HM

#### Pre-requisites:

- HM 6.1
- ADCo v1.9 libraries for Loan-Dynamic-Model, for your operating system / version

**Note:** ADCo is not available on IBM AIX operating systems.

## Steps:

- *Preparation:*
  - Login to the UNIX Profile where OFSAAI database-tier is installed.
  - Create a folder called "adco"; create 3 sub-folders under "adco": "io", "data", "lib"
  - Edit the .profile script and set the following environment variables:
    - ADCO\_IO\_DIR: set it to the absolute path of the "io" sub-folder created earlier.
    - DATAFILEDIR: set it to the absolute path of the "data" sub-folder created earlier.
    - LD\_LIBRARY\_PATH: update this environment variable to include the absolute-path of the "lib" sub-folder created earlier.
  - Stop all OFSAAI services.
  - Log-out of the UNIX Session and log back in to UNIX. Verify that the 3 environment variables created above are set properly.
  - Start all OFSAAI Services.
- *Deployment:*
  - Download the v1.9 ADCo libraries and place the file "libadppmdl.so" into the "adco/lib" sub-folder.
  - Place the monthly license-key and historical-rate files into the "adco/data" sub-folder.
  - If you have been provided the following 2 files by ADCo, place both of these files in the "adco/io" sub-folder.
    - ADCO\_DefaultValues\_INACTIVE.txt
    - ADCO\_XMLSettings\_INACTIVE.txt
- *Enable ADCo functionality in HM:*
  - Login to OFSAAI.
  - Under the OFSAAI Home Page, go to Administration -> Security Management



- Expand System Administrator and click "Function – Role Map".
- Associate the SMS-Function "ADCO Prepayments for HM" with the required roles.

## Procedure For Setting Up ADCo Process:

The steps to set up an ADCo process are as follows:

1. Mapping of the ADCo function to HM Admin user,
2. Set up the 7 Indices to use with ARMs, .
3. Set up the 2 year, 10 year rate IRCs.,
4. Set up the National HPI. ,
5. Load the STG\_LOAN\_CONTRACTS table.,
6. Run the T2T batch to populate the FSI\_D\_MORTGAGES table.,
7. Select the NHPI from Application Preferences.,
8. Forecast the 2 year, 10 year rate IRCs.,
9. Forecast the 7 indices (only required where indicies are mapped to ARMs),.
10. Forecast the National HPI (optional),.
11. Setup the Prepayment rule mapping ADCO method to the required Mortgage – USD combinations.,
12. Setup the Static Deterministic Process including the rules defined above (Forecast Rates and Prepayments), .
13. Select the SMM Rates Output flag (optional),.
14. Execute the Process.,

The detailed procedure for using ADCo prepayment method comprises utilizing the above mentioned specific settings in various HM modules as documented in the following sections.

### Mapping of the ADCo function:

After acquiring the ADCo license, the user must manually map the ADCo function to the HM Admin user in the Role Function Mapping screen of Security Management

(Home>Administration>Security Management). Only after this mapping, will the user be available to view the ADCo related changes made in the Forecast Rates and Prepayments screens. This is not applicable to the common screens of Rate Management and Application Preferences. For more details on security management, see *Oracle Financial Services Analytical Applications Infrastructure user guide*.

## Rate Management:

### Interest Rates:

In Rate Management Interest Rates detail screen, is a dropdown called the Curve Identifier. This is a dropdown list that contains the list of 4 curve identifier types , that is, par treasury, zero coupon treasury, par labor/ swap, and zero coupon labor swap. These curve identifiers can be mapped to the seven indices to be used with the Adjustable Rate Mortgages (ARMs) meant for ADCo purpose, whose reference currency is always US Dollar. The seven indices are :

Element Name	Element Description
PAR_TSY_1YR	1-Year Par Treasury Monthly Yield (%)
PAR_LIBOR_6M	6-Month Par LIBOR Monthly Yield (%)
PAR_LIBOR_1YR	1 Year Par LIBOR Monthly Yield (%)
MTA_12	12 Month MTA Monthly Yield (%)
PAR_TSY_3YR	3-Year Par Treasury Monthly Yield (%)
PAR_TSY_5YR	5-Year Par Treasury Monthly Yield (%)
COFI_11D	11th District COFI Monthly Yield (%)

User has to define the 7 indices for use with the ARMs, with the same name as expected

by ADCo. Also, the IRC to supply 2 year and 10 year rates also must be defined in this UI. User need not enter the historical rates/Transaction Strategy Parameters if the IRC is to be used only for ADCo purposes.

**Economic Indicators:**

In the Economic Indicators detail screen, the historical data for the National Housing Price Index (NHPI) is entered. Setting up the NHPI is an optional step.

**Loading the STG\_LOAN\_CONTRACTS table:**

For the purpose of ADCo, this step of loading the STG\_LOAN\_CONTRACTS table should be performed. The following are the columns that have been included in this table for ADCo Purpose:

<b>COLUMN_NAME</b>	<b>DISPLAY NAME</b>
d_last_delinquent_date	Last Delinquent Date
f_payment_option_flag	Payment Option Flag
f_relo_loan_flag	Relocation Loan Flag
f_sub_prime_flag	Sub Prime Flag
n_first_reset_cap	First Reset Cap
n_first_reset_floor	First Reset Floor
n_joining_score	Original Credit Score
n_loan_charge	Loan Charge
n_mrtgg_insrn_amount	Mortgage Insurance Amount
n_mrtgg_insrn_cutoff	Mortgage Insurance Cutoff
n_mrtgg_insrn_premium	Mortgage Insurance Premium
n_no_of_interest_only_mths	Number of Interest Only Months
n_no_of_prop_units	Number of Property Units

<b>COLUMN_NAME</b>	<b>DISPLAY NAME</b>
n_orig_cust_ltv	Original Customer LTV
n_prepmt_index_term	Prepayment Index Term
v_loan_doc_status	Loan Documentation Status
v_prepmt_index_cd	Prepayment Index Code
v_prepmt_index_term_unit	Prepayment Index Term Unit
v_prop_loc_state_cd	Property Location State Code
v_prop_purpose_cd	Property Purpose Code
v_prop_sub_type_cd	Property Sub-Type Code

### Running the T2T Batch to populate FSI\_D\_MORTGAGES table:

In order to run the T2T Batch to populate FSI\_D\_MORTGAGES table, perform the following steps:

1. Navigate to Financial Services Applications > Operations
2. Set up a batch in the Batch Maintenance UI.
3. Select the above batch set up in step 2 and for a particular information date, execute the batch. This populates the FSI\_D\_MORTGAGES table.

### Application Preferences:

In the ADCO Parameter grid, there is an input parameter called National Housing Pricing Index(NHPI).

National Housing Pricing Index (NHPI) - This is an input parameter for ADCo definition purpose, that the user has to select from the dropdown containing the list of all economic indicators defined from Rate Management. The user is required to set up a NHPI economic index as if they desire to override the base Adco NHPI forecast. This is an optional step.

Application Preferences		
* Select Preferences For		
Show Preferences For	GUIUSER	
Active for Master Maintenance	<input type="checkbox"/>	
* Parameters - General		
Property Name	Property Value	Is Editable
Security Map	None	<input type="checkbox"/>
As of Date	06/25/2014	<input checked="" type="checkbox"/>
Show Execution Parameters	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Runtime Parameters	Leaf Description	
Legal Entity		<input type="checkbox"/>
* Processing - General		
Property Name	Property Value	Is Editable
Default Total Error Message Limit	250	<input checked="" type="checkbox"/>
Default Error Message Limit Per Item	25	<input checked="" type="checkbox"/>
Debugging Output Level	Do not output SQL to log file	<input checked="" type="checkbox"/>
* Processing - Application Specific		
Property Name	Property Value	Is Editable
Net Change Date	06/25/2014	<input checked="" type="checkbox"/>
Maximum Number of Instrument records to include in detail cash flow output	10	<input checked="" type="checkbox"/>
Maximum Number of Rate Paths for Monte Carlo Processing	10	<input checked="" type="checkbox"/>
Enable Holiday Calendar Adjustments	<input type="checkbox"/>	<input checked="" type="checkbox"/>
* Assumption Management Defaults		
Property Name	Property Value	Is Editable
Folder Name	SANITY	<input checked="" type="checkbox"/>
Access Type	<input type="radio"/> Read Only <input checked="" type="radio"/> Read/Write	<input checked="" type="checkbox"/>
Initial Currency Selection ["Business Rule Currency"]	Australian Dollar	<input checked="" type="checkbox"/>
* Dimensions and Hierarchies		
Property Name	Property Value	Is Editable
Product Dimension	Common Chart of Accounts	<input checked="" type="checkbox"/>
Default Product Hierarchy	CS OTP 3 - Common	<input checked="" type="checkbox"/>
Organizational Unit Dimension	Organizational Unit	<input type="checkbox"/>
Hierarchy Members Navigation Size	100	<input checked="" type="checkbox"/>
* ADCO Parameters		
Property Name	Property Value	Is Editable
National Housing Pricing Index		<input checked="" type="checkbox"/>

## Forecast Rates:

### Interest Rate Forecast Methods:

In the case of an ADCo IRC forecast, while defining using Direct Input, the 'Show 360 months Buckets' checkbox is shown ONLY if the HM\_ADCO function is mapped to the user.

1. By default the checkbox is unchecked (or checkbox is not shown), and the UI continues to display its existing behavior.
2. If the user checks the box, then the UI shows 360 month rows and the date display follows the MMM-YYYY format.

Forecasting the 7 indices is similar to forecasting the 2 year and 10 year rate IRCs having term points as 2 years and 10 years.

### **Economic Indicator (EI) Forecast Methods:**

The UI has a similar behavior for EI forecasting method selection of "Direct Input". But UI checks for the National HPI Selection in Application Preferences. In the HM Process screen, UI shows the audit options for ADCo, ONLY if HM\_ADCO function is mapped to the user . Forecasting the NHPI is an optional step.

### **Prepayments :**

#### **Defining Prepayment Methodologies:**

Oracle Hedge Management provides five prepayment calculation methods: Constant, Prepayment Model, PSA, Arc tangent, and ADCo (Andrew Davidson and Co.) Prepayment method.

#### **Defining the ADCo Prepayment Method:**

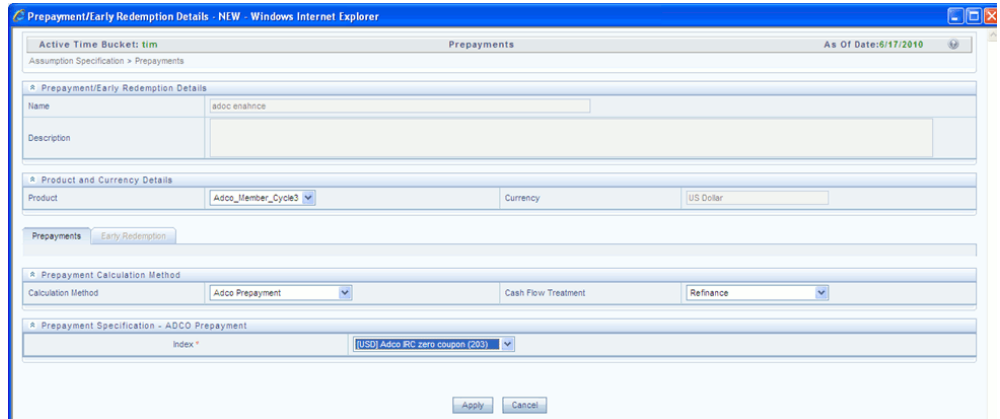
Use this procedure to define prepayment assumptions using the ADCo Prepayment method.

#### **Prerequisites:**

Performing basic steps for creating or updating a Prepayment rule.,

#### **Procedure:**

1. Select the currency to be US Dollar and Product Account Type as an Earning Asset.
2. Select ADCO Prepayment method from the Prepayment method dropdown. The UI shows "ADCO Prepayment" method as an available method in the droplist, ONLY if HM\_ADCO function is mapped to the user.
3. Select Refinance or Curtailment from the Calculation dropdown.
4. The ADCO Prepayment container is displayed containing the index dropdown which contain IRCs defined in Rate Management including the seven indices to be used with the Adjustable Rate Mortgages(ARMs) meant for ADCo purpose, whose reference currency is always US Dollar. Select the required IRC.



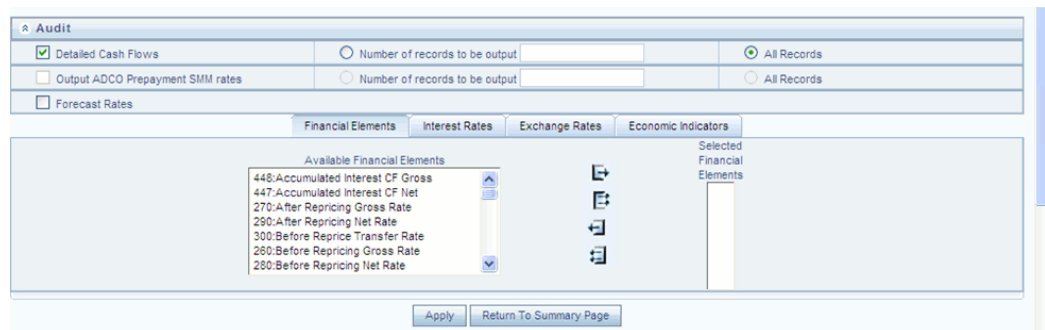
5. Click Apply.

## HM Processing:

### Creating a Static Deterministic Process rule:

In the Audit block, there is a checkbox called Output ADCO Prepayment SMM rates. Selecting this checkbox is an optional step.

**Output ADCO Prepayment SMM rates:** This checkbox is enabled only if the user is an ADCo Licensee. Check this box to capture the SMM rates for each scenario, As of Date, instrument, Product Leaf, Remaining Term and the Process ID. On every rerun of the same process ID, new set of SMM rates at scenario level is written to the audit table fsi\_o\_smm\_rates\_audit after deleting the existing records for the process ID. On selective reprocessing of the same process ID, the audit table is truncated and the new set of rates is written to the table.



## Error Scenarios:

1. HM Engine logs error messages into FSI\_PROCESS\_ERRORS if ADCo method is assigned to a non Mortgage and process the next record. This validation check is based on the instrument type.

2. HM Engine logs warning messages into FSI\_PROCESS\_ERRORS if the input parameters required are missing from the Mortgages table
3. HM engine logs error messages into FSI\_PROCESS\_ERRORS if forecast rates scenario definitions are inconsistent or the definition is missing. Say, if the rule has 10 scenarios and the ADCo curves are forecast for only 9 scenarios, then a warning message is logged. No warning messages are written if National HPI is not forecast.

### CD/MLS Tables Included for ADCo:

The following are the CD/MLS tables included for the purpose of ADCo:

S.No.	TABLE_NAME	DISPLAY_NAME	DESCRIPTION
1	FSI_DELINQUENCY_STATUS_CD	Delinquency Status Cd	Holds Data For Delinquency Status Cd
2	FSI_DELINQUEN_STATUS_MLS	Delinquen Status Mls	Holds Data For Delinquency Status Mls
3	FSI_DOCUMENTATION_CD	Documentation Cd	Holds Data For Documentation Cd
4	FSI_DOCUMENTATION_MLS	Documentation Mls	Holds Data For Documentation Mls
5	FSI_GEOGRAPHIC_STATE_CD	Geographic State Cd	Holds Data For Geographic State Cd
6	FSI_GEOGRAPHIC_STATE_MLS	Geographic State Mls	Holds Data For Geographic State Mls
7	FSI_ISSUER_CD	Issuer	Holds Data for Issuer Cd
8	FSI_PPMT_MODEL_INDICES_CD	Ppmt Model Indices Cd	Holds Data For Prepayment Model Indices Cd
9	FSI_LOAN_TYPE_CD	Loan Type Cd	Holds Data For Loan Type Cd



S.No.	TABLE_NAME	DISPLAY_NAME	DESCRIPTION
10	FSI_LOAN_TYPE_MLS	Loan Type Mls	Holds Data For Loan Type Mls
11	FSI_O_SMM_RATES_AUDIT	Single Monthly Mortality Rate Audit Table	Single Monthly Mortality rate audit
12	FSI_PPMT_MODEL_INDICES_MLS	Ppmt Model Indices Mls	Holds Data For Prepayment Model Indices Mls
13	FSI_PREV_DELQ_STATUS_CD	Prev Delq Status Cd	Holds Data For Previous Delinquency Status Cd
14	FSI_PREV_DELQ_STATUS_MLS	Prev Delq Status Mls	Holds Data For Previous Delinquency Status Mls
15	FSI_PROPERTY_PURPOSE_CD	Property Purpose Cd	Holds Data For Property Purpose Cd
16	FSI_PROPERTY_PURPOSE_MLS	Property Purpose Mls	Holds Data For Property Purpose Mls
17	FSI_PROPERTY_SUB_TYPE_CD	Property Sub Type Cd	Holds Data For Property Sub Type Cd
18	FSI_PROPERTY_SUB_TYPE_MLS	Property Sub Type Mls	Holds Data For Property Sub Type Mls
19	FSI_PURPOSE_CD	Purpose Cd	Holds Data For Purpose Cd
20	FSI_PURPOSE_MLS	Purpose Mls	Holds Data for Purpose Mls

## ADCo Mapping

<b>S No</b>	<b>Column Mapped/Used</b>	<b>Input (Adco)</b>
1	CUR_MIN_PMT	CurMinimumPayment
2	LOAN_DOC_STATUS	Documentation
3	FIRST_RESET_AGE	FirstResetAge
4	FIRST_RESET_CAP	FirstResetCap
5	FIRST_RESET_FLOOR	FirstResetFloor
6	PMT_OPTION_FLG	HasOptionalPayment
7	NO_INT_ONLY_MTHS	IOMonths
8	RELO_LOAN_FLG	IsRelo
9	SUB_PRIME_FLG	IsSubprime
10	LIEN_POSITION	LienPosition
11	MORT_INS_CUTOFF	MI_Cutoff
12	MORT_INS_PREMIUM	MI_Premium
13	MORT_INS_AMT	MIAmount
14	NO_LAST_DELQ_MTHS	MonthsSinceLastDelinquency
15	NO_PROPERTY_UNITS	NumUnits
16	ORG_CUST_LTV	OrigCombinedLTV
17	RATE_INCR_CYCLE	PeriodicCap
18	RATE_DECR_CYCLE	PeriodicFloor
19	NO_PREPAY_PENALTY_MTHS	PPMonths

<b>S No</b>	<b>Column Mapped/Used</b>	<b>Input (Adco)</b>
20	PREV_DELQ_STATUS_CD	PreviousDelinquency
21	GEOGRAPHIC_LOC_STATE_CD	State
22	CUR_LOAN_TO_VALUE	Cur_LTV
23	PREPAY_INDEX	Index
24	JOINING_SCORE	Credit_Score
25	CUR_PAR_BAL	Cur_Face
26	FICO_SCORE	CurFICO
27	MARGIN_GROSS	GrossMargin
28	RATE_CAP_LIFE	LifeCap
29	RATE_FLOOR_LIFE	LifeFloor
30	PURPOSE_CD	Loan_Purpose
31	NEG_AMRT_LIMIT	MaxNegAm
32	REPRICE_FREQ	MonthsBetweenReset
33	PROP_PURPOSE_CD	Occupancy
34	ORG_NET_PAR_BAL_C	Orig_Face
35	ORG_LOAN_TO_VALUE	Original_LTV
36	ORG_TERM	OriginalTerm
37	PMT_INCR_CYCLE	PayCap
38	PROP_SUB_TYPE_CD	Property_Type
39	MATURITY_DATE, AS_OF_DATE	RemainingTerm

<b>S No</b>	<b>Column Mapped/Used</b>	<b>Input (Adco)</b>
40	CUR_GROSS_RATE	StartingWac
41	adjustable_type_cd	WacIsFixed
42	PROPERTY_ZIP_CODE	ZipCode
43	NO_BALLOON_MTHS	BalloonMonths
44	FIRST_FORECAST_MTH	FirstForecastMonth
45	FIRST_FORECAST_YR	FirstForecastYear
46	AGE_ON_BOOK	Age
47	RATE_SET_LAG	LookBackMonths
48	ORG_RATE	WAC

## Limitations

Support for Adco when using FTP forecasting methods is not currently supported and will be available when the FTP application supports Adco.

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## Viewing HM Objects in Metadata Browser

### Metadata Browser (Object and Application View)

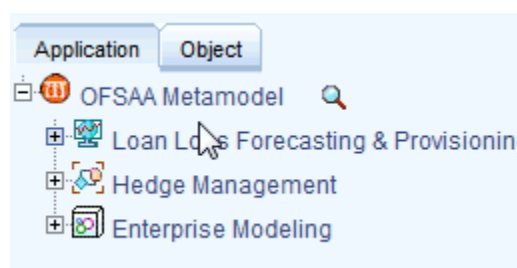
#### Metadata Browser (Object and Application View)

Metadata Browser (Object and Application View) provides common repository of metadata Objects created in OFSAAI and applications hosted in OFSAAI. Using this view, you can identify the usage of base Objects in higher level Objects and the mapping of Objects to Application. It enables to perform traceability and impact analysis. It also allows you to view the data flow and the work flow of the application and understand the usage of Objects within the application.

Metadata Browser (MDB) supports Application view and Object view: In Application view, you can browse through the metadata created using the applications hosted in OFSAAI. In Object view, you can view the metadata created in OFSAAI.

To access the Metadata Browser (Object and Application View), your role Business Analyst (SYSBAU) must be mapped to the SCR\_MDB function. For more information on mapping functions to a role, see *Function - Role Map*.

The Application view provides the top-down approach to view the defined metadata. The Application view shows the list of Applications at the parent level, and the Child elements are Runs for the application. This list will grow dynamically based on the Run definitions mapped to Application, through this tab user can view Run execution details in Metadata Browser.





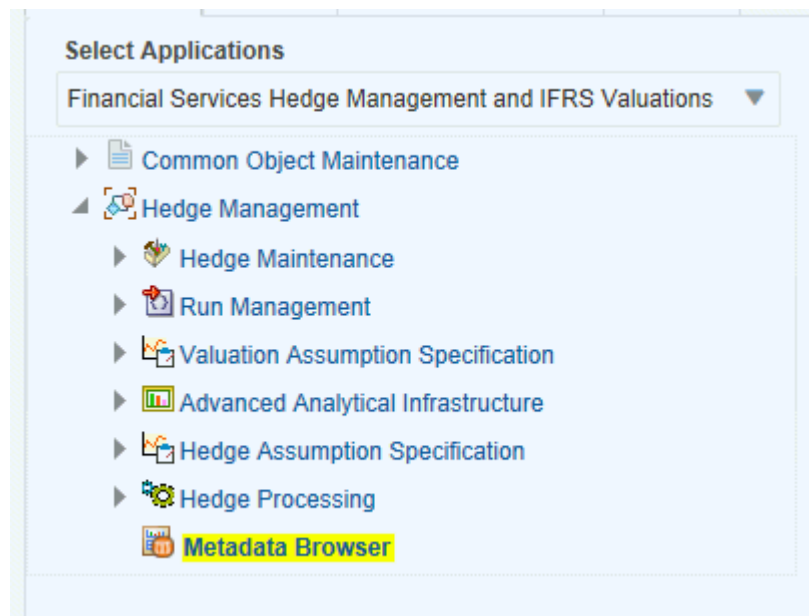
Application.

## Viewing HM Objects in Metadata Browser

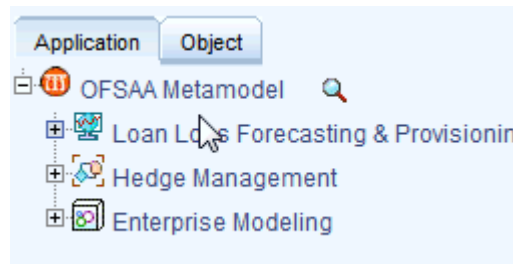
Hedge Management under Oracle Financial Services Analytical Applications has the Metadata Browser (MDB).

To view HM applications and objects in MDB, perform the following steps:

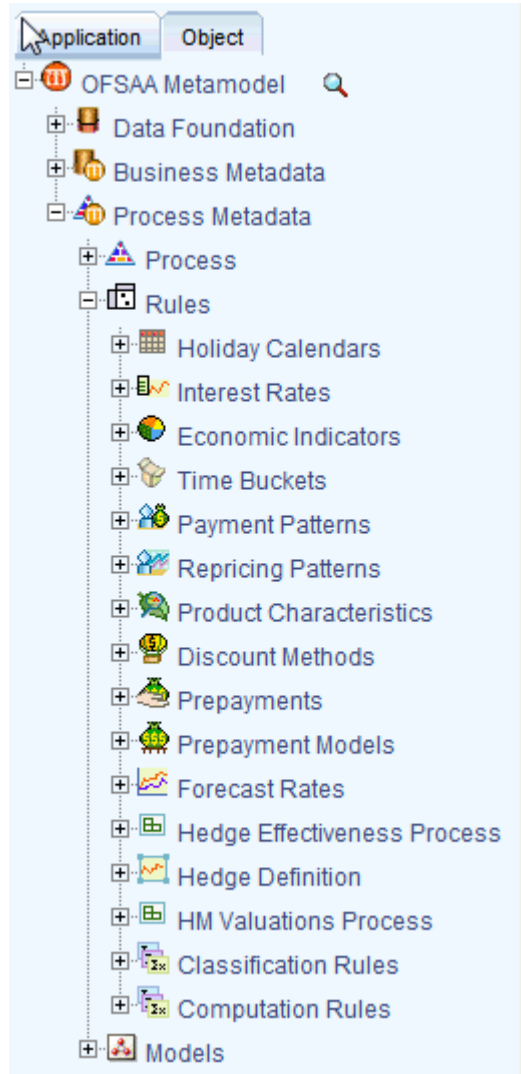
1. After successful execution of the Batch for MDB Publish, in the Applications tab of the Oracle Financial Services Analytical Applications window, in the Left-Hand Side (LHS) menu under Hedge Management, choose Metadata Browser. You can also access Metadata Browser in the Object Administration tab.



2. Click the Application tab under Metadata Browser window to view the HM applications.



3. Click the Object tab under Metadata Browser window to view HM objects:



4. Under Process Metadata > Rules, all the rules defined under HM window are displayed.



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## Multi Language Support

### Overview

With the introduction of Multi Locale Support, the user interfaces can be viewed in various languages. The display language is a selection in the login screen.

In addition to the base language (American English, for example, en\_US), the following languages are currently supported for Hedge Management, by installing the associated Language Pack.

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Language Name	Java Locale
Arabic	AR_EG
Portuguese	PT_BR
French	FR_FR
German	DE_DE
Indonesian	IN_ID
Italian	IT_IT
Japanese	JA_JP
Korean	KO_KR
Russian	RU_RU

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Language Name	Java Locale
Simplified Chinese	ZH_CN
Spanish	ES_ES
Thai	TH_TH
Traditional Chinese	ZH_TW
Vietnamese	VI_VN
Turkish	TR_TR
Hebrew	iw_IL
French Canada	fr_CA

Depending on the type of the rule, the Name/Description specified during create/edit is either attached to the login-locale or is stored independent of the login-locale. The selection of the login-locale therefore governs which assumption/rules are visible, and which are not visible. The following illustrates the visibility of assumptions and rules, across languages in the 8.0.0.0.0 release. This applies to all Summary screens, embedded selections in subsequent screens etc.

**Note:** Starting from AAI 7.3.3.0.0, all Dimension Management Objects as well as Filters and Expressions would be visible in all languages (and therefore available for embedding), regardless of the language in which they were created.

Assumption / Rules	Visible across all languages	Visible only in the creation-language*
Common Object Maintenance		
Process Tuning	✓	
Simplified Batch		✓

<b>Assumption / Rules</b>	<b>Visible across all languages</b>	<b>Visible only in the creation-language*</b>
Holiday Calendar **	✓	
Dimension Management  (Attributes, Members, and Hierarchies)  Filters  Expressions	Please refer to the AAI user-guide to verify the behavior	
SQL Rules	Please refer to the AAI user-guide to verify the behavior	
Data Entry Forms and Queries  Common Object Maintenance> Rate Management	Please refer to the AAI user-guide to verify the behavior	
Interest Rate Codes **	✓	
Currencies **	✓	
Economic Indicators **	✓	
HM Maintenance		
Payment Patterns **	✓	
Repricing Patterns **	✓	
Time Buckets **	✓	

Assumption / Rules	Visible across all languages	Visible only in the creation-language*
Valuation Assumption Specification		
Product Characteristics		✓
Discount Methods		✓
Prepayments		✓
Prepayment Models		✓
Forecast Rate Scenarios		✓
Hedge Assumption Specification		
Hedge Definition		✓
Hedge Processing		
HM Valuations Process		✓
Hedge Effectiveness Process		✓
Cash Flow Edits	✓	

**Important:** \* A future release (TBD) will expand visibility for many of these application object types, to provide visibility regardless of logged-in locale.

\*\* These object-types are visible across all languages because the Name

and Descriptions are not stored in translation-compatible structures, which is different from the storage format for AAI objects like Dimension Management, Filters and Expressions



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## Standard Navigation Paths

This appendix gives you information to navigate through the pages referred to in this guide.

This appendix covers the following topics:

- Standard Navigation Paths

### Standard Navigation Paths

Typical Oracle Financial Services Hedge Management navigation paths are shown in this table. Access all of these pages through the HM Administrator or HM Analyst responsibility.

Page	Navigation Path
Application Preferences Home	HM > Application Preferences
Time Buckets Home	HM Maintenance > Time Buckets
Time Buckets – Income Simulation Buckets	HM Maintenance > Time Buckets > Income Simulation Buckets
Payment Pattern Home	HM Maintenance > Patterns > Payment Patterns
Repricing Pattern Home	HM Maintenance > Patterns > Repricing Patterns
Interest Rate Code Home	Common Object Maintenance > Rate Management > Interest Rates

<b>Page</b>	<b>Navigation Path</b>
Currency Rates Home	Common Object Maintenance> Currency Rates
Currencies Home	Common Object Maintenance > Currency
Product Characteristics Home	Assumption Specification > Product Characteristics
Product Characteristics Details	Assumption Specification > Product Characteristics > Add New
Discount Methods Home	Assumption Specification > Discount Methods
Discount Methods Details	Assumption Specification > Discount Methods > Add New
Prepayment Rule Home	Assumption Specification > Prepayments
Prepayment Methodology	Assumption Specification > Prepayments > Add New > Prepayment Method Selector > Add
Prepayment Models Home	Assumption Specification > Prepayment Models
Prepayment Models Details	Assumption Specification > Prepayment Models > New
Forecast Rates Home	Assumption Specification > Forecast Rates
Forecast Rates Details	Assumption Specification > Forecast Rates > New
HM Process Home	HM Processing > HM Process
Cash Flow Edits Process Home	HM Processing > Cash Flow Edits



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## Oracle HM Error Messages

### Oracle HM Error Messages

Error Message	Error Condition	Error Code	Effect of Error on Processing
<Assumption rule type> in Oracle HM Process Rule <Assumption rule name> not found in database	Assumption Rule cannot be found in the database.	105	If rule is critical for processing, processing is stopped.
No Match for IRC	Interest Rate Code cannot be found in the active Historical Rates database.	110	When the instrument reprices, it will receive a zero rate.
No Data for IRC	Interest Rate Code exists in the active Historical Rates database, but there are no corresponding rate values.	115	When the instrument reprices, it will receive a zero rate.

<b>Error Message</b>	<b>Error Condition</b>	<b>Error Code</b>	<b>Effect of Error on Processing</b>
Dimension Types mismatch: COL vs. Application Preference for dimension: <dimension number>	Definition for dimension chosen as product dimension in Application Preferences has changed or no longer exists in the database. Also can relate to Organizational Unit dimension if two-dimension output processing is defined.	120	Processing is stopped.
No of Buckets mismatch Time Bucket in <Assumption Rule>	Assumption Rule was created when the active Time Bucket Rule held more/less buckets than it has currently; therefore, the Assumption Rule contains more/less bucket information than necessary.	325	If Assumption Rule holds more buckets than what currently exists, only the buckets within the current modeling term will be used. If Assumption Rule holds less buckets than what currently exists, the assumption for the last bucket will be carried forward for the remainder of the modeling term.
Inconsist. Run: No Options Selected for Sel. Reproc.	No Options Selected for Selective Reprocessing in the Process Rule.	330	Processing is stopped.
Inconsist. Run: No Instrument Tables selected	There are no Instrument Tables selected in the Process Rule.	330	Processing is stopped.

<b>Error Message</b>	<b>Error Condition</b>	<b>Error Code</b>	<b>Effect of Error on Processing</b>
Inconsist. Run: Inconsistent Sel. Reproc. buckets	Number of modeling buckets in results is not consistent with the number of modeling buckets in the active Time Bucket Rule during a selective reprocessing run.	330	Processing is stopped.
Inconsist. Run: Duplicate AutoBal leaves	Duplicate Auto Balance leaves defined in Application Preferences.	330	Processing is stopped.
Inconsist. Run: Not all AutoBal leaves defined	Not all Auto Balancing leaves are defined.	330	Processing is stopped.
Can't hit target for Leaf member:<leaf number> bucket:<bucket number>	It is impossible to calculate a new add balance that will satisfy the conditions required for new business balances.	335	No new business will be added for this bucket.

<b>Error Message</b>	<b>Error Condition</b>	<b>Error Code</b>	<b>Effect of Error on Processing</b>
No Product Char. for leaf member: <leaf number>	Payment and repricing data have not been set up in the current Product Characteristics Rule for leaf member being processed.	340	Default characteristics will be used: <ul style="list-style-type: none"> <li>• amortization type = 700</li> <li>• payment frequency = original term</li> <li>• percent taxable = 100%</li> <li>• accrual basis = 30/360</li> <li>• repricing frequency = 0</li> </ul>
Invalid record: Invalid Amortization Code leaf member: <leaf number>	Amortization code is not equal to 100, 200, 400, 500, 600, 700, 710, 820, 830, 840, 850	345	Oracle HM will assume an amortization code of 700
Invalid record: Maturity Date in the past leaf member: <leaf number>	Maturity Date is less than the as of date	345	Record is not processed.
Invalid record: Remaining number of payments <= 0 leaf member: <leaf number>	Remaining number of payments is less than or equal to zero.	345	Record is not processed.
Invalid record: Pmt Freq = 0 leaf member: <leaf number>	Payment frequency is equal to zero on an amortizing instrument.	345	Record is not processed.

<b>Error Message</b>	<b>Error Condition</b>	<b>Error Code</b>	<b>Effect of Error on Processing</b>
Invalid record: AmrtTerm < OrgTerm on amortizing instrument leaf member: <leaf number>	Amortization term is less than original term for amortizing instrument.	345	Re-amortization of payment will be affected.
Invalid record: Next payment date in the past leaf member: <leaf number>	Next payment date is less than the as of date.	345	If next payment date is much less than the as of date, it may cause the system to run out of memory.
Invalid record: Invalid net margin code leaf member: <leaf number>	Net margin code < 0 or 1	345	Oracle HM will default the net margin code to 0: Floating Net Rate
Invalid record: Current payment = 0 on amortizing instrument leaf member: <leaf number>	Current payment equal to zero and amortization code is other than simple / non amortizing.	345	For amortization codes of 100, 500, and 600, interest will be capitalized as principal. For amortization code of 820, no principal payments will be made.
Invalid record: Valid rate cap < current rate leaf member: <leaf number>	Rate Cap is not equal to zero and it is less than the current rate.	345	Rate cap will be imposed on first repricing date.
Invalid record: Valid rate floor > current rate leaf member: <leaf number>	Rate Floor is not equal to zero and it is greater than the current rate.	345	Rate floor will be imposed on first repricing date.

<b>Error Message</b>	<b>Error Condition</b>	<b>Error Code</b>	<b>Effect of Error on Processing</b>
Invalid record: Next repricing date in the past on repricing instrument leaf member: <leaf number>	Repricing frequency is not equal to zero and next repricing date is less than the as of date.	345	If the next repricing date is very far in the past, it may cause the system to run out of memory.
Invalid record: Invalid int rate code on repr instr leaf member: <leaf number>	Reprice frequency is greater than zero and Interest Rate Code is not found in the active Historical Rates database.	345	Instrument will not reprice.
Invalid record: Original term = 0 leaf member: <leaf number>	Original term is equal to zero.	345	This will produce erratic results if instrument is Rule of 78's; amortization term is also zero; or payment frequency is also zero on a non amortizing instrument.
Invalid record: Current net rate <= 0 on amortizing instrument leaf member: <leaf number>	Amortization code is 100, 500, 600, 820 and current net rate <= 0.	345	Negative income will be generated for positive balances.
Invalid record: Inconsistency of reprice freq and amortization leaf member: <leaf number>	Amortization code is 500 or 600 and reprice frequency is zero or amortization code is 100 and reprice frequency is non zero.	345	Reprice frequency will overwrite characteristics defined by amortization type code.
Invalid record: No of Events>16000	Number of events is greater that 16,000.	345	

<b>Error Message</b>	<b>Error Condition</b>	<b>Error Code</b>	<b>Effect of Error on Processing</b>
Invalid record: OrgTerm and PmtFreq = 0	Both original term and payment frequency are equal to zero.	345	Record is ignored.
Invalid record: Invalid Account Type	Invalid Account Type	345	Logs an error, continues execution.
Invalid record: Deferred calculations do not converge	Deferred calculations do not converge.	345	Logs an error and recognizes all deferred income at maturity.
Invalid record: YTM Calculations do not converge. leaf: <leaf number>	YTM calculation do not converge.	345	Logs an error and the YTM for the record is assumed to be zero.
Invalid record: EIR Calculations do not converge. leaf: <leaf number>	EIR calculation do not converge.	345	Logs an error and the EIR for the record is assumed to be zero.
Invalid record: Invalid Effective Interest Rate on instrument record; Market value, Yield to Maturity, Duration, Modified Duration, Convexity values have been calculated using 0 Effective Interest Rate. leaf: <leaf number>	Effective Interest Rate in the instrument record is less than 0 or greater than 99 and the discount method is EIR and in the calculation block Market value is selected and EIR is not selected.	345	Logs an error and the Market value, Yield to Maturity, Duration, Modified Duration, Convexity values will be calculated using 0 Effective Interest Rate.
Invalid record: Invalid Average Life. leaf: <leaf number>	Calculated Average life value for the record is 0.	345	Logs an error

<b>Error Message</b>	<b>Error Condition</b>	<b>Error Code</b>	<b>Effect of Error on Processing</b>
Bucket Number Mismatch	Assumption Rule was created when the active Time Bucket Rule held more/less buckets than it has currently; therefore, the Assumption Rule contains more/less bucket information than necessary.	350	If Assumption Rule holds more buckets than what currently exists, only the buckets within the current modeling term will be used. If Assumption Rule holds less buckets than what currently exists, the assumption for the last bucket will be carried forward for the remainder of the modeling term.
No Target for Roll/Auto leaf member: <leaf number> bucket: <bucket number>	Forecast Balance methods of Target Average or Target End cannot be used for a Leaf member value used as a roll-into leaf or as an autobalancing leaf member.	360	Targeting methods cannot be used for leaves specified as roll-into or autobalancing. The targeted balances will be ignored.
Res_det: Security violation	Current user does not have rights to create an Oracle HM results table.	365	Processing is stopped.
Res_det: Truncate fail	Results table for current processing rule could not be cleared of old data.	365	Processing is stopped.
Res_det: Creation fail	Results table for new processing Rule could not be created.	365	Processing is stopped.



<b>Error Message</b>	<b>Error Condition</b>	<b>Error Code</b>	<b>Effect of Error on Processing</b>
Res_det the structure of the result_detail table was invalid for selective reprocessing	The structure of the current Result Detail table does not match the IDT Result Detail Table Template.	365	Processing is stopped.
Account Type not defined for leaf member (leaf number)	In Dimension Member Set-Up, an account type attribute has not been specified for the current leaf member.	370	Account type will default to Earning Assets.
No. of scen in results > expected leaf member: <leaf number>	Number of scenarios in results set is greater than number of scenarios expected from querying the current Forecast Rates Assumption Rule while processing Autobalancing.	380	Autobalancing will only be processed for the scenarios included in the current Forecast Rates Assumption Rule.
Invalid interest type - defaulted to interest in arrears	Interest type code is not equal to 0 or 1.	385	Instrument is defaulted to "interest in arrears".
Invalid Pmt pattern: pmt pattern code. <Payment Pattern Code>for new business - abs val	Payment Pattern assigned to new business has a constant payment amount.	390	Error is logged.
No Amrt Type in Product characteristics for leaf member:<leaf number>	No amortization type code has been assigned in Product Characteristics for the current leaf member.	395	An error message is logged and instrument is defaulted to simple interest.
Invalid Currency Gain/Loss Basis. Defaulted to "Temporal"		406	

<b>Error Message</b>	<b>Error Condition</b>	<b>Error Code</b>	<b>Effect of Error on Processing</b>
Pay-Equivalent Compounding Convention. Defaulted to "Do Not Adjust"		407	
Negative FullIndexGrs Rate for leaf member: <leaf number>	A negative fully indexed gross rate was calculated on a repricing event.	505	The negative rate will be assigned to the instrument.
Negative FullIndexNet Rate for leaf member: <leaf number>	A negative fully indexed net rate was calculated on a repricing event.	505	The negative rate will be assigned to the instrument.
Negative CurGrsRate Rate for leaf member: <leaf number>	A negative current gross rate was calculated on a repricing event.	505	The negative rate will be assigned to the instrument.
Negative CurNetRate Rate for leaf member: <leaf number>	A negative current net rate was calculated on a repricing event.	505	The negative rate will be assigned to the instrument.
Negative CurTrRate Rate for leaf member: <leaf number>	A negative current transfer rate was calculated on a repricing event.	505	The negative rate will be assigned to the instrument.
Rate Not Found	Forecasted rates do not exist for interest rate code on current instrument.	520	When the instrument reprices, it will receive a zero rate.
1st point used	Reprice date occurs before forecasting period; forecasted rates do not exist.	525	This may occur if the data holds a reprice date which is less than the As of Date. Instrument will reprice to the rate as of the As of Date.

<b>Error Message</b>	<b>Error Condition</b>	<b>Error Code</b>	<b>Effect of Error on Processing</b>
Last point used	Reprice date occurs beyond forecasting period; forecasted rates do not exist.	530	This may occur when calculating market values beyond the modeling term or calculating the last reprice/payment event for accruals in the last bucket. Instrument will reprice to the rate as of the last forecasted date.
Code found only	Interest rate code exists in Forecast Rates Assumption Rule, but no rates have been forecast.	535	When the instrument reprices, it will receive a zero rate.
Prepayment tier not selected, zero prepayment rate used.	Market Rate and Quote Basis have been defined in the Prepayment Rule, but no tiers or prepayment percents have been created.	540	No prepayments will occur on this Leaf member.
Last payment date is before origination date.	The last payment date from instrument record is prior to the origination date on the instrument record.	545	Logs error and continues. For Transaction Strategy, last reprice date is set to origination date.
No reprice frequency for adjustable record.	Instrument is coded as adjustable, but the reprice frequency is equal to zero.	550	Instrument will be treated as fixed rate.
No schedule found for record.	No match can be found in the payment schedule table for the current record.	555	Logs error and defaults to simple interest record if payment frequency does not = 0.

<b>Error Message</b>	<b>Error Condition</b>	<b>Error Code</b>	<b>Effect of Error on Processing</b>
Pattern data can not be found for AMRT_TYPE:<payment pattern code>	No payment pattern information has been defined for the documented amortization type code.	560	Log error and default to simple interest.
No pattern information found for record.	Documented amortization type code exists in database, but no supporting details are available.	565	Currently is used to notify users about invalid adjustable type code. Record defaults to fixed.
Maturity date from record does not match schedule data.	The maturity date on instrument record does not exist in the payment schedule table for the current record.	570	Logs error. Uses maturity date for schedule.
Conv amrt with interest in advance, defaulted to arrears.	Conventionally amortizing instrument is classified as interest in advance. This combination is not supported.	575	The instrument will be defaulted to interest in arrears.
Invalid Amrt. Type detected. Defaulted to Simple Int.	An unknown Amortization Type Code was used.	585	Instrument will be defaulted to simple interest.
No Repricing Pattern found for record.	An unknown Adjustable Type Code was used.	600	Instrument will be defaulted to Other Adjustable.
Invalid Event_Det_Seq (Adj_Type_CD:<Adjustable type code>); Evnt_dtl_seq should start from 0.	For an Event Sequence, Event Detail Sequence has started from a non-zero value.	635	Repricing pattern is ignored and will produce erratic results if this repricing pattern is used.

<b>Error Message</b>	<b>Error Condition</b>	<b>Error Code</b>	<b>Effect of Error on Processing</b>
1st point used.	Reprice date occurs before forecasting period; forecasted rates do not exist.	725	This may occur if the data holds a reprice date which is less than the As of Date. Instrument will reprice to the rate as of the As of Date.
Last point used.	Reprice date occurs beyond forecasting period; forecasted rates do not exist.	730	This may occur when calculating market values beyond the modeling term or calculating the last reprice/payment event for accruals in the last bucket. Instrument will reprice to the rate as of the last forecasted date.
Negative Transfer Rate.		740	
Invalid duration generated for this row.		795	
Divide by zero		810	



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# Glossary

## **Aggregation**

To summarize detailed instruments to a table in the database which can be used for faster processing in ALM.

## **Answers**

Answers is the OBIEE (Oracle Business Intelligence Enterprise Edition), ad-hoc reporting tool.

## **As of Date**

Date at which the data is current.

## **Asset/Liability Management Committee**

The Asset/Liability Management Committee (or ALCO) is an organization within a financial institution whose charter is to manage interest rate and liquidity risk.

## **At-Risk Period**

The time horizon for Value-at-Risk, such as the difference between the time in the future when we evaluate a portfolio loss and the As of Date.

## **Base Rates**

Section in Oracle Asset Liability Management that stores the interest rates associated with the data As-of-Date.

## **Basis Points**

1/100th of a percent (abbreviated as "bps")

## **Cash Flow Instrument Table**

An instrument table that contains all of the OFSAA cash flow columns required by the cash flow engine.

**Cash Flow Column**

Column in an instrument table used by the OFSAA cash flow engine to perform cash flow analysis on a record.

**CPR**

Constant Prepayment Rate (CPR) is a measure of an annualized prepayment rate.

**Credit Risk**

The risk that a loan holder will be unable to repay any portion of the loan.

**Current Rate Risk Profit**

Component of funding center rate risk results attributed to current mismatches of assets and liabilities.

**Data Filter Rule**

Data Filters are used to define which data should go into a processing run.

**Data Input Helper**

A pop-up dialogue that facilitates the definition of a series of input values (dates or numbers) by allowing several methods for defining structured patterns in the data.

**DDA**

Demand Deposit Account. An example of a DDA is a checking account.

**De-annualize**

To compute the monthly equivalent rate of an annual rate.

**Duration**

Duration is the rate of market value change with respect to discount rate changes. It is a measure of market value sensitivity: the lower the value, the less sensitive the market value to changes in interest rates.

**Embedded Rate Risk Profit**

Portion of funding center rate risk result attributed to prior rate bets.

**Funding Center**

Area in a financial institution that receives the transfer pricing charge and credit for funds.



**Funds Transfer Pricing**

A method for valuing all sources and uses of funds for a balance sheet.

**General Ledger**

The main data source that defines an institution's financial reality. The General Ledger reflects all accounting entries.

**Grid**

A logical grouping of cells often surrounded by scroll bars.

**Hierarchy**

Hierarchical structure for dimension members in OFS applications (Examples: organizational and product type)

**Historical Rates Table**

OFSAA repository for all historical actual interest rates.

**Instrument**

Synonymous with an account record or an individual contract.

See also: Instrument Table, page Glossary-3.

**Instrument Table**

A type of table contained in the OFSAA database used to store account level information.

**Instrument Records**

Rows in the OFSAA database that carry transaction account level information (Example: deposit account by deposit account)

**Interest Rate Code**

User defined code to reference a yield curve or single rate index for historical analysis, transfer pricing, and interest rate forecasting purposes.

**Last Repricing Date**

Date the rate last changed for an adjustable rate instrument and the origination date for a fixed rate instrument.

**Leaf Fields**

OFSAA database fields used to define hierarchical segmentations of data. They also draw a relationship between the instrument data and the General Ledger data in

Ledger/Stat. Also known as key dimensions.

### **Leaf Values**

Specific numeric values that make up the Leaf Fields. These are dimension members that can never be used as parent nodes on a hierarchy. The fact data should always be populated with dimension member - leaf values only.

### **Ledger Stat**

Table in the OFSAA database that stores all General Ledger as well as statistical information for current and historical periods.

### **Liquidity Premiums**

A charge levied on a long-term instrument to compensate for illiquidity of the funds.

### **Log in**

To access the programs and database of any OFSAA application by providing a valid user name and password.

### **Long Run Rate**

One of the user-input parameters of the Vasicek (discrete-time) term structure model; represents the equilibrium value of the one-month annually compounded rate.

### **Market Price of Risk**

In financial economics theory the market price of risk is a measure of inter-temporal risk-aversion of the aggregate investor; for example, a high market price of risk during some future period means that investors will be more risk-averse, and that rates for that term should be higher to compensate for this risk; in practical terms, the market price of risk is the "plug" that makes the risk-neutral rates price risk-free bonds correctly.

### **Market Value**

In Monte Carlo, average of the (scenario specific) present values. In deterministic processing, it is the present value of the cash flows of the specific scenario.

### **Matched Rate Transfer Pricing**

Method of Transfer Pricing where all accounts have transfer rates that reflect their specific maturity and repricing characteristics.

### **Matched Spread**

The interest profit margin for any account, measured as the Note Rate minus the Transfer Rate for asset accounts and the Transfer Rate minus the Note Rate for Liability and Equity accounts.

**Monthly Rate**

Yield on a loan contracted at the beginning of a month for a period of one month assuming a continuous compounding basis; the monthly rate is a function of time and scenario; the Rate Generator also computes rates for a different term than a month.

**Next Repricing Term**

Repricing frequency for an adjustable rate instrument and the original term to maturity for a fixed rate instrument.

**Oracle Asset Liability Management**

ALM is an Asset/Liability management simulation tool that generates daily cash flows for each individual transaction record and allows users to model their balance sheet using both deterministic and stochastic methods.

**Oracle Business Intelligence Enterprise Edition**

OBIEE is Oracle's market leading business intelligence product. OFSAA applications are fully integrated with OBIEE through the OFSAA BI applications, including Oracle Financial Services Asset Liability Management Analytics and Oracle Financial Services Profitability Analytics.

**Oracle Financial Services Balance Sheet Planning**

Balance Sheet Planning performs distributed budgeting of all balance sheet and income statement accounts.

**Oracle Financial Services Funds Transfer Pricing**

Funds Transfer Pricing performs Matched Rate Transfer Pricing for an entire balance sheet.

**Oracle Financial Services Pricing Management – Transfer Pricing Component**

Pricing Management allows users to call the Transfer Pricing engine in real time, providing the line bankers with on-demand information to support deal pricing.

**Oracle Financial Services Profitability Management**

Profitability Management assists customers in developing multiple levels of profitability (Example: organizational, product, customer, account profitability).

**Oracle Financial Services Analytical Applications Infrastructure**

OFSAAI is a set of powerful administrative tools that provide management of the OFSAA environment and access to the database by OFS application users. The Infrastructure is a required component for all OFSAA applications with the exception of Balance Sheet Planning.

### **Oracle Financial Services Advanced Analytical Applications Infrastructure**

The advanced infrastructure provides the modeling framework and stress testing framework as additional complimentary components to supplement to core analytic applications.

### **Operating Cost**

Non-interest related cost of running a business.

### **Option Costs**

Costs assigned to measure the value of any customer option on an instrument. (Example: prepayments on mortgage loans). These costs are typically added to the base transfer rate to compute an all-in funding rate.

### **Portfolio Fields**

Fields in the OFSAA database that are common to multiple instrument tables. The OFSAA Administrator determines the portfolio fields.

### **Prepayment**

A reduction in the principal balance of a transaction record prior to the contracted schedule date.

### **Present Value**

In Monte Carlo, sum of cash flows paid by a security along a particular rate scenario, discounted by the stochastic discount factor. In deterministic processing, the sum of the cash flows discounted by the deterministic discount factor.

### **PSA**

A prepayment specification method established by the Public Securities Association, which relates the CPR to the age of that instrument.

### **Reconciliation**

The process of comparing information from one data source to another.

### **Record**

Usually a single account or transaction, or aggregation of accounts, stored in the database (also called a row).

### **Reporting Currency**

An active currency to which balances in other currencies are consolidated, often used for reporting.

**Single Rate**

An interest rate code with only one point defined (Examples: prime rate and 11th District Cost of Funds Index).

**Speed of Mean Reversion**

One of the user-input parameters of the Vasicek and Extended Vasicek (discrete time) term structure models; represents the long-run drift factor.

**SQL**

Structured Query Language. A direct method of accessing the raw OFSAA database.

**Stochastic Discount Factor**

Present value (along a rate scenario) of one dollar received at some future time; it is a function of future time, OAS, and scenario.

**Transfer Pricing Rule**

An OFSAA Rule used to specify the method for transfer pricing each balance sheet account.

**Volatility**

One of the user-input term parameters of all (discrete-time) term structure models; represents a standard deviation of the one-month annually compounded rate.

**Yield Curve**

Term structure of annually compounded zero-coupon bond yield, as recorded in Rate Management > Historical Rates.



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