Oracle Fusion Cloud ERP

Implementing Common Features for Financials and Project Management

26D

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Get Help

In addition to the resources available in Oracle Help Center, you can explore training, connect with the Oracle community, and share your feedback.

Get Training

Increase your knowledge of Oracle Cloud by taking courses at *Oracle University*.

Join Our Community

Use *Cloud Customer Connect* to get information from industry experts at Oracle and in the partner community. You can join forums to connect with other customers, post questions, suggest *ideas* for product enhancements, and watch events.

Share Your Feedback

We welcome your feedback about Oracle Applications user assistance. If you need clarification, find an error, or just want to tell us what you found helpful, we'd like to hear from you.

You can email your feedback to *oracle_fusion_applications_help_ww_grp@oracle.com*.

Thanks for helping us improve our user assistance!

1 Overview

Overview of Common Implementation

Common implementation involves performing setup tasks that are common and available within multiple offerings. The Application Extensions and other functional areas comprise these common setup and implementation tasks.

Application Extensions

Use the Application Extensions functional area to configure common business objects. For example, you can do these tasks:

- Configure workflow tasks, for example to identify how and to whom approvals are routed.
- Review and manage objects, for example currencies and reference data sets shared across applications.
- Configure common reference objects, such as flexfields, document sequences, and profile options that affect the functionality and look of Oracle Applications Cloud.

Other Functional Areas

Other functional areas contain several tasks to manage common functions that apply to the entire implementation. Examples of such functional areas include Legal Structures, Users and Security, and Enterprise Profile. Here are a few examples of tasks you can do using these functional areas:

- Set up security, enterprise structures, geographies, and business units.
- Create and maintain user accounts and sync the list of users and roles stored in Lightweight Directory Access Protocol (LDAP).

Create Implementation Users

You must have at least one implementation user. To ensure segregation of critical duties, multiple implementation users are recommended. For example, one implementation user typically performs functional setup tasks and another performs security setup tasks. When you create implementation users, you also assign predefined job roles to them directly. The job roles vary with the tasks that the implementation users perform.

See *How do I create and manage users?* for more information.

Enable Features to Access Common Setup Tasks

To access various common setup tasks, you need to enable these features in the Offerings work area.

> **Note:** Apart from the features listed below, you might also need to enable other features to use other common tasks within Application Extensions and in other functional areas.

- **Maintain Common Reference Objects**: You can enable this feature to implement common functionality, such as reference data sets, language, or general preferences. After enabling this feature, you can use tasks available in the Application Extensions functional area to manage common reference objects defined centrally and shared across applications.

Here's a list of tasks you can use after enabling this feature:

- Manage Taxonomy Hierarchy
- Manage Reference Data Sets
- Manage Set Assignments for Set Determinant Type
- Manage Reference Data Set Data Access for Users
- Manage Currencies
- Manage ISO Languages
- Manage Territories
- Manage Languages
- Manage Industries
- Manage Natural Languages
- Manage Time Zones
- Manage Data Security Policies
- Set User General Preferences
- Manage Audit Policies
- Manage Applications Core Messages
- Manage Applications Core Standard Lookups
- Manage Applications Core Profile Options
- Manage Applications Core Administrator Profile Values
- Manage Applications Core Profile Categories
- Manage Applications Core Value Sets
- Manage Applications Core Descriptive Flexfields
- Manage Applications Core Attachment Entities
- Manage Applications Core Attachment Categories
- Manage Applications Core Global Search Configurations
- Manage Applications Core Global Search Suggestion Groups
- Migrate Enterprise Roles and Assignments to PaaS Identity Store
- Manage Configuration Set Migration Target Security Policy
- Manage User Identity Synchronization to PaaS Identity Store
- Manage Read-Only Schema Column Masking for Users
- Configure Guided Learning

- **Application Toolkit Component Maintenance**: You can enable this feature to implement the Reports and Analytics panel tab and the Watchlist.

  Here's a list of tasks available in the Application Extensions functional area after you enable the Application Toolkit Component Maintenance feature:

  - Map Reports to Work Areas
  - Set Watchlist Options
  - Manage Application Toolkit Administrator Profile Values

Related Topics

- Configure Offerings

Purchase and Activation of Oracle Fusion Cloud Applications

Purchase, activate, and manage services for Oracle Fusion Cloud Applications services.

The process involves:

- Purchasing and activating your services.
- Verifying that the services are activated, monitoring the services, and performing other administrative tasks.

Service Purchase and Activation

Your buyer or an Oracle sales representative orders a cloud service and specifies information about the account administrator during the ordering process. The account administrator performs the functions of both the service administrator and the tenancy administrator.

Here's how your buyer can order a subscription:

1. Go to *Oracle Cloud Applications* to browse applications and compare products and features.
2. When ready to order, click **Contact Sales** to chat, call, or submit a message to Oracle Sales.

The account administrator receives an email to activate the service. As part of activation, the account administrator associates the new cloud subscription with an Oracle account.

See: *Activating Your Oracle Cloud Applications Order*

Service Availability in US Government Regions

If you're in noncommercial regions within the US, contact your Oracle account or sales representative for details about service and feature availability in your regions.

Alternative Versions of Specified Oracle Services

From time to time, at Oracle's sole discretion, Oracle may make alternative versions of specified Oracle services available for customers to access on a limited basis. These alternative versions may not have the same feature sets as

the versions of these services for which a fee is paid, and Oracle may terminate and no longer make available these alternative versions at any time.

Next Steps

- The administrator who's identified during the activation process creates backup tenancy administrators for managing and monitoring the service.

  See: *Managing Oracle Cloud Users with Specific Job Functions*

- The same administrator or any of the tenancy administrators would manage and monitor the service, including creating and managing environment families and environments.

  See: *Fusion Applications Environment Management*

  - As part of managing an environment, the administrator adds Fusion administrators.

    See: *Environment Management Tasks*
  - Fusion administrators can sign in to Fusion Applications and get other users set up so that they can also sign in and work in Fusion Applications.
- Functional implementors perform configuration and setup steps in Fusion Applications.
- Developers can add features to extend the application.
- Your cloud service will be updated regularly.

  See: *Oracle Applications Cloud - Fusion Applications Update Policy (KB160632)* on *My Oracle Cloud Support*.

Diagnose and Synchronize Application Data

Sometimes, inconsistency errors might occur in the application data. To resolve these errors, you can run the Diagnose and Synchronize Application Data scheduled process. Oracle Support might request you to run this process, or you can proactively run the process as needed.

Using this process, you can do these tasks.

- Delete orphan rows in the base and translation tables
- Reconcile GUID and clear the data security cache
- Update the value set of empty flexfield segments

Run the Diagnose and Synchronize Application Data process from the Scheduled Processes work area.

- From the **Operation Type** list, select the task.

  > **Note:** Make sure to select an operation type, because if you leave it blank, the process might run into errors.

- From the **Action Type** list, select the required option. You can choose to just view any inconsistency errors, or to view and fix the errors.

After the process is completed, you can check the log file of the process to see the details of any inconsistency errors.

Related Topics

- Submit Scheduled Processes and Process Sets

FAQs for Common Implementation

How can I configure a friendly URL for accessing Oracle Fusion Cloud Applications?

As the tenancy administrator or Fusion Applications environment administrator, you've a few options for configuring the URL used to access Fusion Applications.

When first provisioning an environment, you can add a custom prefix to the Oracle-owned application domain that's automatically assigned. For example, instead of `abcdef.fa.ocs.oraclecloud.com`, you can change it to `<prefix>-abcdef.fa.ocs.oraclecloud.com`, such as `vision-abcdef.fa.ocs.oraclecloud.com`. See *Fusion Application Environment Setup Wizard* and *To create an environment*.

After the environment is provisioned, you can no longer change the application domain, but you can configure a vanity domain. When configuring a vanity domain, you've two options:

- Add a custom prefix. You can now configure a vanity domain to change the prefix to something like `visionappsnew-abcdef.fa.ocs.oraclecloud.com`. See *Add a custom prefix to the application domain.*
- Configure your own custom domain, such as `apps.vision.com`. See *Create the custom domain*.

Note:

- The application domain is immutable and you must use it for any integrations that are done, for example, using REST APIs and deep links. Don't use the vanity domain even if it's configured, because the vanity domain can change.
- If you previously configured a vanity domain for the candidate experience in Oracle Recruiting, you must make a minor adjustment to your Oracle Recruiting setup so that the two vanity domains can coexist. See *Recruiting Vanity URL Coexistence with Fusion Vanity URL* in Oracle Fusion Cloud Recruiting 26B What's New.

For more information, see *Understanding Vanity Domains*.

Vanity Domain Impact on iFrames and Cross-Origin Communication in Browsers

If your applications contain iFrames, or if you're using window.postMessage to enable cross-origin communication in a browser, such as between an application page and an iFrame embedded within it, you'll need to do some additional configuration after configuring a vanity domain.

Additional iFrame Setup

If you use a custom Fusion Applications page that embeds your company-owned application page through iFrame, your company-owned page might be configured to return something like this, where `<canonical-domain-name>` is the original application domain:

```
Content-Security-Policy: frame-ancestors 'self' https://<canonical-domain-name>
```

After configuring a vanity domain, you must change this to include both domains:

```
Content-Security-Policy: frame-ancestors 'self' https://<canonical-domain-name> https://<vanity-domain-name>
```

Additional window.postMessage Setup

To send messages securely in a browser between a Fusion Applications page and your company-owned application page, you might already have this request configured:

```
window.postMessage(message, 'https://<canonical-domain-name>');
```

After configuring a vanity domain, you must change this request to include both possible domains:

```
window.postMessage(message, 'https://<canonical-domain-name>');
window.postMessage(message, 'https://<vanity-domain-name>');
```

On the receiving side, you might have something like this:

```
window.addEventListener("message", (event) => {
  if (event.origin !== "http://<canonical-domain-name>") return;
  // …
});
```

After configuring a vanity domain, you must change this to:

```
window.addEventListener("message", (event) => {
  if (event.origin !== "http://<vanity-domain-name>"
    && event.origin !== "http://<canonical-domain-name>") return;
  // …
});
```

Why can't I edit setup data?

The configuration of your setup data may be protected. Application developers mark some configurations as protected, indicating that you can't edit them.

Some examples of configurations that may be protected are:

- Descriptive flexfields
- Extensible flexfield contexts
- Extensible flexfield pages
- Value sets
- Tree structures

Why does the Date field display a different value than my preferred date?

By default, the **Date** fields that don't have any associated time values show the date in the server time zone, UTC, irrespective of your preferred time zone.

Also, if you're using the calendar date picker to set today’s date, the **Date** field gets populated with the current date in the server time zone, not your preferred time zone.

2 Maintain Common Reference Objects

Set General Preferences for All Users

Use the Global Admin Preferences page to set general preferences, such as language, currency, and time zone for all users.

Use the **Set User General Preferences** task only if you want to update preferences for all users. Your users can still set preferences for themselves using the settings in the General Preferences section on the Preferences page. Once you set the general preferences for all users, if specific users don't change their preferences, the choices you have set for all users will apply to them. You can also set the default value formats for date, time, and number in regional preferences for all users.

To set general preferences, do these steps:

1. Click **Navigator** > **My Enterprise** > **Setup and Maintenance.**
2. In the Setup and Maintenance work area, go to the **Set User General Preferences** task in the Application Extensions functional area.
3. Set the required general preferences for your users.

   > **Note:** You can also set the value formats for regional preferences, such as date, time, and number for your users using profile options.

4. If you only want to set the preferences for new users whose preferences haven't been set by them yet, select the **Reset preferences for new users only** check box. Selecting this option excludes all users whose preferences were set at some point in time.
5. Click **Save**.

Related Topics

- Set Value Formats for Regional Preferences for All Users
- Set Your General Preferences

Set Value Formats for Regional Preferences for All Users

Use profile options to set the default formats of values for regional preferences, such as date, time, number, currency, and time zone for all users.

You can set the values of specific profile options at the site layer using the Manage Administrator Profile Values page. The formats you set here are displayed for all users in the fields for regional settings on the General Preferences: Regional page. Your users can still set the value formats for themselves using the settings in the General Preferences: Regional page. Once you set the value formats for all users, if specific users don't change their value formats, the choices you have set for all users will apply to them.

To set value formats for profile options, do these steps:

1. Click **Navigator** > **My Enterprise** > **Setup and Maintenance.**
2. In the Setup and Maintenance work area, go to the **Manage Administrator Profile Values** task in the Application Extensions functional area.

3. Set the value formats for the profile options, as required:

   > **Note:** Check if the profile option already has a value set for the Site profile level. If so, just edit that value. Otherwise, create a new row and select a value for the Site profile level so that your settings apply to all users.

   - To set the date format:
     i. Search for the **Default Date Format (FND_DATE_FORMAT)** profile option.
     ii. In the FND_DATE_FORMAT: Profile Values section, click the **New** icon.
     iii. From the **Profile Level** list, select **Site**.
     iv. From the **Profile Value** list, select the required date format. For example, **31-1-1999**.
   - To set the time format:
     i. Search for the **Default Time Format (FND_TIME_FORMAT)** profile option.
     ii. In the FND_TIME_FORMAT: Profile Values section, click the **New** icon.
     iii. From the **Profile Level** list, select **Site**.
     iv. From the **Profile Value** list, select the required time format. For example, **1:30 PM**.
   - To set the number format:
     i. Search for the **Default Number Format (FND_NUMBER_FORMAT)** profile option.
     ii. In the FND_NUMBER_FORMAT: Profile Values section, click the **New** icon.
     iii. From the **Profile Level** list, select **Site**.
     iv. From the **Profile Value** list, select the required time format. For example, **-1,234.567**.
   - To set the default currency:
     i. Search for the **Default Currency (FND_CURRENCY)** profile option.
     ii. In the FND_CURRENCY: Profile Values section, click the **New** icon.
     iii. From the **Profile Level** list, select **Site**.
     iv. From the **Profile Value** list, select the required currency. For example, **US Dollar**.
   - To set the default time zone:
     i. Search for the **Default User Time Zone (FND_TIMEZONE)** profile option.
     ii. In the FND_TIMEZONE: Profile Values section, click the **New** icon.
     iii. From the **Profile Level** list, select **Site**.
     iv. From the **Profile Value** list, select the required time zone. For example, **US Pacific Time**.
4. Click **Save and Close**.

Related Topics

- Set General Preferences for All Users
- How do I update existing setup data?

Set a Banner Message in the Global Header

Let's say you want to communicate some important information to your users. You can set a banner message to display such information in the global header. But here are a few things to keep in mind.

- The banner message doesn't support translation. It will be only in English.

- Oracle may override your banner message if required.

To set a banner message, do these tasks:

1. In the Setup and Maintenance work area, go to the **Manage Administrator Profile Values** task in the Application Extensions functional area.
2. Search for the **Banner Message** (**FND_BANNER_MESSAGE**) profile option.
3. In the FND_BANNER_MESSAGE: Profile Values section, click the **New** icon.
4. From the **Profile Level** list, select **Site**.
5. In the **Profile Value** field, enter the message that you want to show in the global header.

> **Note:** The length of your message must not exceed 1000 characters. If your message has more than 77 characters, only the first 77 characters are displayed on the global header, and the complete message appears when you hover over the banner.

6. Click **Save and Close**.
7. Sign out and sign back in to see the banner message.

Related Topics

- Set Profile Option Values
- How do I update existing setup data?

Set CSV as the Default Option for Exporting Table Data

You can specify Comma Separated Values (CSV) as the default file format for exporting most table data to excel. To specify this setting, use the **File Format for Export to Excel** profile option.

> **Note:** For tables that contain rows with detail facets, the table data doesn't get exported to the CSV format.

Follow these steps:

1. In the Setup and Maintenance work area, go to the **Manage Administrator Profile Values** task in the Application Extensions functional area.
2. Search for the **File Format for Export to Excel (ORACLE.ADF.VIEW.EXPORT_DEFAULT_TYPE)** profile option.
3. In the ORACLE.ADF.VIEW.EXPORT_DEFAULT_TYPE: Profile Values section, click the **New** icon.
4. From the **Profile Level** list, select **Site**.
5. From the **Profile Value** field, select **Export to CSV**.
6. Click **Save and Close**.

Related Topics

- Set Profile Option Values
- How do I update existing setup data?
- What's the difference between Export to Excel and desktop integration for Excel?

FAQs for Maintain Common Reference Objects

How can I determine which languages appear in the Translation Editor in Fusion Applications?

1. In Setup and Maintenance, go to the **Manage Applications Core Administrator Profile Values** task and search for the **Translation Editor Languages** (FND_TRANS_EDITOR_LANGS) profile option.
2. For the Site level profile value, enter a comma-separated list with either the complete names of the languages or just the language codes specified on the Manage Languages page. For example, F for French and KO for Korean.

> **Note:** You can only specify languages available in the supported language pack. If you don't specify any value, all available language packs will appear in the translation editor.

After the users' next sign in, the languages will be available as options for them while they're editing translated text.

How do I define whether the user image, name, or initials display in the global header?

Set the User Image Display Enabled (FND_USER_PHOTO_ENABLED) profile option.

If you select:

- Yes, then the user image is displayed in the global header only if the user uploaded a photo. Otherwise, the user's initials are displayed. By default, this profile option is set to Yes.
- No, then only the user name is displayed in the global header.

Related Topics

- Change Your Photo

Define Application Taxonomy

Overview of Application Taxonomy

Oracle application components and functions are organized in a hierarchy, ranging from product lines to logical business areas. The hierarchy represents a breakdown of products into units based on how applications are installed and supported.

In the Application Extensions functional area within your offering, search for the Manage Taxonomy Hierarchy task and view the hierarchy on the Manage Taxonomy Hierarchy page.

Hierarchy

- The application taxonomy hierarchy contains various levels and types of nodes, or modules.

Usage

- Use application taxonomy to understand relationships among applications and between an application and its files. This information is helpful in managing various phases of the product life cycle.

Modules in Application Taxonomy

The application modules are organized in a hierarchy, the highest level being the product line, followed by the product family, application, and logical business area.

There can be multiple levels of logical business areas, with one or more nested within a parent logical business area. A module is a node at any of these levels. Each level is briefly described here.

- Product Line: A collection of products associated with a single brand name, for example, Oracle Fusion.
- Product Family: A collection of products associated with a functional area that may or may not be licensed together as a single unit, for example Oracle Fusion Financials.
- Application: A single product within a product family, containing closely related features for a specific business solution, for example General Ledger.
- Logical Business Area: A collection of business object definitions organized into a logical grouping. It contains the model objects, services, and UI components for those business objects. Logical business areas have their own hierarchy levels and in some cases can be up to two or three levels deep.

Related Topics

- Guidelines for Managing Modules in Application Taxonomy

Guidelines for Managing Modules in Application Taxonomy

In the application taxonomy hierarchy, when you create a module, it becomes a child of the currently selected node. Once created, you can't delete the module or move it elsewhere in the hierarchy.

From the Manage Taxonomy Hierarchy page, navigate to the Create Child Module or Edit Module page to manage the modules. As you create or edit modules, consider the following points regarding specific fields.

Identifiers

Module ID is the unique primary key for nodes in the taxonomy table. When you create a module, a unique read-only ID is automatically generated. The module contains two other identifiers: Module key and alternative ID. The module key is a string identifier, for example AP for the Oracle Fusion Payables application. The alternative ID is a numeric identifier, for example 1 for the Oracle Fusion product line. These additional identifiers are provided for the product line, product family, and application modules. However, you can optionally add them for logical business areas and new modules.

Note: Don't change the module key or alternative ID for predefined modules.

The product code is relevant only to application and logical business area modules. You can leave the field blank for other module types. The product code for applications is the short name that can be displayed in lists of application values. For example, FND for Oracle Fusion Middleware Extensions for Oracle Application.

Names

Module name is the logical name for the module. The name must be unique among nodes within the hierarchy level with the same parent, but Oracle recommends keeping it unique in the entire hierarchy. The user name and description can appear to users in other parts of Oracle Applications Cloud.

Usage Types

Though you can update the usage type to reflect the current state of the module, just doing so doesn't affect the actual state. For example, setting a module as installed doesn't mean the module is actually installed if the installation itself didn't take place. Installation refers to operations related to laying down all the components required to create an Oracle Applications Cloud environment. Deployment is the process that starts the managed servers and clusters and facilitates the actual use of product offerings. A licensed module is available for installation and deployment, and a deployed module is considered actively used when actually used by users.

Seed Data

If seed data is allowed, then data residing in flexfields and lookups can be extracted for the module using seed data loaders. By default, extract is allowed for all predefined modules of type application and logical business area.

Associations

You can associate a logical domain to modules of the type Product Family, as well as one or more enterprise applications to modules of type Application. This association represents the relationship between the taxonomy modules and the corresponding domain and enterprise applications stored in the Oracle Applications Cloud Functional Core (ASK) tables.

Related Topics

- Modules in Application Taxonomy

Define ISO Reference Data

Language Packs on Your Application

A language pack contains artifacts that are translated to a specific language. Translated artifacts include UI text, predefined data, messages, BI catalog data, and so on.

> **Note:** Enter only UTF-8 compatible characters for input and avoid external or platform-dependent characters that may not be supported.

Here are the supported languages other than American English:

- Arabic
- Chinese (Simplified)
- Chinese (Traditional)

- Croatian
- Czech
- Danish
- Dutch
- Finnish
- French (Canadian)
- French (European)
- German
- Greek
- Hebrew
- Hungarian
- Italian
- Japanese
- Korean
- Norwegian
- Portuguese (Brazilian)
- Polish
- Romanian
- Russian
- Slovak
- Spanish
- Swedish
- Thai
- Turkish
- Ukrainian
- Vietnamese

How to Install Language Packs

To install language packs on all your environments, contact your help desk. For more information about language packs, see Oracle Applications Cloud Service Definition - Language Packs (2073202.1) on My Oracle Support at https://support.oracle.com. There's no limit to the number of language packs you can ask for in one service request. But you must only install the language packs you need to conduct your day-to-day business because of these reasons:

- Once you request a language pack, the installation will be scheduled for all your environments, including production, staging, and test environments, so that they're all in sync.
- It takes time and resources to install language packs. So you might get extended outages during updates, especially if you have four or more language packs installed in your environments.
- Once you install any language, you can't uninstall it later.

You can view all available languages, whether they're already installed or available for installation and translation. In the Setup and Maintenance work area, use the **Manage Languages** task in the Application Extensions functional area. Each

dialect is treated as a separate language. Generally, you don't need to edit any of the fields on the Manage Languages page, unless absolutely necessary.

Related Topics

- How do I update existing setup data?

Considerations for Natural Languages

Natural languages are all the languages that humans use, written and spoken. If a language is enabled, then users can associate it with entities, for example as languages spoken by sales representatives.

When managing natural languages, consider tasks to perform and best practices for entering particular values.

Tasks

Once you add a language, it can't be deleted, but just disabled. You can optionally associate natural languages with International Organization for Standardization (ISO) languages and territories, just for reference.

Values

When you create a natural language, use the alpha-2 ISO code as the language code, or, if not available, then alpha-3. If the language isn't an ISO language, then use **x-** as a prefix for the code, for example **x-ja** for a Japanese dialect. Use the **sgn** code of ISO-639-2 for sign languages, followed by territory code, for example **sgn-US** for American Sign Language. You can also use Internet Assigned Numbers Authority (IANA) language tags.

The natural language description must be the language name with territory name in parenthesis where needed, for example **English (Australia)** and **English (Canada)**.

FAQs for Define ISO Reference Data

When do I create or edit territories?

The predefined territories are countries from the International Organization for Standardization (ISO) 3166 standard. Edit territory descriptions to determine how they're displayed in lists of country values in an application.

You don't have to edit territory names or codes unless there is a specific requirement. Create territories if new countries emerge and the application isn't yet patched with the latest ISO country values.

> **Note:** The National Language Support (NLS) territory codes are territory identifiers used in the application. Don't edit the codes unless you must change the association between ISO and the application territory.

When do I create or edit industries?

To meet a specific business need, you may edit industry names or descriptions of industries except for those belonging to the North American Industry Classification System (NAICS). Edit the industry descriptions also to determine how they appear in an application.

You may also create industries with specifications not included in the NAICS standards.

When do I associate industries with territories?

To meet specific business needs, you can associate industries with territories. For example, administrators can configure a page in different ways for different sets of users of the same industry, but residing in different countries.

When do I create or enable currencies?

Create or enable any currency for displaying monetary amounts, assigning currency to ledgers, entering transactions, recording balances, or for any reporting purpose. All currencies listed in the International Organization for Standardization (ISO) 4217 standard are supported.

The default currency is set to United States Dollar (USD).

Related Topics

- Considerations for Defining Currencies

What do I do if a currency code I am still using in my existing transactions is desupported?

Temporarily remove the end dates of these currencies and close the transactions or wait for the transaction life cycle to complete. Then add the end dates for the currencies again so that you use new codes for any new transactions.

> **Note:** In General Ledger, you can't change the currency for existing ledgers. So if you're using any desupported currency codes as ledger currencies in primary, secondary, or reporting currency ledgers, then remove the end dates of these currencies to continue using them.

Here's how you update the end date for a currency code:

1. In the Setup and Maintenance work area, go to the **Manage Currencies** task in the Application Extensions functional area.

   > **Note:** If you don't see this task, make sure the Maintain Common Reference Objects feature is enabled at the offering level in the Offerings work area.

2. Search for the obsolete currency code, for example STD.
3. Remove the end date of the currency code.
4. Save your changes.

Related Topics

- How do I update existing setup data?
- Configure Offerings

What's the difference between precision, extended precision, and minimum accountable unit for a currency?

Precision refers to the number of digits placed after the decimal point used in regular currency transactions. For example, USD would have 2 as the precision value for transactional amounts, such as $1.00.

Extended precision is the number of digits placed after the decimal point and must be greater than or equal to the precision value. For calculations requiring greater precision, you can enter an extended precision value such as 3 or 4. That would result in the currency appearing as $1.279 or $1.2793.

Minimum accountable unit is the smallest denomination for the currency. For example, for USD that would be .01 for a cent.

You can set these values for a currency using the **Manage Currencies** task in the Application Extensions functional area in the Setup and Maintenance work area.

> **Note:** When setting up currencies, make sure you use the correct precision. Some currencies, for example, the Chilean peso, don't support precision at all.

What's a statistical unit currency type?

The statistical unit currency type denotes the Statistical (STAT) currency used to record financial statistics in the financial reports, allocation formulas, and other calculations.

When do I create or edit ISO languages?

Edit the names and descriptions of International Organization for Standardization (ISO) languages to determine how they appear in the application. The ISO languages are a part of the ISO 639 standard.

If any change to the ISO standard doesn't reflect in the application, you can update the ISO alpha-2 code or add languages to provide up-to-date information.

Can I add or edit time zones?

You usually don't add or edit time zones because all standard time zones are provided. However, you may create time zones if new zones become standard and the application isn't yet updated with the latest values.

You can rename existing time zones and enable them. Only the enabled time zones are available for all users to select while setting their regional general preferences.

To add or edit time zones, use the following in the Setup Maintenance work area:

- Functional Area: Application Extensions
- Task: Manage Time Zones

Search Extension Framework

Overview of Search

Users can search for product-specific business objects, such as documents, records, and purchase orders. They can use highly responsive, index-based, and full-text search capabilities. The search platform has these components.

- The search engine, which provides primary search capabilities, such as indexing and querying, as well as supports search functions such as keyword and attribute search.
- The search extension framework, which serves as an integration layer between search engine and Oracle Applications Cloud.

Search Extension Framework

You can use the search extension framework to define product-specific searchable business objects and provide real time, index-based, and full-text search capabilities using REST and Java APIs.

This metadata-based framework supports search features, such as functional and data security and Natural Language Support. You can manage and configure the indexes after they're created, such as manage bulk uploads or provide production-to-test support.

Here are some of the things you can view in the search results using this framework.

- List of attributes and their associated set of available values. The attribute search results are based on the attributes of the business objects. After selecting a value for each attribute in the search result, you get more filtered results.
- Action links associated with the searchable objects. From the search results, you can either go straight to the related page or open a specific task.
- Recent searches for all the business objects enabled in the search.
- Basic search results based on the keywords used.
- Configured attachments related to transactional objects and record in your application.

> **Note:** The search extension framework is available only for certain product families. Refer to the product-specific documentation to determine if your product uses this framework.

Enable Search Extension Framework

Enable the search extension framework to create indexes, ingest predefined indexes, perform bulk ingest, and manage search capabilities.

- Make sure the **Enable/Disable Search Ext Framework** (**ORA_FND_SEARCH_EXT_ENABLED**) profile option is set to **Yes**. By default, this functionality is enabled and can't be edited.
- Make sure that you've the Manage Scheduled Job Definition (FND_MANAGE_SCHEDULED_JOB_DEFINITION_PRIV) privilege to run scheduled processes.
- Submit the **ESS job to create index definition and perform initial ingest to OSCS** process for creating indexes and ingesting predefined indexes.

  > **Note:** This job should only be run once and not on a regular or scheduled basis.

- Submit the **ESS job to run Bulk ingest to OSCS** process for ingesting bulk data to Oracle Search indexes.

> **Note:** If you don't specify any index names while submitting the process, the process will run for all predefined indexes. We recommend you to create indexes related to your product family only. See the product-specific documentation to find the index names for your product family.

Related Topics

- Set Profile Option Values
- Submit Scheduled Processes and Process Sets

FAQs for Search Extension Framework

What do I do if the process for creating indexes keeps failing?

It might be because of one or more of these reasons.

- You entered incorrect index names while submitting the process. Make sure that your ESS job parameters have the correct index names. If the problem persists, contact your help desk.
- You might not have enabled the search extension framework. Make sure you enable it.
- Your search cloud service isn't reachable. To check its availability, submit the **ESS process to check Search Cloud Service availability** process.

What do I do if I get errors about enabling the search extension framework?

Follow these steps.

1. Make sure the **Enable/Disable Search Ext Framework** (**ORA_FND_SEARCH_EXT_ENABLED**) profile option is set to **Yes**.
2. Create indexes and ingest predefined indexes. To do so, submit the **ESS job to create index definition and perform initial ingest to OSCS** process.

   > **Note:** This job should only be run once and not on a regular or scheduled basis.

Related Topics

- Set Profile Option Values

What do I do if I get errors stating that the Oracle Search Cloud Service or OSCS isn't reachable?

Follow these steps.

1. Check the availability of search cloud service. To do so, submit the **ESS process to check Search Cloud Service availability** process.
2. Create indexes and ingest predefined indexes. To do so, submit the **ESS job to create index definition and perform initial ingest to OSCS** process.

   > **Note:** This job should only be run once and not on a regular or scheduled basis.

Related Topics

- Submit Scheduled Processes and Process Sets

Define Global Search

Overview of Global Search Setup

You have many options for setting up the global search, from enabling or disabling it completely to controlling what appears in the autosuggest. For most of the steps, use setup tasks in the Setup and Maintenance work area.

Enable Global Search

A predefined set of business objects, for example files related to purchase order, are available for global search. These objects are grouped into categories. The search gives you results from indexed data that matches your search term.

1. Make sure that objects and categories are already set up.
2. Set the **Global Search Enabled** (**FUSION_APPS_SEARCH_ENABLED**) profile option to **Yes** at the Site level.
    - Otherwise, the **Search** field isn't available in the global header for any user.
    - After you set the profile option, users must sign out and sign back in to see the global search.

> **Note:** Enabling global search is the only mandatory setup. You can skip the following setup steps, and just use the default configuration for the global search.

Define Global Search

Use the following tasks in the Application Extensions functional area to control how the global search works:

- **Manage Applications Core Global Search Configurations**: Define configurations that capture a collection of settings, and determine which configurations are enabled or used as default. Each configuration applies to the global search on all or specific applications or pages.
- **Manage Applications Core Global Search Suggestion Groups**: Define suggestion groups, which represent categories of suggestions in the autosuggest.

Retain Recent Items

You can set the Recent Items Retention (FND_PURGE_RECENT_ITEMS) profile option to determine how long to retain recent items for the global search autosuggest. A page that the user opened can appear in the user's autosuggest until the specified number of days passes. Aside from the autosuggest, this profile option also applies to the recent items tracked in **Favorites and Recent Items** in the global header.

Related Topics

- Set Profile Option Values
- Examples of Global Search Configurations Set as Enabled or Default
- Create Global Search Configurations
- Suggestion Groups for Global Search

Manage Global Search Configurations

Examples of Global Search Configurations Set as Enabled or Default

Each global search configuration contains settings for the global search, and a configuration can apply to specific pages or applications.

Use the Manage Global Search Configurations page to enable or disable configurations, and select the one to use as the default. The following scenarios explain which configurations actually apply to the global search, depending on the configurations that you enable or set as default.

Predefined Default

The predefined Default configuration is always enabled and set as a default. This configuration is the working default unless a custom global search configuration is also set as a default. In this scenario, you don't enable any other configuration, so this Default configuration applies to the global search on all pages, in all applications.

Custom Default

You create a global search configuration that applies to page A and application B. Later, you set your configuration as the default. Only this configuration and the predefined Default configuration are enabled. Both are set as default.

The result is that:

- Your configuration overrides the predefined Default one and becomes the working default.
- Even though you defined your configuration to apply to page A and application B, it now actually applies to all pages and all applications. This is because your configuration is the working default, and no other configuration is enabled.

Specific Pages or Applications

You're using either the predefined Default configuration or a custom configuration as the default. You also enable:

- **Configuration 1:** Applies to application A
- **Configuration 2:** Applies to application B and a few pages in application A

The result is that:

- Configuration 1 applies to all pages in application A, except the few pages that use configuration 2.
- Configuration 2 applies to all pages in application B, plus the few pages in application A.
- The default configuration applies to all other applications and pages.

Related Topics

- Create Global Search Configurations

Create Global Search Configurations

Predefined global search configurations control how the global search works. You can't edit predefined configurations, but you can duplicate them and edit the copies, or create your own from scratch.

1. In the Setup and Maintenance work area, go to the **Manage Applications Core Global Search Configurations** task in the Application Extensions functional area.
2. On the Manage Applications Core Global Search Configurations page, do any of these tasks:
   - Click the **Create** icon.
   - Select a row and click the **Duplicate** icon.

   > **Note:** Once you create a configuration, you can't delete it, but you can disable it.
3. For the short name (identifier for your configuration), enter an alphanumeric code with uppercase letters and no spaces.
4. Enter a user-friendly display name and description for the configuration.
5. Select the **Default** check box to use your configuration as the default instead of the predefined Default configuration. If another custom configuration was already set as the default, then your configuration becomes the new custom default.
6. Select a product family if the configuration is for applications or pages within a specific family. Otherwise, select **Common**.
7. If you're creating a duplicate, click **Save and Close**. To go on to the next steps and define more settings, select your configuration and click **Edit**.
8. Enter a module within the product family you selected. If you selected the Common family, then select the **Oracle Middleware Extensions for Applications** module.
9. Use these tabs to define your configuration:
   - Autosuggest: Determine what's available to users in the global search autosuggest, as well as how the autosuggest works.
   - Search Field: Control the **Search** field in the global header and in the search results dialog box.
   - Search Results: Enable or disable saved and recent searches, select the search categories available to users, and define settings for filters.
   - Pages: Indicate the applications or pages that this global search configuration applies to.

     > **Note:** If the Pages subtab isn't available or editable, you must deselect both the **Default** and **Enabled** check boxes on the Edit Global Search Configurations page. After completing your updates in the Pages tab, you can again select these check boxes.
10. Save your work.

Related Topics

- Modules in Application Taxonomy
- Set Up Autosuggest for Global Search
- Set Up Filters for Global Search
- Specify Pages for Global Search Configuration
- How do I update existing setup data?

Configure Attachment Search

You can enable or disable the file and content search for specific content types of attachments.

You can also set the maximum file size and content size so that your users can't search the file or content if the sizes exceed the specified limits. If enabled, the searched attachments are available for download.

Before you start, ensure that the **Enable Search Attachment** (**ORA_FND_SEARCH_ATTACH_ENABLED**) profile option is enabled.

Here's how you can configure the attachment search.

1. In the Setup and Maintenance work area, go to the **Manage Applications Core Global Search Configurations** task in the Application Extensions functional area.
2. On the Manage Applications Core Global Search Configurations page, click **Configure Attachment Search**.
3. On the Configure Attachment Search page, click the **Create** icon, and then specify the values in these fields.

> **Tip:** Alternatively, click **Create from Sample** to get the sample values, such as index names, content type, and maximum file size. Also, to view values for specific index names, you can select the index name from the **Index Name** list, and click **Create from Sample**.

Field	What You Do
Index Name	Select the index name specific to your product.
Content Type	Enter the content type. You specify the content type with a specific hierarchical structure, and based on that structure, you get the match of the attachments. Let's look at some examples. o If you specify the content type as **application/vnd.ms-excel** (for example, type/subtype), you get the exact match of the attachments. **Note:** The subtype in this example doesn't have a fixed structure. That means you can use either a dot or a hyphen to get the exact match of attachments for specified content type. o If you specify **application/vnd.ms-***, you get the match of attachments, which are of different types, such as Microsoft Word or Microsoft Excel. o If you specify **application/vnd.***, you get the match of the attachments, which are applicable to all suppliers. o If you specify ***/***, you get all the possible matches.
Enable File Search	Determine whether users can search the attachment.
Enable Content Search	Determine whether users can search the content in the attachment. For example, suppose you set this value as **Yes** for a specific type of attachment. Then, if a user searches for a keyword that's available in an enabled attachment, that attachment will appear in the search results.
Maximum File Size	Specify the maximum file size of the attachments that users can search content for. If the file size of an attachment is greater than the specified size, the content of the file won't appear in the search results at all. Only the metadata, such as file name, will be searchable.

Field	What You Do
Maximum Content Size	Specify the maximum content size of the attachments that users can search content for. Suppose you set this value as 200KB, users get the content in the attachments pertaining to this size in the search results. Make sure that this size is less than or equal to the maximum file size.

4. Click **Save and Close**.

Related Topics

- How do I update existing setup data?

Set Up Autosuggest for Global Search

Use global search configurations to determine what's available to users in the autosuggest. You select the suggestion groups to include in configurations. The configurations also determine how the autosuggest looks and behaves.

Prerequisite

Create a global search configuration or edit an existing one. Follow these steps:

1. In the Setup and Maintenance work area, go to the following:
    - Functional Area: Application Extensions
    - Task: Manage Applications Core Global Search Configurations
2. On the Manage Applications Core Global Search Configurations page, click the **Create** icon to create a global search configuration, or select an existing row and click the **Edit** icon to change it.

Defining the Content

To define synonyms, select suggestion groups and determine how they're displayed in the autosuggest:

1. On the page to create or edit global search configuration, click the Autosuggest tab.
2. In the Synonyms section on the Autosuggest tab, select **Enable Synonyms** to let users search using synonyms.
3. Optionally, enter the following:
    - **Synonym Context Code**: A logical grouping such as a product family, navigation group, or work area that determines the subset of synonyms to search on. For example, if you enter Academics, every time the user enters a term and clicks the **Search** icon, the search runs on all terms related to Academics and their synonyms.
    - **Synonym Object Type**: A business object name that would determine the subset of synonyms to search on. For example, if you enter Curriculum, every time the user enters a term and clicks the **Search** icon, the search runs on all terms related to Curriculum and their synonyms.
4. Click **Manage Synonyms**.
5. To add search terms and create synonyms for them, on the Manage Synonyms page:
    a. Click the **New** icon and do the following:
        - Enter a short name in uppercase, with no spaces. This name is required as an identifier.
        - Select a module name, which is required to map the data with a specific product or area. There are no restrictions on where the synonyms can be used.

- Optionally, enter a context code and object type. This information can be used to ensure that certain synonyms are only used when a global search configuration having the same values is in effect.
- Enter the primary synonym, which is the main term or business object to which other synonyms are to be matched.
- Enter at least one synonym that matches the primary synonym.

b. Click **Save and Close**.

6. Select the **Enable personalization of search groups** check box to allow users to override your configuration. Users can hide, show, and reorder suggestion groups for their autosuggest.
7. In the Suggestion Group section on the Autosuggest tab, move the groups you want to include into the **Selected Groups** pane. Use the **Move**, **Move All**, **Remove**, and **Remove All** icons to move the groups.

   The **Enabled** column in the Available Groups pane indicates if the group is defined (on the Manage Suggestion Groups page) to be displayed by default or not in the autosuggest.
8. In the **Enabled** column in the Selected Groups pane, select one of the following values:
   - **Inherit**: In the autosuggest, the group is displayed or hidden by default depending on what's defined for the group.
   - **Yes**: The group is displayed by default, no matter what's defined for the group.
   - **No**: The group is hidden by default, no matter what's defined for the group.

   > **Note:** The **Displayed by Default** column shows the resulting behavior in the autosuggest, based on what you select in the **Enabled** column.
9. Using the **Move to Top**, **Move Up**, **Move Down**, and **Move to Bottom** icons, order the selected groups as you want them to appear in the autosuggest.

> **Tip:** Click **Manage Suggestion Groups** at any time to edit or create suggestion groups. When you return to the Autosuggest tab, click **Refresh** to reflect the changes you made to suggestion groups.

Defining the Appearance

Optionally define settings in the Appearance section on the Autosuggest tab:

- **Show Suggestion Group Headings:** Select this option to display suggestion group headings (text and icon) in the autosuggest. Even if you do so, if a group is defined on the Manage Suggestion Groups page to not show headings, then its heading won't be displayed.
- **Show Icons:** Select this option to display icons next to suggestions in the autosuggest.
- **No Suggestions Message:** Enter the message that appears when no suggestions match the user's search term. If you leave this field blank, then no autosuggest or anything at all appears when there are no matches.

Defining the Behavior

Optionally define settings in the Behavior section on the Autosuggest tab:

- **Show Top Suggestions:** Enable this option to display suggestions in the autosuggest as soon as the user clicks in the search field, even without entering a search term. For example, the last few pages the user opened would appear as suggestions in the Recent Items group.
- **Minimum Characters for Autosuggest:** Enter the number of characters that users must enter in the search field before matching suggestions appear in the autosuggest.

- **Maximum Number of Suggestions:** Enter the maximum number of suggestions to be displayed across all suggestion groups. This total is distributed as equally as possible among the groups.

Related Topics

- Create Global Search Configurations
- Suggestion Groups for Global Search

Considerations for Disabling Saved and Recent Searches for Global Search

You can use global search configurations to determine if saved searches and recent searches are enabled in the global search.

Saved Searches

When you disable saved searches, here are a few things to keep in mind:

- The Save button in the search results dialog box also gets disabled. So, your users can't create or edit saved searches for global search.
- The Saved Searches suggestion group doesn't get disabled. So, your users can still see any applicable saved searches in the global search autosuggest.

Recent Searches

When you disable recent searches, here are a few things to keep in mind:

- The application doesn't save recent searches.
- The Recent Searches suggestion group doesn't get disabled. So, your users can still see in their autosuggest any applicable searches that they recently ran before you disabled recent searches.

Related Topics

- Create Global Search Configurations

Set Up Filters for Global Search

To determine how users can filter their search results, define the appropriate settings when you create or edit global search configurations.

You can set up search categories so that users can limit the scope of their search to begin with, or refine their search results.

Prerequisite

Create a global search configuration or edit an existing one. Follow these steps:

1. In the Setup and Maintenance work area, go to the following:
    - Functional Area: Application Extensions
    - Task: Manage Applications Core Global Search Configurations
2. Click the Create icon to create a global search configuration, or select an existing one and click the Edit icon to change it.

Setting Up Categories to Narrow Search Scope

To let users select the categories to search on before running the search:

1. On the page to create or edit global search configuration, click the Search Results tab.
2. In the Saved and Recent Searches section, select the check boxes to enable saved searches and recent searches.
3. In the Filters section, enable personalization of search categories.
4. In the Search Categories section, select the categories that users can search on. If you don't select any, then every category is available to users.
5. For each of your selected categories, select **Yes** or **No** in the Enabled column to have it enabled or disabled by default.

Setting Up Categories as Search Result Filters

To let users filter search results based on category:

1. In the Filters section, select a filter display style so that the list of all available category names are displayed:
    - **Inline:** In the Filters pane in the search results
    - **LOV:** In a Categories dialog box that users can open from the Filters pane
2. Select the check boxes to show subcategories, facets, or both. Categories are always displayed. Subcategories are an additional level of filters that appear after categories, and facets are a level after categories.
3. In the Search Categories section, select the categories to use as filters. This is the same set of categories to be used for personalization. If you don't select any, then every category is available to users.

Setting Other Options for Filters

You can also use the Filters section to:

- **Show hit counts:** Show the number of search results that match each filter value
- **Enable clear all filters:** Allow users to clear all filters with one click of a button
- **Show applied filters:** Show all the filters that have been applied

In the Last Updated Date Filters section, select the criteria to use as filters, based on the last update date. If you don't select any, then every date filter is available to users.

In the Appearance section, set the **Show Icons** option **Off** if you don't want to display the icons.

Related Topics

- Create Global Search Configurations

Specify Pages for Global Search Configuration

As part of defining your global search configuration, you can specify the pages or applications (or both) that your configuration applies to. If you want your configuration to apply to all pages in all applications, then skip these steps.

Before You Start

If you want the global search configuration to apply to specific applications, you need to find the application short name.

1. In the Setup and Maintenance work area, go to the **Manage Taxonomy Hierarchy** task in the Application Extensions functional area.

2. On the Manage Taxonomy Hierarchy page, expand the Oracle Fusion node.
3. Select the row (with the Application module type) for your application, and click **Edit Module**.
4. In the Application Details section, see the **Application Short Name** column and note down the value to use as the application short name.

Add Pages or Applications

Follow these steps:

1. On the Create or Edit Global Search Configurations page, open the Pages tab.
2. Click the **Create** icon.
3. In the **View Type** column, indicate if the configuration applies to a specific page or application.
4. Enter a view ID to identify the page or application:

   > **Tip:** You can use **%** as a wildcard for the page or application value, such as **Example%** for all pages that start with **Example**.

   - **Page:** Enter the last part of the URL you get when you open that page. For example, enter `ExamplePage` from the URL `http://exampleServer/homePage/faces/ExamplePage`.
   - **Application:** Enter the application short name with a wildcard at the end, for example `HomePageApp%`.
5. Add more pages or applications as needed.

Related Topics

- Create Global Search Configurations
- Modules in Application Taxonomy
- How do I update existing setup data?

Manage Suggestion Groups

Suggestion Groups for Global Search

A suggestion group is a category of suggestions that users see in the autosuggest for the global search.

For example, if the user enters Report in the **Search** field, then the Navigator suggestion group in the autosuggest shows any Navigator menu names with Report.

Managing Suggestion Groups

Each suggestion group can have a heading, for example Recent Items, as well as an icon that appears before the heading text. The icon helps users identify what the group is all about.

You can manage suggestion groups to:

- Show or hide the group by default in the autosuggest
- Enter the heading text
- Define if the heading text appears in the autosuggest or not
- Identify the image file to use as the icon

> **Tip:** You can copy predefined suggestion groups and edit them to create your own versions.

To manage suggestion groups, open the Setup and Maintenance work area and use either the:

- Manage Suggestion Groups task
- Autosuggest tab when you create or edit global search configurations using the Manage Global Search Configurations task

Using in Global Search Configurations

Just because a suggestion group is defined to be displayed by default doesn't necessarily mean that it in fact appears in the autosuggest. Global search configurations determine which groups are included for the autosuggest, whether icons appear for the headings, and so on.

You can use a suggestion group in many or all global search configurations. And ultimately, if personalizing suggestion groups is enabled, then users can show, hide, and reorder the suggestion groups included in the global search configuration.

Related Topics

- Create Global Search Configurations
- Set Up Autosuggest for Global Search
- Change Heading Text and Icons for Suggestion Groups

Change Heading Text and Icons for Suggestion Groups

This example shows how to change the icon and text for a suggestion group heading in the global search autosuggest. In this example, you start out with the predefined Default global search configuration enabled, and no custom configurations.

The following table summarizes key decisions for this scenario.

Decisions to Consider	In This Example
Which predefined suggestion group do you want to change?	Recent Items
What do you want the new heading text to be?	Recently Visited Pages
Which image do you want to use as the icon?	A `.png` file (16 by 16 pixels) that's used on your company Web site
Do you want the new suggestion group to appear in the autosuggest by default?	Yes
Which pages should the changes apply to?	All pages

To use a new icon and heading text for the suggestion group:

- Make a copy of the predefined Recent Items suggestion group.
- Update global search configurations to use your suggestion group.

Duplicate the Predefined Suggestion Group

1. In the Setup and Maintenance work area, go to the **Manage Applications Core Global Search Suggestion Groups** task in the Application Extensions functional area.
2. On the Manage Applications Core Global Search Suggestion Groups page, select the Recent Items group and click **Duplicate**.
3. In the new row, enter **RECENTPAGES** as the short name.
4. Change the display name to **Recent Pages**.
5. Change the description to **Version of Recent Items with revised heading and icon**.
6. With your new row still selected, click **Edit**.
7. In the Heading section, enter **Recently Visited Pages** in the **Text** field.
8. In the **Icon** field, enter the full URL to your .png file.
9. Click **Save and Close**.

Update Global Search Configurations

1. Back in the Setup and Maintenance work area, go to the following:
    - Functional area: Application Extensions
    - Task: Manage Applications Core Global Search Configurations
2. Select the Default configuration and click **Duplicate**.
3. Fill out the row for your new configuration, selecting the **Default** check box.
4. With the row still selected, click the **Edit** icon.
5. In the Autosuggest tab, click the **Refresh** button in the Suggestion Group section if you don't see your suggestion group.
6. Move the Recent Pages group into the **Selected Groups** list, and move the Recent Items group out.
7. In the **Enabled** column for the Recent Pages group, select **Yes**.
8. In the Appearance section, make sure that headings are set to be displayed.
9. Click **Save and Close**.

Related Topics

- Create Global Search Configurations
- Set Up Autosuggest for Global Search
- Examples of Global Search Configurations Set as Enabled or Default
- How do I update existing setup data?

3 Audit Policies

Audit Policies

Auditing is used to monitor user activity and all configuration, security, and data changes that have been made to an application. Auditing involves recording and retrieving information pertaining to the creation, modification, and removal of business objects.

All actions performed on the business objects and the modified values are also recorded. The audit information is stored without any intervention of the user or any explicit user action.

Use audit policies to select specific business objects and attributes to be audited. The decision to create policies usually depends on the type of information to be audited and to the level of detail required for reporting.

Enabling Audit Functionality

For Oracle Applications Cloud, you must configure the business objects and select the attributes before enabling audit. If you enable audit without configuring the business objects, auditing remains inactive. By default, auditing is disabled for all applications. To enable and manage audit, ensure that you have a role with the assigned privilege Manage Audit Policies (FND_MANAGE_AUDIT_POLICIES_PRIV). For appropriate assignment of roles and privileges, check with your security administrator.

To enable auditing for Oracle Fusion Middleware products, select one of the levels at which auditing is required for that product. The audit levels are predefined and contain the metadata and events to be audited. For more information, see *Audit Events for Oracle Applications Cloud Middleware (Doc ID 2114143.1)* on My Oracle Support.

If you don't want an application to be audited, you can stop the audit process by setting the Audit Level option to **None**. Also, note that there's no specified retention period for the audited data or the logs. Follow your company policy for retaining or removing such data.

> **Note:** You won't be able to enable audit if you're working in a sandbox. If you try to set up audit while you're in a sandbox, you will see the message "Audit setup is disabled in a sandbox". You'll also notice that the buttons associated with the audit functionality are disabled.

Related Topics

- Audit Configuration for Business Object Attributes
- Overview of Audit Configuration

Audit Configuration for Business Object Attributes

Audit enables tracking the change history of particular attributes of a business object. However, those objects and their attributes must be selected for audit and auditing must be enabled for that application.

The configuration settings determine which attributes to audit for a given object, and when the audit starts and ends. Auditing takes into account all the operations performed on an object and its attributes, such as create, update, and

delete. To configure audit business object attributes, use the **Manage Audit Policies** task in the Setup and Maintenance work area.

Selecting an Application

To set up auditing, you must select a web application that contains the required business objects that can be audited. From the list of business objects, select those business objects that you want to audit. Selecting a business object also displays its attributes that are enabled for auditing.

Selecting Attributes

For each selected business object to be audited, select the corresponding attributes to include in the audit. All attributes that belong to that object are by default selected for audit and appear on the user interface. However, you can add or remove attributes from the list. When you remove an attribute from the list, you stop auditing it even when the parent object is selected for audit. So, if you want an attribute to be audited, you must add it to the list. If the object selected in an audit hierarchy is also a part of several other audit hierarchies, the attribute configuration for that object is applicable to all the hierarchies in that application.

For business objects based on flexfields, select the Flexfields (Additional Attributes) check box to view, add, or remove flexfield attributes. The selected objects are audited.

Note: You can't audit LOB (BLOB, CLOB, and NCLOB), rich text, and long text attributes.

Starting and Stopping Audit

The business object is ready for audit after you select its attributes and save the configuration changes. However, to start auditing, the audit level for Oracle Applications Cloud must be set to **Auditing** on the Manage Audit Policies page.

To stop auditing an object, you can deselect the entire object and save the configuration. As a result, all its selected attributes are automatically deselected and aren't audited. To continue to audit the business object with select attributes, deselect those attributes that aren't to be audited. When users view the audit history for an application, they can specify the period for which they want the results. Therefore, make a note of when you start and stop auditing an application.

For example, users intend to view the audit history of an object for the previous week, but auditing for that object was stopped last month. They wouldn't get any audit results for that week, because during the entire month that object wasn't audited. Even if you enable audit for that object today, users can't get the wanted results because audit data until today isn't available.

Note: When users export the report summary to a Microsoft Excel file, there's a limit on the number of rows that are displayed in the file.

- For Oracle Fusion Middleware products, the maximum limit is 25000. By default, the limit is set as 10000. You can change this limit using the FND_AUDIT_FMW_EVENT_LIMIT profile option.
- For Oracle Fusion Application Business Objects, the maximum limit is 10000 per table. This is set as the default value. Sometimes, the actual rows returned might be more than the limit set, because a single transaction can update multiple tables. To decrease this limit, you can create the FND_AUDIT_EXPORT_ENTITY_LIMIT profile option and set a lesser value for it.

  See *Why is it taking so long to get search results when exporting audit summary of Fusion Application Business Objects?*

Overview of Audit Configuration

To set up auditing for Oracle Applications Cloud, select the Manage Audit Policies task from the Setup and Maintenance work area within your offering.

To set up auditing for Oracle Fusion Middleware products, select the level of auditing mapped to a predefined set of metadata and the events that have to be audited. Information about configuring audit for Oracle Fusion Middleware products is provided in Oracle Fusion Middleware guides.

You can also create a configuration file and deploy it to audit a specific Oracle Fusion Middleware product. The configuration details for Oracle Fusion Middleware products are available as audit-specific assets that you can use to create the **config.xml** configuration file. To get a list of audit-specific assets, see *Audit Events for Oracle Applications Cloud Middleware (Doc ID 2114143.1)* on My Oracle Support.

Oracle Fusion Middleware Products

- Configure business objects to enable auditing in Oracle Fusion Middleware products. Refer to Oracle Applications Cloud Common Features Reference.

  See: *Auditing Web Services*

Oracle Fusion Security Products

- Configure business objects to enable auditing in Oracle Fusion security products. Refer to Oracle Applications Cloud Common Features Reference.

  See: *Introduction to Oracle Fusion Middleware Audit Framework*

  See: *Managing Audit*

4 Define Currencies and Currency Rates

Manage Currencies

Considerations for Defining Currencies

Consider these points about entering the currency code, date range, or symbol for the currency, when you create or edit currencies.

Currency Codes

You can't change a currency code after you enable the currency, even if you later disable that currency.

Date Ranges

You can enter transactions denominated in the currency only for the dates within the specified range. If you don't enter a start date, then the currency is valid immediately. If you don't enter an end date, then the currency is valid indefinitely.

Symbols

Some applications support displaying currency symbols. You may enter the symbol associated with a currency so that it appears along with the amount.

Related Topics

- What's the difference between precision, extended precision, and minimum accountable unit for a currency?
- What's a statistical unit currency type?
- Euro Currency Derivation

Euro Currency Derivation

Use the Derivation Type, Derivation Factor, and Derivation Effective Date fields to define the relationship between the official currency (Euro) of the European Monetary Union (EMU) and the national currencies of EMU member states.

For each EMU currency, you define its Euro-to-EMU fixed conversion rate and the effective starting date. If you have to use a different currency for Euro, you can disable the predefined currency and create a new one.

Derivation Type

The **Euro currency** derivation type is used only for the Euro, and the **Euro derived** derivation type identifies national currencies of EMU member states. All other currencies don't have derivation types.

Derivation Factor

The derivation factor is the fixed conversion rate by which you multiply one Euro to derive the equivalent EMU currency amount. The Euro currency itself must not have a derivation factor.

Derivation Effective Date

The derivation effective date is the date on which the relationship between the EMU currency and the Euro begins.

Manage Conversion Rate Types

Guidelines for Creating Conversion Rate Types

Maintain different conversion rates between currencies for the same period using conversion rate types.

The following conversion rate types are predefined:

- Spot
- Corporate
- User
- Fixed

You can use different rate types for different business needs. During journal entry, the conversion rate is provided automatically based on the selected conversion rate type and currency, unless the rate type is **User**. For **User** rate types, you must enter a conversion rate. You can define additional rate types as needed. Set your most frequently used rate type as the default. Conversion rate types can't be deleted.

Assign conversion rate types to automatically populate the associated rate for your period average and period end rates for the ledger. For example, you can assign the conversion rate type of **Spot** to populate period average rates, and the conversion rate type of **Corporate** to populate period end rates. Period average and period end rates are used in translation of account balances.

Conversion rate types are used to automatically assign a rate when you perform the following accounting functions:

- Convert foreign currency journal amounts to ledger currency equivalents.
- Convert journal amounts from source ledgers to reporting currencies or secondary ledgers.
- Run revaluation or translation processes.

When creating conversion rates, decide whether to:

- Enforce inverse relationships
- Select pivot currencies
- Select contra currencies
- Enable cross rates and allow cross-rate overrides
- Maintain cross-rate rules

Enforce Inverse Relationships

The **Enforce Inverse Relationship** option indicates whether to enforce the automatic calculation of inverse conversion rates when defining daily rates. The following table describes the impact of selecting or not selecting the option.

Action	Results
Selected	When you enter a daily rate to convert currency A to currency B, the inverse rate of currency B to currency A is automatically calculated and entered in the adjacent column. If either rate is changed, the application automatically recalculates the other rate. You can update the application calculated inverse rate, but once you do, the related rate is updated. The option enforces the inverse relationship is maintained but doesn't prevent you from updating the rates.
Not Selected	The inverse rate is calculated, but you can change the rate and update the daily rates table without the corresponding rate being updated.

Select Pivot Currencies

Select a pivot currency that's commonly used in your currency conversions. A pivot currency is the central currency that interacts with contra currencies. For example, you set up a daily rate between the US dollar (USD) and the Euro currency (EUR) and another between the USD and the Canadian dollar (CAD). USD is the pivot currency in creating a rate between EUR and CAD. EUR and CAD are the contra currencies. Select the pivot currency from the list of values which contains those currencies that are enabled, effective, and not a statistical (STAT) currency. The description of the pivot currency is populated automatically based on the currency definition.

If you want the application to create cross rates against a base currency, define the base currency as the pivot currency. Selected pivot currencies can be changed in the Rate Types page.

Select Contra Currencies

Select currencies available on the list of values as contra currencies. The available currencies are those currencies which are enabled, effective, not STAT currency, and not the pivot currency selected earlier. The description of the contra currency is populated automatically based on the currency definition. Add or delete contra currencies in the Contra Currencies region of the Rate Types page.

Enable Cross Rates and Allow Cross Rate Overrides

Check the **Enable Cross Rates** check box to calculate conversion rates based on defined currency rate relationships. General Ledger calculates cross rates based on your defined cross rate rules. Associate your cross rate rules with a conversion rate type, pivot currency, and contra currencies. Cross rates facilitate the creation of daily rates by automatically creating the rates between contra currencies based on their relationship to a pivot currency. If the **Enable Cross Rates** option is deselected after entering contra currencies, the application stops calculating cross rates going forward for that particular rate type. All the earlier calculated cross rates for that rate type remain in the database unless you manually delete them.

For example, if you have daily rates defined for the pivot currency, USD to the contra currency, EUR, and USD to another contra currency, CAD, the application automatically creates the rates between EUR to CAD and CAD to EUR. You don't have to manually define the EUR to CAD and CAD to EUR rates.

Select the **Allow Cross Rates Override** check box to permit your users to override application generated cross rates. If you accept the default of not selected, the application generated cross rates can't be overridden.

Maintain Cross Rate Rules

Define or update your cross rate rules at any time by adding or removing contra currency assignments. Add a contra currency to a cross rate rule and run the Daily Rates Import and Calculation process to generate the new rates. If you

remove a cross rate rule or a contra currency from a rule, any cross rates generated previously for that contra currency remain unless you manually delete them. Changes to the rule aren't retroactive and don't affect previously stored cross rates. The Cross Rate process generates as many rates as possible and skips currencies where one component of the set is missing.

> **Note:** With a defined web service that extracts daily currency conversion rates from external services, for example Reuters, currency conversion rates are automatically updated for the daily rates and all cross currency relationships.

Related Topics

- Examples of Using Conversion Rate Types in a Journal
- What's the difference between calendar and fiscal period naming?

Examples of Using Conversion Rate Types in a Journal

The following conversion rate types are predefined: Spot, Corporate, User, Fixed.

Scenario

You are the general ledger accountant for Vision US Inc. You are entering a journal entry to capture three transactions that were transacted in three different foreign currencies.

- Canadian Dollar CAD: A stable currency
- Mexican Peso MXP: A fluctuating currency
- Hong Kong Dollar HKD: An infrequently used currency

You enter two journal lines with accounts and amounts for each foreign currency transaction. Based on your company procedures, you select the rate type to populate the rate for **Corporate** and **Spot** rate types from your daily rates table. You manually enter the current rate for the **User** rate type.

The following table lists the currency, the rate type that you select, and the reasons for the rate type selection.

Selected Currency	Selected Rate Type	Reason
CAD	Corporate	Entered a periodic type of transaction. Your company has established a daily rate to use for the entire month across divisions for all transactions in Canadian dollars, a stable currency that fluctuates only slightly over the month.
MXP	Spot	Entered a periodic type of transaction. Your company enters daily rates each day for the Mexican peso because the currency is unstable and fluctuates.
HKD	User	Entered a one time transaction. Your company doesn't maintain daily rates for Hong Kong dollars.

Selected Currency	Selected Rate Type	Reason

Your company doesn't currently use the **Fixed** rate type. From January 1, 1999, the conversion rate of the French franc FRF against the Euro EUR was a fixed rate of 1 EUR to 6.55957 FRF. Your French operations were started in 2007, so you maintain all your French business records in the Euro.

FAQs for Manage Conversion Rate Types

What's the difference between spot, corporate, user, and fixed rate types?

Spot, corporate, user, and fixed conversion rate types differ based on fluctuations of the entered foreign currency and your company procedures for maintaining daily rates.

- Spot: For currencies with fluctuating conversion rates, or when exact currency conversion is needed.
- Corporate: For setting a standard rate across your organization for a stable currency.
- User: For infrequent entries where daily rates for the entered foreign currency aren't set up.
- Fixed: For rates where the conversion is constant between two currencies.

If you have infrequent foreign currency transactions, the User rate type can simplify currency maintenance. The User rate type can also provide an accurate conversion rate on the date of the transaction.

5 Define Enterprise Structures

Overview of Enterprise Structures

Oracle Fusion Applications have been designed to ensure your enterprise can be modeled to meet legal and management objectives.

The decisions about your implementation of Oracle Fusion Applications are affected by your:

- Industry
- Business unit requirements for autonomy
- Business and accounting policies
- Business functions performed by business units and optionally, centralized in shared service centers
- Locations of facilities

Every enterprise has three fundamental structures that describe its operations and provide a basis for reporting.

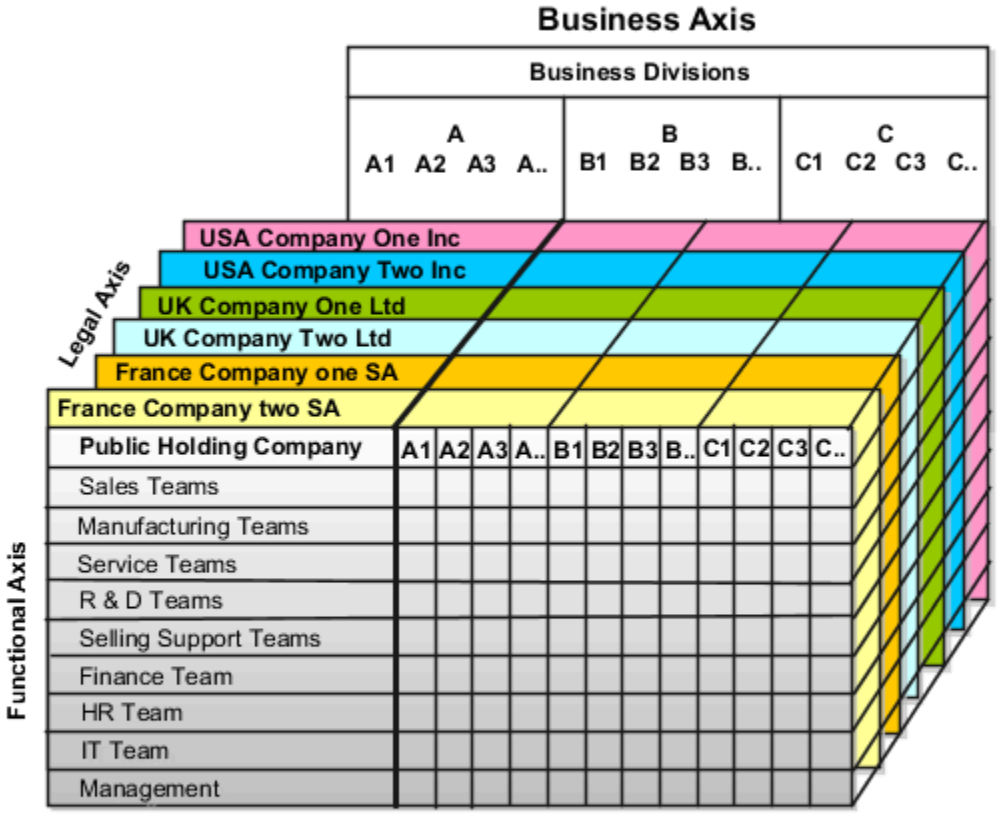
- Legal
- Managerial
- Functional

In Oracle Fusion, these structures are implemented using the chart of accounts and organization hierarchies. Many alternative hierarchies can be implemented and used for reporting. You are likely to have one primary structure that organizes your business into:

- Divisions
- Business Units
- Departments

Align these structures with your strategic objectives.

This figure illustrates a grid with Business Axis, representing the enterprise division, Legal Axis representing the companies, and the Functional Axis representing the business functions.



Legal Structure

The figure illustrates a typical group of legal entities, operating various business and functional organizations. Your ability to buy and sell, own, and employ comes from your charter in the legal system. A corporation is:

- A distinct legal entity from its owners and managers.
- Owned by its shareholders, who may be individuals or other corporations.

Many other kinds of legal entities exist, such as sole proprietorships, partnerships, and government agencies.

A legally recognized entity can own and trade assets and employ people in the jurisdiction in which the entity is registered. When granted these privileges, legal entities are also assigned responsibilities to:

- Account for themselves to the public through statutory and external reporting.
- Comply with legislation and regulations.
- Pay income and transaction taxes.
- Process value added tax (VAT) collection on behalf of the taxing authority.

Many large enterprises isolate risk and optimize taxes by incorporating subsidiaries. They create legal entities to facilitate legal compliance, segregate operations, optimize taxes, complete contractual relationships, and isolate risk. Enterprises use legal entities to establish their enterprise's identity within the laws of each country in which their enterprise operates.

The figure illustrates:

- A separate card represents a series of registered companies.
- Each company, including the public holding company, InFusion America, must be registered in the countries where they do business.
- Each company contributes to various divisions created for purposes of management reporting. These are shown as vertical columns on each card.

For example, a group might have a separate company for each business in the United States (US), but have its United Kingdom (UK) legal entity represent all businesses in that country.

The divisions are linked across the cards so that a business can appear on some or all of the cards. For example, the air quality monitoring systems business might be operated by the US, UK, and France companies. The list of business divisions is on the Business Axis.

Each company's card is also horizontally striped by functional groups, such as the sales team and the finance team. This functional list is called the Functional Axis. The overall image suggests that information might, at a minimum, be tracked by company, business, division, and function in a group environment. In Oracle Fusion Applications, the legal structure is implemented using legal entities.

Management Structure

Successfully managing multiple businesses requires that you segregate them by their strategic objectives, and measure their results. Although related to your legal structure, the business organizational hierarchies don't have to be reflected directly in the legal structure of the enterprise. The management structure can include divisions, subdivisions, lines of business, strategic business units, profit, and cost centers. In the figure, the management structure is shown on the Business Axis. In Oracle Fusion Applications, the management structure is implemented using divisions and business units as well as being reflected in the chart of accounts.

Functional Structure

Straddling the legal and business organizations is a functional organization structured around people and their competencies. For example, sales, manufacturing, and service teams are functional organizations. This functional structure is represented by the Functional Axis in the figure. You reflect the efforts and expenses of your functional organizations directly on the income statement. Organizations must manage and report revenues, cost of sales, and functional expenses such as research and development and selling, general, and administrative expenses. In Oracle Fusion Applications, the functional structure is implemented using departments and organizations, including sales, marketing, project, cost, and inventory organizations.

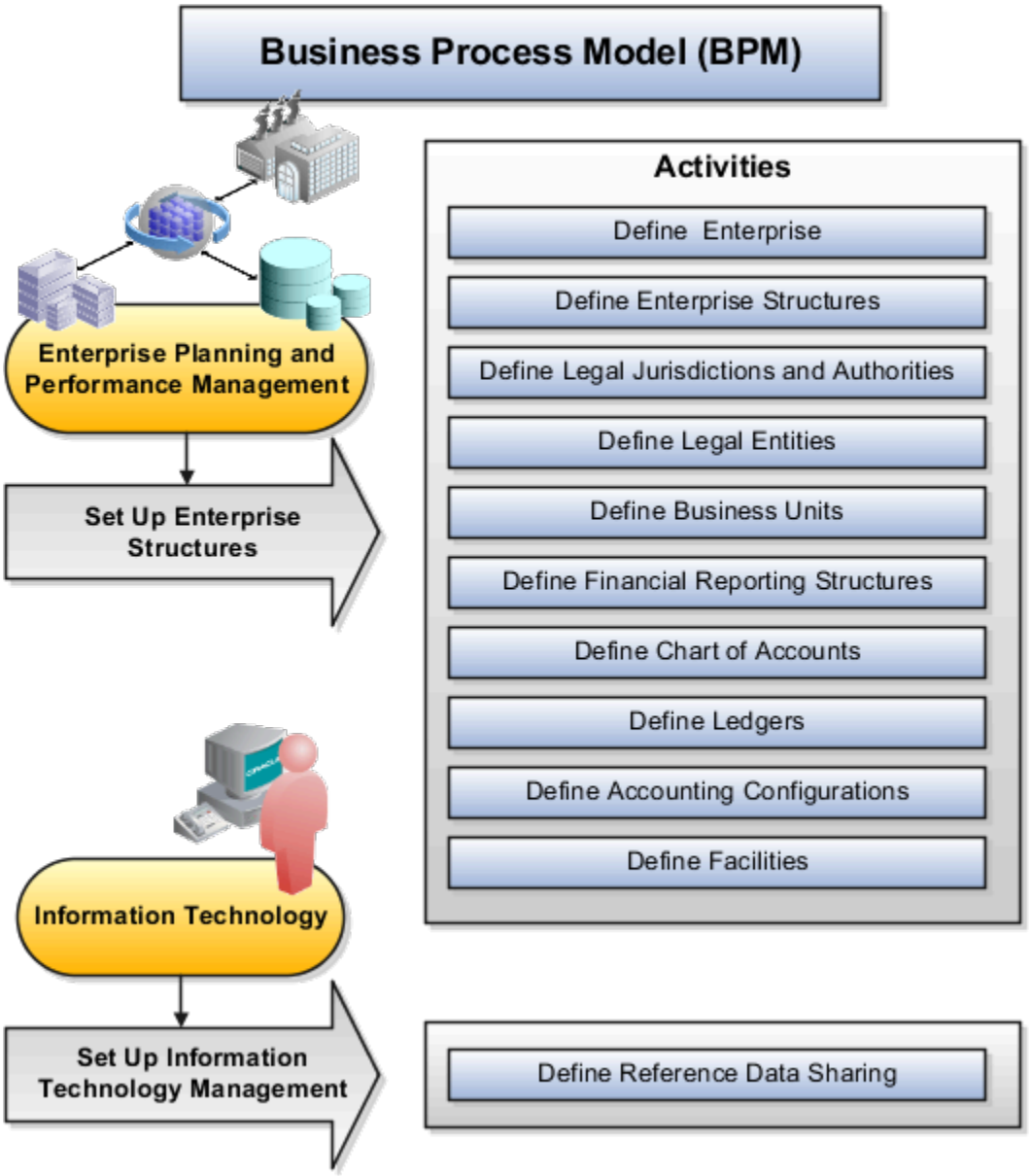
Enterprise Structures Business Process Model

In Oracle Fusion Cloud Applications, the Enterprise Performance and Planning Business Process Model illustrates the major implementation tasks that you perform to create your enterprise structures.

This process includes:

- Set Up Enterprise Structures business process, which consists of implementation activities that span many product families.
- Information Technology, a second Business Process Model which contains the Set Up Information Technology Management business process.
- Define Reference Data Sharing, which is one of the activities in this business process and is important in the implementation of the enterprise structures. This activity creates the mechanism to share reference data sets across multiple ledgers, business units, and warehouses, reducing the administrative burden and decreasing the time to implement.

The following figure and table describe the Business Process Model structures and activities.



The table describes each BPM activity.

BPM Activities	Description
Define Enterprise	Define the enterprise to get the name of the deploying enterprise and the location of the headquarters.
Define Enterprise Structures	Define enterprise structures to represent an organization with one or more legal entities. Define organizations to represent each area of business within the enterprise.
Define Legal Jurisdictions and Authorities	Define information for governing bodies that operate within a jurisdiction.
Define Legal Entities	Define legal entities and legal reporting units for business activities handled by the Oracle Fusion Applications.

BPM Activities	Description
Define Business Units	Define business units of an enterprise to perform one or many business functions that can be rolled up in a management hierarchy. A business unit can process transactions on behalf of many legal entities. Normally, it has a manager, strategic objectives, a level of autonomy, and responsibility for its profit and loss.
Define Financial Reporting Structures	Define financial reporting structures, including organization structures, charts of accounts, organizational hierarchies, calendars, currencies and rates, ledgers, and document sequences which are used in organizing the financial data of a company.
Define Chart of Accounts	Define chart of accounts including hierarchies and values to enable tracking of financial transactions and reporting at legal entity, cost center, account, and other segment levels.
Define Ledgers	Define the primary accounting ledger and any secondary ledgers that provide an alternative accounting representation of the financial data.
Define Accounting Configurations	Define the accounting configuration that serves as a framework for how financial records are maintained for an organization.
Define Facilities	Define your manufacturing and storage facilities as Inventory Organizations if Oracle Fusion Applications track inventory balances there and Item Organizations if Oracle Fusion Applications only track the items used in the facility but not the balances.
Define Reference Data Sharing	Define how reference data in the applications is partitioned and shared.

Note: Some product-specific implementation activities aren't listed here and depend on the applications you're implementing. For example, you can implement Define Enterprise Structures for Human Capital Management, Project Management, and Sales Management.

Guidelines for Configuring Global Enterprises

Start your global enterprise structure configuration by discussing what your organization's reporting needs are and how to represent those needs in the Oracle Fusion Cloud Applications.

The following are some questions and points to consider as you design your global enterprise structure in Oracle Fusion Applications.

- Enterprise Configuration
- Business Unit Management
- Security Structure
- Compliance Requirements

Enterprise Configuration

- What is the level of configuration needed to achieve the reporting and accounting requirements?
- What components of your enterprise do you need to report on separately?
- Which components can be represented by building a hierarchy of values to provide reporting at both detail and summary levels?
- Where are you on the spectrum of centralization versus decentralization?

Business Unit Management

- What reporting do I need by business unit?
- How can you set up your departments or business unit accounts to achieve departmental hierarchies that report accurately on your lines of business?
- What reporting do you need to support the managers of your business units, and the executives who measure them?
- How often are business unit results aggregated?
- What level of reporting detail is required across business units?

Security Structure

- What level of security and access is allowed?
- Are business unit managers and the people that report to them secured to transactions within their own business unit?
- Are the transactions for their business unit largely performed by a corporate department or shared service center?

Compliance Requirements

- How do you comply with your corporate external reporting requirements and local statutory reporting requirements?
- Do you tend to prefer a corporate first or an autonomous local approach?
- Where are you on a spectrum of centralization, very centralized or decentralized?

Model Your Enterprise Management Structure

This example uses a fictitious global company to demonstrate the analysis that can occur during the enterprise structure configuration planning process.

Scenario

Your company, InFusion Corporation, is a multinational conglomerate that operates in the United States (US) and the United Kingdom (UK). InFusion has purchased an Oracle Fusion Cloud Enterprise Resource Planning (ERP) solution including Oracle General Ledger and all of the Oracle Fusion Cloud Applications subledgers. You are chairing a committee to discuss creation of a model for your global enterprise structure including both your US and UK operations.

InFusion Corporation

InFusion Corporation has 400 plus employees and revenue of 120 million US dollars. Your product line includes all the components to build and maintain air quality monitoring applications for homes and businesses. You have two distribution centers and three warehouses that share a common item master in the US and UK. Your financial services organization provides funding to your customers for the initial costs of these applications.

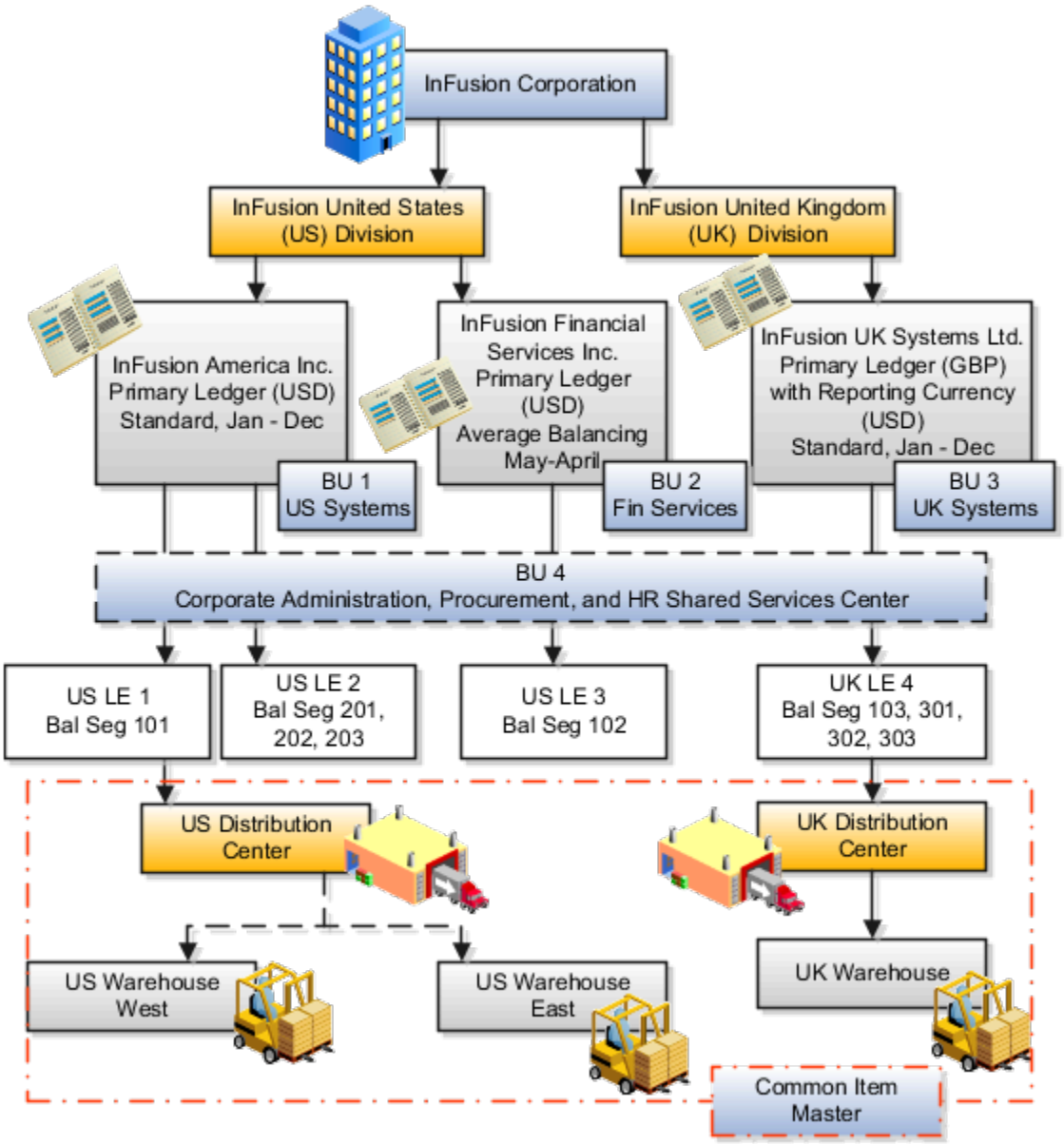
The following are elements you must consider in creating your model for your global enterprise structure.

- Your company is required to report using US Generally Accepted Accounting Principles (GAAP) standards and UK Statements of Standard Accounting Practice and Financial Reporting Standards. How many ledgers do you want to achieve proper statutory reporting?
- Your managers need reports that show profit and loss (revenue and expenses) for their lines of business. Do you use business units and balancing segments to represent your divisions and businesses? Do you secure data by two segments in your chart of accounts which represents each department and legal entity? Or do you use one segment that represents both to produce useful, but confidential management reports?
- Your corporate management requires reports showing total organizational performance with drill-down capability to the supporting details. Do you need multiple balancing segment hierarchies to achieve proper rollup of balances for reporting requirements?
- Your company has all administrative, account payables, procurement, and Human Resources functions performed at their corporate headquarters. Do you need one or more business units in which to perform all these functions? How is your shared service center configured?

Global Enterprise Structure Model

The following figure and table summarize the model that your committee has designed and uses numeric values to provide a sample representation of your structure. The model includes the following recommendations:

- Creation of three separate ledgers representing your separate legal entities:
    - InFusion America Inc.
    - InFusion Financial Services Inc.
    - InFusion UK Services Ltd.
- Consolidation of results for application components, installations, and maintenance product lines across the enterprise
- All UK general and administrative costs processed at the UK headquarters
- US Systems' general and administrative costs processed at US Corporate headquarters
- US Financial Services maintains its own payables and receivables departments


InFusion Corporation
InFusion United States (US) Division
InFusion United Kingdom (UK) Division
InFusion America Inc. Primary Ledger (USD) Standard, Jan - Dec
InFusion Financial Services Inc. Primary Ledger (USD) Average Balancing May-April
InFusion UK Systems Ltd. Primary Ledger (GBP) with Reporting Currency (USD) Standard, Jan - Dec
BU 1 US Systems
BU 2 Fin Services
BU 3 UK Systems
BU 4 Corporate Administration, Procurement, and HR Shared Services Center
US LE 1 Bal Seg 101
US LE 2 Bal Seg 201, 202, 203
US LE 3 Bal Seg 102
UK LE 4 Bal Seg 103, 301, 302, 303
US Distribution Center
UK Distribution Center
US Warehouse West
US Warehouse East
UK Warehouse
Common Item Master

Real World Entity	Entity Name	Enterprise	Legal Entity	BSV	Ledger	BU	Cost Center	Dept	Item Master Org	Inventory Org
Enterprise	InFusion Group	●								
Company	US LE 1		●	●	●					
Company	US LE 2		●	●	●					
Company	US LE 3		●	●	●					
Company	UK LE 4		●	●	●					
Business Unit	US Systems BU 1					●				
Business Unit	FIN Services BU 2					●				
Business Unit	UK Systems BU 3					●				
Division	InFusion UK			●			●			
Division	InFusion US			●			●			
Headquarters	BU 4					●				
Shared Service Center	BU 4					●				
Department	AP Department						●	●		
List of Items	Common Item Master								●	
Distribution Center	US Distribution Center									●
Distribution Center	UK Distribution Center									●
Warehouse	US Warehouse West									●
Warehouse	US Warehouse East									●
Warehouse	UK Warehouse									●

BSV = Balancing Segment Value	
BU = Business Unit	
Dept = Department	
Org = Organization	
● = Mandatory Setup	
● = Optional Setup	

In this chart, the green globe stands for required and gold globe stands for optional setup. The following statements expand on the data in the chart.

- The enterprise is required because it serves as an umbrella for the entire implementation. All organizations are created within an enterprise.
- Legal entities are also required. They can be optionally mapped to balancing segment values or represented by ledgers. Mapping balancing segment values to legal entities is required if you plan to use the intercompany functionality. The InFusion Corporation is a legal entity but isn't discussed in this example.
- At least one ledger is required in an implementation in which you record your accounting transactions.
- Business units are also required because financial transactions are processed in business units.
- A shared service center is optional, but if used, must be a business unit.
- Divisions are optional and can be represented with a hierarchy of cost centers or by a second balancing segment value.
- Departments are required because they track your employees.
- Optionally, add an item master organization and inventory organizations if you're tracking your inventory transactions in Oracle Fusion Applications.

Note: Some Oracle Fusion Cloud Human Capital Management implementations don't require recording accounting transactions and therefore, don't require a ledger.

Essbase Character and Word Limitations

The following is a comprehensive list of character and word limitations that apply to Oracle Essbase. All of the limitations apply to all of the Oracle General Ledger configurations summarized in the table.

The following table shows how the General Ledger configuration maps to Essbase.

General Ledger Configuration	Maps to Essbase
Chart of Account Name	Cube Name
Chart of Account Segment Name	Dimension Name
Chart of Accounts Segment Value	Dimension Member Name
Chart of Accounts Segment Value Description	Alias for Member
Tree and Tree Version Name	Dimension Member Name
Primary Ledger Name	Dimension Member Name in Ledger Dimension
Secondary Ledger Name	Dimension Member Name in Ledger Dimension
Reporting Currency	Dimension Member Name in Ledger Dimension
Ledger Set Name	Dimension Member Name in Ledger Dimension
Accounting Calendar Period Names	Dimension Member Name in Accounting Period Name
Scenario Name Defined in Predefined Value Set Called Accounting Scenario	Dimension Member Name in Scenario Dimension

Even if case sensitivity is enabled in an aggregate storage outline for which duplicate member names is enabled, don't use matching dimension names with only case differences. For example, don't:

- Name two dimensions Product and product.
- Use quotation marks or brackets.
- Use tabs in dimension, member, or alias names.

- Use accent characters.
- Use the characters for dimension or member names.

Restricted Characters

The following table lists the characters that are restricted and can't be used at the beginning of cube, dimension, member, or alias names.

Character	Meaning
-	dash, hyphen, or minus sign
_	underscore

The following table lists the characters that are restricted and can't be used in cube, dimension, member, or alias names.

Character	Meaning
&	ampersand **Note:** Aliases can include ampersands as long as the ampersand isn't the beginning character.
@	at sign
\	backslash **Note:** Aliases can include backslashes as long as the backslash isn't the beginning character.
{}	brace
,	comma **Note:** Aliases can include commas as long as the comma isn't the beginning character.
"	double quotation mark
=	equal sign
<	less than sign
()	parentheses **Note:** Member names and aliases can include parentheses as long as a parenthesis isn't the beginning character.

Character	Meaning
.	period **Note:** Aliases can include periods as long as the period isn't the beginning character.
+	plus sign
'	single quotation mark
/	slash **Note:** Aliases can include slashes as long as the slash isn't the beginning character.
|	vertical bar

Note: Use of double-byte characters listed in this table could result in errors with balance load and retrieval. Such errors could also occur with double-byte characters not listed here, so it's best to avoid their use, particularly in cube names.

Other Restrictions

- Don't place spaces at the beginning or end of names. Essbase ignores such spaces.
- Don't use the following types of words as dimension or member names:
  - Calculation script commands, operators, and keywords.
  - Report writer commands.
  - Function names and function arguments.
  - Names of other dimensions and members (unless the member is shared).
  - Generation names, level names, and aliases in the database.

The following table lists additional words that can't be used as the entire value for a cube, dimension, member, or alias. For example, you can't use **ALL** or **All** for an alias. However, you can use **All expenses** as an alias.

List 1	List 2	List 3
ALL	AND	ASSIGN
AVERAGE	CALC	CALCMBR
COPYFORWARD	CROSSDIM	CURMBRNAME
DIM	DIMNAME	DIV

List 1	List 2	List 3
DYNAMIC	EMPTYPARM	EQ
EQOP	EXCEPT	EXP
EXPERROR	FLOAT	FUNCTION
GE	GEN	GENRANGE
GROUP	GT	ID
IDERROR	INTEGER	LE
LEVELRANGE	LOOPBLOCK	LOOPPARMS
LT	MBR	MBRNAME
MBRONLY	MINUS	MISSING, #MISSING
MUL	MULOP	NE
NON	NONINPUT	NOT
OR	PAREN	PARENPARM
PERCENT	PLUS	RELOP
SET	SKIPBOTH	SKIPMISSING
SKIPNONE	SKIPZERO	TO
TOLOCALRATE	TRAILMISSING	TRAILSUM
UMINUS	UPPER	VARORXMBR
XMRONLY	$$$UNIVERSE$$$	#MI

The following table lists General Ledger Essbase keywords that are also restricted and can't be used as the entire value for a cube, dimension, member, or alias. For example, you can't use **ACTUAL** or **Actual** for an alias. However, you can use **Actual expenses** as an alias.

First Letter of Keyword	Keywords
A	ACTUAL, ADP, AED, AFA, AFN, ALLOCATED, AMD, ANG, AOA, AOK, AON, ARA, ARS, ATS, AUD, AWG, AZM, AZN
B	BAM, BASE, BBD, BDT, BEF, BEGINNINGBALANCECR, BEGINNINGBALANCEDR, BGL, BGN, BHD, BIF, BMD, BND, BOB, BOV, BRC, BRL, BSD, BTN, BUK, BWP, BYB, BYN, BYR, BZD
C	CAD, CD, CDF, CHE, CHF, CHW, CLF, CLP, CNY, CONVERTED, COP, COU, CRC, CSD, CSK, CUP, CVE, CYP, CZK
D	DAILY ACTIVITY, DAY, DEM, DJF, DKK, DOP, DZD
E	ECS, ECV, EEK, EGP, ENDINGBALANCECR, ENDINGBALANCEDR, ENTERED, EOD, ERN, ESB, ESP, ETB, EUR
F	FIM, FJD, FKP, FRF
G	GBP, GEK, GEL, GHC, GHS, GIP, GMD, GNF, GRD, GTQ, GWP, GYD
H	HISTORY, HKD, HNL, HRD, HRK, HTG, HUF
I	IDR, IEP, ILS, INR, IQD, IRR, ISK, ITL
J	JMD, JOD, JPY
K	KES, KGS, KHR, KMF, KPW, KRW, KWD, KYD, KZT
L	LAK, LBP, LKR, LRD, LSL, LTL, LUC, LUF, LUL, LVL, LVR, LYD
M	MAD, MDL, MGA, MGF, MKD, MMK, MNT, MONTH, MOP, MRO, MRU, MS25, MS26, MTL, MUR, MVR, MWK, MXN, MXP, MXV, MYR, MZM, MZN
N	N/A, NAD, NGN, NIC, NIO, NLG, NOK, NPR, NZD
O	OMR
P	PAB, PATD, PEI, PEN, PERIOD, PERIODACTIVITYCR, PERIODACTIVITYDR, PGK, PHP, PKR, PLN, PLZ, PTA, PTD, PTE, PYG
Q	QAR, QATD, QTD, QUARTER
R	RMB, ROL, RON, RSD, RUB, RUR, RWF
S	SAR, SBD, SCR, SDD, SDG, SDP, SEASON, SEK, SGD, SHP, SIT, SKK, SLL, SOS, SRD, SRG, SSP, STAT, STD, STN, SUR, SVC, SYP, SZL
T	THB, TJR, TJS, TMM, TMT, TND, TOP, TOTAL, TOTALFORALLOCATIONS, TPE, TRL, TRY, TTD, TWD, TZS
U	UAH, UAK, UF, UGS, UGX, UKS, USD, USN, USS, UYI, UYP, UYU, UYW, UZS
V	VEB, VEF, VES, VND, VUV
W	WEEK, WST
X	XAF, XAG, XAU, XB5, XBA, XBB, XBC, XBD XCD, XDR, XEU, XFO, XFU, XGL1, XOF, XPD, XPF, XPO, XPT, XTS, XXX
Y	YATD, YDD, YEAR, YER, YTD, YUD, YUM, YUN
Z	ZAL, ZAR, ZBIQA_C1, ZBIQA_C2, ZBIQA_C3 ZBIQA_C4, ZMK, ZMW, ZRN, ZRZ, ZWD, ZWL, ZWR

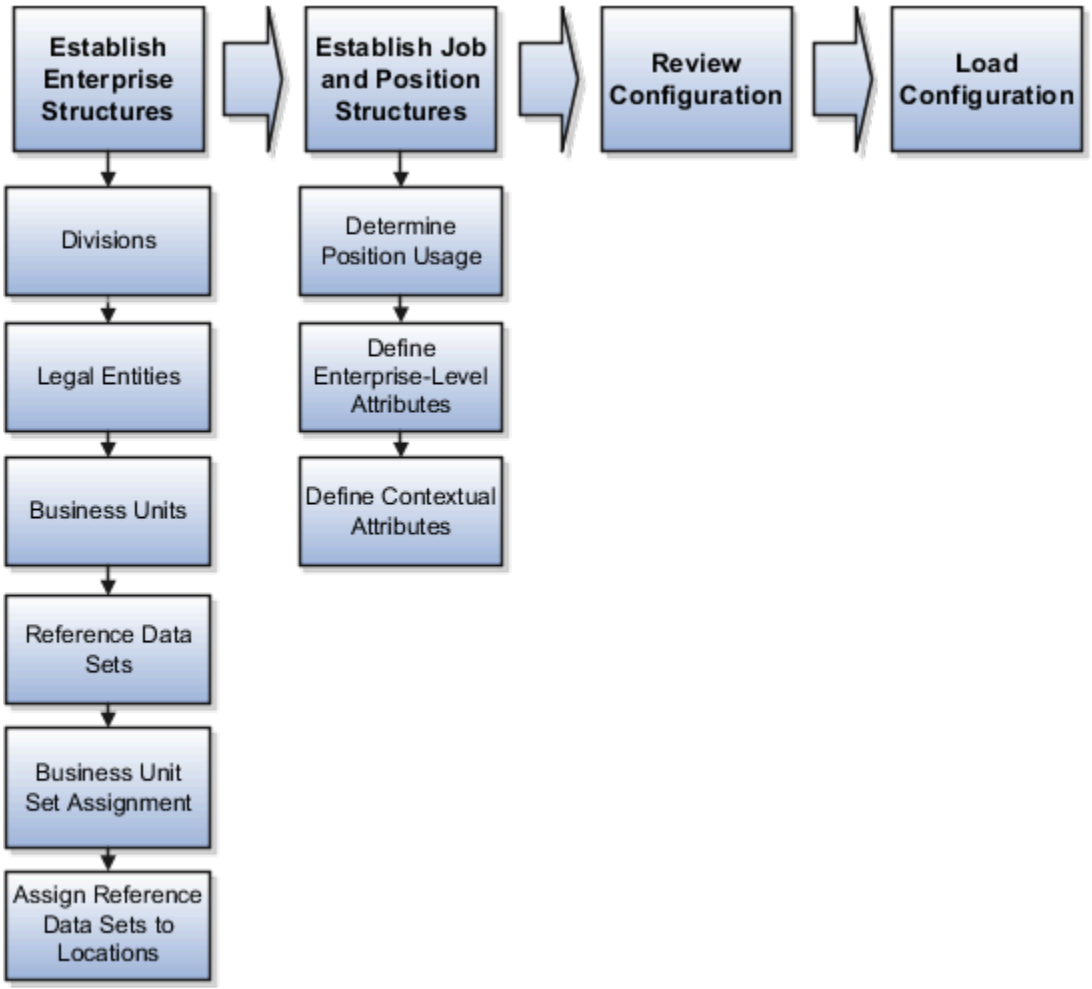
Define Initial Configuration with the Enterprise Structures Configurator

How You Establish Enterprise Structures Using the Enterprise Structures Configurator

The Enterprise Structures Configurator is an interview-based tool that guides you through the process of setting up a basic enterprise structure.

By answering questions about your enterprise, the tool creates a structure of divisions, legal entities, business units, and reference data sets that reflects your enterprise structure. After you create your enterprise structure, you also follow a guided process to determine whether to use positions, and whether to set up additional attributes for jobs and positions. After you define your enterprise structure and your job and position structures, you can review them, make any necessary changes, and then load the final configuration.

This figure illustrates the process to configure your enterprise using the Enterprise Structures Configurator.



To be able to use the Enterprise Structures Configurator, you must select the Enterprise Structures Guided Flow feature for your offerings on the Configure Offerings page in the Setup and Maintenance work area. If you don't select this feature, then you must set up your enterprise structure using individual tasks provided elsewhere in the offerings, and you can't create multiple configurations to compare different scenarios.

Establish Enterprise Structures

To define your enterprise structures, use the guided flow within the Establish Enterprise Structures task to enter basic information about your enterprise, such as the primary industry. You then create divisions, legal entities, business units, and reference data sets. The Establish Enterprise Structures task enables you to create multiple enterprise configurations so that you can compare different scenarios. Until you load a configuration, you can continue to create and edit multiple configurations until you arrive at one that best suits your enterprise.

Establish Job and Position Structures

You also use a guided process to determine whether you want to use jobs only, or jobs and positions. The primary industry that you select in the Establish Enterprise Structures task provides the application with enough information to make an initial recommendation. You can either accept the recommendation, or you can answer additional questions about how you manage people in your enterprise, and then make a selection. After you select whether to use jobs or positions, you're prompted to set up a descriptive flexfield structure for jobs, and for positions if applicable. Descriptive flexfields enable you to get more information when you create jobs and positions.

Review Configuration

You can view a result of the interview process prior to loading the configuration. The review results, show the divisions, legal entities, business units, reference data sets, and the management reporting structure that the application will create when you load the configuration.

Load Configuration

You can load only one configuration. When you load a configuration, the application creates the divisions, legal entities, business units, and so on. After you load the configuration, you then use individual tasks to edit, add, and delete enterprise structures.

This table lists the order of creation of business objects by the Enterprise Structures Configurator.

Business Object	Task
Location	Location Details
Division	Manage Divisions
Business Unit	Manage Business Units
Set Assignment Override	Manage Set Assignments
Legislative Data Group	Manage Legislative Data Groups
Enterprise	Manage Enterprise HCM Information
Job and Position Flexfield Definitions	Manage Descriptive Flexfields
Legal Entity	• Manage Legal Entities • Manage Legal Entity HCM Information • Manage Legal Reporting Unit HCM Information

Business Object	Task
Organization Tree	Manage Organization Trees

How You Roll Back an Enterprise Structure Configuration

The Enterprise Structures Configurator provides the ability to roll back an enterprise configuration.

Roll Back a Configuration Manually

You can manually roll back an enterprise configuration after loading it, for example, because you decide you don't want to use it. Clicking the Roll Back Configuration button on the Manage Enterprise Configuration page rolls back any enterprise structures that were created as a part of loading the configuration.

Roll Back a Configuration Automatically

If an error occurs during the process of loading the configuration, then the application automatically rolls back any enterprise structures that were created before the error was encountered.

Design an Enterprise Configuration

This example illustrates how to set up an enterprise based on a global company operating mainly in the US and the UK with a single primary industry.

Scenario

InFusion Corporation is a multinational enterprise in the high technology industry with product lines that include all the components that are required to build and maintain air quality monitoring systems for homes and businesses. Its primary locations are in the US and the UK, but it has smaller outlets in France, Saudi Arabia, and the United Arab Emirates (UAE).

Enterprise Details

In the US, InFusion employs 400 people and has company revenue of 120 million US dollars. Outside the US, InFusion employs 200 people and has revenue of 60 million US dollars.

InFusion requires three divisions.

- The US division covers the US locations.
- The Europe division covers UK and France.
- Saudi Arabia and the UAE are covered by the Middle East division.

InFusion requires legal entities with legal employers, payroll statutory units, tax reporting units, and legislative data groups for the US, UK, France, Saudi Arabia, and UAE, to employ and pay its workers in those countries.

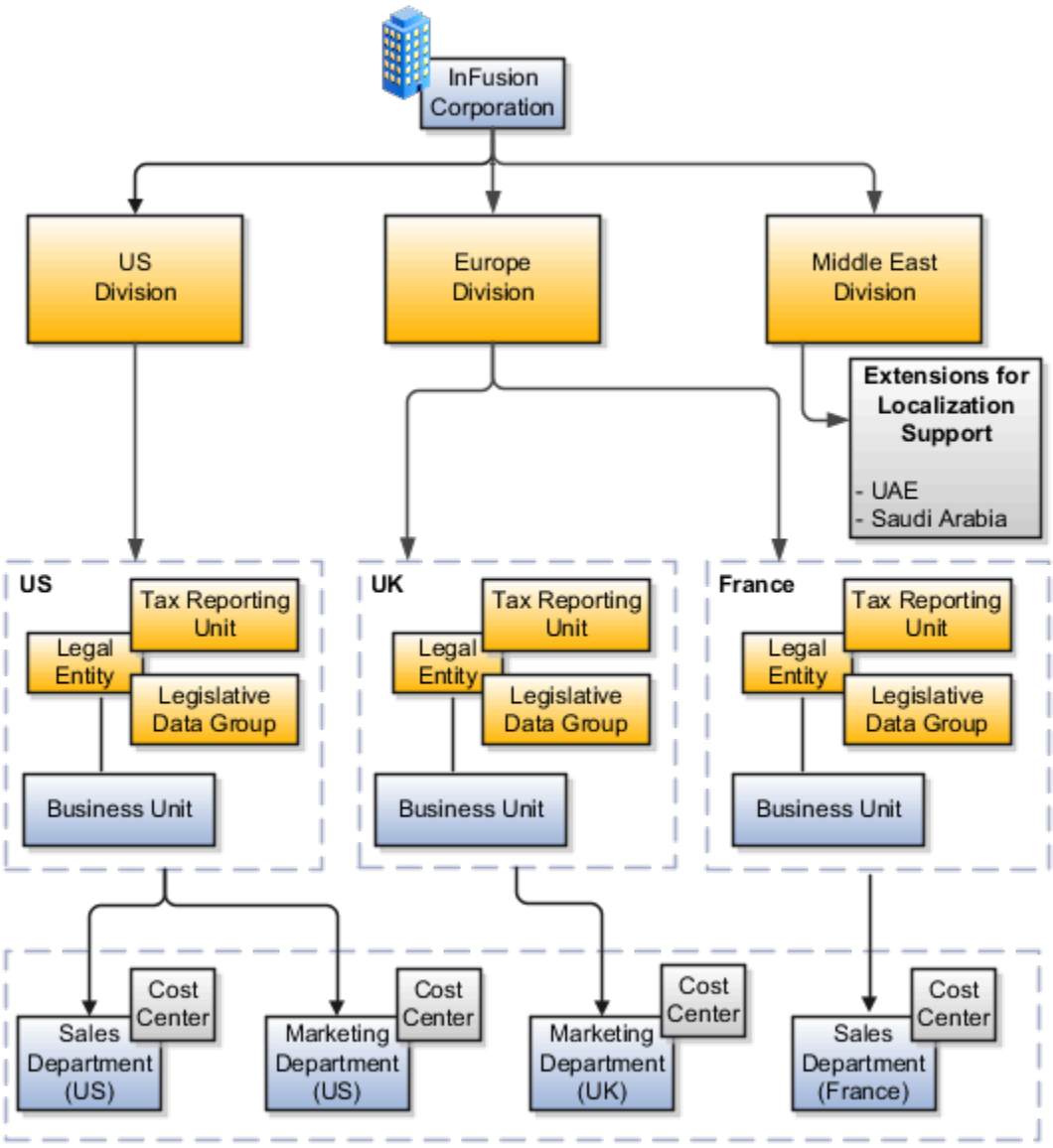
InFusion requires a number of departments across the enterprise for each area of business, such as sales and marketing, and a number of cost centers to track and report on the costs of those departments.

InFusion has general managers responsible for business units within each country. Those business units may share reference data. Some reference data can be defined within a reference data set that multiple business units may subscribe to. Business units are also required for financial purposes. Financial transactions are always processed within a business unit.

Resulting Enterprise Configuration

Based on this analysis, InFusion requires an enterprise with multiple divisions, ledgers, legal employers, payroll statutory units, tax reporting units, legislative data groups, departments, cost centers, and business units.

This figure illustrates the enterprise configuration that results from the analysis of InFusion Corporation.



Divisions

Managing multiple businesses requires that you segregate them by their strategic objectives and measure their results.

Responsibility to reach objectives can be delegated along the management structure. Although related to your legal structure, the business organizational hierarchies don't reflect directly the legal structure of the enterprise. The management entities and structure can include:

- Divisions and subdivisions
- Lines of business
- Other strategic business units
- Their own revenue and cost centers

These organizations can be included in many alternative hierarchies and used for reporting, as long as they have representation in the chart of accounts.

Divisions

A division refers to a business-oriented subdivision within an enterprise, in which each division organizes itself differently to deliver products and services or address different markets. A division can operate in one or more countries, and can be many companies or parts of different companies that are represented by business units.

A division is a profit center or grouping of profit and cost centers, where the division manager is responsible for achieving business goals including profits. A division can be responsible for a share of the company's existing product lines or for a separate business. Managers of divisions may also have return on investment goals requiring tracking of the assets and liabilities of the division. The division manager generally reports to a corporate executive.

By definition a division can be represented in the chart of accounts. Companies can use product lines, brands, or geographies as their divisions: their choice represents the primary organizing principle of the enterprise.

Historically, divisions were implemented as a node in a hierarchy of segment values. For example, Oracle E-Business Suite has only one balancing segment, and often the division and legal entity are combined into a single segment where each value stands for both division and legal entity.

Use of Divisions in Oracle Fusion Cloud Human Capital Management (HCM)

Divisions are used in HCM to define the management organization hierarchy, using the generic organization hierarchy. This hierarchy can be used to create organization-based security profiles.

Related Topics

- Can I view the address details of the location on the Redwood pages for organizations?
- Can I select an existing organization when I'm creating a new organization in Redwood?
- Can I view the Other Classifications section on the Redwood pages for organizations?

How You Create Legal Entities in the Enterprise Structures Configurator

Use the Enterprise Structures Configurator, to create legal entities for your enterprise automatically, based on the countries in which divisions of your business operate, or you can upload a list of legal entities from a spreadsheet.

Automatically Creating Legal Entities

If you are not certain of the number of legal entities that you need, you can create them automatically. To use this option, you first identify all of the countries in which your enterprise operates. The application opens the Map Divisions by Country page, which contains a matrix of the countries that you identified, your enterprise, and the divisions that you created. You select the check boxes where your enterprise and divisions intersect with the countries to identify the legal entities that you want the application to create. The enterprise is included for situations where your enterprise operates in a country, acts on behalf of several divisions within the enterprise, and is a legal employer in a country. If you select the enterprise for a country, the application creates a country holding company.

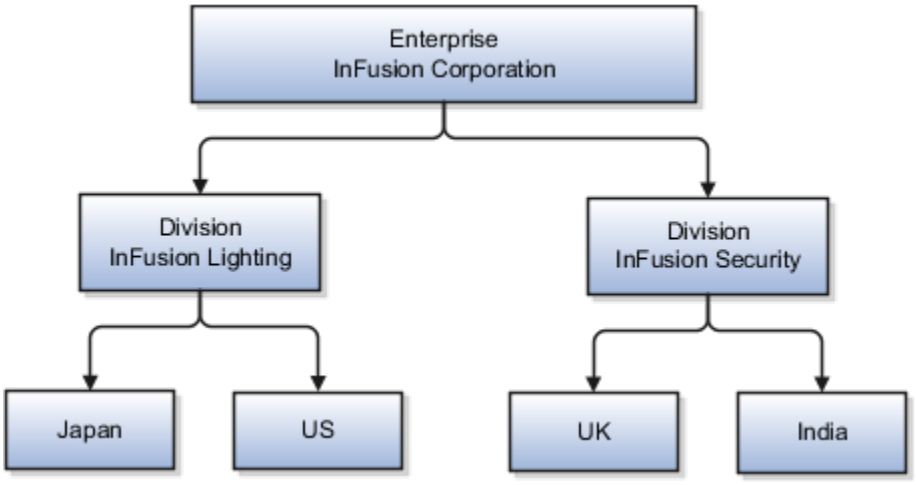
The application automatically creates the legal entities that you select, and identifies them as payroll statutory units and legal employers. For each country that you indicated that your enterprise operates in, and for each country that you created a location for, the application also automatically creates a legislative data group.

Any legal entities that you create automatically cannot be deleted from the Create Legal Entities page within the Enterprise Structures Configurator. You must return to the Map Divisions by Country page and deselect the legal entities that you no longer want.

Example: Creating Legal Entities Automatically

InFusion Corporation is using the ESC to set up its enterprise structure. The corporation has identified two divisions, one for Lighting, and one for Security. The Lighting division operates in Japan and the US, and the Security division operates in the UK and India.

This figure illustrates InFusion Corporation's enterprise structure.



This table represents the selections that InFusion Corporation makes when specifying which legal entities to create on the Map Divisions by Country page.

Country	Enterprise	InFusion Lighting	InFusion Security
Japan	No	Yes	No
US	No	Yes	No
UK	No	No	Yes
India	No	No	Yes

Based on the selections made in the preceding table, the ESC creates the following four legal entities:

- InFusion Lighting Japan LE
- InFusion Lighting US LE
- InFusion Security UK LE
- InFusion Security India LE

Creating Legal Entities Using a Spreadsheet

If you have a list of legal entities already defined for your enterprise, you can upload them from a spreadsheet. To use this option, you first download a spreadsheet template, then add your legal entity information to the spreadsheet, and then upload directly to your enterprise configuration. You can export and import the spreadsheet multiple times to accommodate revisions.

Related Topics

- What's an ultimate holding company?
- How Legal Employers Work with Payroll Statutory Units and Tax Reporting Units
- Examples of HCM Organization Models
- Guidelines for Using Desktop Integrated Excel Workbooks

Considerations for Creating Business Units in the Enterprise Structures Configurator

Business units are used within Oracle Fusion applications for management reporting, processing of transactions, and security of transactional data. Using the Enterprise Structures Configurator, you create business units for your enterprise either automatically or manually.

Automatically Creating Business Units

To create business units automatically, you must specify the level at which to create business units. Business units within your enterprise may be represented at one of two levels:

- Business function level, such as Sales, Consulting, Product Development, and so on.

- A more detailed level, where a business unit exists for each combination of countries in which you operate and the functions in those countries.

You can automatically create business units at the following levels:

- Country
- Country and Division
- Country and business function
- Division
- Division and legal entity
- Division and business function
- Business function
- Legal entity
- Business function and legal entity

Select the option that best meets your business requirements, but consider the following:

- If you use Oracle Fusion Financials, the legal entity option is recommended because of the manner in which financial transactions are processed.
- The business unit level that you select determines how the application automatically creates reference data sets.

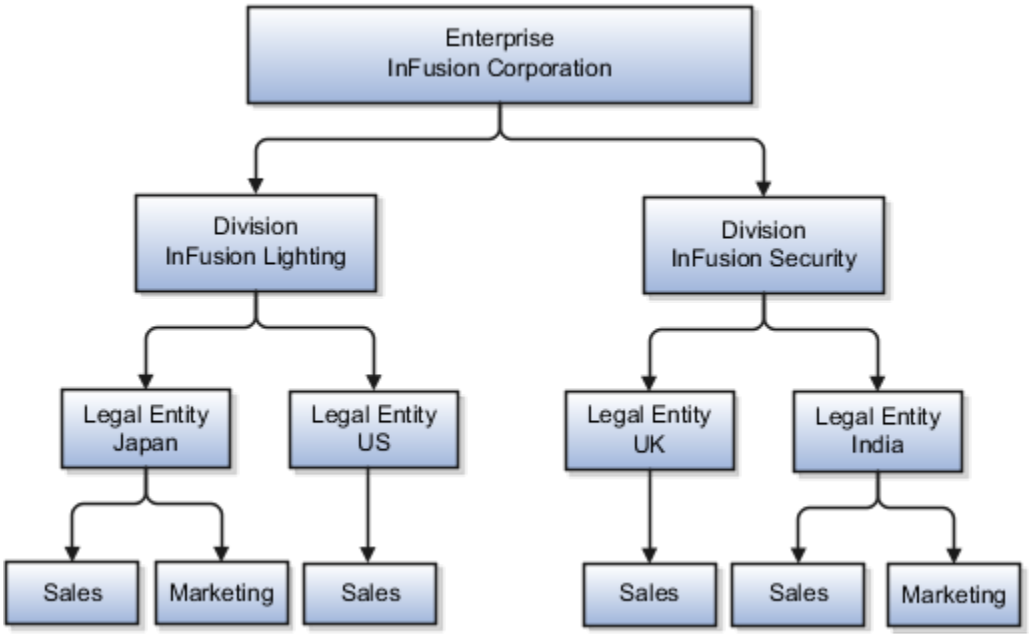
After you select a business unit level, the application generates a list of business units, and you select the ones you want the application to create. If you select a level that has two components, such as country and division, then the application displays a table listing both components. You select the check boxes at the intersections of the two components.

The business units listed by the application are suggestions only, and are meant to simplify the process to create business units. You aren't required to select all of the business units suggested. When you navigate to the next page in the ESC guided flow, the Manage Business Units page, you can't delete any of the business units created automatically. You must return to the Create Business Units page and deselect any business units that you no longer want.

Example: Selecting Business Unit Levels

InFusion Corporation is using the Enterprise Structures Configurator to set up its enterprise structure. InFusion has identified two divisions, one for Lighting, and one for Security. They operate in four countries: US, UK, Japan, and India, and they have created a legal entity for each of the countries. The sales and marketing functions are based in both India and Japan, while the US and the UK have only the sales function.

This figure illustrates InFusion Corporation's enterprise structure.



The following table lists the options for business unit levels and the resulting business units that the application suggests for InFusion Corporation.

Business Unit Level	Suggested Business Units
Country	• US • UK • Japan • India
Country and Division	• InFusion Lighting: Japan • InFusion Lighting: US • Infusion Security: UK • Infusion Security: India
Country and business function	• Sales: Japan • Marketing: Japan • Sales: US • Sales: UK • Marketing: India • Sales: India
Division	• InFusion Lighting • InFusion Security
Division and Legal Entity	• InFusion Lighting: Japan

Business Unit Level	Suggested Business Units
	• InFusion Lighting: US • Infusion Security: UK • Infusion Security: India
Division and Business Function	• InFusion Lighting, Sales • InFusion Lighting, Marketing • InFusion Security, Sales • InFusion Security, Marketing
Business Function	• Sales • Marketing
Legal Entity	• Legal Entity: Japan • Legal Entity: US • Legal Entity: UK • Legal Entity India
Legal Entity and Business Function	• Legal Entity: Japan, Sales • Legal Entity: Japan, Marketing • Legal Entity: US, Sales • Legal Entity: UK, Sales • Legal Entity India, Marketing • Legal Entity India, Sales

Manually Creating Business Units

If none of the levels for creating business units meets your business needs, you can create business units manually, and you create them on the Manage Business Units page. If you create business units manually, then no reference data sets are created automatically. You must create them manually as well.

Related Topics

- Business Units
- Reference Data Sets and Sharing Methods
- What reference data objects can be shared across asset books?

How Business Units Work with Reference Data Sets

Reference data sharing enables you to group set-enabled reference data such as jobs or grades to share the data across different parts of the organization.

Sets also enable you to filter reference data at the transaction level so that only data assigned to certain sets is available to be selected. To filter reference data, Oracle Fusion Human Capital Management (HCM), applications use the business

unit on the transaction. To set up reference data sharing in Oracle Fusion HCM, you create business units and sets, and then assign the sets to the business units.

Common Set Versus Specific Sets

Some reference data in your organization may be considered global, and should therefore be made available for use within the entire enterprise. You can assign this type of data to the Common Set, which is a predefined set. Regardless of the business unit on a transaction, reference data assigned to the Common Set is always available, in addition to the reference data assigned to the set that corresponds to the business unit on the transaction.

Other types of reference data can be specific to certain business units, so you can restrict the use of the data to those business units. In this case, you can create sets specifically for this type of data, and assign the sets to the business units.

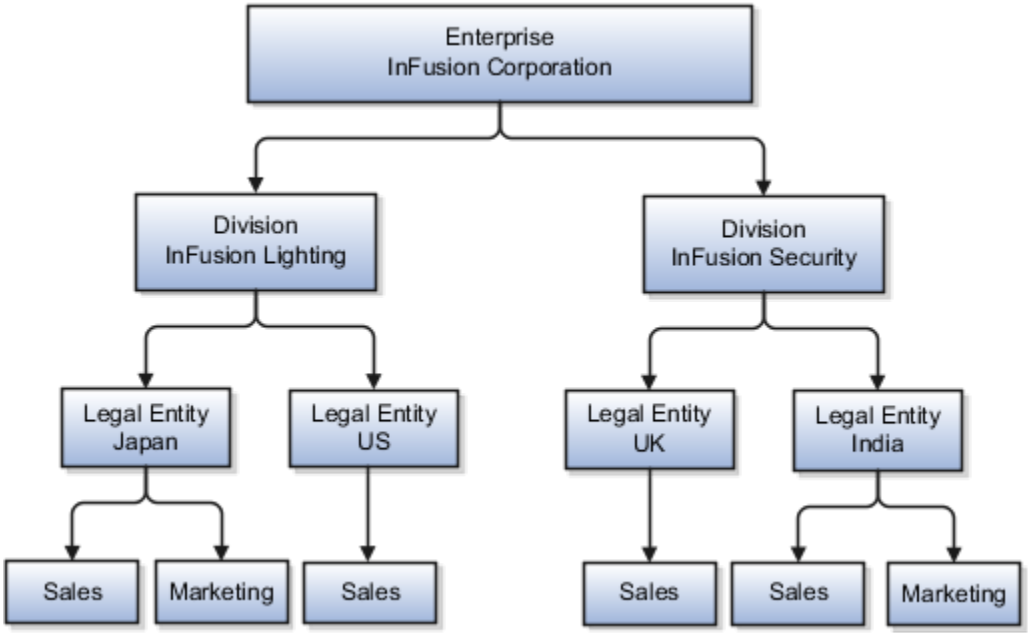
Business Unit Set Assignment

When you assign reference data sets to business units, you assign a default reference data set to use for all reference data types for that business unit. You can override the set assignment for one or more data types.

Example: Assigning Sets to Business Units

InFusion Corporation has two divisions: Lighting and Security, and the divisions each have two locations. Each location has one or more business functions.

The following figure illustrates the structure of InFusion Corporation.



When deciding how to create business units, InFusion decides to create them using the country and business function level. Therefore, they created the following business units:

- Sales_Japan
- Marketing_Japan
- Sales_US
- Sales_UK

- Marketing_India
- Sales_India

Because locations, departments, and grades are specific to each business unit, InFusion does not want to share these types of reference data across business units. They create a reference data set for each business unit so that data of those types can be set up separately. Because the jobs in the Sales business function are the same across many locations, InFusion decides to create one additional set called Jobs. They override the set assignment for the Jobs reference data group and assign it to the Jobs set. Based on these requirements, they create the following sets:

- Sales_Japan_Set
- Mktg_Japan_Set
- Sales_US_Set
- Sales_UK_Set
- Mktg_India_Set
- Sales_India_Set
- Grades_Set

The following table describes the default set assignment and the set assignment overrides for each business unit in InFusion:

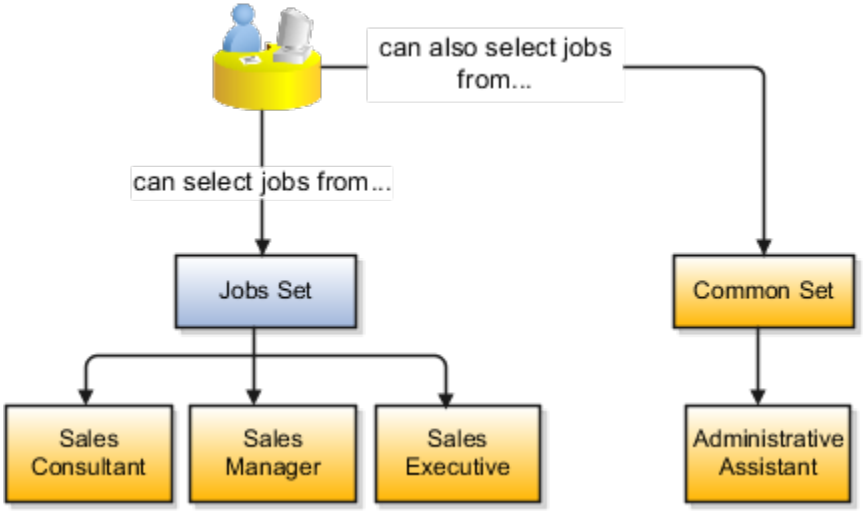
Business Unit	Default Set Assignment	Set Assignment Overrides
Sales_Japan	Sales_Japan_Set for grades, departments, and locations	Jobs set for jobs
Marketing_Japan	Mktg_Japan_Set for grades, departments, and locations	None
Sales_US	Sales_US_Set for grades, departments, and locations	Jobs set for jobs
Sales_UK	Sales_UK_Set for grades, departments, and locations	Jobs set for jobs
Marketing_India	Mktg_India_Set for grades, departments, and locations	None
Sales_India	Sales_India_Set for grades, departments, and locations	Jobs set for jobs

When setting up grades, departments, and locations for the business units, InFusion assigns the data to the default set for each business unit. When setting up jobs, they assign the Jobs set and assign the Common Set to any jobs that may be used throughout the entire organization.

When using grades, departments, and locations at the transaction level, users can select data from the set that corresponds to the business unit they enter on the transaction, and any data assigned to the Common Set. For example, for transactions for the Marketing_Japan business unit, grades, locations, and departments from the Mktg_Japan_Set is available to select, as well as from the Common Set.

When using jobs at the transaction level, users can select jobs from the Jobs set and from the Common Set when they enter a sales business unit on the transaction. For example, when a manager hires an employee for the Sales_India business unit, the list of jobs is filtered to show jobs from the Jobs and Common sets.

The following figure illustrates what sets of jobs can be accessed when a manager creates an assignment for a worker.



How You Create Reference Data Sets in the Enterprise Structures Configurator

If you created business units automatically, then the Enterprise Structures Configurator automatically creates reference data sets for you. The Enterprise Structures Configurator creates one reference data set for each business unit.

You can add additional sets, but you cannot delete any of the sets that were created automatically. The Enterprise Structures Configurator creates one reference data set for each business unit. You can add additional sets, but you cannot delete any of the sets that were created automatically. A standard set called the Enterprise set is predefined.

Common Set

The Common set is a predefined set that enables you to share reference data across business units. When you select set-enabled data at the transaction level, the list of values includes data in the:

- Common set
- Set associated with the data type for the business unit on the transaction

For example, when you create an assignment, the list of values for grades includes grade in the:

- Common set
- Set that is assigned to grades for the business unit in which you creating the assignment

Examples of Positions

Positions are typically used by industries that use detailed approval rules, which perform detailed budgeting and maintain headcounts, or have high turnover rates.

Retail Industry

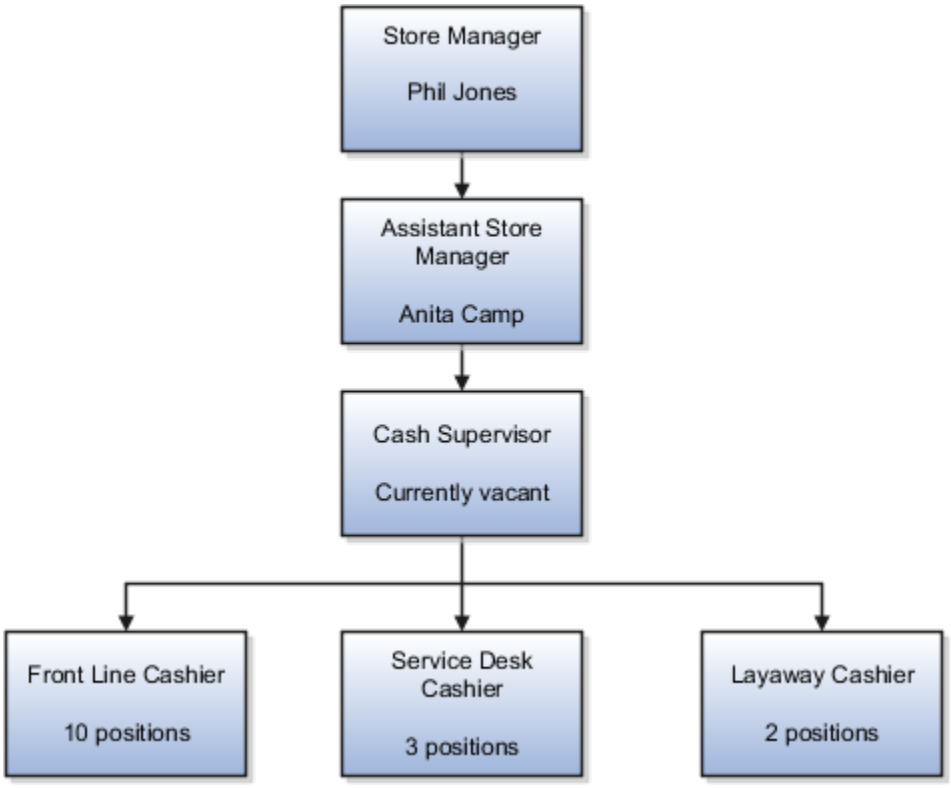
ABC Corporation has high turnovers. It loses approximately 5% of its cashiers monthly. The job of the cashier includes three positions: front line cashier, service desk cashier, and layaway cashier. Each job is cross-trained to take over another cashier's position. When one cashier leaves from any of the positions, another existing cashier from the front line, service desk or layaway can assist where needed. But to ensure short lines and customer satisfaction, ABC Corporation must replace each cashier lost to turnover. Since turnover is high in retail it's better for this industry to use positions.

Note the following:

- You have to create a vacancy manually when position synchronization is used and an employee terminates employment (when an incumbent moves out of the position).
- The position exists even when there are no holders. Having the position continue to exist is important if the person who leaves the company is a manager or supervisor with direct reports.
- All direct reports continue reporting to the position even if the position is empty.
- You don't have to reassign these employees to another manager or supervisor. The replacement manager is assigned to the existing position.

Also, an added advantage to using Positions is when you hire somebody new, many of the attributes are inherited from the position. This speeds up the hiring process.

This figure illustrates the retail position setup.

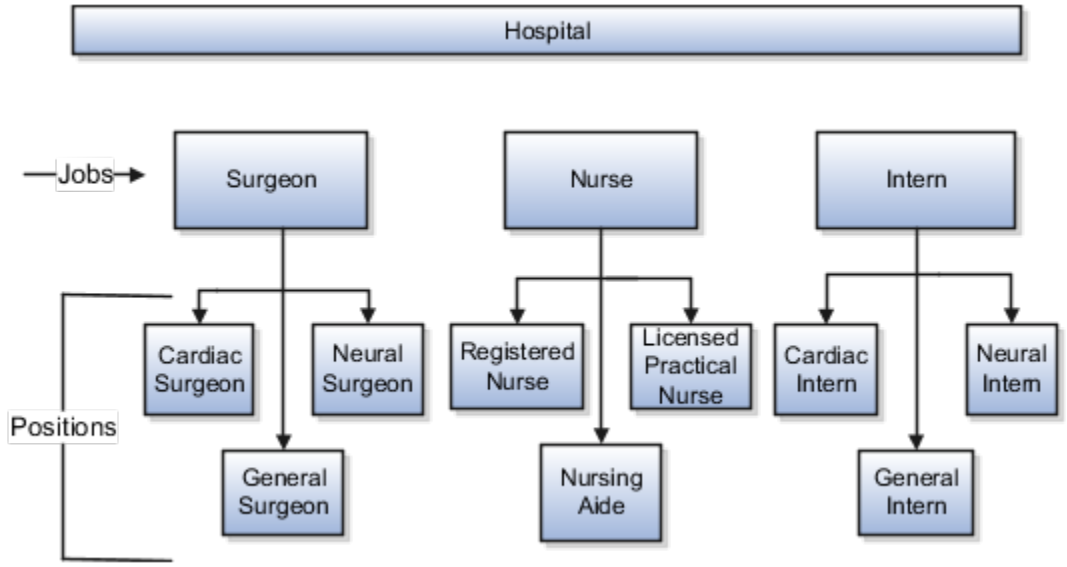


Health Care Industry

Health care is an industry that must regulate employment, roles, and compensation according to strict policies and procedures. Fixed roles tend to endure over time, surviving multiple incumbents. Industries that manage roles rather than individuals, where roles continue to exist after individuals leave, typically model the workforce using positions.

The hospital has a structured headcount and detailed budgeting. For example, a specific number of surgeons, nurses, and interns of various types are needed. These positions must be filled in order for the hospital to run smoothly. Use jobs and positions when you apply detailed headcount rules.

This figure illustrates the hospital position setup.



Examples of Jobs

Jobs are typically used without positions by service industries where flexibility and organizational change are key features.

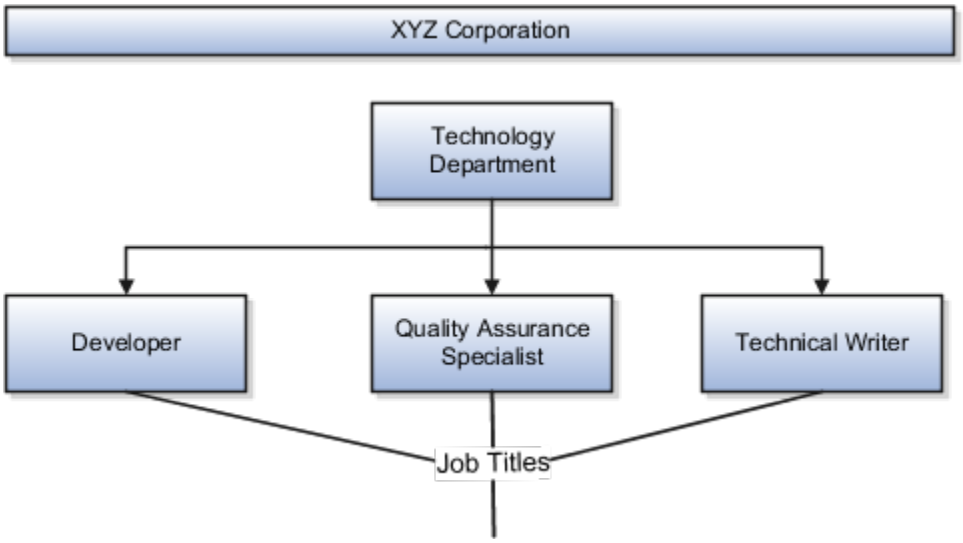
Software Industry

For example, XYZ Corporation has a director over the departments for developers, quality assurance, and technical writers.

- Recently, three developers have resigned from the company.
- The director decides to redirect the headcount to other areas.
- Instead of hiring all three back into development, one person is hired to each department, quality assurance, and technical writing.

In software industries, the organization is fluid. Using jobs gives an enterprise the flexibility to determine where to use headcount, because the job only exists through the person performing it. In this example, when the three developers leave XYZ Corporation, their jobs no longer exist, therefore the corporation has the flexibility to move the headcount to other areas.

This figure illustrates the software industry job setup.



Job and Position Structures

Job and position structures identify the descriptive flexfield structure that enables you to specify additional attributes that you want to capture when you define jobs and positions.

Job and position attributes provide further detail to make jobs and positions more specific. You also use attributes to define the structure of your jobs and positions. You can specify attributes at the enterprise level for jobs and positions, at the business unit level for positions, and at the reference data set level for jobs. Job and position structures are optional.

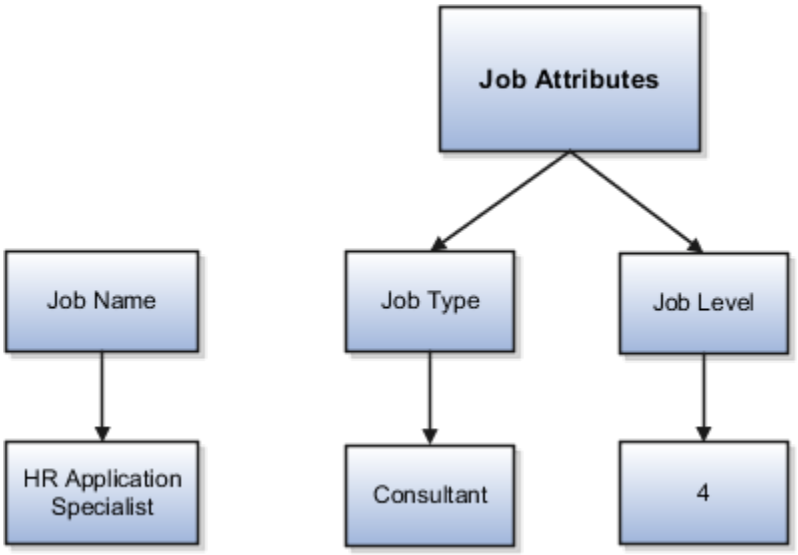
Enterprise-Level Job Attributes

When you define a job, you enter a value for the name of the job. To make job names more specific, set up attributes to identify additional details about the job. This includes the nature of the work that is performed or the relative skill level required. If these attributes apply to all jobs within your enterprise, set up enterprise-level job attributes. Standard capabilities mean that you can use the different segments of the name to:

- Identify common jobs or job holders for analysis or compensation.
- Group records in reports, such as to find all jobs of a specific job type.

Don't use attributes with values that change regularly, for example, salary ranges or expense approval levels that change every year.

This figure illustrates how job type and job level provide further details for the HR Application Specialist job.



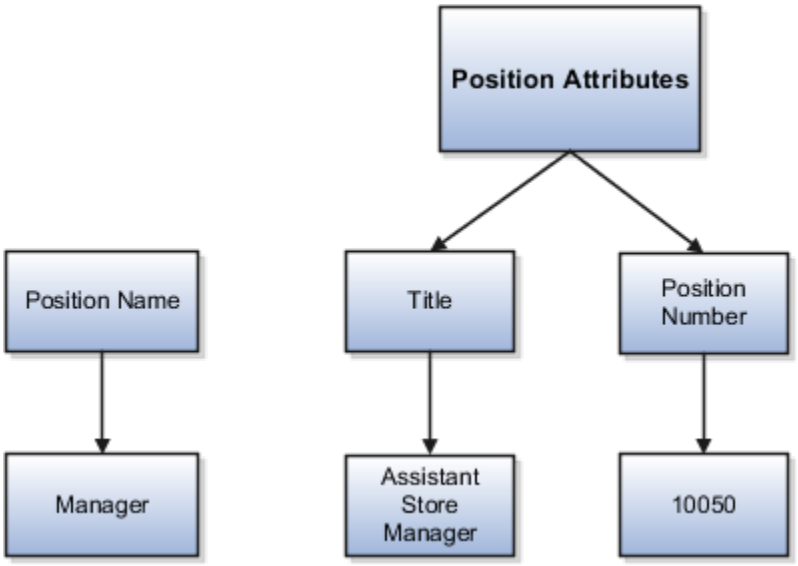
Enterprise-Level Position Attributes

Position attributes at the enterprise level are similar to those for jobs. Each position that you define identifies a specific role in the enterprise, which you can manage independently of the person in the position. A position belongs to one specific department or organization. The name of each position must be unique. To simplify the process of managing unique names for positions, set up enterprise-level attributes to identify separate components of the position name. For example, you can set up an attribute for position title and one for position number. When defining the attributes that make up the structure of a position name, consider whether any of your attributes are part of the definition of a common job type. Using job types for a position can help you manage common information that applies to many different positions.

For example, you can:

1. Define a job type of Manager.Level 1.
2. Use it for comparison of positions across departments or lines of business or for setting common job requirements.
3. Define multiple manager-type positions in your HR department, each of which has responsibility for a different management function or group.

This figure illustrates how title and position number provide further details for the manager position.



Business Unit-Level Attributes for Positions

If you have information that you want to capture for positions that are specific to each business unit, then you can define attributes at the business unit level for positions. When you create positions, these attributes appear in addition to any enterprise-level attributes. For example, you might want to identify the sales region for all positions in the sales business unit. You can set up a text attribute called Sales Region and use it to enter the necessary information when creating positions for the sales business unit.

Reference Data Set-Level Attributes for Jobs

If you have information for jobs that applies to specific reference data sets, set up attributes for jobs at the reference data set level. When you create jobs, these attributes appear in addition to any enterprise-level attributes. For example, you might want to identify all information technology (IT) jobs within a specific set. You can set up a text attribute called Function and use it to enter IT in jobs that you create that perform an IT function within a specific set.

FAQs for Define Initial Configuration

What happens if I don't use the Enterprise Structures Configurator to set up my enterprise structures?

The Enterprise Structures Configurator is an interview-based tool that guides you through setting up divisions, legal entities, business units, and reference data sets.

If you don't use the Enterprise Structures Configurator, then you must set up your enterprise structure using the individual tasks that correspond to each enterprise component. In addition, you can't set up multiple configurations and compare different scenarios. Using the Enterprise Structures Configurator is the recommended process for setting up your enterprise structures.

What's an ultimate holding company?

The legal entity that represents the top level in your organization hierarchy, as defined by the legal name entered for the enterprise. This designation is used only to create an organization tree, with these levels:

- Ultimate holding company as the top level
- Divisions and country holding companies as the second level
- Legal employers as the third level

What's the default reference data set?

The reference data set that is assigned to a business unit for all reference data groups, such as grades, locations, departments, and jobs. You can override the default reference data set for any reference data group.

Related Topics

- What happens if I override the set assignment?

What happens if I override the set assignment?

For the selected business unit, you can override the default reference data set for one or more reference data groups.

For example, assume you have three reference data groups: Vision 1 SET, Vision 2 SET, and Vision 3 SET, where Vision SET 1 is the default set for business unit United Kingdom Vision 1 BU. You can override the default so that:

- Grades are assigned to Vision 2 SET.
- Departments are assigned to Vision 3 SET.
- Jobs are assigned to the default set, Vision 3 SET.

Define Reference Data Sharing

Reference Data Sharing

Reference data sharing facilitates sharing of configuration data such as jobs and payment terms, across organizational divisions or business units.

You define reference data sets and determine how common data is shared or partitioned across business entities to avoid duplication and reduce maintenance effort. Depending on the requirement (specific or common), each business unit can maintain its data at a central location, using a set of values either specific to it or shared by other business units.

A common reference data set is available as the default set, which can be assigned to several business units sharing the same reference data. For commonly used data such as currencies, you can use the common reference data set and assign it to multiple business units in various countries that use the same currency. In cases where the default set can't be assigned to an entity, you can create specific sets. The data set visible on the transactional page depends on the sharing method used to share reference data.

For example, XYZ Corporation uses the same grades throughout the entire organization. Instead of different business units setting up and using the same grades, XYZ Corporation decides to create a set called Grades, which contains the grades. All business units in the organization have the Grades set so that the grades can be shared and used.

Note: For specific information about configuring reference data sharing for a particular object or product, refer to the relevant product documentation.

Related Topics

- Reference Data Sets
- Reference Data Sets and Sharing Methods
- Assignment of Reference Data Sets to Reference Objects

Reference Data Sets

Reference data sets are logical groups of reference data that various transactional entities can use depending on the business context. You can get started using either the common reference data set or the enterprise set depending on your implementation requirement.

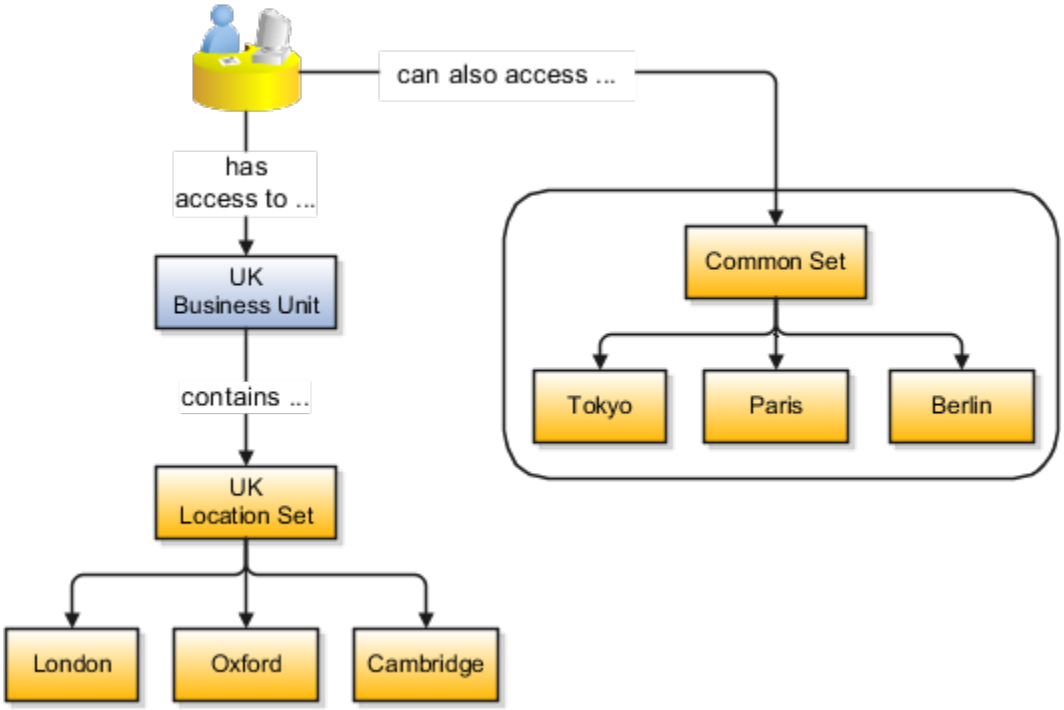
You can also create and maintain additional reference data sets, while continuing to use the common reference data set. Consider the following scenario. Your enterprise can decide that only some aspects of corporate policy should affect all business units. The remaining aspects are at the discretion of the business unit manager to implement. This enables your enterprise to balance autonomy and control for each business unit.

For example, your enterprise holds business unit managers accountable for their profit and loss, but manages working capital requirements at a corporate level. Then, you can let managers define their own sales methods, but define payment terms centrally. As a result, each business unit has its own reference data set for sales methods and one central reference data set for payment terms assigned to all business units.

Partitioning

Partitioning reference data and creating data sets provide you the flexibility to handle the reference data to fulfill your business requirements. You can share modular information and data processing options among business units with ease. You can create separate sets and subsets for each business unit. Alternatively, you can create common sets or subsets to enable sharing reference data between several business units, without duplicating the reference data.

The following figure illustrates the reference data sharing method. The user can access the data assigned to a specific set in a particular business unit, as well as access the data assigned to the common set.



Related Topics

- Reference Data Sets and Sharing Methods
- Assignment of Reference Data Sets to Reference Objects

Reference Data Sets and Sharing Methods

Oracle Fusion Cloud Applications reference data sharing feature is also known as Set ID. The reference data sharing functionality supports operations in multiple ledgers, business units, and warehouses.

As a result, there's a reduction in the administrative burden and the time to implement new business units. For example, you can share sales methods, or transaction types across business units. You may also share certain other data across asset books, cost organizations, or project units.

The reference data sharing features use reference data sets to which reference data is assigned. The reference data sets group assigned reference data. The sets can be understood as buckets of reference data assigned to multiple business units or other application components.

Reference Data Sets

You begin this part of your implementation by creating and assigning reference data to sets. Make changes carefully as changes to a particular set affect all business units or application components using that set. You can assign a separate set to each business unit for the type of object that's being shared. For example, assign separate sets for payment terms, transaction types, and sales methods to your business units.

Your enterprise can determine that certain aspects of your corporate policy can affect all business units. The remaining aspects are at the discretion of the business unit manager to implement. This allows your enterprise to balance

autonomy and control for each business unit. For example, your enterprise holds business unit managers accountable for their profit and loss, but manages working capital requirements at a corporate level. In such a case, you can let managers define their own sales methods, but define payment terms centrally. In this example:

- Each business unit has its own reference data set for sales methods.
- One central reference data set for payment terms is assigned to all business units.

The reference data sharing is especially valuable for lowering the cost of setting up new business units. For example, your enterprise operates in the hospitality industry. You're adding a new business unit to track your new spa services. The hospitality divisional reference data set can be assigned to the new business unit to quickly set up data for this entity component. You can establish other business unit reference data in a business unit-specific reference data set as needed.

Reference Data Sharing Methods

Variations exist in the methods used to share data in reference data sets across different types of objects. The following list identifies the methods:

- Assignment to one set only, no common values allowed. This method is the simplest form of sharing reference data that allows assigning a reference data object instance to one and only one set. For example, Asset Prorate Conventions are defined and assigned to only one reference data set. This set can be shared across multiple asset books, but all the values are contained only in this one set.
- Assignment to one set only, with common values. This method is the most commonly used method of sharing reference data that allows defining reference data object instance across all sets. For example, Receivables Transaction Types are assigned to a common set that's available to all the business units. You need not explicitly assign the transaction types to each business unit. In addition, you can assign a business unit-specific set of transaction types. At transaction entry, the list of values for transaction types includes the following:
    - Transaction types from the set assigned to the business unit.
    - Transaction types assigned to the common set that's shared across all business units.
- Assignment to multiple sets, no common values allowed. The method of sharing reference data that allows a reference data object instance to be assigned to multiple sets. For instance, Payables Payment Terms use this method. It means that each payment term can be assigned to one or more than one set. For example, you assign the payment term Net 30 to several sets, but assign Net 15 to a set specific only to your business unit. At transaction entry, the list of values for payment terms consists of only the set that's assigned to the transaction's business unit.

> **Note:** Oracle Fusion Applications contains a reference data set called Enterprise. Define any reference data that affects your entire enterprise in this set. Also update the data set going forward as you create reference data items.

Related Topics

- Items and Supplier Site Reference Data Sharing
- What reference data objects can be shared across cost organizations?
- What reference data objects can be shared across project units?
- What reference data objects can be shared across business units?
- What reference data objects can be shared across asset books?

Assignment of Reference Data Sets to Reference Objects

You can assign the reference data sets to reference objects using the Manage Reference Data Set Assignments page. For multiple assignments, you can classify different types of reference data sets into groups and assign them to the reference entity objects.

The assignment takes into consideration the determinant type, determinant, and reference group, if any.

Determinant Types

The partitioned reference data is shared using a business context setting called the determinant type. A determinant type is the point of reference used in the data assignment process. The following table lists the determinant types used in the reference data assignment.

Determinant Type	Description
Asset Book	Information about the acquisition, depreciation, and retirement of an asset that belongs to a ledger or a business unit.
Business Unit	The departments or organizations within an enterprise.
Cost Organization	The organization used for cost accounting and reporting on various inventory and cost centers within an enterprise.
Project Unit	A logical organization within an enterprise that's responsible for enforcing consistent project management practices.
Reference Data Set	References to other shared reference data sets.

Determinant

The determinant (also called determinant value) is a value that corresponds to the selected determinant type. The determinant is one of the criteria for selecting the appropriate reference data set.

Reference Groups

A transactional entity may have multiple reference entities (generally considered to be setup data). However, all reference entities are treated alike because of similarity in implementing business policies and legal rules. Such reference entities in your application are grouped into logical units called reference groups. For example, all tables and views that define Sales Order Type details might be a part of the same reference group. Reference groups are predefined in the reference groups table.

Items and Supplier Site Reference Data Sharing

Some products, such as items and supplier sites, required special logic for reference data sharing and have implemented their own domain-specific ways for sharing data.

Items

If you share your items across warehouses or manufacturing facilities, you can access them through a common item master. Configure one or multiple item masters for your enterprise, based your enterprise structure. A single item master is recommended because it provides simpler and more efficient maintenance. However, in rare cases, it may be beneficial to keep multiple item masters. For example, if you acquire another enterprise and want to continue to operate your lines of business separately, maintaining a second item master might be the best decision.

Suppliers Sites

You can approve particular suppliers to supply specified commodities and authorize your business units to buy from those suppliers when the need arises. For example, you might be a household cleaning products manufacturer and need dyes, plastics, and perfumes to make your products. You purchase from a central supplier 70% of your perfume supplies with an additional supplier, in reserve, from whom you purchase the remaining 30%. At the same time, each of your business units purchases plastics and dyes from the same supplier, but from different local supplier sites to save transportation costs.

To implement business unit-specific supplier sites, Oracle Fusion Cloud Procurement supports a method for defining suppliers sites as owned and managed by the business unit responsible for negotiating the supplier terms. Your other business units that have a service provider relationship defined with your procurement business unit subscribe to the supplier sites using the supplier site assignments feature. In addition, Procurement allows sharing of the following procurement data objects across business units:

- Supplier qualification data, such as approved supplier lists
- Catalog content, such as agreements, smart forms, public shopping lists, and content zones
- Procurement configuration data

Related Topics

- What reference data objects can be shared across cost organizations?
- What reference data objects can be shared across project units?
- What reference data objects can be shared across business units?
- What reference data objects can be shared across asset books?

FAQs for Define Reference Data Sharing

What reference data objects can be shared across business units?

The following table contains the reference data objects for the Oracle Fusion Applications that can be shared across business units and the method in which the reference data for each is shared.

Application Name	Reference Data Object	Method of Sharing
Trading Community Model	Customer Account Relationship	Assignment to one set only, no common values allowed
Trading Community Model	Customer Account Site	Assignment to one set only, no common values allowed
Trading Community Model	Salesperson	Assignment to one set only, no common values allowed
Opportunity Management	Sales Method Group	Assignment to one set only, with common values
Work Management	Assessment Templates	Assignment to one set only, with common values
Enterprise Contracts	Contract Types	Assignment to one set only, with common values
Sales	Sales Method	Assignment to one set only, with common values
Common Components	Activity Templates	Assignment to one set only, with common values
Payables	Payment Terms	Assignment to multiple sets, no common values allowed
Receivables	Accounting Rules	Assignment to one set only, with common values
Receivables	Aging Buckets	Assignment to one set only, with common values
Receivables	Auto Cash Rules	Assignment to one set only, with common values
Receivables	Collectors	Assignment to one set only, with common values
Receivables	Lockbox	Assignment to one set only, with common values
Receivables	Memo Lines	Assignment to one set only, with common values

Application Name	Reference Data Object	Method of Sharing
Receivables	Payment Terms	Assignment to one set only, with common values
Receivables	Remit To Address	Assignment to one set only, with common values
Receivables	Revenue Contingencies	Assignment to one set only, with common values
Receivables	Transaction Source	Assignment to one set only, with common values
Receivables	Transaction Type	Assignment to one set only, with common values
Advanced Collections	Collections Setups	Assignment to one set only, with common values
Advanced Collections	Dunning Plans	Assignment to one set only, with common values
Tax	Tax Classification Codes	Assignment to multiple sets, no common values allowed
Human Resources	Departments	Assignment to one set only, with common values
Human Resources	Jobs	Assignment to one set only, with common values
Human Resources	Locations	Assignment to one set only, with common values
Human Resources	Grades	Assignment to one set only, with common values
Project Billing	Project and Contract Billing	Assignment to multiple sets, no common values allowed
Project Foundation	Project Accounting Definition	Assignment to one set only, no common values allowed
Project Foundation	Project Rates	Assignment to one set only, with common values
Order Management	Hold Codes	Assignment to one set only, with common values

Application Name	Reference Data Object	Method of Sharing
Order Management	Orchestration Process	Assignment to one set only, with common values

What reference data objects can be shared across asset books?

The following list contains the reference data objects for Oracle Fusion Assets that can be shared across asset books and the method in which the reference data for each is shared.

Application Name	Reference Data Object	Method of Sharing
Assets	Bonus Rules	Assignment to one set only, no common values allowed
Assets	Depreciation Ceilings	Assignment to one set only, no common values allowed
Assets	Depreciation Methods	Assignment to one set only, with common values
Assets	Asset Descriptions	Assignment to one set only, no common values allowed
Assets	Property Types	Assignment to one set only, with common values
Assets	Prorate Conventions	Assignment to one set only, no common values allowed
Assets	Asset Queue Names	Assignment to one set only, with common values
Assets	Retirement Types	Assignment to one set only, with common values
Assets	Unplanned Types	Assignment to one set only, with common values

What reference data objects can be shared across cost organizations?

The following table contains the reference data objects for Oracle Fusion Cost Management that can be shared across cost organizations and the method in which the reference data for each is shared.

Application Name	Reference Data Object	Method of Sharing
Cost Management	Cost Structure	Assignment to one set only, no common values allowed

What reference data objects can be shared across project units?

The following table contains the reference data objects for Oracle Fusion Project Foundation that can be shared across project units and the method in which the reference data for each is shared.

Application Name	Reference Data Object	Method of Sharing
Project Foundation	Project Definition	Assignment to multiple sets, no common values allowed
Project Foundation	Project Transaction Types	Assignment to multiple sets, no common values allowed

Define Enterprise: Manage Enterprise HCM Information

Define Enterprises

An enterprise is a collection of legal entities sharing common control and management.

Enterprise Defined

When implementing Oracle Fusion Cloud Applications you operate within the context of an enterprise that has already been created in the application for you. This is either a predefined enterprise or an enterprise that has been created in the application by a system administrator. An enterprise organization captures the name of the deploying enterprise and the location of the headquarters. In Oracle Fusion Applications, an organization classified as an enterprise is defined before defining any other organizations in the HCM Common Organization Model. All other organizations are defined as belonging to an enterprise.

Enterprise Information for Non-HCM Users

The Manage Enterprise HCM Information task includes default settings for your enterprise such as the employment model, worker number generation, and so on.

If you're not implementing Oracle Fusion Human Capital Management (HCM), then the only action you may need to perform using this task is to change the enterprise name, if necessary. The other settings are HCM-specific and aren't relevant outside of Oracle Fusion HCM.

Define Enterprise: Manage Locations

Locations

A location identifies physical addresses of a workforce structure, such as a department or a job. You create and manage locations using the Location Details quick action in the Workforce Structures area on the My Client Groups tab.

You can also create locations to enter the addresses of external organizations that you want to maintain, such as employment agencies, tax authorities, and insurance or benefits carriers.

When specifying the location address, you can default the country in the location responsive pages. You configure the default location country on the **Manage Enterprise HCM Information** page. If you don't configure any default country, then the country is automatically defaulted to United States in the location address.

The locations that you create exist as separate structures that you can use for reporting purposes, and in rules that determine employee eligibility for various types of compensation and benefits. You enter information about a location only once. Subsequently, when you set up other workforce structures you select the location from a list.

A point to note is that the Ship-to Site, Receiving Site, Bill-to Site, Office Site, and Designated Receiver fields in the Shipping Details section of a location setup are for information purpose only and can be used to report upon. They aren’t currently used by any feature or process within HCM.

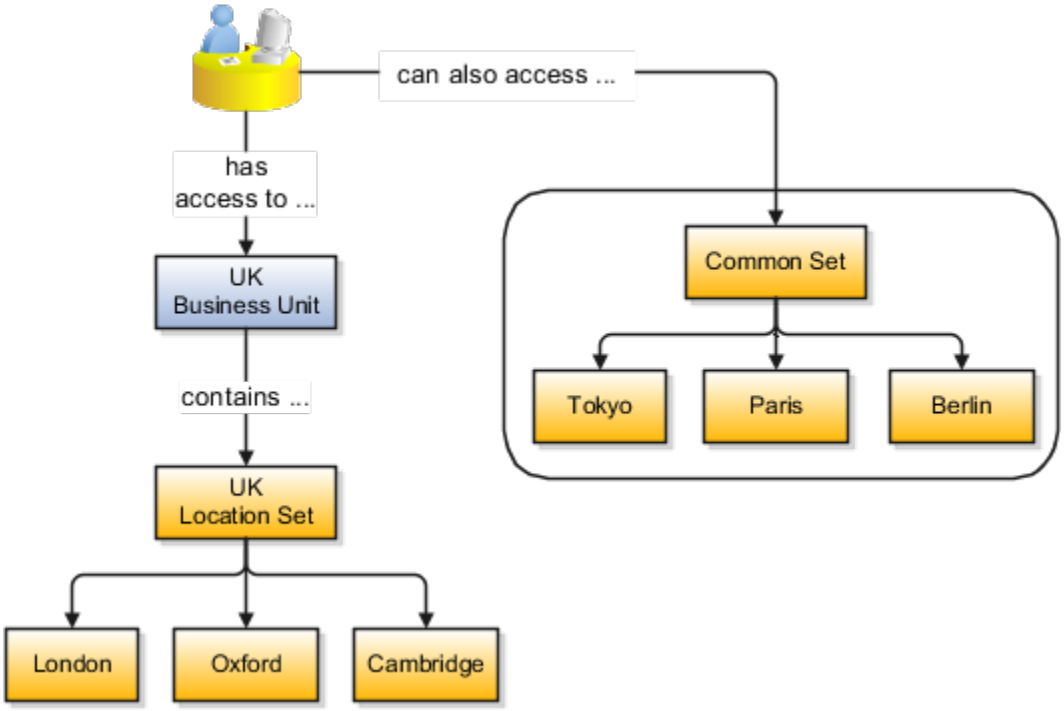
Location Sets

When you create a location, you must associate it with a set. Only those users who have access to the set's business unit can access the location set and other associated workforce structure sets, such as those that contain departments and jobs.

Note the following:

- You can also associate the location to the common set so that users across your enterprise can access the location irrespective of their business unit.
- You can also configure a location as an employee location on the **Location Details** page.
- When users search for locations, they can see the locations that they have access to along with the locations in the common set.

The following figure shows how locations sets restrict access to users.



Upload Locations Using a Spreadsheet

If you have a list of locations already defined for your enterprise, you can upload them from a spreadsheet.

To use this option:

- Download a spreadsheet template
- Add your location information to the spreadsheet
- Upload directly to your enterprise configuration

You can upload the spreadsheet multiple times to accommodate revisions.

Update Location Details

If you need to update or correct the details of a location, here's how you can do that:

1. Go to **My Client Groups** > **Location Details**.
2. On the page, click **Show Filters**.
3. Search for the location you need to correct or update using the filters and select it.
4. On the location's details page, click **Actions** and select **Update** or **Correct**.
5. Update the details as required and click **Submit**.

Related Topics

- Why can't I see my location in the search results?
- What happens if I inactivate a location?
- Upload Workforce Structures Using a Spreadsheet
- How do I default a country when creating locations?

FAQs for Manage Locations

Why can't I see my location in the search results?

You can search for approved locations only. Also, if you created a location in Oracle Fusion Trading Community Model, then you can't access that location from Oracle Fusion Global Human Resources.

For use in Oracle Fusion HCM, you must recreate the location from the Manage Locations page.

What happens if I select a geographic hierarchy node when I create or edit a location?

The calendar events that you created for the geographic node start to apply for the location and may impact the availability of worker assignments at that location.

You manage locations using the Manage Locations task in the Workforce Structures work area.

The geographical hierarchy nodes available for selection on the Locations page display from a predefined geographic hierarchy.

Related Topics

- How an Individual's Schedule Is Identified

What happens if I select an inventory organization when I am creating or editing a location?

The location is available for selection in purchase documents of that inventory organization in Oracle Fusion Inventory Management. If you don't select an inventory organization, then the location is available in purchase documents across all inventory organizations.

What happens if I inactivate a location?

Starting from the effective date that you entered, you can no longer associate the location with other workforce structures, assignments, or applications.

If the location is already in use, it will continue to be available to the components that currently use it.

How can I associate a location with an inventory organization?

From the Oracle Fusion Global Human Resources, go to the Manage Locations page. Use the Manage Locations task in the Workforce Structures work area.

To appear on the Create or Edit Location pages, your inventory organization must be effective as of the current date and must exist in the location set that you selected.

Geographies

Overview of Geographies

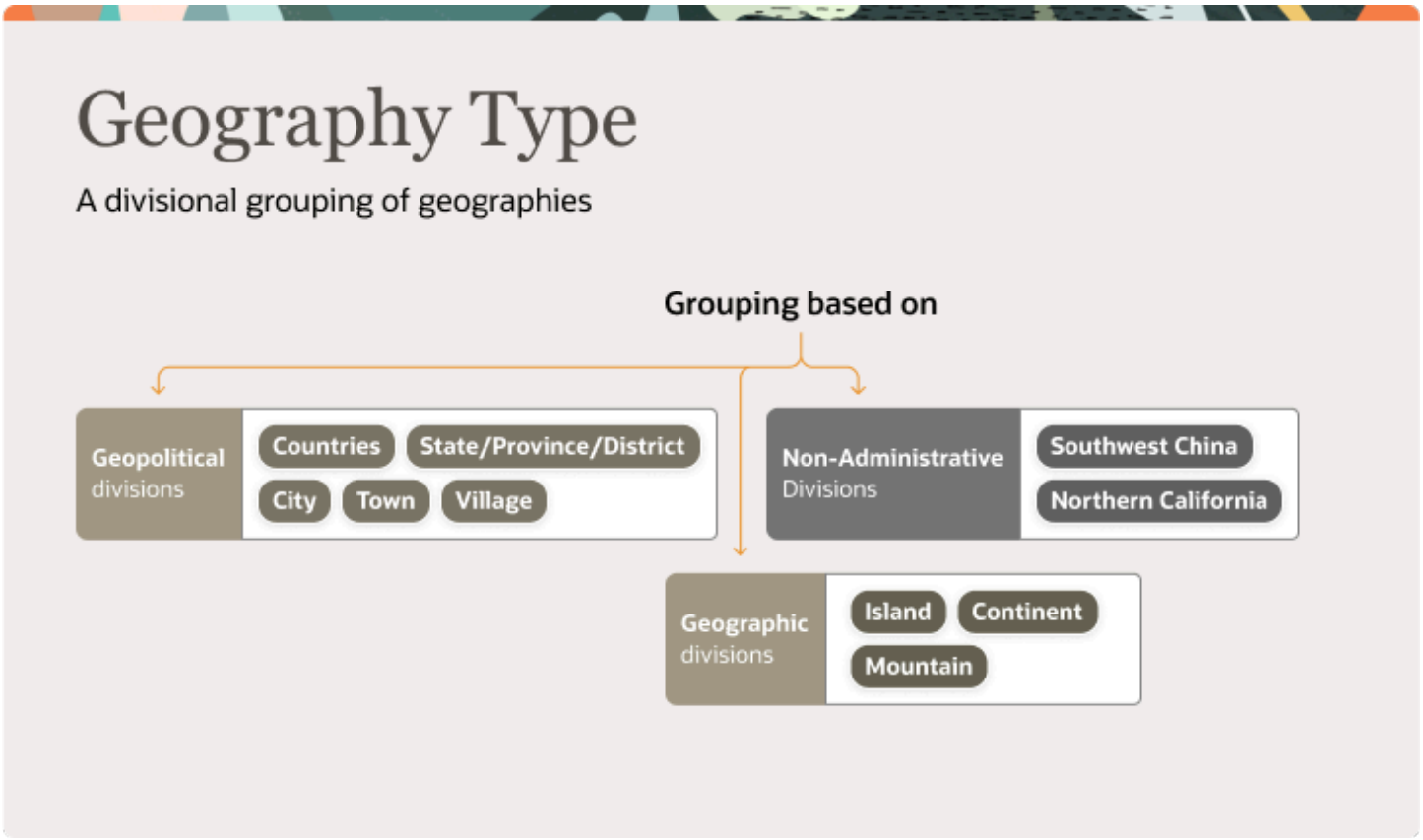
Overview of Geographies, Geographic Entities, and Locations

A geography is a physical space on Earth, such as a location or region, that's defined by a boundary. For example, it may be existing geopolitical locations such as San Jose or Peru.

These geographical locations are used in applications to manage business requirements such as sales territories, transportation deliveries, taxation, logistics, and so on.

Geography Type

A divisional grouping of geographies is named as Geography Types. It could be a geopolitical division such as Country, First Order Administrative Divisions (example: State, Province, District, and so on), City, Town, Village, or Non-Administrative Divisions (example: Southwest China, Northern California, and so on) or physical geographic divisions such as Island, Continent, Mountain, and so on.



Geography Use

Specifying the purpose and use of these geographies is known as Geography Use. Data could be classified for use by processes such as Taxation, Sales, Transportation, Marketing and so on.

Master Reference Geography Use

Master Reference Geography Use is data that's classified as being the source of truth. This data is used as a reference for creating User-defined Geography Uses and as the source when working with geographical data such as validating addresses or importing data. This data can be obtained from a third party or manually entered. It is defined by widely recognized administrative or political boundaries such as States, Provinces, Counties, Cities, and so on.

Master Reference Geographies

Master Reference Geographies are geographical boundary names and physical boundaries that are classified as being part of the Master Reference Geography Use. Examples include the State of California, the Province of Alberta, The Country of India, and so on.

Master Reference Geography Type

Master Reference Geography Type is a layer of Master Reference Geographies. Examples of Master Reference Geography Types would include States, Cities, Provinces, Countries, and so on.

How Geography Structure, Hierarchy, and Validation Fit Together

This topic presents the components of geographies.

The following three components are dependent on each other when defining a country:

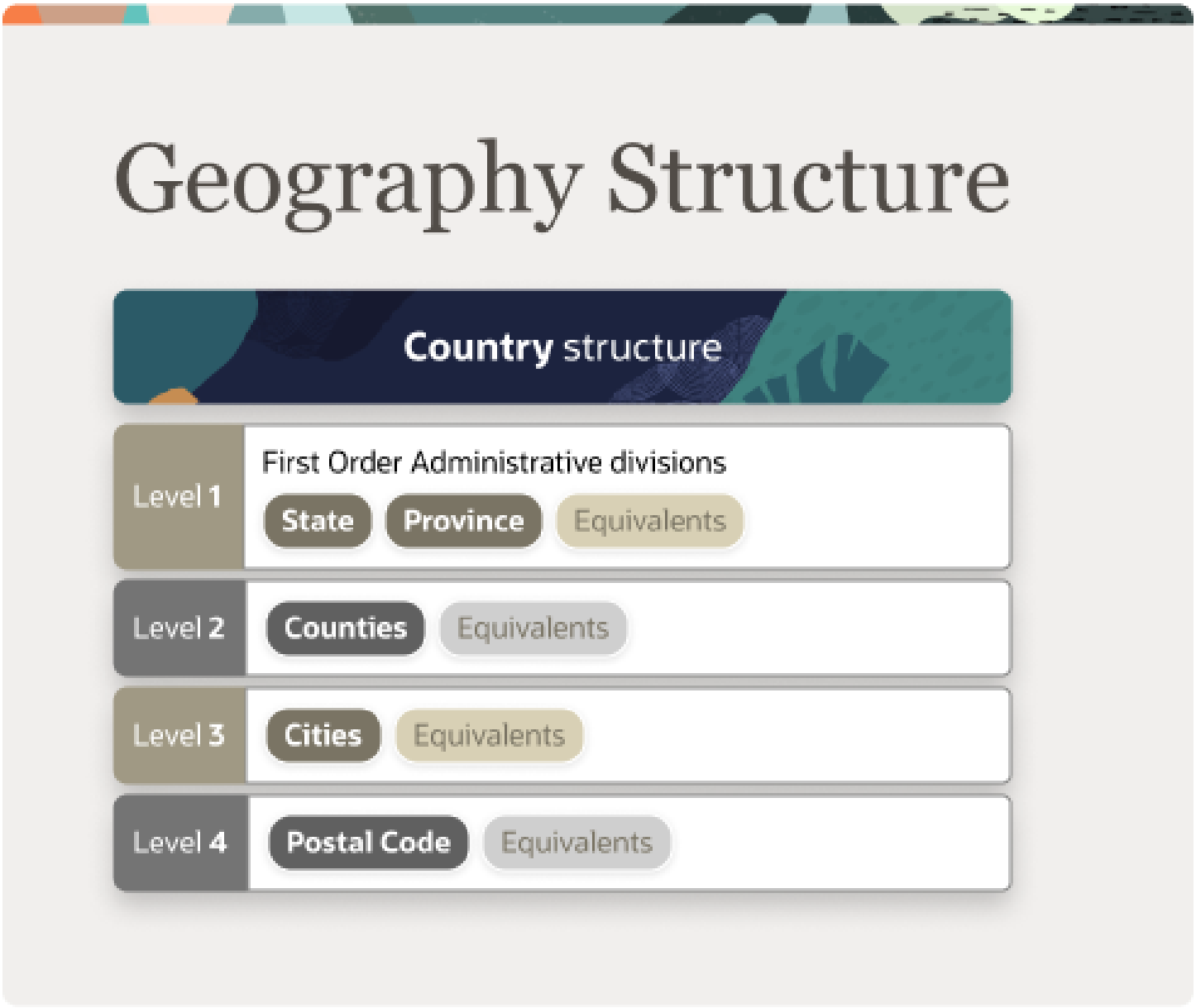
1. Geography structure
2. Geography hierarchy
3. Geography validation

Every country must have the geography structure defined first before the hierarchy can be defined, and the geography hierarchy has to be defined before the validation can be defined.

Geography Structures

You can use the geography structure to define geography types for a country and then relate the geography types.

For example, you can define geography types called State, City, and Postal Code. Then you can rank the State geography type as the highest level within the country, the City as the second level, and the Postal Code as the lowest level within the country structure.



A geography structure is a hierarchical grouping of geography types for a country. The following table describes the geography structure for the United States.

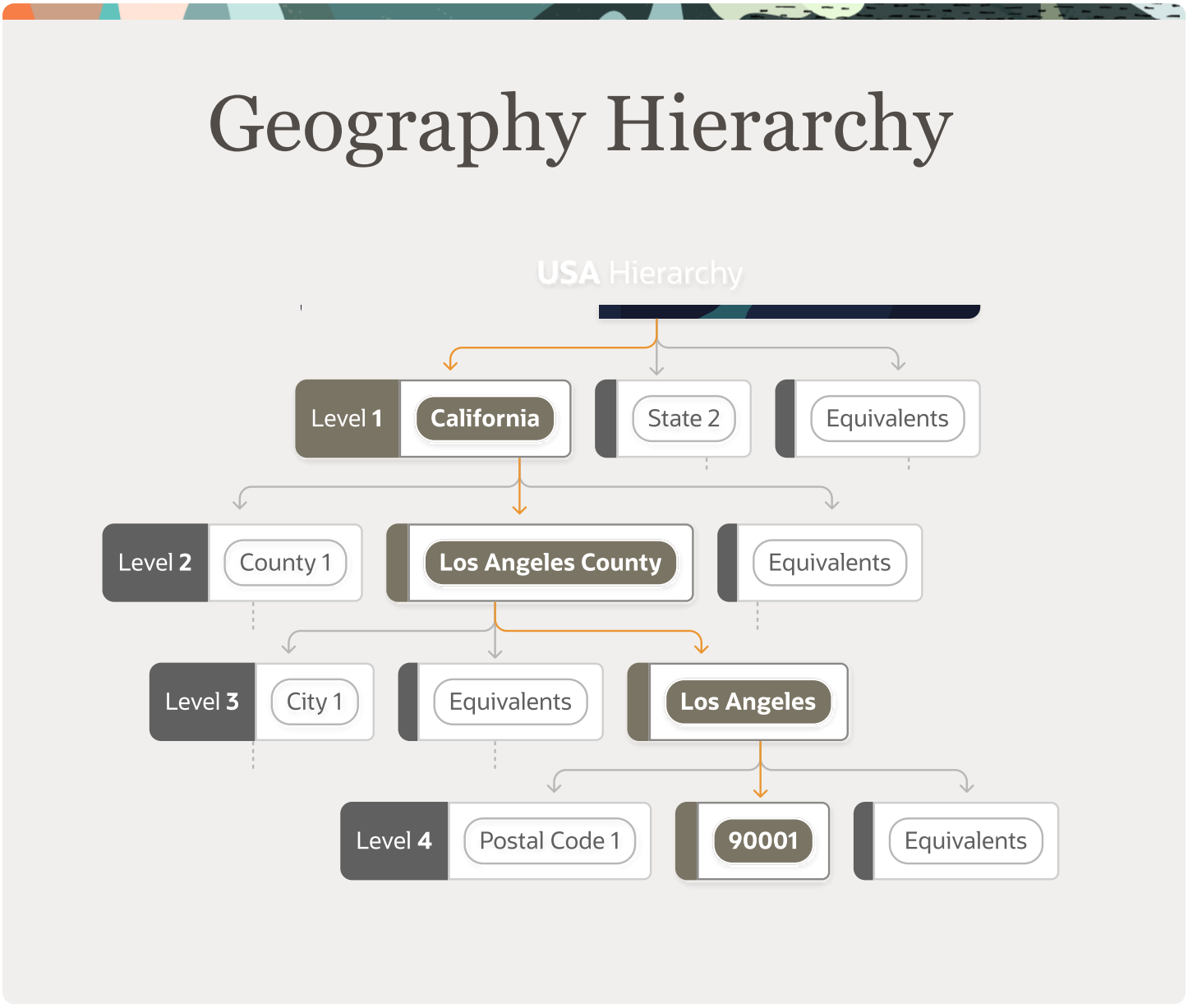
Level	Geography Type
1	State
2	County
3	City

Level	Geography Type
4	Postal Code

Geography Hierarchy

Geography hierarchy is a data model that creates conceptual parent-child relationships between geographies.

Once the geography structure is defined, the geographies for each geography type can be added to the geography hierarchy. For example, in the geography hierarchy of United States you can create a geography called California using the State geography type.



How do I manage geography validation?

After defining the geography hierarchy, you need to specify the structure for the country.

You can choose which address style format you would like to use for the country, and for each selected address style format you can map geography types to address attributes. You can also select which geography types to include in address validation or tax validation, and which geography types will display in a list of values during address entry in other user interfaces. The geography validation level for the country, such as error or warning, can also be selected. Geography validation determines the geography mapping and validation for a country's *address styles*, and the overall address validation control for a country.

The **No Styles Format** address style format is the default address style format for a country. By defining the mapping and validation for this format you will ensure that validations can be performed for any address in the country. After the **No Styles Format** is defined you can set up additional mapping for specific address styles.

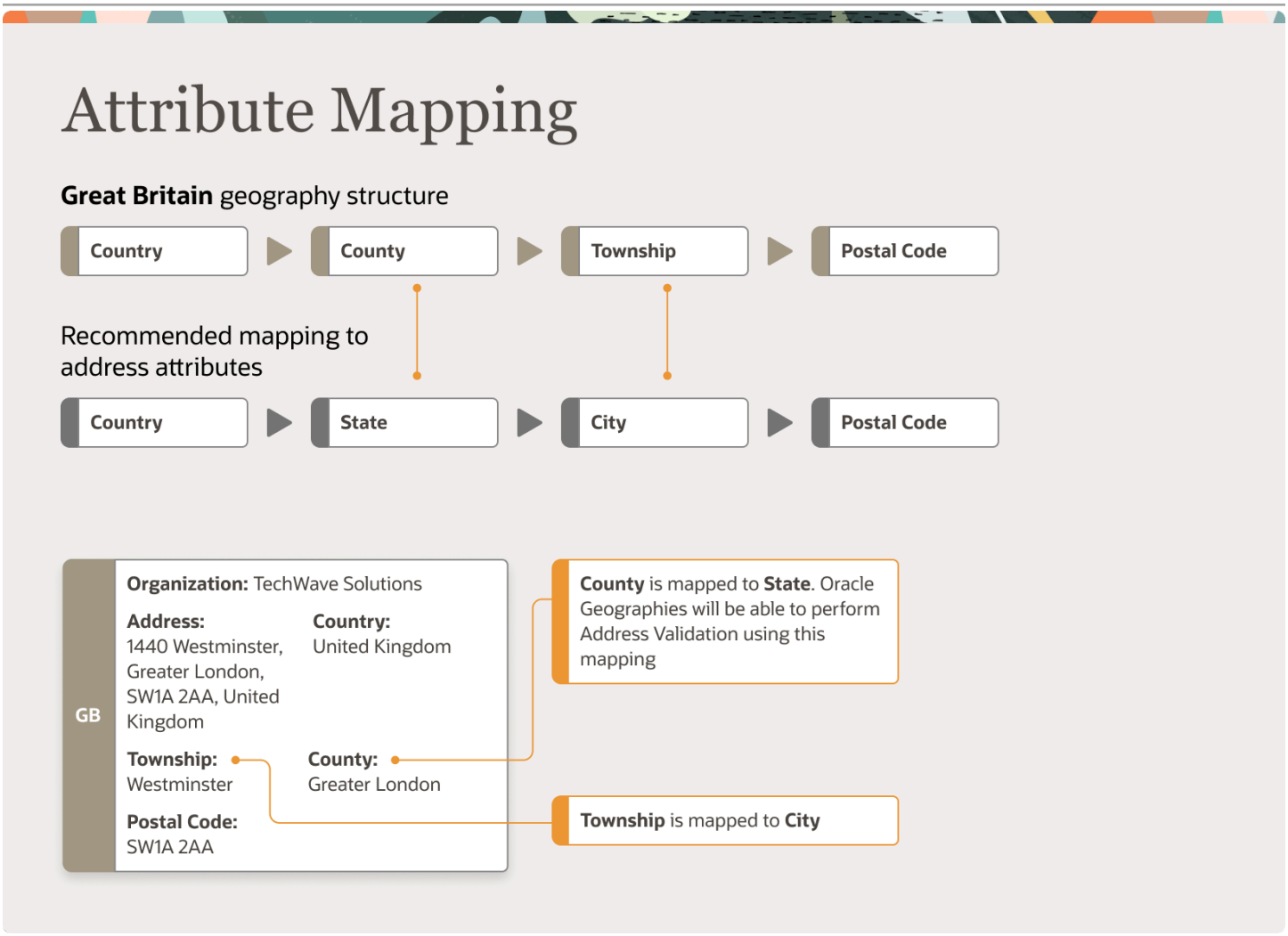
For each address style format, you can define the following:

- Map to attribute
- Enable list of values
- Tax validation
- Address validation
- Address validation control

Attribute Mapping

For every address style format, you can map each geography type to an address attribute. For example, you can map the **State** geography type to the **State** address attribute for the United States, or map the **State** geography type to the **County** address attribute for the United Kingdom. The geography types that appear are based on how the country structure is defined. The list of address attributes that appear are based on address formats delivered with the application, or your customer defined address formats.

Note: You only need to map geography types that you want to use for address or tax validation purposes.



Enable List of Values

Once a geography type is mapped to an attribute, then you can specify whether the geography type will appear in a list of values during address entry in user interfaces. It is very important to review carefully if you want to enable a list of values. You should only enable a list of values if you have sufficient geography data imported or created for that geography. If the setup for master geography data is incomplete, then the geography data is either not imported or created. As a result, the list of values for the address attribute doesn't list any geography data.

Once you have enabled a list of values for an address attribute, you can only select the geography data available for the geography type. This means that if a specific geography value isn't available in the geography hierarchy, you can't create an address with a different geography value.

> **Note:** Enable List of Values applies to the UI only. It doesn't apply to import, web services, or REST APIs. For these, all of the required geography types must have a value in the request when creating or updating an address.

Tax Validation

You can also specify whether a geography type will be included in tax validation. For example, for the United States North America address style format you specify that County, State, and City are used for tax validation. This will mean

that when a transaction involves an address with the North America address style, the address must have the correct county, state, and city combination based on the geography hierarchy data, to be considered valid for tax calculation.

Address Validation

You must set up address validation for those geography elements that you plan to use in your application. Address validation checks whether geography elements of an address such as state, city, postal code, and so on are valid as per master geography data. Setting up validation also helps ensure that the addresses are correct and deliverable during entry. You can select states or other address elements from lists to ensure accuracy during entry. For example, when you enter a postal code, the application can validate if the postal code exists. Note that address validation isn't the same as address verification. Address Verification updates and enhances your address. Address verification depends upon Oracle or any third-party address verification services to perform verification.

You can specify whether a geography type will be included in address validation. For example, when the user enters a United States address using the North American address style format, the address must have the correct country, state, and postal code combination based on geography hierarchy data to be considered geographically valid.

If an address element is mapped to a geography type, but not selected for geography validation usage, then during address entry suggested values are provided for the address element, but the address element isn't validated.

You need to verify that the default mapping between **Geography Type** and **Map to Attribute** is valid in the Geography Mapping and Validation region and update it if required when you define geography validation.

After setting geography validation, all features that directly and indirectly depend upon geographies are impacted. For example, multiple applications such as ERP, CX, and SCM that use geographies are impacted.

Oracle recommends that you use the following valid mapping for the countries that Loqate supports:

Country Name	Country Code	Geography Type	Map to Attribute
Andorra	AD	• Country • Parroqia • Settlement • Postal Code	• Country • State • City • Postal code
Angola	AO	• Country • Provincia • Municipio • Comuna • Localidad	• Country • Province • County • City • Additional address attribute 2
Argentina	AR	• Country • Province • Department • Municipality • Postal Code	• Country • Province • County • City • Postal code
Australia	AU	• Country • State	• Country • State

Country Name	Country Code	Geography Type	Map to Attribute
		• City • Postal Code	• City • Postal code
Austria	AT	• Country • Bundensland • Bezirk • Gemeinde • Postal Code	• Country • State • County • City • Postal code
Belgium	BE	• Country • Gewest • Provincie • Gemeente • Postal Code	• Country • Additional address attribute 1 • Province • City • Postal code
Bolivia	BO	• Country • Departmento • Provincia • Canton	• Country • Additional address attribute 1 • Province • City
Bosnia and Herzegovina	BA	• Country • District • Kanton • Opcine • Nasalje • Postal Code	• Country • Additional address attribute 1 • Province • County • City • Postal code
Brazil	BR	• Country • State • City • Postal Code	• Country • State • City • Postal code
Bulgaria	BG	• Country • Oblast • Obshhina • Settlement • Postal Code	• Country • Additional address attribute 1 • Province • City • Postal code
Canada	CA	• Country • Province	• Country • Province

Country Name	Country Code	Geography Type	Map to Attribute
		• City • Postal Code	• City • Postal code
Cayman Islands	KY	• Country • Island • District • Postal Code	• Country • State • City • Postal code
Chile	CL	• Country • Region • Provincia • Kommune • Postal Code	• Country • State • County • City • Postal code
China **Note:** China geography structure is supported but geocoding isn't supported.	CN	• Country • Province • City • Postal Code	• Country • Province • City • Postal code
Croatia	HR	• Country • Zupanije • Grad • Postal Code	• Country • Province • City • Postal code
Cuba	CU	• Country • Provincia • Municipio • City • Postal Code	• Country • Province • County • City • Postal code
Cyprus	CY	• Country • Periochi • Dimos • Postal Code	• Country • Province • City • Postal code
Czech Republic	CZ	• Country • Kraj • Okres • Obec • Postal Code	• Country • State • County • City • Postal code

Country Name	Country Code	Geography Type	Map to Attribute
Denmark	DK	• Country • Amt • Settlement • Postal Code	• Country • Province • City • Postal code
Dominican Republic	DO	• Country • Provincia • Municipio • Town • Postal Code	• Country • Province • County • City • Postal code
Ecuador	EC	• Country • Province • Canton • City • Postal Code	• Country • Province • County • City • Postal code
Estonia	EE	• Country • Maakond • Vald • Postal Code	• Country • State • City • Postal code
Finland	FI	• Country • Maakunta • Kunta • Settlement • Postal Code	• Country • State • Locality • City • Postal code
France	FR	• Country • Region • Department • Commune • Postal Code	• Country • Additional address attribute 1 • State • City • Postal code
Germany	DE	• Country • Bundesland • Gemeinde • Postal Code	• Country • State • City • Postal code
Great Britain	GB	• Country • County	• Country • State

Country Name	Country Code	Geography Type	Map to Attribute
		• Township • Postal Code	• City • Postal code
Greece	GR	• Country • Periferia • Nomi • Dimotika • Postal Code	• Country • State • County • City • Postal code
Guadalupe	GP	• Country • Commune • Postal Code	• Country • City • Postal code
Guam	GU	• Country • State • County • Municipality • Postal Code	• Country • State • County • City • Postal code
Guernsey	GG	• Country • City • Parishes • Villages • Postal Code	• Country • City • Additional address attribute 2 • Additional address attribute 3 • Postal Code
Hungary	HU	• Country • Megye • Jaras • Telepules • Settlement • Postal Code	• Country • Additional address attribute 1 • Province • County • City • Postal code
Iceland	IS	• Country • Jaras • Telepules • Settlement • Postal Code	• Country • Province • County • City • Postal code
India	IN	• Country • State	• Country • State

Country Name	Country Code	Geography Type	Map to Attribute
		• City • Postal Code	• City • Postal code
Indonesia	ID	• Country • Province • City • Postal Code	• Country • Province • City • Postal code
Ireland	IE	• Country • Province • Post County • Postal_Code	• Country • State • City • Postal Code
Isles of Man	IM	• Country • Locality • Settlement • Postal Code	• Country • City • Additional address attribute 2 • Postal code
Israel	IL	• Country • District • Subdistrict • City • Postal Code	• Country • State • County • City • Postal code
Italy	IT	• Country • Regione • Provincia • Comune • Postal code	• Country • Additional address attribute 1 • Province • City • Postal code
Jamaica	JM	• Country • Parish • Settlement	• Country • State • City
Japan	JP	• Country • Prefecture • City • Postal Code	• Country • State • City • Postal code
Jordan	JO	• Country • Muhafazat	• Country • State

Country Name	Country Code	Geography Type	Map to Attribute
		• Liwa • Tajma • Postal Code	• County • City • Postal code
Kenya	KE	• Country • County • Division	• Country • State • City
Latvia	LV	• Country • Rajons • Pilseta • Postal Code	• Country • State • City • Postal code
Liechtenstein	LI	• Country • Wahlkreis • Gemeinde • District • Postal Code	• Country • Additional address attribute 1 • State • City • Postal code
Lithuania	LT	• Country • County • Municipality • Ward • Postal Code	• Country • State • County • City • Postal code
Luxembourg	LU	• Country • Canton • Commune • Settlement • Postal Code	• Country • State • County • City • Postal code
Malaysia	MY	• Country • State • District • Subdistrict • Postal Code	• Country • State • County • City • Postal code
Malta	MT	• Country • Region • Local_Council • Postal Code	• Country • State • City • Postal code

Country Name	Country Code	Geography Type	Map to Attribute
Martinique	MQ	• Country • Department • Arrondisement • Commune • Postal Code	• Country • State • County • City • Postal code
Mexico	MX	• Country • State • Municipality • Locality • Postal Code	• Country • State • County • Additional address attribute 2 • Postal code
Netherlands	NL	• Country • Province • Municipality • Town • Postal Code	• Country • Province • County • City • Postal code
New Zealand	NZ	• Country • Region • Town • Postal Code	• Country • State • City • Postal code
Norway	NO	• Country • Fylke • Kommune • Postal Code	• Country • Province • City • Postal code
Oman	OM	• Country • Muhafazah • District • City	• Country • State • County • City
Peru	PE	• Country • Region • Provincia • Distrito • Postal Code	• Country • Province • County • City • Postal code
Poland	PL	• Country • Wojewodztwo	• Country • Province

Country Name	Country Code	Geography Type	Map to Attribute
		• Powiat • Gmina • Postal Code	• County • City • Postal code
Portugal	PT	• Country • Distrito • Concelho • Settlement • Postal Code	• Country • Province • County • City • Postal code
Puerto Rico	PR	• Country • Commonwealth • Municipio • Barrio • Postal Code	• Country • State • County • City • Postal code
Qatar	QA	• Country • Municipality • Zone	• Country • State • City
Reunion Island	RE	• Country • Region • Department • Commune • Postal Code	• Country • State • County • City • Postal code
Romania	RO	• Country • Region • County • Settlement • Locality • Postal Code	• Country • Additional address attribute 1 • Province • County • City • Postal code
Russia	RU	• Country • Federal_District • Federal_Subject • Oblast • Postal Code	• Country • Additional address attribute 1 • State • City • Postal code
San Marino	SM	• Country • Comune	• Country • State

Country Name	Country Code	Geography Type	Map to Attribute
		• Postal Code	• Postal code
Singapore	SG	• Country • Region • District • Postal Code	• Country • State • City • Postal code
Slovakia	SK	• Country • Kraj • Okres • Obec • Postal Code	• Country • Province • County • City • Postal code
Slovenia	SI	• Country • Regija • Upravna Enota • Obcina • Settlement • Postal Code	• Country • Additional address attribute 1 • Province • County • City • Postal code
South Africa	ZA	• Country • Province • District_Municipality • Local_Municipality • Postal Code	• Country • Province • County • City • Postal code
South Korea	KR	• Country • Jibang • Siti • Postal Code	• Country • State • City • Postal code
Spain	ES	• Country • Autonomous_Community • Province • City • Postal Code	• Country • Additional address attribute 1 • Province • City • Postal code
Sri Lanka	LK	• Country • Province • District • Divisional_Secretariat	• Country • Province • County • City

Country Name	Country Code	Geography Type	Map to Attribute
		• Postal Code	• Postal code
Swaziland **Note:** This country maybe labeled Eswatini in Manage Territories.	SZ	• Country • District • Inkhundla • Town • Postal Code	• Country • Province • County • City • Postal code
Sweden	SE	• Country • Lan • Settlement • Postal Code	• Country • Province • City • Postal code
Switzerland	CH	• Country • Kanton • Bezirk • Gemeinde • Postal Code	• Country • State • County • City • Postal code
Taiwan	TW	• Country • County • Town • Postal Code	• Country • State • City • Postal code
Thailand	TH	• Country • Region • Changwat • Amphoe • Postal Code	• Country • Additional address attribute 1 • State • City • Postal code
Tunisia	TN	• Country • Governorate • Delegation • Postal Code	• Country • State • City • Postal Code
Turkey	TR	• Country • Sehir • Ilce • Kasaba • Postal Code	• Country • Province • County • City • Postal code
United Arab Emirates	AE	• Country	• Country

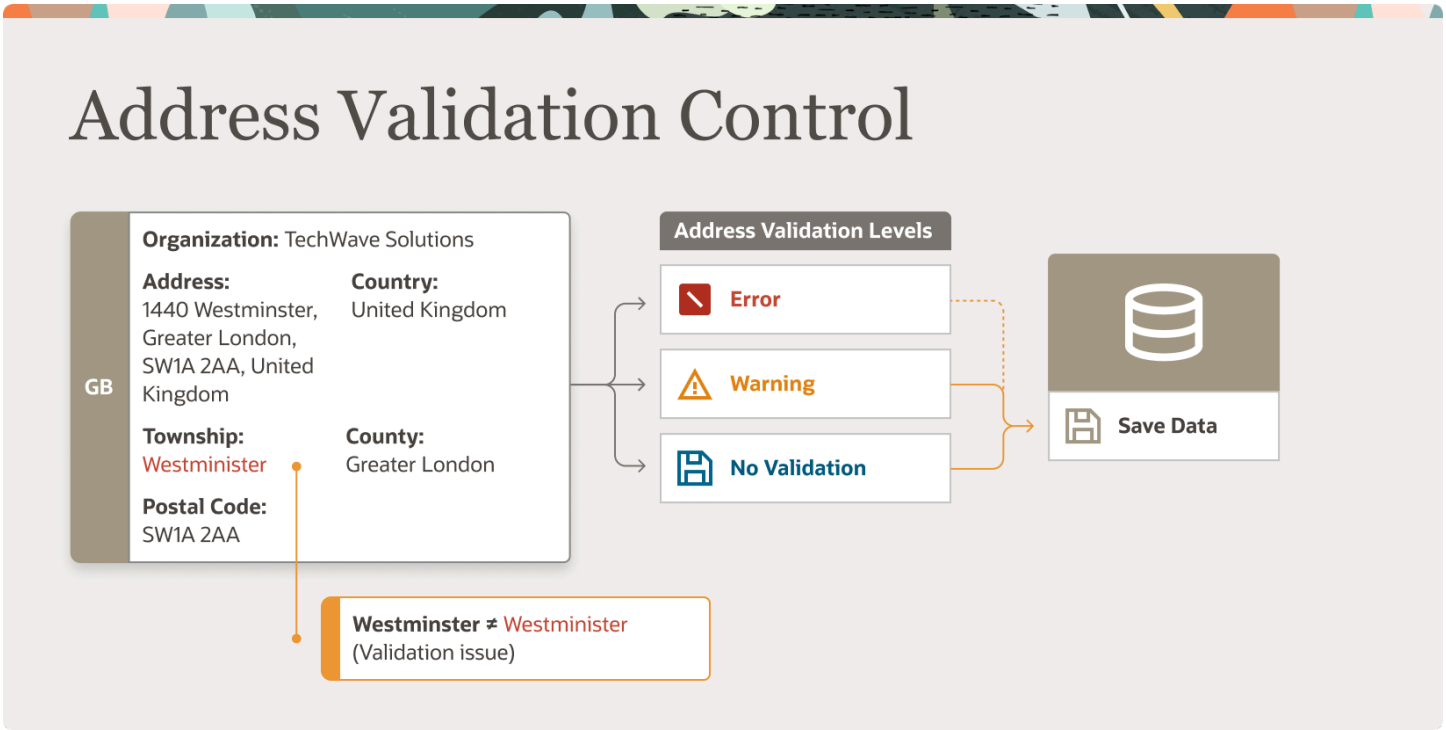
Country Name	Country Code	Geography Type	Map to Attribute
		• Emirate • City • Area • Postal Code	• State • City • Additional address attribute 2 • Postal Code
United States	US	• Country • State • County • City • Postal Code	• Country • State • County • City • Postal code
Uruguay	UY	• Country • Departamento • City • Postal Code	• Country • State • City • Postal code
Vatican City	VA	• Country • Municipal • Settlement • Postal Code	• Country • Province • City • Postal code
Vietnam	VN	• Country • Region • Tihn • Quan • Thank Pho • Postal Code	• Country • Additional address attribute 1 • Province • County • City • Postal code

Note: For either the tax or address validation, don't skip any level unless you're certain that the selected geography types can uniquely identify geographies. For example, the United States country structure is: State, County, City, and Postal Code, and you want to select just State and Postal Code for address or tax validation. However, for the combination of California and 94065, the city can be either Redwood Shores or Redwood City. In this case, you should also select at least the City geography type for address or tax validation.

Address Validation Control

You can select the address validation level for a country. Validation will check if the entered address maps to the geography hierarchy data available for the country, and the address validation control determines whether you can save an address that didn't pass validation during address entry. For example, if the

validation level is **Error**, then an address can't be saved if the values don't match the geography hierarchy data.



These are the address validation levels you can choose:

- **Error** - only completely valid addresses can be saved, with all mandatory address elements entered.
- **No Validation** - all addresses can be saved including incomplete and invalid addresses.

Regardless of the result of validation, the validation process will try to map any address attribute to a geography of the country, and store any mapping it could establish based on the available data. This is called ***Geography Name Referencing*** and it's executed as part of validation. The result of this referencing is used in several business processes in the application to map an address to a specific geography or zone. Therefore, Geography Name Referencing is the process of validating and mapping address elements of existing location table records against master reference geographies. For example, CA value in the STATE column of the HZ_LOCATIONS table is mapped to the master reference geography of CA (California).

The Geography Dimension value in territories is derived from sell-to addresses of sales accounts. To use geography dimensions in territories, you must validate the geography elements in the addresses, such as state, city, and postal code. You can validate the address by enabling geography validation for each country using the Manage Geographies task. Perform the following in the Manage Geographies task:

- Enable at least one level in the geography hierarchy for geography validation.
- Enable geography validation for all geography levels that you intend to use for territory definition for each country.
- If needed, enable a list of values containing specific geography elements. This will help users search and select appropriate geography values during addresses entry and eliminate all possibilities of wrong address entry.

You can set geography validation control to Error in the Manage Geography Validation page. This ensures that users can only use valid geography elements in addresses.

> **Note:** If you have already created addresses before setting up address validation for a country, you must enable geography validation and then execute the *Validate Geographies of Addresses Against Master Geographies* task for that country. This validates all your geography elements.

Related Topics

- How can I save an address that didn't pass geography validation?
- Setting Up Geography Validation
- How do I validate geographies of addresses against master geographies and generate naming references?

Setting Up Geography Validation

You must set up geography validation to enable geography setup, help users fill in missing address information, and validate address information. For example, if you enter the postal code you can retrieve the rest of the address, such as, city and state.

For example, an organization named Vision Corp., wants its salespeople to use a list of values to enter the states in their addresses. Also, it plans to set up territories at the state level. So validation must be set up at the state level.

To define geography validation for Vision Corp.:

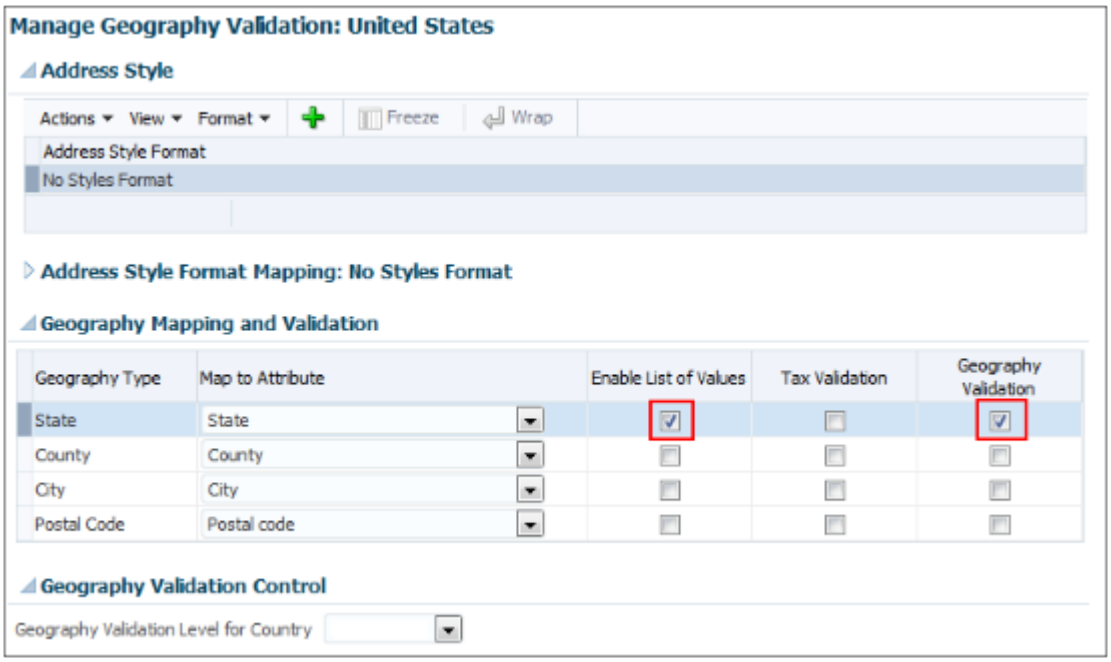
1. As a setup user, click **Navigator** > **My Enterprise** > **Setup and Maintenance** work area.
2. Click the Tasks menu and click Search. Search for **Manage Geographies**.
3. Search for a country. For example, you can search by entering either the country name United States or the two letter ISO code US, and clicking Search. Search for a country. For example, you can search by entering either the country name United States or the two letter ISO code US, and clicking **Search**.
4. Select the country, such as United States, in the Search Results area.
5. Click the **Go to Task** button in the Validation Defined column.

   The Manage Geography Validation page appears. The geography types available for the country are shown in the Geography Mapping and Validation region.
6. Ensure that the **No Styles Format** address style is selected. You define validation for the No Styles Format address style so that the validations are performed for all addresses in the country.
7. Select **Enable List of Values** in the Geography Mapping and Validation region to display the geography type as list of values during address entry in user interfaces. For example, for Vision Corp, select **Enable List of Values** for State.

   This ensures correct values are entered for states, so that territory assignments work.

   > **Note:** You should only enable a list of values if you have sufficient geography data for that geography type.

8. Select **Geography Validation** for a geography type to include it in geography validation. For example, for Vision Corp, select **Geography Validation** for State.



You must enable geography validation for all geography levels that you intend to use for territory definition. The territory assignments may fail if the geography data used isn't validated. If Vision Corp. decided to set up territories at the postal code level, it would have to set up validation for state, city, county, and postal code.

> **Note:** If an address element isn't selected for geography validation usage, then during address entry suggested values will be provided for the address element, but the address element isn't validated.

9. Select the appropriate geography validation control level to determine whether you can save an address that fails validation during address entry. For example, Vision Corp. wants to save all addresses including incomplete and invalid addresses, so select **No validation** in the Geography Validation Level for Country list.

> **Note:** If Vision Corp. decided to save only valid addresses, it would have to set the geography validation control level to **Error** in the Geography Validation Level for Country list.

10. Click **Save and Close**.

Best Practices for Geography Validation

After geography data setup, you must configure geography validations.

Here are some best practices to configure geography validation:

- The configuration of geography validation rules depends upon your application needs. If you want to ensure that only valid addresses must are allowed:
  a. As a setup user, go to Manage Geographies, search for a country, and click Validation Defined.
  b. Set Geography Validation based on the application requirements.

     > **Note:** For either the tax or geography validation, don't skip more than one consecutive level unless you're certain that the selected geography types can uniquely identify geographies. For example, the United States country structure is: State, County, City, and Postal Code, and you want to select just State and Postal Code for geography or tax validation. However, for the combination of California and 94065, the city can be either Redwood Shores or Redwood City. In this case, you should also select at least the City geography type for geography or tax validation.

  c. Set the Geography Validation Level for Country in the Geography Validation Control section to Error.
- If you require validated addresses for your downstream applications:
  a. Go to Manage Geographies, search for a country, and click Validation Defined.
  b. The best practice is Enable List of Values and setup validation for all geography levels and geography types.
  c. Run the Validate Geographies of Addresses Against Master Geographies scheduled process to review address validation results.
- To ensure that the addresses are validated and there are no downstream impacts:
  a. Go to Manage Administrator Profile Values and set the Number of workers for a given Geography Name Referencing request (HZ_GNR_NUM_OF_WORKERS) profile option to 5.
  b. Run the Validate Geographies of Addresses Against Master Geographies scheduled process with Parameters: Location Table Name: HZ_LOCATIONS, Run Type: ALL, Country Code: [Country code for which Geography Name Referencing (GNR) needs to be generated].
  c. Run the Validate Geographies of Addresses Against Master Geographies scheduled process with Parameters: Location Table Name: PER_ADDRESSES_F, Run Type: ALL, Country Code: [Country code for which GNR needs to be generated].
  d. You can then use the report to identify if the existing addresses are incorrect. Correct these addresses as a onetime activity.

How do I manage Geography Structures, Hierarchies, and Validation?

You can add geography structure by first defining the geography types using the Manage Geographies task. You can then create geography hierarchy and geography validations also using the Manage Geographies task.

This example shows how you can configure the geography structure, geography types within the structure, geography hierarchy, and geography validation for a country geography, using the United Kingdom country geography as an illustration.

The following table summarizes the key decisions for this scenario.

Decisions to Consider	In This Example
Copy an existing country structure?	No, create a new country structure.
What is the structure of the geography types?	Create geography types with the following ranking structure:

Decisions to Consider	In This Example
	1. County 2. Post Town
What is the geography hierarchy?	Create the following hierarchy: 1. Country of United Kingdom 2. County of Berkshire 3. Post Town of Reading
Which address style format will you use when mapping geography validations?	The default address style format called the No Styles Format.
Are you using Oracle Fusion Tax for tax purposes?	No, don't select Tax Validation for the geography types.

Define the Geography Structure

You can add the County and Post Town geography types to the United Kingdom geography structure.

1. As a setup user, enter GB in the **Code** field on the Manage Geographies UI page and click **Search**.
2. On the Manage Geographies page, click **Structure Defined**.
3. On the Manage Geography Structure page, click the **Create** button next to the **Copy Country Structure From** field.
4. In the Geography Structure section, select the County list item in the **Add Geography Type** field.
5. Click **Add**.
6. Select the Post Town list item in the **Create and Add Geography Type** field.
7. Click **Add**.
8. Click **Save and Close**.

> **Note:** You can't modify or delete a geography type.

Define the Geography Hierarchy

You can add the geographies for the County and Post Town geography types using the geography hierarchy user interfaces to create the geography hierarchy for United Kingdom. You can also use Import Management to import geography hierarchies using a CSV or XML file.

1. As a setup user, enter GB in the **Code** field on the Manage Geographies UI page and click **Search**.
2. On the Manage Geographies page, click **Hierarchy Defined**.

> **Note:** If there are many child geographies for the selected parent geography, a message asking you to refine the search criteria is displayed. The child geographies are displayed after you refine the search criteria. If there are many search results, you may have to further refine the search criteria. The maximum number of child geographies that can be displayed is controlled by the ORA_HZ_GEO_HIERARCHY_LIMIT profile option. You can change the value of this profile option by navigating to the Setup and Maintenance work area, click the Tasks menu, and search for Manage Administrative Profile Values task. Search for the ORA_HZ_GEO_HIERARCHY_LIMIT profile option and change the value.

3. In the Geography Hierarchy section, click United Kingdom to highlight the table row, and click **Create**.
4. In the **Create County** page, Primary and Alternate Names section, enter Berkshire in the **Name** field.
5. Click **Save and Close**.

6. In the Geography Hierarchy section, click Berkshire to highlight the table row, and click **Create**.
7. In the **Create Post Town** page, Primary and Alternate Names section, enter Reading in the **Name** field.
8. Click Save and Close.

Define the Geography Validations

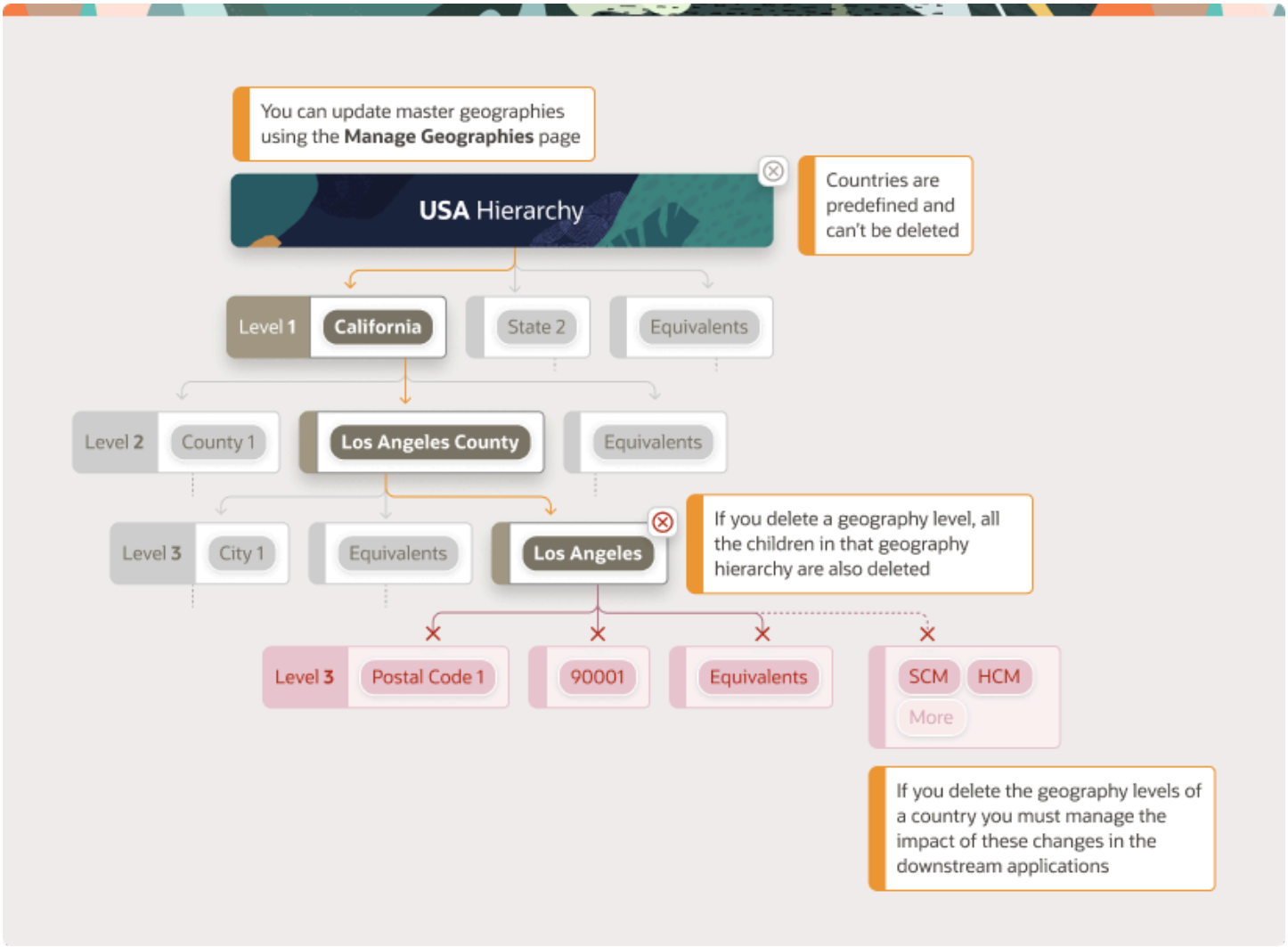
You can define the geography mapping and validation for the United Kingdom default address style format to specify the geography validations for the geography types you added to United Kingdom. You can then map the geography types to attributes, enable the geography types for Lists of Values and Geography Validation, and set the geography validation level.

1. As a setup user, click **Validation Defined** on the Manage Geographies UI page.
2. In the Address Style section, click **No Styles Format** to highlight the table row.
3. For the County geography type, click the **County** list item in the **Map to Attribute** field.
4. Select the **Enable List of Values** and **Geography Validation** options.
5. For the Post Town geography type, click the **City** list item in the **Map to Attribute** field.
6. Select the **Geography Validation** option.
7. In the Geography Validation Control section, select **Error** in the **Geography Validation Level for Country** list.
8. Click **Save and Close**.

Considerations While Working With Master Reference Geographies

Master reference geographies are the definitive, single-source-of-truth geographical data used as the foundation for defining and maintaining geographical boundaries and types. These predefined geographies, like countries, states, and cities, are essential for storing address information and creating geographical hierarchies that drive various business processes across enterprise applications suites.

This image graphically depicts the points you must remember while working with geographies in Oracle Fusion Cloud Apllications:



Considerations for working with master geographies:

- You can update master geographies using the Manage Geographies page, but you can't update master geographies using Import Management.
- Countries are predefined so you can't delete them. You can delete the geography levels of a country in the geography hierarchy, such as state, city, and so on using the Manage Geographies page.
- If you delete the geography levels of a country in the geography hierarchy, such as state, city, and so on, you must manage the impact of these changes in the downstream applications, such as SCM, ERP, HCM, and so on.
- If you delete a geography level, all the children in that geography hierarchy are also deleted. For example, if you define city and postal codes under a state, and you later delete the state, all the cities and postal codes under this state are also deleted.

Manage Geography Lookups

You can manage geography lookups using the Manage Geography Lookups page.

Perform these steps:

1. Click **Navigator** > **My Enterprise** > **Setup and Maintenance** work area and go to the following:

- Offering: Sales
- Functional Area: Sales Foundation
- Task: Manage Geography Lookups

2. On the Manage Geography Lookups page, click any of the following lookups:

Lookup Type	Meaning	Description
HZ_GEOGRAPHY_USAGE	Geography Validation Purpose	Purpose of geography validation, for example, tax. This lookup type can't be edited.
HZ_GEO_DISPLAY_ONLY	Zone Definition	Interface elements used to define zones. This lookup type can't be edited.
HZ_GEO_GNR_RUN_TYPE	Geography Name Referencing Program Run Type	You can specify the type of records that must be processed using the geography name referencing (Validate Geographies of Addresses Against Master Geographies) scheduled process. This lookup type can't be edited.
HZ_GEO_IDENTIFIER_TYPE	Geography Identifier Type	Identifier type for geography, for example, name or code. This lookup type can't be edited.
HZ_GEO_POSTAL_CODE_RANGE_FLAG	Postal Code Range Provided	Values indicate whether a postal code range was used to define a set of postal codes. This lookup type can't be edited.
HZ_GEO_DATA_PROVIDER	Geography Information Provider	Names of the source of geography information. You can add new geography providers.
HZ_GEO_IDENTIFIER_SUBTYPE	Geography Identifier Subtype	Identifier sub type for geography, for example, primary. You can specify the primary and secondary names and codes for geographies.

3. View or edit the values as applicable.
4. Click Save and Close to return to the list of lookups.
5. Click Done to exit the page.

Manage Territory Geography Splits

You must group territory geographies into group zones to manage territory geography level splits. Grouping the territory geographies involves two steps, selecting the geography level based on which you need grouping and initiating the grouping.

Select the Geography Level for Grouping

You can perform these steps to select the geography level based on which you want to create the group zones:

1. Sign in as a set up user such as Application Implementation Consultant.
2. In the Setup and Maintenance work area, go to the following:
    - Offering: Customer Data Management
    - Functional Area: Enterprise Profile
    - Task: Manage Geographies
3. Search for the country for which you want to enable territory geography level grouping.
4. Click **Structure Defined**. Manage Geography Structure page appears.
5. Select the **Subject to Grouping** check box corresponding to the geography type level for which you want to enable grouping.

    You must select the geography level that suits your business requirements. For example, if your product delivery is based on postal code, and your territory geographies don't have higher levels of master geographies such as counties and cities, then you may have postal code splits. In this case you must select postal code as the geography type level for grouping.

    > **Note:** You can enable grouping for only one level at a time.

6. Click **Save and Close**.

Initiate Grouping

Here are the steps to initiate grouping:

1. In the Setup and Maintenance work area, go to the following:
    - Offering: Sales
    - Functional Area: Territories
    - Task: Manage Territory Geographies

    The Manage Territory Geographies page opens.
2. Click **Initiate Grouping**.

3. Click **OK** in response to the warning message and confirm the process.

> **Note:** You can't automatically un-group the grouped territory geographies. You can manually undo the grouping process by recreating territory geography hierarchy either through the UI or import process.

The geography level that you selected for grouping appears as an expandable Group Zone when the grouping is complete is shown in the following figure.

4. Click **Save and Close**.

How Territory Geographies are Grouped

This topic describes how we can overcome the problem of territory geography splits by grouping them into group zones.

> **Note:** The information in this topic is obsolete. Use the Address dimension for geographical territories.

You do a territory geography grouping when any of your territory geography levels has multiple splits. A territory geography splits occur when the lower level master geographies are added to territory geography hierarchy, while skipping the higher level master geographies. This may cause multiple occurrences of the lower geography level members in a territory geography hierarchy.

For example, postal code split happens when a postal code overlaps across many master geography levels such as cities and counties. Suppose that the business firm Vision Corp. delivers its product according to the postal codes. If counties and cities aren't included in the territory geography hierarchy of Vision Corp., then the end user can see the multiple occurrences of the postal code 97229.

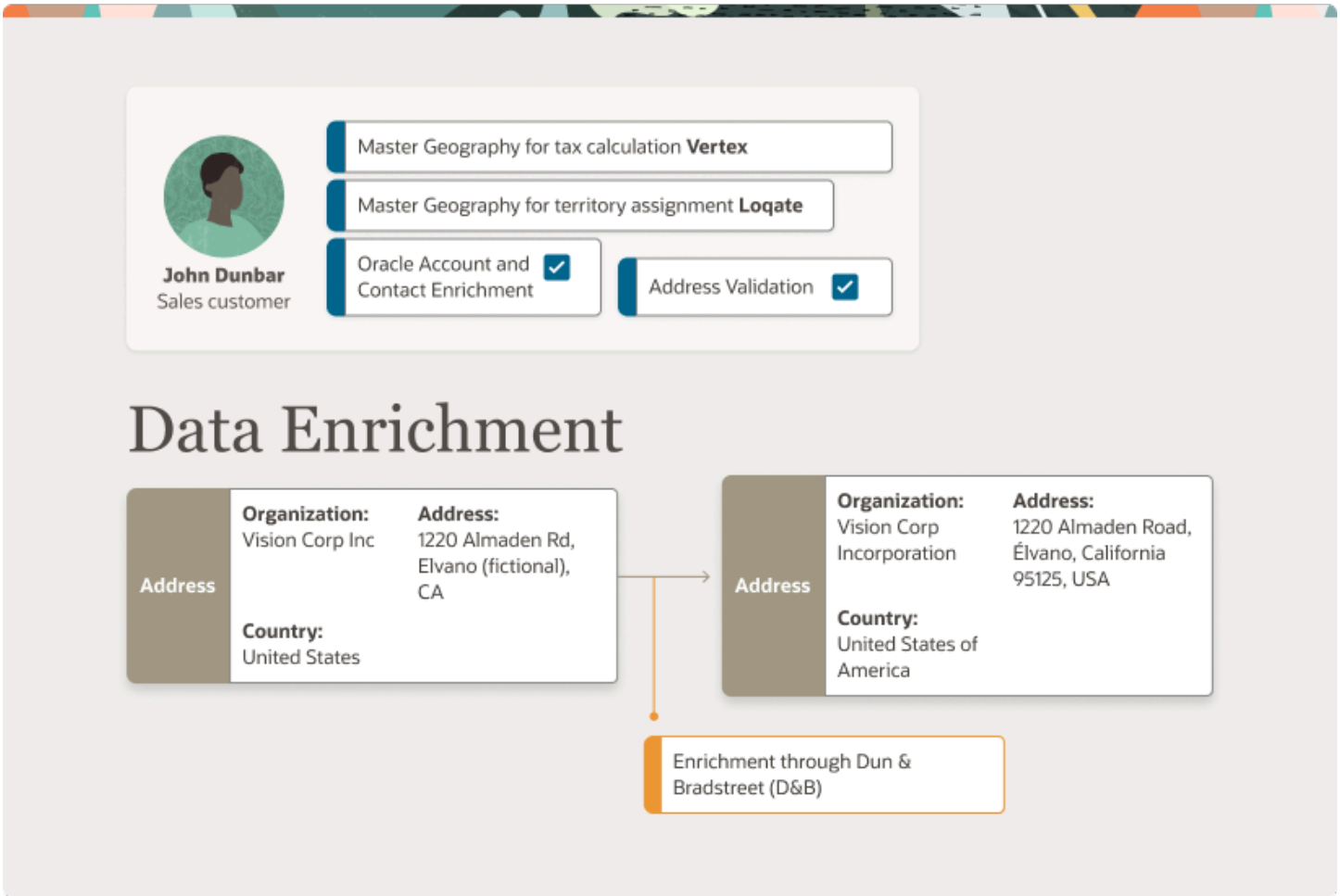
When there is a territory geography level split, and if you want to group the split geographies, first you must specify the master geography level for which you want the grouping to be performed, then initiate grouping. When grouping is performed, all the splits of the selected master geography level get grouped under a new group zone. In the previous example, if you select postal code in the master geographies as the level for grouping and initiate the grouping process, then the 12 postal code splits for the postal code 97229 gets grouped together under one group zone named 97229. So, the Territory Manager user can define territories on a clean list of postal codes or their ranges, although some of those postal codes would in fact be the groupings of the postal code splits. The grouped splits are hidden for the Territory Manager user.

What are the best practices for managing Geography mismatches?

This topic employs a couple of use cases to illustrate the best practices for setting up Master Reference Geographies for sales customers using the Oracle Account and Contact Enrichment by Dun & Bradstreet (D&B) for Sales for data enrichment, and the Oracle Address, Email, and Phone Verification for address, email, and phone number verification.

In these use cases, it is assumed that while the Loqate geography reference data is configured as master geography, Tax calculation is being done using Vertex master

geography data. Also, address validation is enabled based on the customer's requirement.

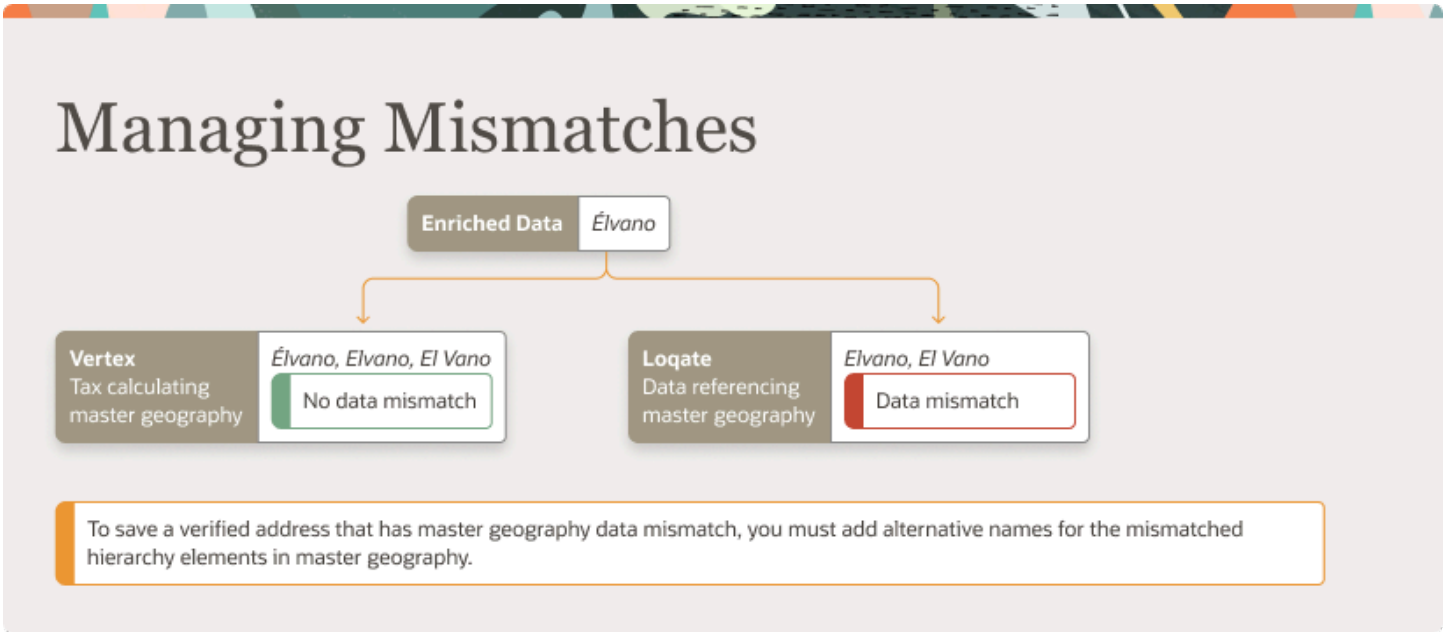


When you perform the real-time enrichment of accounts or contacts using the Oracle Account and Contact Enrichment by Dun & Bradstreet (D&B), if there's a geography data mismatch between the predefined master geography data and the Dun and Bradstreet (D&B) data, then the Service enriches the accounts and contacts data but you can't edit or save the enriched data unless the master geography data mismatches are resolved. In addition, you can verify the enriched address using the Oracle Address, Email, and Phone Verification, however, in case of mismatches between Oracle Account and Contact Enrichment by Dun & Bradstreet (D&B) (Loqate) and predefined master geography data you can't save the verified address.

The second use case describes the setup required to enable address verification and to avoid data conflicts between the Oracle Address, Email, and Phone Verification and master reference geography data.

Use Case 1: Manage Mismatches with Master Reference Geography Data

You're a sales customer using master reference geographies for territory assignments or tax calculation and have purchased Oracle Account and Contact Enrichment by Dun & Bradstreet (D&B) for data enrichment and Oracle Address, Email, and Phone Verification for address verification. In this case, while the Loqate geography reference data is configured as master geography, Tax calculation is being done using Vertex master geography data. Also, address validation is enabled based on the customer's requirement.



Best Practice: Review geography mapping for the countries where you do business. If the geography mapping for a specific country isn't mapped according to the country-specific address attributes, update the mapping. Oracle recommends performing enrichment before verifying address.

Suppose that you're doing real time enrichment of account or contact. If there's a geography data mismatch between the predefined master geography and the D&B data, the Oracle Account and Contact Enrichment by Dun & Bradstreet (D&B) still enriches the accounts and contacts data but can't edit or save the enriched account or contact unless the master geography data mismatches are resolved. However, you can verify the enriched address using the Oracle Address, Email, and Phone Verification.

To save a verified address that has master geography data mismatch, you must add alternative names for the mismatched hierarchy elements in master geography. The following are the steps to add alternative name for the mismatched hierarchy element:

1. In the Setup and Maintenance work area, go to the following:
    - Offering: Customer Data Management
    - Functional Area: Enterprise Profile
    - Task: Manage Geographies
2. On the Manage Geographies page, search for the country by the name or country code, for example US.
3. Click the Go to Task button in the Hierarchy Defined column. The Manage Geographies Hierarchy page for the particular country appears.

    > **Note:** If there are many child geographies for the selected parent geography, a message asking you to refine the search criteria is displayed. The child geographies are displayed after you refine the search criteria. If there are many search results, you may have to further refine the search criteria. The maximum number of child geographies that can be displayed is controlled by the ORA_HZ_GEO_HIERARCHY_LIMIT profile option. You can change the value of this profile option by navigating to the Setup and Maintenance work area, click the Tasks menu, and search for Manage Administrative Profile Values task. Search for the ORA_HZ_GEO_HIERARCHY_LIMIT profile option and change the value.

4. Highlight the mismatched hierarchy element, for example California State, and click the Edit icon.

5. Click the Add icon on the Edit page.
6. Add an alternative name CA for the California state geography element.
7. Click Save and Close

Once the alternative name is added for the mismatched hierarchy element in master geography, you can save the enriched address.

Use Case 2: Avoid Conflicts with Master Reference Geography Data

You're a sales customer who doesn't use geographies for territory assignment or tax calculation and has purchased Oracle Account and Contact Enrichment by Dun & Bradstreet (D&B) for data enrichment and the Oracle Address, Email, and Phone Verification for address verification. To enable address verification and to avoid data conflicts between the Oracle Address, Email, and Phone Verification and master reference geography data you must do the following setups:

- Deselect the Geography Validation option in the Geography Mapping and Validation region to avoid Oracle Address, Email, and Phone Verification data conflicts with master reference geography data. By deselecting this option you can avoid any UI level validation against master geographies while adding address.
- Select Geography Validation Level for Country as No validation to verify address data by Oracle Address, Email, and Phone Verification.

Perform the following steps on the Manage Geography Validation page to enable address verification and to avoid data conflicts between the Oracle Address, Email, and Phone Verification and master reference geography data:

1. In the Setup and Maintenance work area, go to the following:
    - Offering: Customer Data Management
    - Functional Area: Enterprise Profile
    - Task: Manage Geographies
2. On the Manage Geographies page, search for the country by the name or country code, for example US.
3. Click the Go to Task button in the Validation Defined column. The Manage Geography Validation page appears.
4. Deselect the Geography Validation check boxes for all the geography attributes to avoid any UI level validation against master geographies while entering the addresses. If the Enable List of Values check boxes are selected then, in case of data conflicts, Geography Naming References records aren't created.

> **Note:** If any of the Geography Types listed isn't applicable to the selected country's territory structure, then you must deselect the geography validation for that type.

If you're planning to create territories based on a particular Geography Type, such as County, then you must deselect all the Geography Validation levels under that Geography Type (in this case City and Postal Code) based on which you want to create the territory.

> **Tip:** Review the Address Style Formats that are selected on the Manage Geography Validation page. The review is required because on the Account or Contact Simplified UI page, address attributes are displayed based on the address formats and verified or enriched addresses are saved in Oracle Applications Cloud based on the selected address formats.

Related Topics

-

Overview of Zone Types and Zones

A geography hierarchy is a data model that creates conceptual parent-child relationships between geographies.

Geography hierarchies can be classified as follows:

- Master Reference Geography Hierarchy: This refers to the predefined geography hierarchy and is considered as the source of truth. It is defined by widely recognized administrative or political boundaries such as States, Provinces, Counties, Cities, and so on. This hierarchy can be obtained from a supplier or manually entered. This geography hierarchy is the source when validating addresses or importing data. Examples are the State of California, the Province of Alberta, The Country of India, and so on.
- User Defined Geography Hierarchy: This refers to geography hierarchy defined by the user. This geography hierarchy may be created using the Master Reference Geography, obtained from a supplier, or entered manually. A user-defined geography hierarchy can have:
    - Zone Types
    - Zones

Zone Types

Zone types categorize and group zones together, for example, the zone types of Income Tax and Shipping Regions.

Zone types need to be created before you define a zone for the geographical boundary. You can create a zone type which will contain geographical boundaries from anywhere in the world, or you can create a zone type that will only contain geographies from within a specified country. When you create a zone type that's bounded by a country you can define which geography types or geographies you will be able to choose when you create a zone.

Zones

Zones are geographical boundaries for a zone type, for example, the San Jose Tax zone. Zones are based on the master reference geography hierarchy data.

Zones are created within a zone type, and you can associate geographies to define the zone. For example, for the Shipping Regions zone type you can create a West Coast zone which has the state of California as one of its geographies. Within a geography you can specify a postal range. So, for the state of California, for example, you can specify that the zone spans from postal code 90001 to 90011.

Zones Created in Master Geographies

Here is the list of zones created using master geographies in each product offering and the tasks to load them:

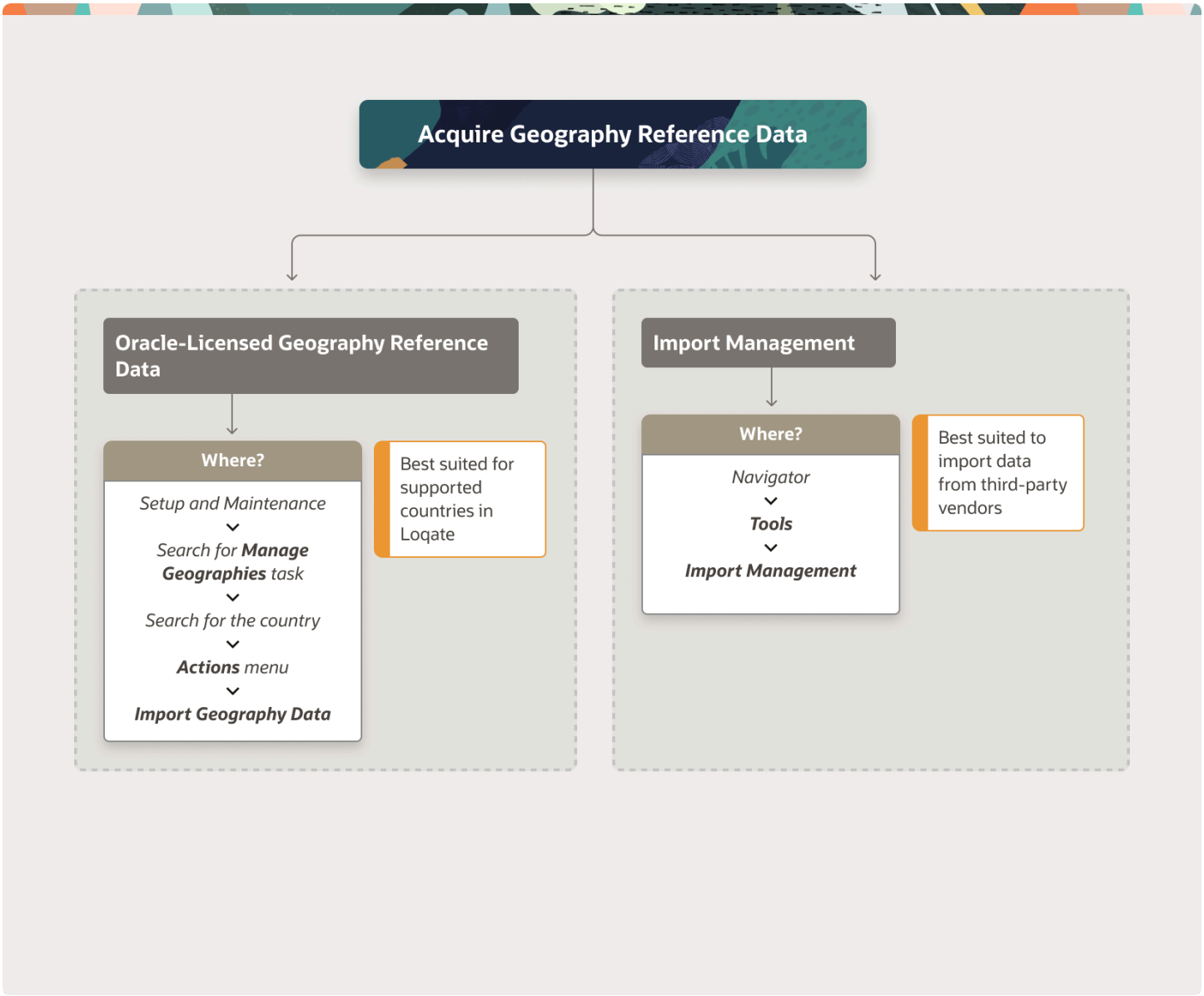
Product Offering	Task Name
Territory Geographies	Manage Territory Geographies
Tax	Manage Tax Zone Types
Shipping	Manage Shipping Zones
Compensation	Compensation Zones

Import Geographies and Zones

How do I import geographies?

You can import geographies using either Oracle-licensed geography reference data or Import Management.

You can acquire geography reference data in the following ways:



Note: The processing time for importing geography data can vary based on several variables, such as, the volume of data to be loaded and it could take several hours to complete.

Oracle-Licensed Geography Reference Data

You can import Oracle-licensed data from Loqate, for those countries where the data is available. For more information about the supported countries, see the List of Available Countries with Loqate Geography Reference Data topic. You can import geography data using the **Manage Geographies** task. Search for the country, and select **Import Geography Data** from the **Actions** menu. If the licensed data isn't available or is already set up for a particular country, then the **Import Geography Data** action is disabled.

Note:

- If you are licensed to use HCM Cloud Payroll for the United States, you must import your geography data from Vertex. For more information, see the United States Payroll implementation and administering guides.
- If you are licensed to use HCM Cloud Payroll for Canada, you can import your geography data from either Loqate, or your own geography data vendor. Loqate is the Oracle-licensed geography vendor across all Oracle applications, but it isn't mandatory. You may use any other geography vendor, but it must be comparable in structure by using a 2-character province code. For more information, see the Canada Payroll implementation and administering guides.
- By exporting this "Geography" data from the Oracle environment to Your environment, You agree that (a) Oracle is granting You only a restricted right to download the exported data specifically for Your use with the Oracle Fusion services, (b) this data may not be used, transferred, or uploaded for any other purposes; and (c) except for the restricted right granted in (a), all provisions of the Oracle Cloud Services Agreement (CSA) or Schedule C, as applicable to You, remain in full force and effect, including specifically section 3.4 thereof.
- Geography Round-Trip Export Import is currently not supported.

Import Management

The Import Management process reads the data included in your XML or text file and imports the data into the application.

To access Import Management functionality, go to **Navigator** > **Tools** > **Import Management**

For more information, see the Import Your Geography Data topic.

Import Geography Data is disabled for a country if the geography data for that country isn't available from Loqate or if the geography structure or hierarchy is already defined for that country. The existing master geography hierarchy can be from Loqate or non-Loqate. For example, Pakistan isn't supported currently in the supported list of 82 countries. If you try to import geography data for Pakistan after defining geography structure or geography hierarchy for it, Pakistan would be grayed out in the import list.

Related Topics

- Create Legal Jurisdictions, Addresses and Authorities
- Setup Data Import and Export for Oracle Accounting Hub Cloud

List of Available Countries with Loqate Geography Reference Data

Oracle Applications Cloud provides third-party Loqate geography data for import. Here's the list of countries for which the Loqate geography data is available for import.

Country Name	Country Code
Andorra	AD
Angola	AO
Argentina	AR
Australia	AU
Austria	AT
Belgium	BE
Bolivia	BO
Bosnia and Herzegovina	BA
Brazil	BR
Bulgaria	BG
Canada	CA
Cayman Islands	KY
Chile	CL
China	CN
Croatia	HR
Cuba	CU
Cyprus	CY
Czech Republic	CZ
Denmark	DK
Dominican Republic	DO
Ecuador	EC

Country Name	Country Code
Estonia	EE
Finland	FI
France	FR
Germany	DE
Great Britain	GB
Greece	GR
Guadalupe	GP
Guam	GU
Guernsey	GG
Hungary	HU
Iceland	IS
India	IN
Indonesia	ID
Ireland	IE
Isles of Man	IM
Israel	IL
Italy	IT
Jamaica	JM
Japan	JP
Jordan	JO
Kenya	KE

Country Name	Country Code
Latvia	LV
Liechtenstein	LI
Lithuania	LT
Luxembourg	LU
Malaysia	MY
Malta	MT
Martinique	MQ
Mexico	MX
Netherlands	NL
New Zealand	NZ
Norway	NO
Oman	OM
Peru	PE
Poland	PL
Portugal	PT
Puerto Rico	PR
Qatar	QA
Reunion Island	RE
Romania	RO
Russia	RU
San Marino	SM

Country Name	Country Code
Singapore	SG
Slovakia	SK
Slovenia	SI
South Africa	ZA
South Korea	KR
Spain	ES
Sri Lanka	LK
Swaziland	SZ
Sweden	SE
Switzerland	CH
Taiwan	TW
Thailand	TH
Tunisia	TN
Turkey	TR
United Arab Emirates	AE
United States	US
Uruguay	UY
Vatican City	VA
Vietnam	VN

How do I replace the existing master geography data with revised Oracle-Licensed geography data?

Before you replace existing geography data, you must check its impact on all parts of the application. You can then import and set up reference geography data for the countries where you do business.

Using the Oracle-licensed geography reference data, you no longer have to source geography data from a third party. You can import Oracle-licensed data from Loqate, including the country structure and hierarchy information, either to create a new geography setup or replace your existing geography data.

All customers with the exception of United States HCM Payroll customers, can use the information in this section to replace existing geography data with Loqate geography data. You can follow these steps if you're using Nokia or any other geography data and now want to move to Loqate geography data.

Before you begin, perform the following steps:

- Backup existing geography data including customizations, if any.
- Backup territory geographies.
- Perform impact analysis by contacting the support team to identify the use of geography IDs downstream.

> **Note:** Before deleting the geography data, make sure that GEOGRAPHY_ID isn't referenced in any downstream applications such as TAX, FIN, Legal, and so on. Geography data is used across Oracle Cloud applications such as Human Capital Management, TAX, and Legal. Global Single Instance POD users share the same geography data and before deleting geography data, the geography usage POD analysis is required. The Oracle Support team can help you identify the downstream impact.

The process of replacing the existing master geography data with revised Oracle-Licensed geography data is depicted in this diagram:

Create an Export File of All Territories

Where?

Setup and Maintenance
⌄
Search for ***View Active Territories*** *task*
⌄
Actions
⌄
Export
⌄
Export Selected Territory Hierarchy

Delete the Territory Geography Data

Where?

Setup and Maintenance
⌄
Search for ***Manage Territory Geographies*** *task*
⌄
View All Hierarchies
⌄
Highest level country node
⌄
Delete

Delete the Master Geography Data

Where?

Setup and Maintenance
⌄
Search for ***Manage Geographies*** *task*
⌄
Select country and click ***Actions***
⌄
Manage Geography Structure
⌄
Delete each level of the structure

Import Oracle-Licensed Geography Reference Data

Where?

Setup and Maintenance
⌄
Search for ***Manage Territory Geographies*** *task*
⌄
Enter country name or ISO code and Search
⌄
Select country, go to ***Actions***
⌄
Import Geography Data

Run the Geography Name Referencing Process

Where?

Tools
⌄
Scheduled Processes
⌄
Schedule New Process
⌄
Search for and run ***Validate Geographies of Addresses Against Master Geographies***

Recreate and Load the Territory Geography Data

Where?

Setup and Maintenance
⌄
Search for ***Enable Dimensions and Metrics*** *task*
⌄
Actions
⌄
Load and Activate

Restore the Invalid Territory Definitions

Where?

Create an Export File of All Territories

In case you have implemented Customer Data Management along with the sales functionality, you must export all territories before deleting the master geography data because removing the master geography data invalidates the territory definitions that are based on the Geography dimension. You can either export the definitions of all territories to a file or make manual corrections. If there are a large number of territories, export the territories definition to a file for the territories import process. However, if there are very few affected territories, then you can choose to either export the territories definition to a file or make corrections manually.

This procedure is applicable only if there are territories defined using the Geography dimension.

Perform the following steps to create an export file of all territories.

1. From the Territories and Quotas work area, click **View Active Territories** in the Tasks pane.
2. In the View Active Territories page, select the territory at the highest level.
3. Click the **Actions** list, and select **Export**, and then **Export Selected Territory Hierarchy**.
4. In the Warning dialog box, click **OK**.
5. Click the **Actions** list and select **Export**, and then **View Export** Status.
6. Review the status of the export job and verify if it has completed successfully.
7. In the Exported Data File column, click the .zip file against your export job, and click **Save**. All the territories are exported to a compressed file on your system.
8. Click **OK**.
9. Click **Done** in the View Active Territories page.

Delete the Territory Geography Data

A territory definition has references to the territory geography data and master geography data. Territory geography data is based on the master geography data, in case you have implemented Customer Data Management along with the sales functionality, you must delete the territory geography data prior to deleting the master geography data. When you delete the territory geography data, all territories that are defined using geography dimension become invalid.

This procedure is applicable only if territory geographies are defined.

Perform the following steps to delete the territory geography data.

1. In the Setup and Maintenance work area, go to the following:
    - Offering: Sales
    - Functional Area: Territories
    - Task: Manage Territory Geographies
2. On the Manage Territory Geographies page, click **View All Hierarchies**.
3. Select the highest level node for the country for which you want to replace the master geography data and click the **Delete** icon.
4. In the Warning dialog box, click **OK**.
5. In the Confirmation dialog box, click **OK**. The parent node of the territory geography data and its children are deleted.
6. Repeat steps 3 to 5 to delete all the higher nodes in the territory geography data.
7. Click **Save and Close**.

The Territory Management application retains a copy of the dimension members referenced in the territory definitions. This copy is updated when you trigger the **Load and Activate** process from the **Enable Dimensions and Metrics** task. Therefore, although the territory geography data is deleted, the territory definitions may appear to remain valid.

Delete the Master Geography Data

Delete the existing geography data one country at a time. We recommend that you raise a service request for assistance in deleting the geography data.

Delete Geography Structure

If you have created a geography structure, it prevents the geography imports from working or working as desired. For example, if the geography structure exists, the Import Geography option may not be enabled for a country in Manage Geographies even if Loqate predefined geography data is available for that country and the geography hierarchy doesn't exist yet.

> **Note:** If any geography hierarchy was created manually, it must be deleted first.

If the geography structure was created manually, you can follow these steps to delete it. However, we recommend that you raise a service request for assistance in deleting the geography structure.

1. In the Setup and Maintenance work area, go to the following:
    - Offering: Customer Data Management
    - Functional Area: Enterprise Profile
    - Task: Manage Geographies
2. On the Manage Geographies page, enter either the country name or the two-letter ISO code (for example, US), and click Search.
3. Select the country in the search results and click **Actions** > **Manage Geography Structure**.
4. In the Manage Geography Structure page, delete each level of the structure.
5. Click Save and Close.

You can now proceed to importing geography data.

> **Note:** If other setup or transaction data exists that's based on the geography data, replacement procedures for that setup must also be followed.

Import Oracle-Licensed Geography Reference Data

Use this procedure to import Loqate geography data on the Manage Geographies UI page one country at a time. If the country data you want isn't supported by Loqate geography seed data and point the Loqate supported country list here, then the Import Geography Data action is disabled.

The geography data is provided by Loqate and is third-party content. As per Oracle policy, this software and documentation may provide access to or information about content and services from third parties. Oracle and its affiliates aren't responsible for and expressly disclaim all warranties of any kind with respect to third-party content and services. Oracle and its affiliates aren't responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services.

Perform the following steps to import Oracle-licensed geography reference data.

1. In the Setup and Maintenance work area, go to the following:
    - Offering: Customer Data Management
    - Functional Area: Enterprise Profile
    - Task: Manage Geographies

Alternatively, you can go to **Navigator** > **My Enterprise** > **Setup and Maintenance** > **Tasks** and search for Manage Geographies.

2. On the Manage Geographies page, enter either the country name or the two-letter ISO code (for example, US), and click **Search**.
3. Select the country in the search results.
4. Click the **Actions** list, and select **Import Geography Data**.

> **Note:** Import Geography Data is disabled for a country if the geography data for that country isn't available from Loqate or if the geography structure or hierarchy is already defined for that country. The existing master geography hierarchy can be from Loqate or non-Loqate.

5. In the Warning dialog box, click **OK**.
6. In the Confirmation dialog box, click **OK**.

The import of larger countries may require several hours to complete. Note that countries may have different amount of data depending on the structure and the data can grow exponentially which correlates with different load times.

You can track the progress of the import process by selecting Scheduled Processes from the Navigator.

> **Note:** To access the Scheduled Processes work area, you must be signed in as a user with the Employee abstract role. The initial user doesn't have this role assigned, but the other users you created do.

After the import is complete, you can search for the country again in the Manage Geographies page. Check marks now appear in the **Structure Defined** and **Hierarchy Defined** columns indicating the import completed successfully.

Next, click the **Validation Defined** icon to define the validations, enable List of Values, and choose address style format for a country as set up before. For more information, see the Geography Validation topic.

The **Geocoding Defined** and **Address Cleansing Defined** columns are used for additional features which you must license from Oracle and set up separately.

- Geocoding makes it possible to display customers in the vicinity of a mobile address. You set up **Geocoding Enabled** for those countries where you're using Around Me functionality in CX Sales Cloud Mobile.
- Cleansing makes it possible to validate addresses down to the street level.

Add any geography customizations.

Run the Geography Name Referencing Process

The Geography Name Referencing (GNR) process validates address elements in location tables, such as HZ_LOCATIONS, against the master geography data.

Run the GNR process in the following situations:

- When you are using geography based address validation (not third party address validation services).
- GNR data is needed for your business processes (such as ERP Tax).

> **Note:** Note: You can't update existing data, such as effective start date, in the GNR process tables for the locations.

Perform the following steps to run the GNR process.

1. Navigate to **Tools** > **Scheduled Processes** work area.
2. On the Overview page, click **Actions** > **Schedule New Process**.

3. Click the **Name** list and search for **Validate Geographies of Addresses Against Master Geographies**, and then click **OK**.
4. Click **OK** in the Schedule New Process dialog box.
5. In the Process Details dialog box, enter the following details:
    - **Location Table Name**: HZ_LOCATIONS
    - **Run Type**: ALL
    - **Usage Code**: GEOGRAPHY
6. Enter the country code in the Country Code field.
7. Click **Submit**.
8. In the Confirmation dialog box, click **OK**.
9. Click **Close**.
10. In the Scheduled Processes page, click the **Refresh** icon.
11. Verify if the status of the process has completed successfully.

Find the locations failing in Geography Name References using: https://cloudcustomerconnect.oracle.com/posts/b1e16b06ae. Fix Geography Name References failures by updating addresses with the latest geography data.

Recreate and Load the Territory Geography Data

In case you have implemented Customer Data Management along with the sales functionality, you can recreate the territory geography data, after the master geography data is imported, using either of the following methods:

- Import process: If you created the original territory geography data using the import process, then use the same import file to recreate the territory geography structure. For more information about importing the territory geography data using Import Management, see Import Your Sales Territory Data in the Oracle CX Understanding Import and Export Management for Sales and Fusion Service guide.
- Manual creation process: You can manually recreate the territory geography data structures, as they existed before their deletion, using the Manage Territory Geographies task. For more information about creating zones and adding geographies to a zone, see *Managing Territory Geographies*.

After you have recreated the territory geography data, perform the following steps to load the data.

1. In the Setup and Maintenance work area, go to the following:
    - Offering: Sales
    - Functional Area: Territories
    - Task: Enable Dimensions and Metrics
2. On the Enable Dimensions and Metrics page, click the **Actions** list, and select **Load and Activate**. The process loads the territory geography data to make dimension members available for selection when defining territories.
3. In the Confirmation dialog box, click **OK**.
4. Click **Done**.

Restore the Invalid Territory Definitions

After recreating the territory geography hierarchies and running the Load and Activate option from the **Enable Dimensions and Metrics** task, the geography dimensions are populated with the new geography members. The geography members in the territory appear as invalid because your territories still reference the old copies of the dimension members that were deleted. The new members aren't referenced automatically by the territories. You must re-reference the territory definitions from the old geography dimension members to the new ones.

You can restore the invalid territory definitions by either importing the previously created export file or making manual corrections to the territories.

To restore valid territory definitions using territories import:

1. Open the export file you saved in the Creating an Export File of All Territories step. The compressed file contains four CSV files.
2. Open **TERR_HEADER.CSV** file.
3. Enter **REPLACE** in the Action column for all territories that are based on geography dimension.
4. Save the file in CSV format and compress it together with three other CSV files.
5. From the Territories and Quotas work area, click **View Active Territories** in the Tasks pane.
6. Click the **Actions** list, and select **Import to Proposal**, and then **Import Territories**.
7. Select the newly created compressed file and click **OK**.
8. Click the **Actions** list and select **Import to Proposal**, and then **View Import Status**.
9. Review the status of the export job and verify if it has completed successfully.
10. Click **OK**.
11. From the Tasks pane, click **Manage Territory Proposals**.
12. In the Manage Territory Proposals page, on the Current Territory Proposals table, search for the proposal with your import file name.
13. Click the import file name to open the territory proposal.
14. Click **Edit Coverage** to verify that the territory definitions are valid.
15. Verify that there are no values listed as invalid in the Selected Dimension Members section.
16. Click **Save and Close**.
17. Click **Activate**. The territory proposal of your import file is activated.

To restore valid territory definitions through manual corrections:

1. From the Territories and Quotas work area, click **Manage Territory Proposals** in the Tasks pane.
2. In the Manage Territory Proposals page, click the **Create** icon.
3. In the Create Territory Proposals dialog box, enter a name and click **Save and View**.
4. In the Territory Proposals page, add all the territories with the Geography dimension value other than the value Any to the proposal.
5. Select a territory and click **Edit Coverage**.
6. In the Edit Coverage page, select **Geography** from the Dimensions list. The invalid dimension members are displayed in the Selected Dimension Members pane.
7. Expand the values in the Available Dimension Members section or search for the member that has the same name as the one marked invalid in the Selected Dimension Members pane.
8. Select one or more new geography dimension members from Available Dimension Members pane and click **Add** icon to the Selected Dimension Members pane.
9. Click the **Remove** icon to remove the invalid members from the Selected Dimension Members pane.
10. Click **Save and Close**.
11. Repeat steps 4 to 10 for all territories that were based on Geography dimension.
12. Click **Activate**. After the activation process is complete, your territory definitions are valid again and are referencing to the new geography data.

Although this method is always applicable, it's most appropriate when you have to restore territory definitions for a smaller number of territories.

To run the batch assignment process for opportunities:

1. From Navigator, click **Scheduled Processes**.
2. In the Schedule Processes page, click **Schedule New Process**.

3. In the Schedule New Process dialog box, search for the **Request Revenue Territory Assignment** process and select it.
4. Click **OK**.
5. In the Process Details dialog box, enter **OpenOpportunitiesByCreationDate** in the View Criteria Name field. This selects all revenue lines belonging to open opportunities that were created in the last 'X' days.
6. Enter **BindOptyCreationDateFrom=** followed by the date.

   For example, if BindOptyCreationDateFrom=2014-01-01, then all open opportunities which were created between 1st January 2014 till the current date, are processed.
7. Click **Submit** to schedule the process.
8. In the Confirmation dialog box, make a note of the process identifier for monitoring the process, and click **OK**.
9. Click **Close**.
10. In the Schedule Processes page, click the **Refresh** icon.
11. Review the status of the process job and verify if it has completed successfully.

> **Note:** Review a small subset of the open opportunities to confirm that the territory assignment is as expected.

To run the batch assignment process for sales accounts:

1. Ensure that the **ZCA_SA_AUTO_ASSIGN_ON_CREATE** and **ZCA_SA_AUTO_ASSIGN_ON_UPDATE** profile options are set to Yes in the **Manage Customer Center Profile Options** task.
2. From Navigator, click **Customers**.
3. In the Customers page, click **Create Account**.
4. In the Create Account page, enter a name and address of the sales account, and select the **Address is sell to** check box.
5. Click **Save and Close**.
6. From Navigator, click **Customers**.
7. In the Search pane, search for the name of the sales account you created and select it.
8. In the section Customer Information, select **Sales Account Team**. The details of the sales account and territories associated with the sales account are displayed.

   This indicates that the sales account was created successfully and the batch assignment was run automatically to assign the matching territories to the sales account.

To run the batch assignment process manually from the Scheduled Processes page, perform the following steps.

1. From Navigator, click **Scheduled Processes**.
2. In the Schedule Processes page, click **Schedule New Process**.
3. In the Schedule New Process dialog box, search for the **Request Account Assignment** process and select it.
4. Click **OK**.
5. Enter **SalesAccount_Work_Object** in the Work Object Code field and **SalesAccountTerritory_Candidate_Object** in the Candidate Object Code field.
6. Select **Territory** in the Assignment Mode list.
7. Enter **AllSalesAccountsVC** in the View Criteria Name field. This selects all sales accounts.
8. Click **Submit** to schedule the process.
9. In the Confirmation dialog box, make a note of the process identifier for monitoring the process, and click **OK**.
10. Click **Close**.
11. In the Schedule Processes page, click the **Refresh** icon.
12. Review the status of the process job and verify if it has completed successfully.

> **Note:** Review a small subset of the accounts to confirm that the territory assignment is as expected.

Verify that the downstream applications using geography data is working fine.

Create Countries

This procedure lists the steps to create countries in the application.

The countries are seeded in the application. If you're unable to find a specific country in the Manage Geographies page, then you can add it to the application.

> **Note:** The application provides support for Loqate geography data for countries. For countries where Loqate geography data isn't available, you can purchase the geography data from a third-party data provider and load it into the application using Import Management. For more information, see the *How do I acquire Geography Reference Data?* topic. If countries aren't available in the application, then use the procedure outlined in this topic to create them.

Perform the following steps to create a new country.

1. In the Setup and Maintenance work area, go to the following:
    - Offering: Customer Data Management
    - Functional Area: Enterprise Profile
    - Task: Manage Geographies
2. On the Manage Geographies page, click **Actions** > **Create Country**.
3. In the Create Country dialog box, select the name of the country and click **Save**.
4. Click **Done**.

> **Note:** You can now import the geography data for the newly created country using Loqate geography data available in the application. In case geography data for your country isn't available from Loqate, you can purchase the geography data from a third-party data provider and import it using Import Management.

Related Topics

- How do I replace the existing master geography data with revised Oracle-Licensed geography data?

How do I import Non-Oracle Licensed geography data?

You can use Import Management to create Geography data. It's recommended to use import management if you're importing Non-Oracle Licensed geography data or while loading your own geography from other vendors. You can also add alternate name or code to existing geographies with import. For more information see *Can you provide an example of importing geography data?*.

To import Geography data, perform the following tasks:

1. Map your source data to Oracle Applications Cloud object attributes.
2. Create source Comma Separated Values (CSV) file for import.
3. Create the import activity.
4. Review the import results.

How You Map Your Source Data to Object Attributes

To import your Geography data into Oracle Applications Cloud, you must populate a .csv file with your source data and map that source data to target object attributes in Oracle Applications Cloud.

You need to do the following before creating the CSV file for data import:

- Identify how your source data attributes map to the target object attributes in Oracle Applications Cloud.
- Create Country Structure before importing Geography data. For information on how to create Country Structure, see Import Your Country Structure and Example of Importing Country Structure in Related Topics Section.
- Identify the target object attributes that are required in the CSV file for a successful import as mentioned in the table Required Attributes and Validations for the Geography Object below.

Before You Start

You must do some basic checks before starting your import. For example, make sure that:

- You have completed all the prerequisites for importing each attribute in your source data such as creating a country structure.

Required Attributes and Validations for the Geography Object

To import data successfully into Oracle Applications Cloud, your CSV file must include the required attributes. Ensure that you provide values for the attributes. The following table lists the required attributes for importing new Geography records, prerequisite setup tasks for the attributes, and specific validations, if any, for Geography import:

Attribute	Description	Prerequisite Setup Task/ Import Validations	Creating a Geography Record
CountryCode	The code of the country to which the geography belongs.	This is validated against the country structure to check if the structure is defined for this country.	Required
PrimaryGeographyName	The primary name of the geography.	This is validated against the name of country if geography type is 'Country' or LevelNumber is 1.	Required
RecordTypeCode	The record type code that represents the intent of the import data. The values are: • 0 - indicates the geography that already exists in the base table. • 1 - indicates the intent to create a new geography. • 2 - indicates the intent to add an alternate identifying name or code to an existing geography.	No Validation	Required
LevelNumber	The level number of the geography in the hierarchy. For example, Country is at Level 1 and State (California) is at Level 2.	The level should exist in the country structure.	Required

Attribute	Description	Prerequisite Setup Task/ Import Validations	Creating a Geography Record
SourceID	The source ID for the geography, along with the parent source ID is used to identify the geography parent and child relationship within the source file data and the interface table data.	None	Required
ParentSourceID	The parent source ID for the geography, along with the source ID is used to identify the geography's parent and child relationship with records within the source file data. This should be null for the country record, as Country is at the top of the hierarchy.	None	Required

You can view the Geography object and attributes in the Manage Import Objects page of the Import Management flow. You can find attribute information like type, length, description, and so on, on this Manage Import Objects page.

Note: Keep a note of the following:

- You can't update geographies using import.
- You can't add alternate names or alternate code of country via import. You can do so only via UI.
- Before adding a new alternate name, make sure that the alternate name does not exist with the same value for any other geography name.
- You can enable high-volume import for the Geography import object in the Manage Import Objects page.
- PrimaryGeographyCodeType and PrimaryGeographyCode can't be added after PrimaryGeographyName is created via import. You must create them together. Alternatively, you can add primaryGeographyCodeType and PrimaryGeographyCode from the UI after the import is complete.

Create the Source CSV File

You include the data that you want to import into CX Sales and Fusion Service in a source CSV file.

You can use the templates available in the Import Objects UI page to create the source CSV file. To download a template:

1. Go to **Navigator** > **Tools** > **Import Management** > **Import Objects**.
2. Select the **Geography** object in the table and click **Download**.

You can now edit the downloaded file and provide valid values for the required attributes.

Note: For help in populating the CSV file and to avoid any issues in entering values, see the topic Potential Issues When Opening CSV Files With Excel in Related Topics section.

Create the Import Activity

After you have the CSV file ready, create an import activity to import the information. To create an import activity:

1. Go to **Navigator** > **Tools** > **Import Management** > **Import Queue**.
2. Click **Create Import Activity** in the **Manage Imports** page.
3. In the **Enter Import Options** page, provide a name for the import activity, and select Geography from the **Object** drop-down list.
4. Select the CSV file in the **File Name** field, and click **Next.**
5. The source and target attributes are automatically mapped in the **Map Fields** page. Review and edit the mappings if required.
6. Check the file for unmapped columns or data format issues by clicking **Validate Data**. Click **Next.**
7. Review the import details on the **Review and Submit** page, and click **Submit** when you're ready.

Review the Import Results

Check if your import succeeded on the **Manage Imports** page. This page shows the status of all active, completed, and unsuccessful imports. To check the status of the import activity:

1. Go to **Navigator** > **Tools** > **Import Management** > **Import Queue**.
2. Click All Imports and search for the import activity that you created earlier.
3. Check the **Status** column for the import activity. The import is successful if the status displays as **Completed**. You can drill down on the import activity to go to the **Import Status** page which provides the status details of the import activity.

Note: Geography names aren't translatable and are always displayed in the same language in which they were loaded irrespective of the language of the signed in user. If you need different options of display, you can use the alternative names option.

Related Topics

- Import Your Country Structure Data
- Potential Issues When Opening CSV Files in Excel
- Example of Importing Country Structure Data
- How do I import data?
- Can you provide an example of importing geography data?

Can you provide an example of importing geography data?

This example demonstrates how to import third party geography reference data using Import Management.

In this example, you have a source file containing geography data that you want to import into the application to make the geography data available for real time address validation and tax purposes. A geography is any region with a boundary around it, regardless of its size. It might be a state, a country, a city, a county, or a ward.

Summary of the Tasks

You perform the following steps to create an import activity and activate the import:

1. Determine what information is in the source file.
2. Create and schedule the import activity.

Before You Start

1. You use the country structure of a country to define which geography types are part of the country. For more information about an example of importing a country structure, see the topic "Example of Importing Country Structure Data".
2. Ensure that Source ID values are unique for each row of data within a single import.
3. Ensure that all the parents of a child geography are included in your data file so that the child geography can be added. For example, if you originally imported US, CA, and San Francisco, and now you want to import the city of San Jose in CA, then your data file must include US, CA, and San Jose.
4. Check that your source data file has the correct values for the geography data that you have already loaded. For example, if your initial import included the value US for country and CA as state, and in a subsequent import you have California as a state, then your geography import creates two state records (CA and California) in the application data, with the US as the country parent.

Determine the Information in the Source File

The source geography data files must include a unique Source ID value for each row of data and Parent Source ID value for the parent of that row of data. You include the data that you want to import into CX Sales and Fusion Service in a source CSV file. A sample input CSV file for country as US is shown in this table.

RecordTypeCode	PrimaryGeography	CountryCode	LevelNumber	SourceId	ParentSourceId	LanguageCode
0	`United States`	US	1	1	<blank>	US
1	`California`	US	2	11	1	US
1	`San Mateo`	US	3	111	11	US
1	`Redwood City`	US	4	1111	111	US
1	`94065`	US	5	11111	1111	US

Here is a sample CSV file to import geographies with alternate name and code for country India:

RecordType	PrimaryGeogr	CountryCode	LevelNumber	SourceId	ParentSOurcel	IdentifierType	IdentifierSubT	IdentifierValue
0	`India`	IN	1	1				
1	`Karnataka`	IN	2	2	1			
1	`Bengaluru`	IN	3	3	2			
2	`Bengaluru`	IN	3	3	2	NAME	Standard_ Name	`Bangalore`
1	`Whitefield`	IN	4	4	3			

RecordType	PrimaryGeogr	CountryCode	LevelNumber	SourceId	ParentSOurcel	IdentifierType	IdentifierSubT	IdentifierValue
1	560066	IN	5	5	4			
2	560066	IN	5	5	4	CODE	ISO_ COUNTRY_ CODE	91

Note: Keep a note of the following:

- The hierarchy is modeled in the CSV file using the SourceId and ParentSourceId. The ParentSourceId for the Country Record (level Number 1) is always null.
- If defining an alternate name (`RecordTypeCode` = 2) for any level below the country (`LevelNumber` >1), ensure that the SourceId and ParentSourceId columns match the values for the original record respectively.
- You can't update geographies via import.
- You can't add alternate names or alternate code of country via import. You can do so only via UI.
- Before adding a new alternate name, make sure that the alternate name doesn't exist with the same value for any other geography name. You can check the existing values for alternate names in the Manage Geographies task page under Hierarchy Defined.
- You can find the list of IdentifierSubTypes in Manage Geography Lookups page in the UI.
- PrimaryGeographyCodeType and PrimaryGeographyCode can't be added after PrimaryGeographyName is created via import (CSV) file. Alternatively, you can add PrimaryGeographyCodeType and PrimaryGeographyCode from the UI after the import is complete.

You must create a source file (CSV) file with the attributes and import it using Import Management as shown in this table.

Attribute Name	Value	Description
RecordTypeCode	1	The record type code that represents the intent of the import data. The values are: • 0 - indicates the geography that already exists in the base table. • 1 - indicates the intent to create a new geography. • 2 - indicates the intent to add an alternate identifying name or code to an existing geography.
PrimaryGeographyName	India	This is the primary geography name. This will be marked as the primary name for the Geography and also displayed in the Manage Geographies Page.
CountryCode	IN	This indicates the Country Code for the country for which you're importing data.

Attribute Name	Value	Description
LevelNumber	2	The level number of the geography in the hierarchy. For example, Country is at Level 1 and State (California) is at Level 2.
SourceId	2	The source ID for the geography, along with the parent source ID is used to identify the geography parent and child relationship within the source file data and the interface table data.
ParentSourceId	1	The parent source ID for the geography, along with the source ID is used to identify the geography's parent and child relationship with records within the source file data. This should be null for the country record, as Country is at the top of the hierarchy.
IdentifierType	Name	The type of the identifier. It can be either Name or Code.
IdentifierSubtype	Standard_Name or Standard_Code	The IdentifierSubtype can be Standard_Name or Secondary_Name. The default value is Standard_Name. The valid Sub Types for Type "CODE" are FIPS_CODE, GEO_CODE, ISO_COUNTRY_CODE, PRIMARY_CITY, or UNKNOWN
IdentifierValue	Bangalore	The value of the identifier.

You can create an import activity, enter the import details, and schedule the import.

1. Go to **Navigator** > **Tools** > **Import Management** > **Import Queue**.
2. Click **Create Import Activity** in the **Manage Imports** page.
3. In the **Enter Import Options** page, provide a name for the import activity, and select **Geography** from the Object drop-down list.

   > **Note:** In the **Advanced Options** section, the option **Enable High-Volume Import** is selected by default. This mode is designed to import millions of records at once.

4. Select the CSV file in the **File Name** field, and click **Next**.
5. The source and target attributes are automatically mapped in the **Map Fields** page. Review and edit the mappings if required.
6. Check the file for unmapped columns or data format issues by clicking **Validate Data**. Click **Next**.
7. Review the import details on the **Review and Submit** page, and click **Submit**.

Import Your Country Structure Data

You can use Import Management to create Country Structure records. It is recommended you use Import Management only if you're importing high-volume third-party data.

If you 're importing licensed data from one of our vendors, then you can create the country structure by navigating to **Setup and Maintenance** > **Manage Geographies Task** page.

To import Country Structure records, perform the following tasks:

1. Map your source data to Oracle Applications Cloud object attributes.
2. Create source Comma Separated Values (CSV) file for import.
3. Create the import activity.
4. Review the import results.

How You Map Your Source Data to Target Object Attributes

To import your Country Structure data into Oracle Applications Cloud, you need to populate a CSV file with your source data and map that source data to target object attributes in Oracle Applications Cloud.

You need to do the following before creating the CSV file for data import:

- Identify how your source data attributes map to the target object attributes in Oracle Applications Cloud.
- Identify the target object attributes that are required in the CSV file for a successful import.

Required Attributes and Validations for Country Structure Object

To import data successfully into Oracle Applications Cloud, your CSV file must include values for the required attributes. This table lists the required attributes for importing new Country Structure records, prerequisite setup tasks for the attributes, and specific validations, if any, for Country Structure import:

Attribute	Description	Prerequisite Setup Task/ Import Validations	Creating a Country Structure Record
CountryCode	The code for the country for which the country structure is applicable.	The GeographyType has to be "Country" and the LevelNumber has to be "1" for a country. You can't pass different country codes when importing a record.	Yes
GeographyType	Geopolitical divisions such as Country, State, City, and so on. For example, for US the different geography types would be State, County, City, and Postal Code. For India, the different geography types would be State, District, City, and Postal Code. For Mexico, it would be State, Municipality, Locality, and Postal Code.	The country has to be present.	Yes
LevelNumber	You need these to create parent-child relationships between geography types for your country. The values can be 1, 2, 3, and so on.	To define a country, you must specify the LevelNumber as 1.	Yes

You can view the Country Structure object and its attributes in the Manage Import Objects page of the Import Management flow. You can find attribute information like type, length, description, and so on, on the Manage Import Objects page. You can view the list of valid values for country codes in the UI by navigating to the Manage

Geographies task and searching with % as the Country Code value. For more information on Geographies, see Overview of Geographies, Geographic Entities, and Locations in the Related Topics section.

Note: Note the following:

- The import job will fail if you try to load any already existing country structure. Delete the existing country structure in the UI in Manage Geographies Tasks and import again.
- You can't load additional lower geography structure levels for an existing country structure while importing geography country structure. You can add additional geography levels in the UI for an existing country structure in the Manage Geographies task page.

Create the Source CSV File

You include the data that you want to import into Oracle Applications Cloud in a source CSV file.

You can use the templates available in the Import Objects UI page to create the source CSV file. To download a template:

1. Go to **Navigator** > **Tools** > **Import Management** > **Import Objects**.
2. Select the **Country Structure** object in the table and click **Download**.

You can now edit the downloaded file and provide values for the required attributes.

Note: For help in populating the CSV file and to avoid any issues in entering values, see the topic Potential Issues When Opening CSV Files With Excel in Related Topics section.

Create the Import Activity

After you have the CSV file ready, create an import activity to import the information. To create an import activity:

1. Go to **Navigator** > **Tools** > **Import Management** > **Import Queue**.
2. Click **Create Import Activity** in the **Manage Imports** page.
3. In the **Enter Import Options** page, provide a name for the import activity, and select Country Structure from the **Object** drop-down list.
4. Select the CSV file in the **File Name** field, and click **Next.**
5. You would see that the source and target attributes are automatically mapped in the **Map Fields** page. Review and edit the mappings if required.
6. Click **Validate Data** to check the file for unmapped columns or data format issues. Click **Next.**
7. Review the import details on the **Review and Submit** page, and click **Submit** when you're ready.

Review the Import Results

Check if your import succeeded on the **Manage Imports** page. This page shows the status of all active, completed, and unsuccessful imports. To check the status of the import activity:

1. Go to **Navigator** > **Tools** > **Import Management** > **Import Queue**.
2. Click All Imports and search for the import activity that you created earlier.
3. Check the **Status** column for the import activity. The import is successful if the status displays as **Completed**. You can drill down on the import activity to go to the **Import Status** page which provides the status details of the import activity. Here, you can download and review the successfully imported user data records, the mapping details used for import activity, and the data file that you provided in CSV format.

Related Topics

- Overview of Geographies, Geographic Entities, and Locations
- How do I manage geography validation?
- Potential Issues When Opening CSV Files in Excel
- How do I import data?

Example of Importing Country Structure Data

You use the country structure of a country to define which geography types are part of the country and how the geography types are hierarchically related within the country.

For example, you can create geography types called State, City, and Postal Code. Then you can rank the State geography type as the highest level within the country, the City as the second level, and the Postal Code as the lowest level within the country structure.

To add a country structure using import management, your source file must contain information about the country to which the country structure belongs. You can view the list of valid values for country codes in the UI by navigating to the Manage Geographies task and searching with % as the Country Code value. You also need to specify the level at which the geography types need to be placed. By default, all countries are at Level 1. You create the country structure by increasing the level number as you go down the country structure. You place the geography types such as states, provinces, and so on at Level 2, districts or counties at Level 3, and so on. To add a country structure, your source file must include the values that let the import process identify the existing records.

Sample Input CSV File

You include the data that you want to import into CX Sales and Fusion Service in a source CSV file. Here is a sample input CSV file for country as US.

CountryCode	LevelNumber	GeographyType
US	1	COUNTRY
US	2	STATE
US	3	COUNTY
US	4	CITY
US	5	POSTAL CODE

Here is another input CSV file for importing the country structure for India.

CountryCode	LevelNumber	GeographyType
IN	1	COUNTRY
IN	2	STATE

CountryCode	LevelNumber	GeographyType
IN	3	DISTRICT
IN	4	CITY
IN	5	POSTAL CODE

In case you want to import the country structure for Mexico, your input CSV file would look like this:

CountryCode	LevelNumber	GeographyType
MX	1	COUNTRY
MX	2	STATE
MX	3	MUNICIPALITY
MX	4	LOCALITY
MX	5	POSTAL CODE

In this example, we are importing the Country Structure for US. You must create a source file (CSV) file with the attributes as shown in this table and import it using Import Management.

Attribute Name	Value	Description
CountryCode	US	The code for the country for which the country structure is applicable.
LevelNumber	1	The level number of the geography in the hierarchy. For example, Country is at Level 1 (Top level) and State (California) is at Level 2. You need these to create parent-child relationships between geography types for your country.
GeographyType	COUNTRY	Geopolitical divisions such as Country, State, City, and so on. For example, for US the different geography types would be State, County, City, and Postal Code. For India, the different geography types would be State, District, City, and Postal Code. For Mexico, it would be State, Municipality, Locality, and Postal Code.

Create an import activity to import the information. To create an import activity:

1. Go to **Navigator** > **Tools** > **Import Management** > **Import Queue**.
2. Click **Create Import Activity** in the **Manage Imports** page.
3. In the **Enter Import Options** page, provide a name for the import activity, and select **Country Structure** from the Object drop-down list.

   > **Note:** In the **Advanced Options** section, the option **Enable High-Volume Import** is selected by default. This mode is designed to import millions of records at once.

4. Select the CSV file in the **File Name** field, and click **Next**.
5. The source and target attributes are automatically mapped in the **Map Fields** page. Review and edit the mappings if required.
6. Check the file for unmapped columns or data format issues by clicking **Validate Data**. Click **Next**.
7. Review the import details on the **Review and Submit** page, and click **Submit**.

How You Import and Export Territory Geography Zones

Territory geography zones are geographical boundaries that you can set up to replicate your organization's regions, such as a Pacific Northwest sales region.

You can set up territory geography zones in one application instance, and then after the territory geography zones are defined you can export the territory zones and import them into another application instance.

To define your territory geography zones and then import your territory zones into another application instance, you must complete the following steps:

1. Import the master reference geography data into the application.
2. Define your territory geography zones using the Manage Territory Geographies task.
3. Export the territory geography zones.
4. Import the territory geography zones into another application instance.

Import the Master Reference Geography Data

Firstly, you must import the master reference geography data. Master reference geography data includes geography elements, such as country, state, and city, and is required for any geographical information that you store in the application, such as address information used in customer and sales records. For more information, see the topic Geography Hierarchy. Master reference geography data can be imported into the application using the Import Management.

Define Your Territory Geography Zones

After the master reference geography data has been imported, you can then create your territory geography zones in the application using the Manage Territory Geographies task in Setup and Maintenance. For more information, see the *Manage Territory Geographies* topic.

Export the Territory Geography Zones

After you have completed importing the master reference geography data and defining your territory geography zone tasks, you can create a configuration package to export the territory zone data.

Import the Territory Geography Zones

After you have downloaded your configuration package for your territory geography zone setup, you can import the territory zones into another application instance.

Note: Ensure that you import your master reference geography data into the new application instance before you import the configuration package.

Related Topics

- Geography Hierarchy

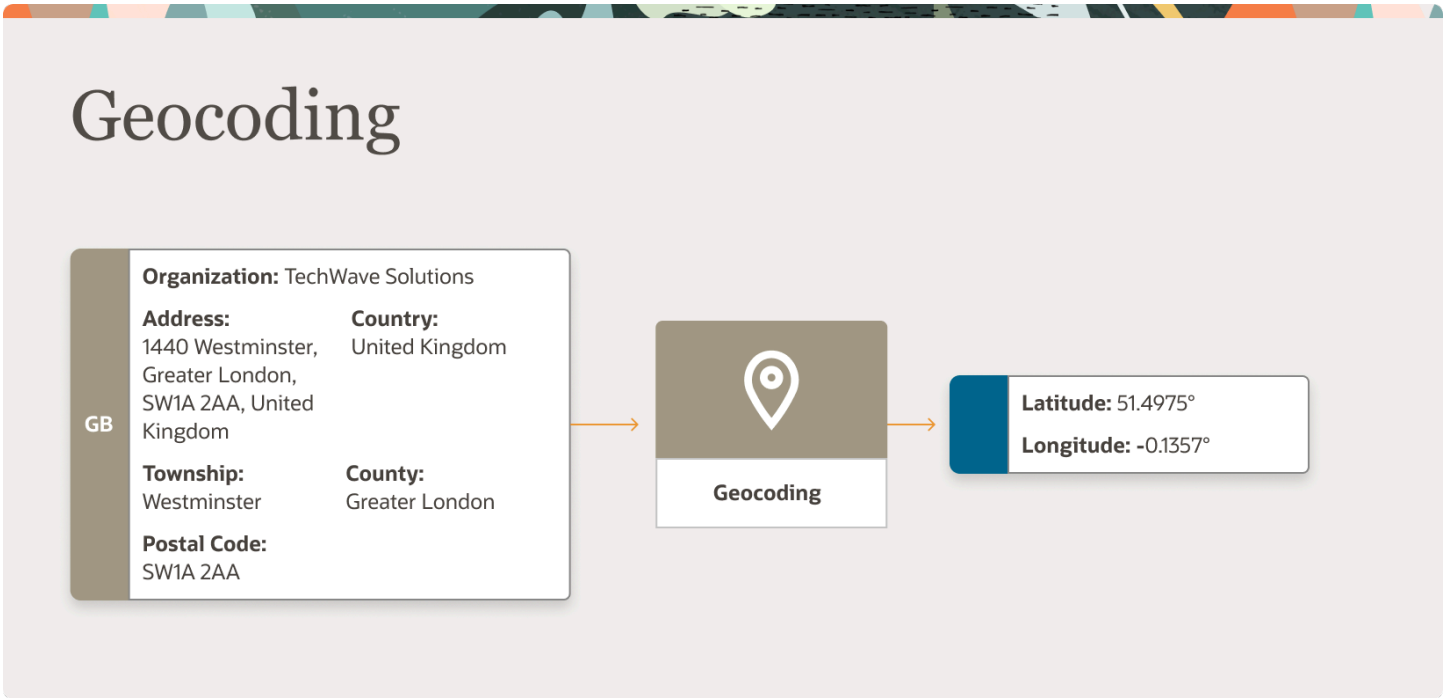
Set Up Geocoding

What attributes are referenced to populate latitude and longitude during geocoding?

Geocoding is the process of finding latitude and longitude coordinates from geographic data such as street addresses or postal codes. Once these coordinates are available, you can use the spatial services feature to identify nearby points of interest, such as customer and contact addresses.

The application integrates the Geocoding feature with eLocation (http://elocation.oracle.com/maps_oracle_dot_com_main.html), which is a Geocoding service provided by Oracle.

Note: Geocoding for Hong Kong isn't supported.



By default, the Geocoding option is turned off in the application. You can enable the Geocoding option using these steps:

1. In the Setup and Maintenance work area, go to the following:
    - Offering: Customer Data Management
    - Functional Area: Enterprise Profile
    - Task: Manage Geographies
2. On the Manage Geographies page, search for the country for which you want to enable geocoding. You can either search by the country name or country code.
3. Click **Search**. The search results for the matching country names are displayed.
4. Select the country for which you want to enable the geocoding option.
5. Select **Geocoding Defined** for the country.

If the Geocoding feature is enabled, the feature can be scheduled to run at regular time intervals. This ensures that newly created or updated locations are picked up and geocoded whenever you create or update an address using the user interface, web services, bulk import, or using import management.

Related Topics

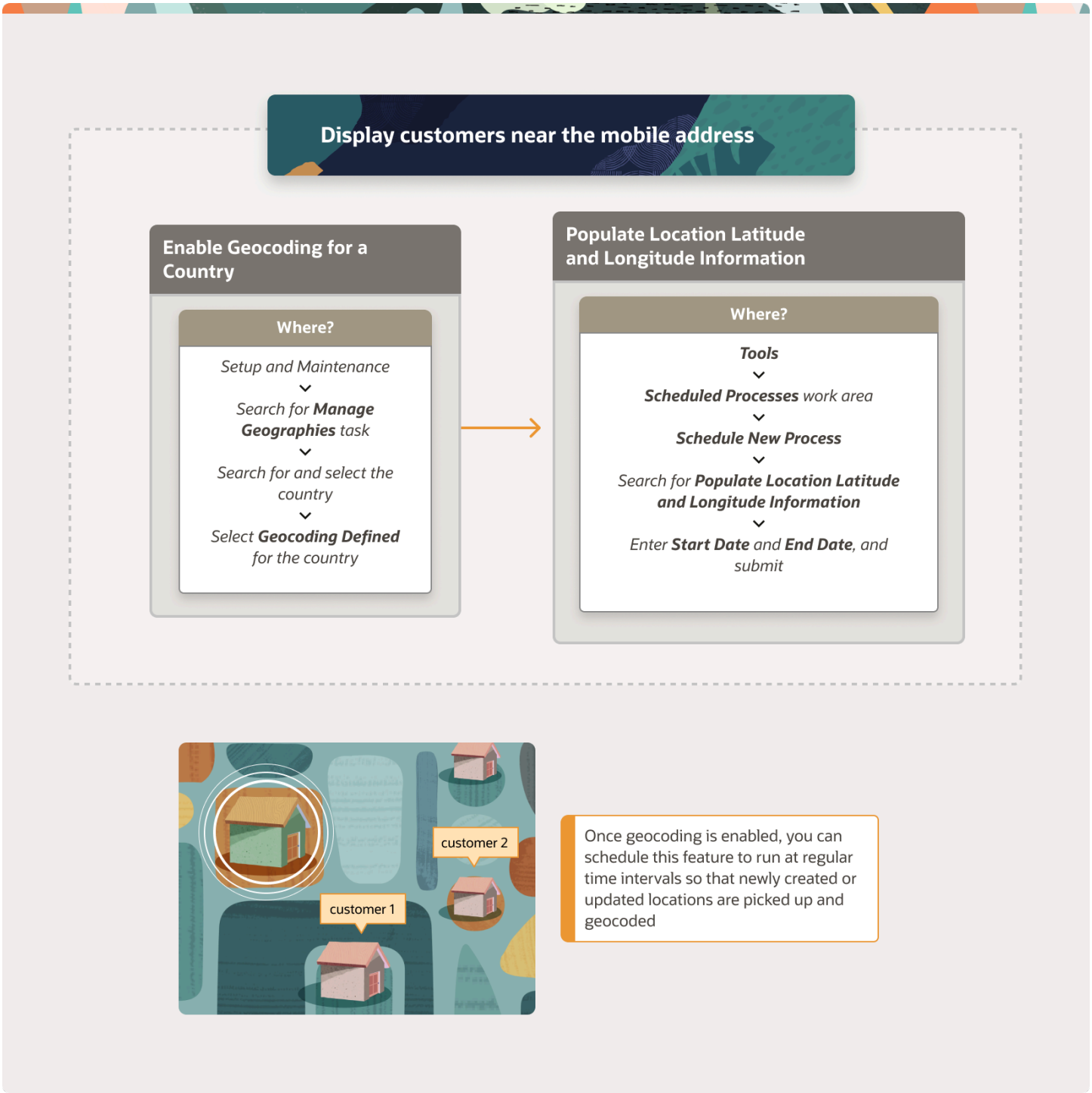
- What are Spatial Services?
- Set Up Geocoding

Set Up Geocoding

Geocoding is a process that determines the latitude and longitude coordinates for a location.

By default, geocoding is turned off in the application. You can use geocoding to display customers in the vicinity of a mobile address.

Here is an image depicting customers in the vicinity of a mobile address:



Enable Geocoding for a Country

To enable geocoding for a country, complete these steps:

1. In the Setup and Maintenance work area, go to the following:
    - Offering: Customer Data Management
    - Functional Area: Enterprise Profile
    - Task: Manage Geographies
2. On the Manage Geographies page, search for the country for which you want to enable geocoding. You can either search by the country name or country code.
3. Click **Search**. The search results for the matching country names are displayed.
4. Select the country for which you want to enable the geocoding option.
5. Select **Geocoding Defined** for the country.

Populate Location Latitude and Longitude Information

Once geocoding is enabled, you can schedule this feature to run at regular time intervals so that newly created or updated locations are picked up and geocoded. To schedule the geocoding feature to run at regular intervals, complete these steps:

1. Navigate to **Tools** > **Scheduled Processes** work area.
2. On the Overview page, click **Actions** > **Schedule New Process**.
3. Click the Name list and search for Populate Location Latitude and Longitude Information, and then click **OK**.
4. Enter the parameters such as Start Date and End Date, and click **Submit**.

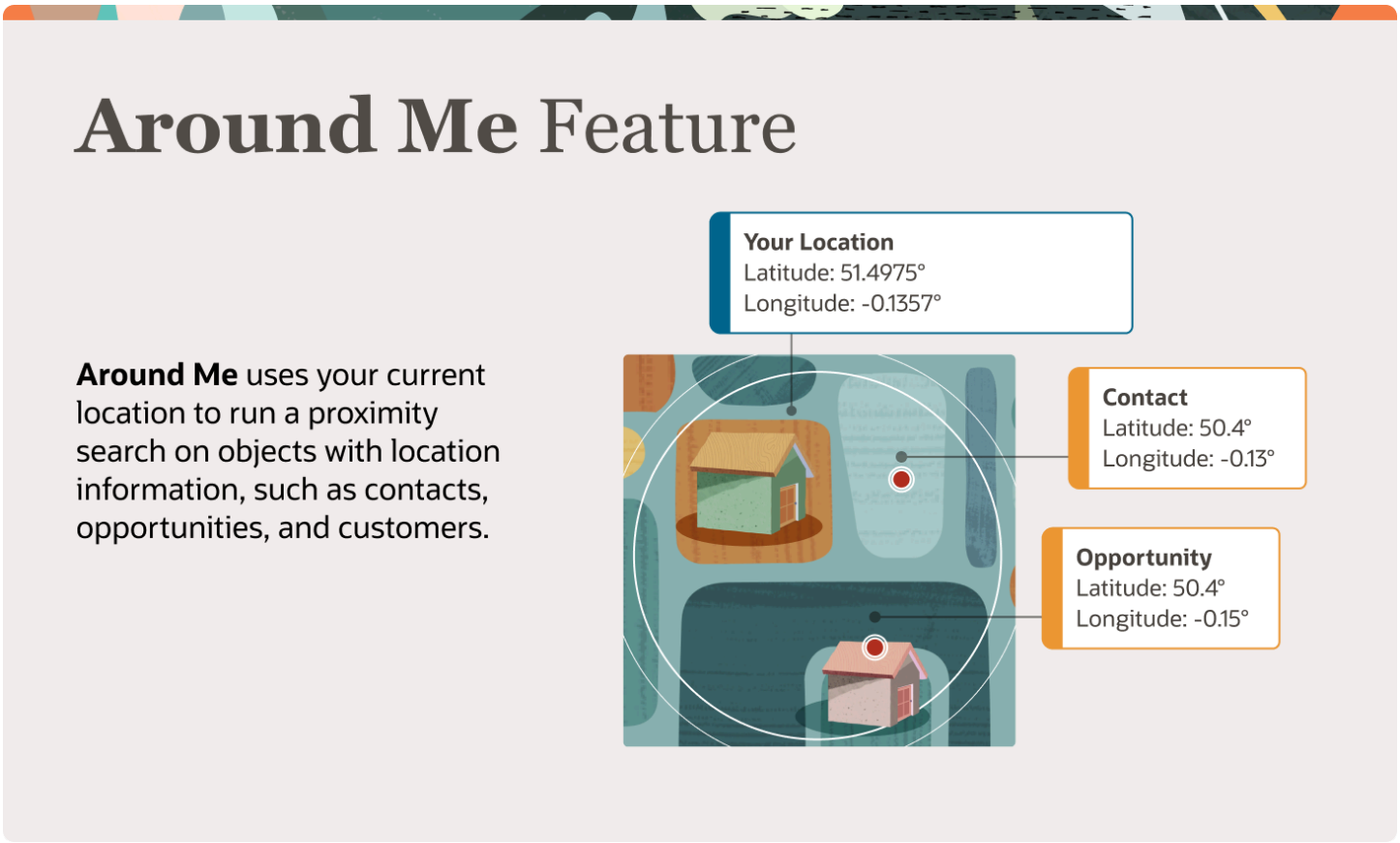
Related Topics

- Populate Location Latitude and Longitude Information

Use Web Services to Populate Location Attributes for the Around Me Feature

Use this procedure to populate location attributes using Web services for the Around Me feature in countries that aren't supported by the eLocation service. The Around Me feature enables you to quickly locate information about your surroundings.

This feature uses your current location to run a proximity search on objects with location information, such as contacts, opportunities, and customers.



Create an Address with the Location Attributes Using the LocationService Web Service

Perform the following steps to create an address with location attributes, such as latitude and longitude, using the createLocation operation.

1. Extract the Web Services URL:
    a. Sign in to the **Oracle Enterprise Manager Applications Control** using the WebLogic Server credentials.
    b. Select **Oracle Fusion Customer Relationship Management** from the navigation tree, and then select `Fusion Applications`.
    c. From the tree, select **CrmCommonApp**, and then select `CrmCommonApp (CRMCommonServer_1)`.
    d. In the Web Services pane, click **Test** for the LocationServiceSoapHttpPort port.
    e. In the Test Web Service pane, copy the URL of a WSDL that appears in the WSDL field until "?wsdl", and then paste to a notepad.

2. Derive the Payload:

    a. Launch the WSDL URL in a Web browser to open the LocationService endpoint page.
    b. In the LocationServiceSoapHttpPort pane, select **createLocation** from the Operation list.
    c. In the Location pane, complete the fields, as shown in the following table.

Field	Value
Country	CN
Address1	Chaoyang District
City	Shanghai
Postal Code	200233
State	China
CreatedByModule	AMS
Latitude	20.36789
Longitude	-39.34444

> **Note:** Deselect all the other parameters in this Location pane. Also, deselect LocationProfile, OriginalSystemReference, and LocationInformation options.

    d. Click the **XML Source** option.

> **Note:** This option appears next to the Operation list.

    e. Copy the XML source and paste to a notepad.

3. Call the Web Service:

    a. Open the **Oracle Fusion Service Tester** page.
    b. In the WebService URL field, paste the WSDL URL that you derived from Step 5 of the Extracting the Web Services URL section.
    c. Enter the user name and password credentials.
    d. In the **Payload** pane, paste the XML source that you derived from Step 5 of the Deriving the Payload section.
    e. Click `Invoke`. The Output Payload pane displays the output payload.

4. Test the Web Service:
    a. Sign in to the **Oracle Fusion Applications Home** Page.
    b. Navigate to the Customer Center work area.
    c. Search the address that you added.
    d. Click the **Addresses** section.
    e. From the **Actions** list, select the **View Geography Information** option.
    f. Verify the latitude and longitude details.

Update the Location Attributes of an Address Using the LocationService Web Service

Perform the following steps to update the location attributes of an address, such as latitude and longitude, using the updateLocation operation.

1. Extract the Web Services URL:
    a. Sign in to the **Oracle Enterprise Manager Applications Control** using the WebLogic Server credentials.
    b. Select **Oracle Fusion Customer Relationship Management** from the navigation tree, and then select **Oracle Fusion Applications**.
    c. From the tree, select **CrmCommonApp**, and then select `CrmCommonApp (CRMCommonServer_1)`
    d. In the Web Services pane, click **Test** for the LocationServiceSoapHttpPort port.
    e. In the Test Web Service pane, copy the URL of a WSDL that appears in the WSDL field until "?wsdl", and then paste to a notepad.
2. Derive the Payload:
    a. Launch the WSDL URL in a Web browser to open the LocationService endpoint page.
    b. In the LocationServiceSoapHttpPort pane, select **updateLocation** from the Operation list.
    c. In the Location pane, complete the fields, as shown in the following table.

Field	Value
LocationId	300100078489616 **Note:** Enter the location ID that was generated in Step 1 of the Testing the Results section.
Latitude	30.36789
Longitude	-40.34444

> **Note:** Deselect all the other parameters in this Location pane. Also, deselect LocationProfile, OriginalSystemReference, and LocationInformation options.

    d. Click the **XML Source** option.

> **Note:** This option appears next to the Operation list.

e. Copy the XML source and paste to a notepad.

3. Call the Web Service:

a. Open the **Oracle Fusion Service Tester** page.
b. In the WebService URL field, paste the WSDL URL that you derived from Step 5 of the Extracting the Web Services URL section.
c. Enter the user name and password credentials.
d. In the **Payload** pane, paste the XML source that you derived from Step 5 of the Deriving the Payload section.
e. Click `Invoke`. The Output Payload pane displays the output payload.

4. Test the Web Service:

a. Sign in to the **Oracle Fusion Applications Home** Page.
b. Navigate to the Customer Center work area.
c. Search the address that you updated.
d. Click the **Addresses** section.
e. From the **Actions** list, select the **View Geography Information** option.
f. Verify the latitude and longitude details.

How You Set up Address Cleansing

Address cleansing validates, corrects, and standardizes address information that you enter in the application. Address cleansing, unlike geography validation, validates both the geography attributes and the address line attributes.

To use the address cleansing functionality, you need to have license for the customer data quality application, because the feature is delivered using data quality integration.

You can specify the real-time address cleansing level for each country by choosing either of these options:

- **None**: Specifies no real time address cleansing.
- **Optional**: Provides option to cleanse addresses.

Once you have enabled address cleansing for a country, a **Verify Address** icon appears at address entry points in the application. Click the icon to perform address cleansing and receive a corrected, standardized address. If the application doesn't find a matching address, then an alert message is displayed.

FAQs for GBG| Loqate Support

How to Import Nokia Geography Data

We recommend that you use Loqate geography data. However, if you need to use Nokia data for one or more countries for business reasons you can do so.

By default, Import Geography Data task invokes Loqate geography data.

Note: Oracle doesn't support any Nokia geography data fixes.

Perform these steps to import Nokia geography data:

1. Set the profile value of the ORA_HZ_ENABLE_DAAS_LOQATE profile option to No in the Setup and Maintenance work area by going to the following:
    - Offering: Sales
    - Functional Area: Sales Foundation
    - Task: Manage Administrator Profile Values
2. Import the Nokia geography data for a country as follows:
    a. Navigate to the Manage Geographies task in the Setup and Maintenance work area by going to the following:
        - Offering: Sales
        - Functional Area: Sales Foundation
        - Task: Manage Geographies
    b. On the Actions menu, Click Import Geography Data for a country.

    Note: The Import Geography Data action is disabled for a country if the geography data for that country isn't available from Loqate or if the country data is already imported using either Loqate, Nokia, or any third party geography data.

    After the geography data is loaded, the data provider name (Loqate or Nokia) is displayed in the Hierarchy Defined section in Manage Geographies.

How many countries does Loqate support? How do I get support for any additional country?

Loqate supports 82 countries. Any additional country support beyond the 82 must be logged as an enhancement request.

To log the enhancement request, go to *Idea Lab*.

Related Topics

- How to submit an enhancement request on Idea Lab

Will I be charged for Loqate data?

There's no charge or licensing requirement for Loqate geography data.

I am an existing customer, how will I be impacted? Can I import both Loqate and Nokia geography data?

No. You can import either Loqate or Nokia geography data, but you can't import from both providers for a single country. We recommend that you use Loqate geography data because Loqate supports 82 countries including existing 62 Nokia supported countries.

If you're already using Nokia geography data, you can select one of these two options:

- Option 1: You need not do anything and continue to use Nokia geography data. Oracle doesn't support any Nokia geography data fixes.
- Option 2: You can replace Nokia geography data with Loqate geography data. This is a manual process today. You must follow manual steps and work closely with the support team to import new Loqate geography data. For more information about this process, see Replace Existing Master Geography Data with Revised Oracle-Licensed Geography Data section in this chapter.

How frequent are updates to Oracle licensed geography reference data available?

The geography reference data is updated on a quarterly basis but the update of the latest geography reference data refresh isn't automated. You will be informed about the geography reference data refresh using release readiness documents.

How is geography data updated? Are updates available for all countries at the same time?

When you import the geography data for a country for the first time you would get the latest Loqate geography data. But if your Loqate geography data is more than three months old, you have to uptake the latest Loqate geography data by following the steps in the Replace Existing Master Geography Data with Revised Oracle-Licensed Geography Data topic.

Related Topics

- How do I replace the existing master geography data with revised Oracle-Licensed geography data?

Can I import Vertex or other third-party geography data in Manage Geographies?

Yes, you can continue to import geography data of your choice. Oracle provides support for Loqate geography data out of the box.

Can I import geography data for multiple countries in one import job?

No. You can submit only one import job for a country. After submitting the import job, you can search for a different country and submit another import job for that country. Currently, you can only search and import Loqate data for one country at a time using the Manage Geographies task in Setup and Maintenance menu.

Can I get support for a country that is not part of the list of supported countries in Manage Geographies

You can contact Oracle Support to request for a country that is not supported in Manage Geographies.

FAQs for Geographies

How You Search Geographies in the Language You Prefer

You can search geographical data using the language that you prefer.

You can search geographical data using the language that you prefer after setting up the profile option Filter Geographies Using User Language (HZ_GEO_FILTER_BY_USER_LANG). You must first define the profile option HZ_GEO_FILTER_BY_USER_LANG and then specify the language you want to use using these steps:

1. Create the profile option as follows:
    a. Click **Navigator** > **My Enterprise** > **Setup and Maintenance** > **Search** and search for Manage Profile Options.
    b. Click Create new profile option icon and enter the following:
        - Profile Option Code: HZ_GEO_FILTER_BY_USER_LANG
        - Profile Display Name: Filter Geographies Using User Language
        - Application: Trading Community Model
        - Module: Trading Community Model
        - Description: provide the description
        - Start Date: specify a date
    c. Click Save and close.
    d. In Profile Option Levels table, select `Enabled` and `Updateable` for the site level.
    e. Click Save and Close.
2. Set the default value for the profile option as follows:
    a. Click **Navigator** > **My Enterprise** > **Setup and Maintenance** > **Search** and search for Manage Administrator Profile Values.
    b. Search HZ_GEO_FILTER_BY_USER_LANG as the profile option code.
    c. Add new Site level profile value.
    d. Specify the new profile in the following format:

<COUNTRY_CODE1>:<GEOGRPHY_LEVEL1>, <GEOGRAPHY_LEVEL2>;<COUNTRY_CODE2>:<GEOGRAPHY_LEVEL1>

Where Geography Level values start with value 1 for country and increment for each level that's defined in the country's geography structure setup.

For example, the following are the geography levels for Canada:

Country - 1, State - 2, Province - 3, City - 4, Postal Code - 5

Similarly, the following are the geography levels for United States:

Country - 1, State - 2, County - 3, City - 4, Postal Code - 5

Example 1: If you want to filter data for Canadian Cities, then the profile value is CA:3 where CA is the country code for Canada and 3 is geography level value for City.

Example 2: If you want to filter data for both State and Cities for United States, then value should be US:2,4

Example 3: If you want to filter data for multiple countries as given in both example 1 and example 2, then use semi colon as delimiter, like CA:3;US:2,4

e. Click Save and Close.

Suppose you load geography data for Canada in English and French. By default when you search this data using say Postal Code H4A 0A1, the following is the search result:

When you search this data using say Postal Code H4A 0A1, the following is the search result:

- H4A 0A1, Montreal, QC
- H4A 0A1, Montreal, Quebec
- H4A 0A1, Montréal, QC
- H4A 0A1, Montréal, Quebec

But you may want the search results to be displayed in the language you prefer. So, if you set the language as English, the following must be displayed:

- H4A 0A1, Montreal, QC
- H4A 0A1, Montreal, Quebec

And if you set the language as French, the following must be displayed:

- H4A 0A1, Montréal, QC
- H4A 0A1, Montréal, Quebec

Why is Import Geography Data Disabled in Manage Geographies?

Import Geography Data is disabled for a country if the geography data for that country isn't available from Loqate or if the geography structure or hierarchy is already defined for that country.

The existing master geography hierarchy can be from Loqate or non-Loqate geography data providers. For example, Pakistan isn't supported currently in the supported list of 82 countries. If you try to import geography data for Pakistan after defining geography structure or geography hierarchy for it, Pakistan would be grayed out in the import list.

Note: If the hierarchy is defined, delete the geography hierarchy data first and then the geography structure.

When do I define address cleansing?

When address data entered into the application must conform to a particular format, to achieve consistency in the representation of addresses. For example, making sure that the incoming data is stored following the correct postal address format.

Why can't I update a geography structure by copying an existing country structure?

You can only update a geography structure by adding existing geography types, or by creating new geography types and then adding them to the geography structure.

You can only copy an existing country structure when you're defining a new country structure.

How many levels in a geography structure can I define?

We recommend that you add up to six levels, starting with country at level 1, while defining geography structures. If you add more than six levels containing list of values or validations, then the sixth level and above may not work as expected in the Address UI of accounts, contacts, suppliers, persons, and so on.

Why can't I delete a level of the country geography structure?

If a geography exists for a country geography structure level then you can't delete the level.

For example, if a state geography has been created for the United States country geography structure, then the State level can't be deleted in the country geography structure.

How do I add a geography to the geography hierarchy?

You can add a new geography to the geography hierarchy. The new geography can be added under any level of the hierarchy for an existing geography type in the country geography structure.

For example, we can add a new postal code 94065 under United State, California, San Mateo, Redwood City.

1. As a setup user, click **Navigator** > **My Enterprise** > **Setup and Maintenance** work area.
2. Click the Tasks menu and click Search. Search for **Manage Geographies**.
3. On the Manage Geographies page, enter US in the **Code** field. Click **Search**.
4. Click **Hierarchy Defined** for United States.

   Note: If there are many child geographies for the selected parent geography, a message asking you to refine the search criteria is displayed. The child geographies are displayed after you refine the search criteria. If there are many search results, you may have to further refine the search criteria. The maximum number of child geographies that can be displayed is controlled by the ORA_HZ_GEO_HIERARCHY_LIMIT profile option. You can change the value of this profile option by navigating to the Setup and Maintenance work area, click the Tasks menu, and search for Manage Administrative Profile Values task. Search for the ORA_HZ_GEO_HIERARCHY_LIMIT profile option and change the value.

5. Search using State as the Geography Type and CA as the Code.
6. Drill down to San Mateo and select Redwood City.
7. Click **Actions** > **Create**.
8. Type 94065 for Name in the **Primary Name and Alternative Names** section.
9. Click **Save and Close**.

10. Click **Save and Close**.
11. Click **Done**.

How do I edit a specific geography in the geography hierarchy?

You can edit the following details of a geography hierarchy using the Manage Geography Hierarchy page:

- geography's date range
- primary and alternate names
- primary and alternate codes
- creating geographies within the hierarchy such as adding a postal code for a city.

1. As a setup user, click **Navigator** > **My Enterprise** > **Setup and Maintenance** work area.
2. Click the Tasks menu and click Search. Search for **Manage Geographies**.
3. On the Manage Geographies page, enter US in the **Code** field. Click **Search**.
4. Click **Hierarchy Defined** for United States.

> **Note:** If there are many child geographies for the selected parent geography, a message asking you to refine the search criteria is displayed. The child geographies are displayed after you refine the search criteria. If there are many search results, you may have to further refine the search criteria. The maximum number of child geographies that can be displayed is controlled by the ORA_HZ_GEO_HIERARCHY_LIMIT profile option. You can change the value of this profile option by navigating to the Setup and Maintenance work area, click the Tasks menu, and search for Manage Administrative Profile Values task. Search for the ORA_HZ_GEO_HIERARCHY_LIMIT profile option and change the value.

5. Search using State as the Geography Type and CA as the Code.
6. Select CA and click **Actions** > **Edit**.
7. (Optional) Select the row that you want to specify as the primary name under the **Primary and Alternative Names** section and click **Actions** > **Set Primary**.
8. (Optional) Select the row that you want to specify as the primary code under the **Primary and Alternative Codes** section and click **Actions** > **Set Primary**.
9. Click **Save and Close**.
10. Click **Save and Close**.
11. Click **Done**.

How do I edit alternative names and codes for an existing country?

You can add or edit alternative names and codes for an existing geography in the geography hierarchy.

For example, you can add a FIPS code of 06 for the state of California.

1. As a setup user, click **Navigator** > **My Enterprise** > **Setup and Maintenance** work area.
2. Click the Tasks menu and click Search. Search for **Manage Geographies**.
3. On the Manage Geographies page, enter US in the **Code** field. Click **Search**.
4. Click **Hierarchy Defined** for United States.

> **Note:** If there are many child geographies for the selected parent geography, a message asking you to refine the search criteria is displayed. The child geographies are displayed after you refine the search criteria. If there are many search results, you may have to further refine the search criteria. The maximum number of child geographies that can be displayed is controlled by the ORA_HZ_GEO_HIERARCHY_LIMIT profile option. You can change the value of this profile option by navigating to the Setup and Maintenance work area, click the Tasks menu, and search for Manage Administrative Profile Values task. Search for the ORA_HZ_GEO_HIERARCHY_LIMIT profile option and change the value.

5. Search using State as the Geography Type and CA as the Code.
6. Select CA and click **Actions** > **Edit**.
7. In the **Primary and Alternative Codes** section, click **Actions** > **Add**.
8. Type 06 under **Code** and select FIPS code as the **Code Type**.
9. Click **Save and Close**.
10. Click **Save and Close**.
11. Click **Done**.

What happens if I add or update the details of a country?

Any change in the country details is reflected in pages associated with geographies such as Manage Territories, addresses list of values in the Account and Contact UI, and so on. However, the list of countries in the Manage Geographies isn't updated.

How can I add a geography that's at a lower level to any geography in a geography hierarchy?

Select the geography that you want to create a geography at lower level, and then click the **Create** icon. This lets you create a geography for a geography type that's one level lower to the geography type you selected. The structure of the country's geography types are defined in the Manage Geography Structure page.

How can I verify whether the third-party geography structure and hierarchy I imported are available in the application?

You can track the progress of the geography structure and hierarchy import process by navigating to the Scheduled Processes page and viewing the status of the third-party geography data import process.

Once the process completes, the status changes to Succeeded. You can then verify the newly imported geography structure and hierarchy in the Setup and Maintenance work area by navigating to the following: offering: Customer Data Management; functional area: Enterprise Profile; task: Manage Geographies, where you first loaded the third-party geography data.

> **Note:** Before you load geography data for a country from a third party provider, ensure that no geography structure or hierarchy is saved for that country. If geography structure or hierarchy data is already available, the load process fails.

How can I enable geocoding?

You can enable geocoding for a country by turning the Geocoding option for that country in the Setup and Maintenance work area.

Navigate to the following:

- offering: Customer Data Management
- functional area: Enterprise Profile
- task: Manage Geographies

Search for the country for which you want to enable geocoding and click the **Geocoding Defined** icon. If geocoding is enabled for a country, the Geocoding Defined icon displays a check mark.

Once you have enabled geocoding for a country, you must run the Run Geocode Generation scheduled process on the Run Geocode Generation task. Before you run the job, however, ensure that you have specified the country code of the country for which you want to generate the geocodes.

Where can I view the geocode values of a location?

You can search for and view the geocode values of a party's location in the Party Center and the Customer Center pages.

Navigate to the Addresses section of the party's profile and click either **View, Columns, Latitude** and **View, Columns, Longitude**, or **View, Columns, Manage Columns, Latitude** and **Longitude**. This displays the latitude and longitude, or geocode values, associated with the location of the party.

> **Note:** Geocode information display is available only when geocoding is enabled for the country to which the address belongs.

Related Topics

- What attributes are referenced to populate latitude and longitude during geocoding?

What are Spatial Services?

Spatial services allow users to find points of interest such as customers, contacts, and so on using the latitude and longitude coordinates of an address.

The Oracle Fusion Mobile Sales application provides these services for sales representatives to discover accounts and contacts around their location.

Where can I update and view the geography name reference information for parties?

To view the geography name reference information associated with parties, you need to ensure that you have created an address for the party. You can create or update party addresses in the Organizations, Persons, and Groups work areas.

Once you have updated an address, you must either wait for the Run Geocode Generation scheduled process to run automatically as scheduled or start geocode generation manually from the Setup and Maintenance work area by navigating as follows:

- offering: Customer Data Management
- functional area: Enterprise Profile
- task: Run Geocode Generation

Once the Run Geocode Generation job has updated the geography information for the country associated with the party you updated, you can search for and view the geography name reference information associated with the party in the Organizations, Persons, and Groups work areas. Navigate to the person, organization, or group whose address you want to verify and click **Actions, View Geography Information**. This displays a dialog box that displays the updated geography information, complete with address values enhanced using geography name reference.

> **Note:** Geography name reference enriched geography information display is available only when geography validation is enabled for the country to which the address belongs.

How can I save an address that didn't pass geography validation?

Search and select for the country name in the Manage Geographies page, and then click the **Validation Defined** option. In the Manage Geography Validation page, select **No Validation** in the Geography Validation Level for Country drop-down list. This option saves addresses that don't pass the geography validation, including incomplete and invalid addresses.

Define Legal Jurisdictions and Authorities

Overview of Legal Jurisdiction and Authorities

You are required to register your legal entities with legal authorities in the jurisdictions where you conduct business. Register your legal entities as required by local business requirements or other relevant laws.

For example, register your legal entities for tax reporting to report sales taxes or value added taxes.

Define jurisdictions and related legal authorities to support multiple legal entity registrations, which are used by Oracle Fusion Tax and Oracle Fusion Payroll. When you create a legal entity, the Oracle Fusion Legal Entity Configurator automatically creates one legal reporting unit for that legal entity with a registration.

Jurisdictions

Jurisdiction is a physical territory such as a group of countries, country, state, county, or parish where a particular piece of legislation applies.

French Labor Law, Singapore Transactions Tax Law, and US Income Tax Laws are examples of particular legislation that apply to legal entities operating in different countries' jurisdictions. Judicial authority may be exercised within a jurisdiction.

Types of jurisdictions are:

- Identifying Jurisdiction
- Income Tax Jurisdiction
- Transaction Tax Jurisdiction

Identifying Jurisdiction

For each legal entity, select an identifying jurisdiction. An identifying jurisdiction is your first jurisdiction you must register with to be allowed to do business in a country. If there's more than one jurisdiction that a legal entity must register with to commence business, select one as the identifying jurisdiction. Typically the identifying jurisdiction is the one you use to uniquely identify your legal entity.

Income tax jurisdictions and transaction tax jurisdictions don't represent the same jurisdiction. Although in some countries, the two jurisdictions are defined at the same geopolitical level, such as a country, and share the same legal authority, they're two distinct jurisdictions.

Income Tax Jurisdiction

Create income tax jurisdictions to properly report and remit income taxes to the legal authority. Income tax jurisdictions by law impose taxes on your financial income generated by all your entities within their jurisdiction. Income tax is a key source of funding that the government uses to fund its activities and serve the public.

Transaction Tax Jurisdiction

Create transaction tax jurisdictions through Oracle Tax in a separate business flow, because of the specific needs and complexities of various taxes. Tax jurisdictions and their respective rates are provided by suppliers and require periodic maintenance. Use transaction tax jurisdiction for legal reporting of sales and value added taxes.

Legal Authorities

A legal authority is a government or legal body that's charged with powers to make laws, levy and collect fees and taxes, and remit financial appropriations for a given jurisdiction.

For example, the Internal Revenue Service is the authority for enforcing income tax laws in United States. In some countries, such as India and Brazil, you're required to print legal authority information on your tax reports. Legal authorities are defined in the Oracle Legal Entity Configurator. Tax authorities are a subset of legal authorities and are defined using the same setup flow.

Legal authorities aren't mandatory in Oracle Fusion Cloud Human Capital Management (HCM), but are recommended and are generally referenced on statutory reports.

Create Legal Jurisdictions, Addresses and Authorities

Define legal jurisdictions and related legal authorities to support multiple legal entity registrations, which are used by Oracle Fusion Tax and Oracle Fusion Payroll.

Legal Jurisdictions

Create a legal jurisdiction by following these steps:

1. In the Setup and Maintenance work area, go to the **Manage Legal Jurisdictions** task.
2. Select **Create**.
3. Enter a unique **Name**, United States Income Tax.
4. Select a **Territory**, United States.
5. Select a **Legislative Category**, Income tax.
6. Select **Identifying**, Yes. Identifying indicates the first jurisdiction a legal entity must register with to do business in a country.
7. Enter a **Start Date** if desired. You can also add an **End Date** to indicate a date that the jurisdiction may no longer be used.
8. Select a **Legal Entity Registration Code**, EIN or TIN.
9. Select a **Legal Reporting Unit Registration Code**, Legal Reporting Unit Registration Number.
10. Optionally enter one or more **Legal Functions**.
11. **Save and Close**.

Legal Addresses for Legal Entities and Reporting Units

Create a legal address for legal entities and reporting units by following these steps:

1. In the Setup and Maintenance work area, go to the **Manage Legal Address** task.
2. Select **Create**.
3. Select **Country**.
4. Enter **Address Line 1**, Oracle Parkway.
5. Optionally enter **Address Line 2**, and **Address Line 3**.
6. Enter or Select the postal code, 94065.
7. Select **Geography** 94065 and **Parent Geography** Redwood Shores, San Mateo, CA.
8. Optionally enter a **Time Zone**, US Pacific Time.
9. **OK**.
10. **Save and Close**.

Legal Authorities

Create a legal authority by following these steps:

1. In the Setup and Maintenance work area, go to the **Manage Legal Authorities** task.
2. Enter the **Name**, California Franchise Tax Board.
3. Enter the **Tax Authority Type**, Reporting.

   > **Note:** Create an address for the legal authority.

4. Select **Create**.
5. The **Site Number** is automatically assigned.
6. Optionally enter a **Mail Stop**.
7. Select **Country**, United States
8. Enter **Address Line 1**, 121 Spear Street, Suite 400.
9. Optionally enter **Address Line 2**, and **Address Line 3**.
10. Enter or Select the postal code, 94105.
11. Select **Geography** 94105 and **Parent Geography** San Francisco, San Francisco, CA.
12. **OK**.
13. Optionally enter a **Time Zone**, US Pacific Time.
14. Optionally click the **One-Time Address** check box.
15. The **From Date** displays today's date. Update if necessary.
16. Optionally enter a **To Date** to indicate the last day the address can be used.

    > **Note:** You can optionally enter **Address Purpose** details.

17. Select **Add Row**.
18. Select **Purpose**.
19. The **Purpose from Date** will default to today's date.
20. Optionally enter a **Purpose to Date**.
21. **OK**.
22. **Save and Close**.

Related Topics

- Legal Authorities
- Overview of Legal Jurisdiction and Authorities
- How do I update existing setup data?

Create Legal Entities, Registrations, and Reporting Units

Define a legal entity for each registered company or other entity recognized in law for which you want to record assets, liabilities, and income, pay transaction taxes, or perform intercompany trading.

Legal Entity

Create a legal entity by following these steps:

1. In the Setup and Maintenance work area, go to the **Manage Legal Entity** task.
2. Accept the default **Country**, United States.
3. Enter **Name**, InFusion USA West.
4. Enter **Legal Entity Identifier**, US0033.
5. Optionally enter **Start Date**. When the start date is blank the legal entity is effective from the creation date.
6. Optionally enter an **End Date**.
7. Optionally, if your legal entity should be registered to report payroll tax and social insurance, select the **Payroll statutory unit** check box.
8. Optionally, if your legal entity has employees, select the **Legal employer** check box.
9. Optionally, if this legal entity isn't a payroll statutory unit, select an existing payroll statutory unit to report payroll tax and social instance on behalf of this legal entity.
10. Enter the **Registration Information**
11. Accept the default **Identifying Jurisdiction**, United States Income Tax.
12. Search for and select a **Legal Address**, 500 Oracle Parkway, Redwood Shores, CA 94065.
    The legal address must have been entered previously using the **Manage Legal Address** task.
13. **OK**.
14. Optionally enter a **Place of Registration**.
15. Enter the **EIN or TIN**.
16. Enter the **Legal Reporting Unit Registration Number**.
17. **Save and Close**.
18. In the Setup and Maintenance work area, go to the **Manage Legal Entity** page and **Select** to set scope.
19. Select the **Manage Legal Entity**.
20. In the ***Legal Entity** list, select **Select and Add**.
21. Click **Apply and Go to Task**.
22. Select your legal entity.
23. **Save and Close**.
    This sets the scope for your task list to the selected legal entity.
24. Save and Close.

Legal Entity Registrations

A legal entity registration with the same name as that of the legal entity is created by default. To verify this, locate the **Manage Legal Entity Registrations** task and then select **Go to Task**. To create another registration for the legal entity follow these steps:

1. In the Setup and Maintenance work area, go to the **Manage Legal Entity Registrations** task. Verify that the **Legal Entity** scope value is set correctly.
2. **Go to Task**.
3. Select **Create**.

4. Enter **Jurisdiction**.
5. Enter **Registered Address**.
6. Enter **Registered Name**.
7. Optionally enter **Alternate Name**, **Registration Number**, **Place of Registration**, **Issuing Legal Authority**, and **Issuing Legal Authority Address**, **Start Date**, and **End Date**.
8. **Save and Close**.

Legal Reporting Unit

When a legal entity is created, a legal reporting unit with the same name as that of the entity is also automatically created. To create more legal reporting units or modify the settings follow these steps:

1. In the Setup and Maintenance work area, go to the **Manage Legal Reporting Unit** task. Verify that the **Legal Entity** scope value is set correctly.
2. **Go to Task**
3. Select **Create**.
4. Enter **Territory**, United States.
5. Enter **Name**.
6. Optionally enter a **Start Date**.
7. Enter **Registration Information**.
8. Search for and select **Jurisdiction**.
9. Enter **Main Legal Reporting Unit** information.
10. Select the value Yes or No for the **Main Legal Reporting Unit**. Set value to yes only if you're creating a new main (primary) legal reporting unit.
11. Enter the **Main Effective Start Date**, 1/1/11.
12. **Save and Close**.

Related Topics

- Overview
- Plan Legal Reporting Units
- Model Legal Entities
- How do I update existing setup data?

Define Legal Entities: Manage Legal Entity

Overview

A legal entity is a recognized party with rights and responsibilities given by legislation.

Legal entities have the following rights and responsibilities to:

- Own property
- Trade
- Repay debt
- Account for themselves to regulators, taxation authorities, and owners according to rules specified in the relevant legislation

Their rights and responsibilities may be enforced through the judicial system. Define a legal entity for each registered company or other entity recognized in law for which you want to record assets, liabilities, expenses and income, pay transaction taxes, or perform intercompany trading.

A legal entity has responsibility for elements of your enterprise for the following reasons:

- Facilitating local compliance
- Minimizing the enterprise's tax liability
- Preparing for acquisitions or disposals of parts of the enterprise
- Isolating one area of the business from risks in another area. For example, your enterprise develops property and also leases properties. You could operate the property development business as a separate legal entity to limit risk to your leasing business.

The Role of Your Legal Entities

In configuring your enterprise structure in Oracle Fusion Cloud Applications, the contracting party on any transaction is always the legal entity. Individual legal entities:

- Own the assets of the enterprise
- Record sales and pay taxes on those sales
- Make purchases and incur expenses
- Perform other transactions

Legal entities must comply with the regulations of jurisdictions, in which they register. Europe now allows for companies to register in one member country and do business in all member countries, and the US allows for companies to register in one state and do business in all states. To support local reporting requirements, legal reporting units are created and registered.

You are required to publish specific and periodic disclosures of your legal entities' operations based on different jurisdictions' requirements. Certain annual or more frequent accounting reports are referred to as statutory or external reporting. These reports must be filed with specified national and regulatory authorities. For example, in the United States (US), your publicly owned entities (corporations) are required to file quarterly and annual reports, as well as other periodic reports, with the Securities and Exchange Commission (SEC), which enforces statutory reporting requirements for public corporations.

Individual entities privately held or held by public companies don't have to file separately. In other countries, your individual entities do have to file in their own name, as well as at the public group level. Disclosure requirements are diverse. For example, your local entities may have to file locally to comply with local regulations in a local currency, as well as being included in your enterprise's reporting requirements in different currency.

A legal entity can represent all or part of your enterprise's management framework. For example, if you operate in a large country such as the United Kingdom or Germany, you might incorporate each division in the country as a separate legal entity. In a smaller country, for example Austria, you might use a single legal entity to host all of your business operations across divisions.

Model Legal Entities

Oracle Fusion Cloud Applications support the modeling of your legal entities. If you make purchases from or sell to other legal entities, define these other legal entities in your customer and supplier registers.

These registers are part of the Oracle Trading Community Architecture.

When your legal entities are trading with each other, represent them as legal entities and as customers and suppliers in your customer and supplier registers. Use legal entity relationships to determine which transactions are intercompany and require intercompany accounting. Your legal entities can be identified as legal employers and therefore, are available for use in Human Capital Management (HCM) applications.

Several decisions you should consider when you create legal entities.

- The importance of using legal entity on transactions
- Legal entity and its relationship to business units
- Legal entity and its relationship to divisions
- Legal entity and its relationship to ledgers
- Legal entity and its relationship to balancing segments
- Legal entity and its relationship to consolidation rules
- Legal entity and its relationship to intercompany transactions
- Legal entity and its relationship to worker assignments and legal employer
- Legal entity and payroll reporting
- Legal reporting units

The Importance of Using Legal Entities on Transactions

All of the assets of the enterprise are owned by individual legal entities. Oracle Fusion Cloud Financials allow your users to enter legal entities on transactions that represent a movement in value or obligation.

For example, a sales order creates an obligation on the legal entity that books the order and promises to deliver the goods on the acknowledged date. The creation also creates an obligation on the purchaser to receive and pay for those goods. Contract law in most countries contains statutes that state damages can be sought for both:

- Actual losses, putting the injured party in the same state as if they had not entered into the contract.
- What is called loss of bargain, or the profit that would have made on a transaction.

In another example, if you revalued your inventory in a warehouse to account for raw material price increases, the revaluation and revaluation reserves must be reflected in your legal entity's accounts. In Oracle Fusion Cloud Applications, your inventory within an inventory organization is managed by a single business unit and belongs to one legal entity.

Legal Entity and Its Relationship to Business Units

A business unit can process transactions on behalf of many legal entities. Frequently, a business unit is part of a single legal entity. In most cases, the legal entity is explicit on your transactions. For example, a payables invoice has an explicit legal entity field. Your accounts payables department can process supplier invoices on behalf of one or many business units.

In some cases, your legal entity is inferred from your business unit that's processing the transaction. For example, Business Unit ACM UK has a default legal entity of InFusion UK Ltd. When a purchase order is placed in ACM UK, the legal entity InFusion UK Ltd is legally obligated to the supplier. Oracle Procurement, Oracle Fusion Cloud Project Management, and Oracle Fusion Cloud Supply Chain and Manufacturing applications rely on deriving the legal entity information from the business unit.

Legal Entity and Its Relationship to Divisions

The division is an area of management responsibility that can correspond to a collection of legal entities. If wanted, you can aggregate the results for your divisions by legal entity or by combining parts of other legal entities. Define date-

effective hierarchies for your cost center or legal entity segment in your chart of accounts to facilitate the aggregation and reporting by division. Divisions and legal entities are independent concepts.

Legal Entity and Its Relationship to Ledgers

One of your major responsibilities is to file financial statements for your legal entities. Map legal entities to specific ledgers using the Oracle General Ledger Accounting Configuration Manager. Within a ledger, you can optionally map a legal entity to one or more balancing segment values.

Legal Entity and Its Relationship to Balancing Segments

General Ledger supports up to three balancing segments. Best practices recommend one segment represents your legal entity to ease your requirement to account for your operations to regulatory agencies, tax authorities, and investors. Accounting for your operations means you must produce a balanced trial balance sheet by legal entity. If you account for many legal entities in a single ledger, you must:

1. Identify the legal entities within the ledger.
2. Balance transactions that cross legal entity boundaries through intercompany transactions.
3. Decide which balancing segments correspond to each legal entity and assign them in General Ledger Accounting Configuration Manager. Once you assign one balancing segment value in a ledger, then all your balancing segment values must be assigned. This recommended best practice facilitates reporting on assets, liabilities, and income by legal entity.

Represent your legal entities by at least one balancing segment value. You may represent it by two or three balancing segment values if more granular reporting is required. For example, if your legal entity operates in multiple jurisdictions in Europe, you might define balancing segment values and map them to legal reporting units. You can represent a legal entity with more than one balancing segment value. Do not use a single balancing segment value to represent more than one legal entity.

In General Ledger, there are three balancing segments. You can use separate balancing segments to represent your divisions or strategic business units to enable management reporting at the balance sheet level for each. This solution is used to empower your business unit and divisional managers to track and assume responsibility for their asset utilization or return on investment. Using multiple balancing segments is also useful when you know at the time of implementation that you're disposing of a part of a legal entity and want to isolate the assets and liabilities for that entity.

Implementing multiple balancing segments requires every journal entry that isn't balanced by division or business unit, to generate balancing lines. You can't change to multiple balancing segments after you begin using the ledger because your historical data isn't balanced by the new balancing segments. Restating historical data must be done at that point.

If your enterprise regularly spins off businesses or holds managers accountable for utilization of assets, identify the business with a balancing segment value. If you account for each legal entity in a separate ledger, no requirement exists to identify the legal entity with a balancing segment value.

While transactions that cross balancing segments don't necessarily cross legal entity boundaries, all transactions that cross legal entity boundaries must cross balancing segments. If you make an acquisition or are preparing to dispose of a portion of your enterprise, you may want to account for that part of the enterprise in its own balancing segment even if the portion isn't a separate legal entity. If you don't map legal entities sharing the same ledger to balancing segments, you can't distinguish them using intercompany functionality or track individual equity.

Legal Entity and Its Relationship to Consolidation Rules

In Oracle Fusion Applications you can map legal entities to balancing segments and then define consolidation rules using your balancing segments. You are creating a relationship between the definition of your legal entities and their role in your consolidation.

Legal Entity and Its Relationship to Intercompany Transactions

Use Oracle Intercompany features to create intercompany entries automatically across your balancing segments. Intercompany processing updates legal ownership within the enterprise's groups of legal entities. Invoices or journals are created as needed. To limit the number of trading pairs for your enterprise, set up intercompany organizations and assign then to your authorized legal entities. Define processing options and intercompany accounts to use when creating intercompany transactions and to assist in consolidation elimination entries. These accounts are derived and automatically entered on your intercompany transactions based on legal entities assigned to your intercompany organizations.

Intracompany trading, in which legal ownership isn't changed but other organizational responsibilities are, is also supported. For example, you can track assets and liabilities that move between your departments within your legal entities by creating departmental level intercompany organizations.

> **Tip:** In the Oracle Fusion Supply Chain and Manufacturing applications, you can model intercompany relationships using business units, from which legal entities are derived.

Legal Entity and Its Relationship to Worker Assignments and Legal Employer

Legal entities that employ people are called legal employers in the Legal Entity Configurator. You must enter legal employers on worker assignments in Oracle Fusion Cloud HCM.

Legal Entity and Payroll Reporting

Your legal entities are required to pay payroll tax and social insurance such as social security on your payroll. In Oracle Fusion Applications, you can register payroll statutory units to pay and report on payroll tax and social insurance for your legal entities. As the legal employer, you might be required to pay payroll tax, not only at the national level, but also at the local level. You meet this obligation by establishing your legal entity as a place of work within the jurisdiction of a local authority. Set up legal reporting units to represent the part of your enterprise with a specific legal reporting obligation. You can also mark these legal reporting units as tax reporting units, if the legal entity must pay taxes as a result of establishing a place of business within the jurisdiction.

Define Legal Entities: Manage Legal Entity HCM Information

How Legal Employers Work with Payroll Statutory Units and Tax Reporting Units

You can designate legal entities as legal employers and payroll statutory units, which makes them available for use in Oracle Fusion Human Capital Management (HCM).

You can have only one legal entity that's also a payroll statutory unit and legal employer, or multiple legal entities, payroll statutory units and legal employers. Payroll statutory units and tax reporting units share a parent child relationship with the payroll statutory unit being a parent of a tax reporting unit

Legal Employers and Payroll Statutory Units

You can designate payroll statutory units to group legal employers to do statutory calculations at a higher level. For example, you can use payroll statutory units for court orders, or to calculate the United Kingdom (UK) statutory sick pay. A legal employer can exist independently of an enterprise or be a part of a payroll statutory unit. There can be many legal employers belonging to a payroll statutory unit, but a legal employer can belong only to one payroll statutory unit.

Legal Employers and Tax Reporting Units

Tax reporting units are indirectly associated with a legal employer through the payroll statutory unit. One or more tax reporting units can be used by a single legal employer, and a tax reporting unit can be used by one or more legal employers.

For example, if a single tax reporting unit is linked to a payroll statutory unit and two legal employers are associated with this payroll statutory unit, then both legal employers are associated with the tax reporting unit. Use the Manage Legal Reporting Unit HCM Information task to designate an existing legal reporting unit as a tax reporting unit. You need to select a parent payroll statutory unit when you create a legal reporting unit belonging to a legal employer (that isn't a payroll statutory unit as well). Next, you need to designate the legal reporting unit as a tax reporting unit and select the legal employer.

Related Topics

- Overview
- What's a legal employer?
- What's a payroll statutory unit?
- Examples of HCM Organization Models
- What's a tax reporting unit?

FAQs for Manage Legal Entity HCM Information

What's a legal employer?

A legal employer is a legal entity that employs workers. You define a legal entity as a legal employer in the Oracle Fusion Legal Entity Configurator.

The legal employer is captured at the work relationship level, and all assignments within that relationship are automatically with that legal employer. Legal employer information for worker assignments is also used for reporting purposes.

What's a payroll statutory unit?

Payroll statutory units are legal entities that are responsible for paying workers, including the payment of payroll tax and social insurance.

A payroll statutory unit can pay and report on payroll tax and social insurance on behalf of one or many legal entities, depending on the structure of your enterprise. For example, if you're a multinational, multiple company enterprise, then you register a payroll statutory unit in each country where you employ and pay people. You can optionally register a consolidated payroll statutory unit to pay and report on workers across multiple legal employers within the same country. You associate a legislative data group with a payroll statutory unit to provide the correct payroll information for workers.

Define Legal Entities: Manage Legal Entity Tax Profile

Party Tax Profiles

A tax profile is the body of information that relates to a party's transaction tax activities. A tax profile can include main and default information, tax registration, tax exemptions, party fiscal classifications, tax reporting codes, configuration options, and service subscriptions.

Set up tax profiles for the following parties involved in your transactions:

- First parties
- Third parties
- Tax authorities

First Parties

Set up tax profiles for your first-party legal entities, legal reporting units, and business units.

First-party legal entities identify your organization to the relevant legal authorities, for example, a national or international headquarters. Legal entities let you model your external relationships to legal authorities more accurately. The relationships between first-party legal entities and the relevant tax authorities normally control the setup of the transaction taxes required by your business. In most circumstances, the tax setup is used and maintained based on the configuration of the legal entity. Enter the default information, party fiscal classifications, tax reporting codes, and configuration options for your legal entities. You can also specify if you're using the tax services of an external service provider for tax calculation.

First-party legal reporting units identify each office, service center, warehouse, and any other location within the organization with a tax requirement. A legal reporting unit tax profile is automatically created for the headquarter legal entity. Set up additional legal reporting unit tax profiles for those needed for tax purposes. For legal reporting units, enter the default information, tax registrations, party fiscal classifications, and tax reporting codes. Also, define tax reporting details for your VAT and global tax reporting needs for tax registrations of tax regimes that allow this setup.

Business units organize your company data according to your internal accounting, financial monitoring, and reporting requirements. To help you manage the tax needs of your business units, you can use the business unit tax profile in either of two ways:

- Indicate that business unit tax setup is used and maintained based on the configuration of the associated legal entity at transaction time. The tax setup of the associated legal entity setup is either specific to the legal entity or shared across legal entities using the Global Configuration Owner setup.
- Indicate that tax setup is used and maintained by a specific business unit. Create configuration options for the business unit to indicate that the subscribed tax content is used for the transactions created for the business unit.

For business units that maintain their own setup, enter the default information, tax reporting codes, configuration options, and service providers as required.

Third Parties

Set up third-party tax profiles for parties with the usage of customer, supplier, and their sites. Enter the default information, tax registrations, party fiscal classifications, and reporting codes required for your third parties or third-party sites. You can set up tax exemptions for your customers and customer sites.

Banks are also considered third parties. When a bank is created, the tax registration number specified on the bank record is added to the party tax profile record in Oracle Fusion Tax. You can't modify the party tax profile for a bank as it's view only. You can only modify the bank record.

> **Note:** You don't need to set up party tax profiles for third parties. Taxes are still calculated on transactions for third parties that don't have tax profiles.

Tax Authorities

Set up a tax authority party tax profile using the Legal Authorities setup task. The tax authority party tax profile identifies a tax authority party as a collecting authority or a reporting authority or both. A collecting tax authority manages the administration of tax remittances. A reporting tax authority receives and processes all company transaction tax reports.

The collecting and reporting tax authorities appear in the corresponding list of values on all applicable Oracle Fusion Tax pages. All tax authorities are available in the list of values as an issuing tax authority.

Related Topics

- Considerations for Specifying First-Party Tax Profile Options
- When does a party tax profile get created for a legal entity?
- Considerations for Specifying Third-Party Tax Profile Options
- When does a party tax profile get created for a third party?

Considerations for Specifying First-Party Tax Profile Options

Set up first-party tax profiles for all legal entities, legal reporting units, and business units in your organization that have a transaction tax requirements. How you set up your first parties can impact the tax calculation on your transactions.

The first-party tax profile consists of:

- Defaults and controls: Applicable to legal entities and legal reporting units. Business units that use their own tax setup don't have defaults and controls.
- Tax registrations: Applicable to legal reporting units.
- Party fiscal classifications: Applicable to legal entities and legal reporting units.
- Tax reporting codes: Applicable to legal entities, legal reporting units, and business units who don't use the tax setup of the legal entity.
- Configuration options: Applicable to legal entities and business units who don't use the tax setup of the legal entity.
- Service subscriptions: Applicable to legal entities and business units who don't use the tax setup of the legal entity.

Defaults and Controls

The following table describes the defaults and controls available at the first-party tax profile level:

Option	Description
Set as self-assessment (reverse charge)	Automatically self-assess taxes on purchases.
Rounding Level	Perform rounding operations on the: • **Header**: Applies rounding to calculated tax amounts once for each tax rate per invoice. • **Line**: Applies rounding to the calculated tax amount on each invoice line.
Rounding Rule	The rule that defines how the rounding must be performed on a value involved in a taxable transaction. For example, up to the next highest value, down to the next lowest value, or nearest. **Note:** If you defined a rounding precedence hierarchy in the configuration owner tax option settings for the combination of configuration owner and event class, Oracle Fusion Tax considers the rounding details in the applicable tax profile.
Set Invoice Values as Tax Inclusive	This first party intends to send or receive invoices with invoice line amount inclusive of the tax amount. **Note:** This option overrides the tax inclusive handling setting at the tax level, but not at the tax rate level.

Tax Registrations

Set up a separate tax registration to represent each distinct registration requirement for a first-party legal reporting unit. Oracle Fusion Tax uses tax registrations in tax determination and tax reporting. If your first party has more than one tax registration in the same tax regime, then the application considers the tax registration in the order: tax jurisdiction; tax; tax regime.

You must enable the **Use tax reporting configuration** option on the first-party tax regime to allow entry of global tax reporting configuration details during tax registration setup for legal reporting units for these tax regimes.

Party Fiscal Classifications

If applicable, associate first-party fiscal classification codes with this party. The party fiscal classification codes you enter become part of tax determination for invoices associated with this party. Specify start and end dates to control when these fiscal classifications are applicable for this party and transaction.

For legal entities, you can view the associated legal classifications that were assigned to the tax regime defined for this first party. The legal classifications are used in the tax determination process, similar to the party fiscal classifications.

Tax Reporting Codes

Set up tax reporting types to capture additional tax information on transactions for your tax reports for your first parties. Depending on the tax reporting type code, you either enter or select a tax reporting code for this party. Specify start and end dates to control when these tax reporting codes are applicable.

Configuration Options

The legal entities and business units in your organization are each subject to specific sets of tax regulations as designated by the tax authorities where you do business. Use configuration options to associate legal entities and business units with their applicable tax regimes. You can set up tax configuration options when you create a tax regime or when you create a party tax profile. Both setup flows display and maintain the same party and tax regime definitions.

Service Subscriptions

You can use a service subscription to reference a specific transaction tax offering or offerings provided by an external tax partner. The transaction tax offering provided by an external tax partner can be related to content, calculation services, or both. Oracle Fusion Tax supports the use of transaction tax offerings provided by external tax partners for transaction tax calculation processing. Depending on the specific depth and scope of an individual tax partner's offerings, you can use either Oracle Fusion Tax or a Partner Tax Application to perform the transaction tax calculation.

Related Topics

- Tax Registrations
- Tax Configuration Options
- Considerations for Setting Tax Reporting Configuration Controls for VAT
- Party Information

FAQs for Manage Legal Entity Tax Profile

When does a party tax profile get created for a legal entity?

A legal entity party tax profile is autocreated when you create a legal entity record.

You can also use other methods to create a legal entity party tax profile. For example, it's created when a back-end process creates a legal entity, but only when you do these:

- Save a tax regime to which the legal tax entity subscribes.
- Save the configuration owner tax option that's defined for the legal entity.

You can also create one manually. Just use the Create Legal Entity Tax Profile page. You can also edit the autogenerated tax profile with relevant tax information.

Define Legal Entities: Define Legal Reporting Units

Plan Legal Reporting Units

Each of your legal entities has at least one legal reporting unit. Some legal reporting units can also be referred to as establishments. You can define either domestic or foreign establishments.

Define legal reporting units by physical location, such as sales offices. For example, set up legal reporting units to represent your company and its offices for tax reporting.

Planning Legal Reporting Units

Plan and define your legal reporting units at both the local and national levels if you operate within the administrative boundaries of a jurisdiction that's more granular than country. For example, your legal entity establishes operations in a country that requires reporting of employment and sales taxes locally as well as nationally. Therefore, you need more than one legally registered location to meet this legal entity's reporting requirements in each area. Additionally, legal entities in Europe operate across national boundaries, and require you to set up legal reporting units for the purposes of local registration in each country. There can be multiple registrations associated with a legal reporting unit. However, only one identifying registration can be defined by the legal authority used for the legal entity or legal reporting unit and associated with the legal reporting unit.

Define Business Units: Manage Business Units

Business Units

A business unit is a unit of an enterprise that performs one or many business functions that can be rolled up in a management hierarchy. A business unit can process transactions on behalf of many legal entities.

Normally, it has a manager, strategic objectives, a level of autonomy, and responsibility for its profit and loss. Roll business units up into divisions if you structure your chart of accounts with this type of hierarchy.

Though there's no direct relationship between business units and legal employers, it's recommended that you either maintain a 1:1 relationship between the two or have many business units within a legal employer. Typically, a business unit is used to roll up financial transactions within a legal entity. So, if you set up business units at a higher level than legal entities, your financial transactions may fail.

In Oracle Fusion Cloud Applications you do the following:

- Assign your business units to one primary ledger. For example, if a business unit is processing payables invoices, then it must post to a particular ledger. This assignment is required for your business units with business functions that produce financial transactions.
- Use a business unit as a securing mechanism for transactions. For example, if you run your export business separately from your domestic sales business, then secure the export business data to prevent access by the domestic sales employees. To accomplish this security, set up the export business and domestic sales business as two separate business units.

The Oracle Fusion Applications business unit model provides the following advantages:

- Enables flexible implementation
- Provides consistent entity that controls and reports on transactions
- Shares sets of reference data across applications

Business units process transactions using reference data sets that reflect your business rules and policies and can differ from country to country. With Oracle Fusion Application functionality, you can share reference data, such as payment terms and transaction types, across business units, or you can have each business unit manage its own set depending on the level at which you want to enforce common policies.

In summary, use business units for:

- Management reporting
- Transaction processing
- Transactional data security
- Reference data sharing and definition

Brief Overview of Business Unit Security

A number of Oracle Fusion Applications use business units to implement data security. You assign roles like Accounts Payable Manager to users to permit them to perform specific functions, and you assign business units for each role to users to give them access to data in those business units. For example, users who have been assigned a Payables role for a particular business unit, can perform the function of payables invoicing on the data in that business unit. Roles can be assigned to users manually using the Security Console, or automatically using provisioning rules. Business Units can be assigned to users using the Manage Data Access for Users task found in Setup and Maintenance.

Related Topics

- Reference Data Sets and Sharing Methods

Define Business Units: Assign Business Unit Business Function

Business Functions

A business unit can perform many business functions in Oracle Fusion Applications.

Business Functions

A business function represents a business process, or an activity that can be performed by people working within a business unit and describes how a business unit is used. The following business functions exist in Oracle Fusion applications:

- Billing and revenue management
- Collections management

- Customer contract management
- Customer payments
- Expense management
- Incentive compensation
- Materials management
- Payables invoicing
- Payables payments
- Procurement
- Procurement contract management
- Project accounting
- Receiving
- Requisitioning
- Sales

Although there is no relationship implemented in Oracle Fusion Applications, a business function logically indicates a presence of a department in the business unit with people performing tasks associated with these business functions. A business unit can have many departments performing various business functions. Optionally, you can define a hierarchy of divisions, business units, and departments as a tree over HCM organization units to represent your enterprise structure.

Note: This hierarchy definition isn't required in the setup of your applications, but is a recommended best practice.

Your enterprise procedures can require a manager of a business unit to have responsibility for their profit and loss statement. In such cases, any segment that allows the identification of associated revenue and costs can be used as a profit center identification. The segment can be qualified as the **Cost Center Segment**.

However, there are cases where a business unit is performing only general and administrative functions, in which case your manager's financial goals are limited to cost containment or recovering of service costs. For example, if a shared service center at the corporate office provides services for more commercially-oriented business units, it doesn't show a profit and therefore, only tracks its costs.

In other cases, where your managers have a responsibility for the assets of the business unit, a balance sheet can be produced. The recommended best practice to produce a balance sheet is to setup the business unit as a balancing segment in the chart of accounts. The business unit balancing segment can roll up to divisions or other entities to represent your enterprise structure.

When a business function produces financial transactions, a business unit must be assigned to a primary ledger, and a default legal entity. Each business unit can post transactions to a single primary ledger, but it can process transactions for many legal entities.

The following business functions generate financial transactions and will require a primary ledger and a default legal entity:

- Billing and revenue management
- Collections management
- Customer payments
- Expense management

- Materials management
- Payables invoicing
- Project accounting
- Receiving
- Requisitioning

Business Unit Hierarchy: Example

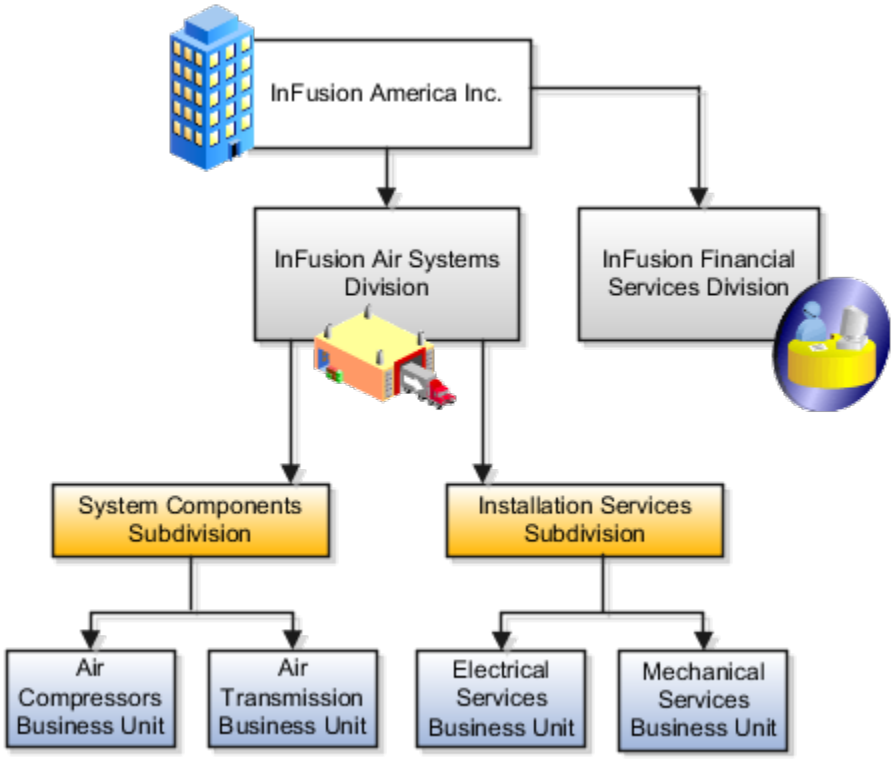
For example, your InFusion America Company provides:

- Air quality monitoring systems through your division InFusion Air Systems
- Customer financing through your division InFusion Financial Services

The InFusion Air Systems division further segments your business into the System Components and Installation Services subdivisions. Your subdivisions are divided by business units:

- System Components by products: Air Compressors and Air Transmission
- Installation Services by services: Electrical and Mechanical

The following figure shows an example of a business unit hierarchy.



Oracle Fusion applications facilitates independent balance sheet rollups for legal and management reporting by offering up to three balancing segments. Hierarchies created using a second or third balancing segment can provide the divisional results. For example, it's possible to define second or third balancing segment values to correspond to business units, and arrange them in a hierarchy where the higher nodes correspond to divisions and subdivisions, as in the InFusion US Division example.

Define Business Units: Manage Service Provider Relationships

Shared Service Centers

Oracle Fusion Cloud Applications enables defining relationships between business units to outline which business unit provides services to the other business units.

Service Provider Model

The service provider model centralizes the following business functions:

- Procurement
  - Services business units that enable the Requisitioning business function.
  - Processes requisitions and negotiates supplier terms for client business units.
- Payables Payment
  - Services business units that enable the Payables Invoicing business function.
  - Processes payments for client business units.
- Customer Payments
  - Services business units that enable the Billing and Revenue Management business function.
  - Processes payments for the transactions of client business units assigned the Billing and Revenue Management business function.

This functionality is used to frame service level agreements and drive security. The service provider relationships provides you with a clear record of how your business operations are centralized. For other centralized processing, business unit security is used (known in Oracle E-Business Suite as Multi-Org Access Control). This means that users who work in a shared service center have the ability to get access and process transactions for many business units.

Guidelines for Shared Service Centers

Oracle Fusion Cloud Applications supports shared service centers in two ways. First, with business unit security, which allows your shared service centers personnel to process transactions for other business units called clients.

Second, the service provider model expands on this capability to allow a business unit and its personnel in a shared service center to work on transactions of the client business units. It is possible to view the clients of a service provider business unit, and to view service providers of a client business unit.

Your shared service centers provide services to your client business units that can be part of other legal entities. In such cases, your cross charges and recoveries are in the form of receivables invoices, and not merely allocations within your general ledger, thereby providing internal controls and preventing inappropriate processing.

For example, in traditional local operations, an invoice of one business unit can't be paid by a payment from another business unit. In contrast, in your shared service center environment, processes allowing one business unit to perform services for others, such as paying an invoice, are allowed and completed with the appropriate intercompany accounting. Shared service centers provide your users with access to the data of different business units and can comply with different local requirements.

Security

The setup of business units provides you with a powerful security construct by creating relationships between the functions your users can perform and the data they can process. This security model is appropriate in a business environment where local business units are solely responsible for managing all aspects of the finance and administration functions.

In Oracle Fusion applications, the business functions your business unit performs are evident in the user interface for setting up business units. To accommodate shared services, use business unit security to expand the relationship between functions and data. A user can have access to many business units. This is the core of your shared service architecture.

For example, you take orders in many businesses. Your orders are segregated by business unit. However, all of these orders are managed from a shared service order desk in an outsourcing environment by your users who have access to multiple business units.

Benefits

In summary, large, medium, and small enterprises benefit from implementing share service centers. Examples of functional areas where shared service centers are generally implemented include procurement, disbursement, collections, order management, and human resources. The advantages of deploying these shared service centers are the following:

- Reduce and consolidate the number of control points and variations in processes, mitigating the risk of error.
- Increase corporate compliance to local and international requirements, providing more efficient reporting.
- Implement standard business practices, ensuring consistency across the entire enterprise and conformity to corporate objectives.
- Establish global processes and accessibility to data, improving managerial reporting and analysis.
- Provide quick and efficient incorporation of new business units, decreasing start-up costs.
- Establish the correct balance of centralized and decentralized functions, improving decision making.
- Automate self-service processes, reducing administrative costs.
- Permit business units to concentrate on their core competencies, improving overall corporate profits.

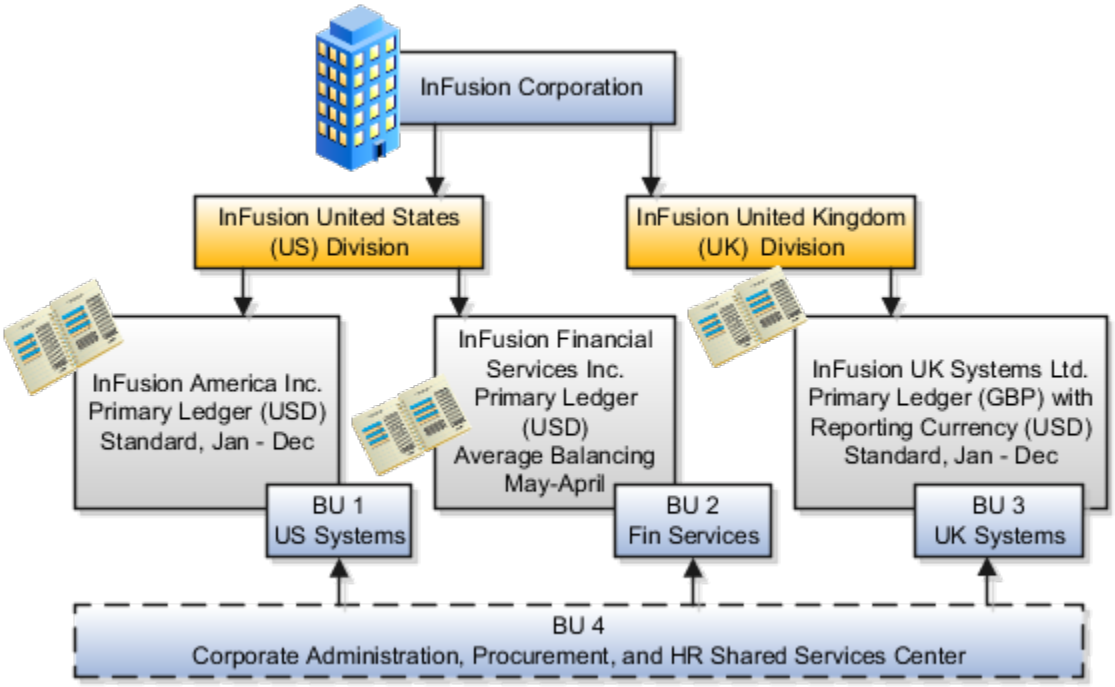
Service Provider Models

In Oracle Fusion Cloud Applications, the service provider model defines relationships between business units for a specific business function, identifying one business in the relationship as a service provider of the business function, and the other business unit as its client.

Procurement Example

The Oracle Fusion Cloud Procurement product family has taken advantage of the service provide model by defining outsourcing of the procurement business function. Define your business units with requisitioning and payables invoicing business functions as clients of your business unit with the procurement business function. Your business unit responsible for the procurement business function takes care of supplier negotiations, supplier site maintenance, and purchase order processing on behalf of your client business units. Subscribe your client business units to the supplier sites maintained by the service providers, using a new procurement feature for supplier site assignment.

In the InFusion example, business unit four (BU4) serves as a service provider to the other three business units (BU1, BU2, and BU3.) BU4 provides the corporate administration, procurement, and human resources (HR) business functions, thus providing cost savings and other benefits to the entire InFusion enterprise.



Define Business Units: Specify Contract Management Business Function Properties

Overview of Contracts Business Functions Setup

You can specify many business function settings for customer contracts in a specific business unit (BU).

For these tasks, you use the Specify Customer Contract Management Business Function Properties task, available by navigating to Setup and Maintenance work area and searching on the task name.

The selections you make for these business functions impact how Oracle Enterprise Contracts acts during contract authoring.

Here's what you can do:

- Enable related accounts
- Set currency conversion details

  > **Note:** You must select a default currency in the customer or supplier business function properties page, if it's not already populated automatically from the ledger assigned to the BU in the assign business function setup task.

- Manage project billing options
- Set up clause numbering
- Set up the Contract Terms Library

  The setup options available for the Contract Terms Library are applicable to both customer and supplier contracts, and are described in *Contract Terms Library Business Unit Setup*.

Enabling Related Customer Accounts

Contract authors can specify bill-to, ship-to, and other accounts for the parties in a contract. Enable the related customer accounts option if you want accounts previously specified as related to the contract party to be available for selection.

Managing Currency Conversion Options

If your organization plans to transact project-related business in multiple currencies, then select the multicurrency option. This allows a contract author to override a contract's currency, which is derived from the ledger currency of the BU. It also enables the contract author to specify currency conversion attributes to use when converting from the bill transaction currency to the contract currency and from the invoice currency to the ledger currency.

In the Bill Transaction Currency to Contract Currency region, enter currency conversion details that will normally be used, by all contracts owned by this BU, to convert transaction amounts in the bill transaction currency to the contract currency. Newly created contracts contain the default currency conversion values, but you can override the values on any contract, if needed.

In the Invoice Currency to Ledger Currency region:

- Enter invoice transaction conversion details if the invoice and ledger currencies can be different.
- Enter revenue transaction conversion details if the revenue and ledger currencies can be different for as-incurred and rate-based revenue.

Managing Project Billing Options

The options available for selection in the Project Billing region control the behavior of project invoicing and revenue recognition for contracts with project-based work. Project billing can act differently for external contracts (customer billing) or intercompany and interproject contracts (internal billing).

Set these options, which apply to all contracts:

- Select the **Transfer Revenue to General Ledger** option if you want to create revenue accounting events and entries, and transfer revenue journals to the general ledger. If this option isn't selected, then revenue can still be generated, but won't be transferred to the general ledger.
- Indicate if a reason is required for credit memos that are applied to invoices.

These options exist in two sets - one for customer billing and a second for internal billing:

- Select an invoice numbering method, either **Manual** or **Automatic**. The invoice numbering method is the method that Oracle Fusion Receivables uses to number its invoices, upon release of draft invoices from Project Billing.
    - If the invoice numbering method is **Manual**, then select an invoice number type, which sets the type of Receivables invoice numbers that are allowed. Valid values are **Alphanumeric** and **Numeric**.
    - If the invoice numbering method is **Automatic**, then enter the next invoice number to use when generating Receivables invoice numbers.
- Select the Receivables batch source to use when transferring invoices to Receivables.

Set this option only for customer billing:

- Indicate if you want contract authors to manually enter the Receivables transaction type on the customer contracts they create.

Managing Clause Numbering

You can choose to number clauses manually or automatically.

If you choose the automatic numbering method, you must select a determinant level for the numbering. You must then select the appropriate clause sequence category from document sequences that you set up for this numbering level.

Set Up Business Unit for Supplier Contracts

Us the Specify Supplier Contract Management Business Function Properties task to specify a variety of business function settings for supplier contracts in a specific business unit. You can access this task by selecting Setup and Maintenance from the Navigator and searching on the task name.

The selections you make for these business functions impact how the Contract Terms Library behaves during supplier contract authoring.

> **Note:** The customer must select a default currency in the customer or supplier business function properties page, if not automatically populated from the ledger assigned to the business unit in the assign business function setup task.

Manage Contract Terms Library Setup Options

The setup options available for the Contract Terms Library are applicable to both customer and supplier contracts, and are described in the business unit setup topic for the Contract Terms Library. That topic is available as a related link to this topic.

Set Up Supplier Ship-to Organization, Ship-to Location and Bill-to Location

To set up ship-to organization, create an Inventory Organization by using these steps:

1. Navigate to **Setup and Maintenance**.
2. Click **Search** in the Tasks side panel and search for the **Manage Inventory Organizations** task.
3. Click **Create** in the results table.

4. Enter **Name** and **Organization**, and select **Management Business Unit** and **Legal Entity** information from the drop-down list.
5. Click **Next**.
6. In the **General** tab, select **Schedule** and **Item Master Organization** information.
7. Click **Save and Close**.

To set up a ship-to and bill-to location, create an Inventory Organization Location:

1. Search for **Manage Inventory Organization Locations** in the Tasks side panel.
2. On the Search page, click **Manage Inventory Organization Locations** .
3. Click **Create** in the results table.
4. Enter mandatory fields and select **Inventory Organization** in the drop-down list.
5. Click **Submit**.

Related Topics

- Contract Terms Library Business Unit Setup

Contract Terms Library Business Unit Setup

You can specify a wide variety of Contract Terms Library settings for customer or supplier contracts within each business unit by using the Specify Customer Contract Management Business Function Properties or the Specify Supplier Contract Management Business Function Properties tasks.

These tasks are available in the Setup and Maintenance work area as part of the Enterprise Contracts offering in the Enterprise Contracts Base functional area.

For the Contract Terms Library in each business unit, you can:

- Enable clause and template adoption.
- Set the clause numbering method.
- Set the clause numbering level for automatic clause numbering of contracts.
- For a contract with no assigned ledger or legal entity, set the document sequence to Global or Business Unit level.
- Enable the Contract Expert enabling feature.
- Specify the layout for printed clauses and contract deviation reports.

Enable Clause Adoption

Do this to use clause adoption in your implementation:

1. Specify a global business unit

   Designate one of the business units in your organization as the global business unit by selecting the **Global Business Unit** option. This makes it possible for the other local business units to adopt and use approved content from that global business unit. If the **Global Business Unit** option isn't available for the business unit you're setting up, it means you've already designated a business unit as global.
2. Enable automatic adoption

   If you're implementing the adoption feature, you can have all the global clauses in the global business unit automatically approved and available for use in the local business by selecting the **Autoadopt Global Clauses**

option. If you don't select this option, the employee designated as the Contract Terms Library Administrator must approve all the global clauses, before they can be adopted and used in the local business unit. This option is available only for local business units.

3. Specify the administrator who approves clauses available for adoption

   You must designate an employee as the Contract Terms Library administrator if you're using adoption. If you don't enable automatic adoption, then the administrator must adopt individual clauses or localize them for use in the local business unit. The administrator can also copy over any contract terms templates created in the global business unit. The clauses and contract terms templates available for adoption are listed in the administrator's Terms Library work area.
4. Adopt global clauses for new business unit

   If you're creating a new local business unit and have to adopt existing global clauses, run the Adopt Global Clauses for a New Business Unit process. See *Manage Contracts Scheduled Processes* for more information.

Set Up Clause Numbering Options

You can set up automatic clause numbering for the clauses in the business unit by selecting Automatic in the Clause Numbering field and setting the clause numbering level. Then select the appropriate clause sequence category for the specified numbering level. You must have previously set up document sequences for the document sequence categories of global, ledger, and business unit. If clause numbering is manual, contract terms library administrators must enter unique clause numbers each time they create a clause.

You can choose to display the clause number in front of the clause title in contracts by selecting the **Display Clause Number in Clause Title** option.

Set Up Consistent Clause Numbering

When you skip numbering and suppress the title for a clause or section, the numbering format might look different when you download the contract. You get the difference in numbering format because your downloaded contract has the numbering format of Microsoft Word. To enable Microsoft Word numbering format for your contract in the Enterprise Contracts UI, you must set the **Consistent Microsoft Word Numbering for Contract Terms Enabled** profile option as **Yes**.

If this profile option is set as **No**, you might see inconsistent numbering when you download the contract as the Microsoft Word document.

Here are the steps to enable the profile option:

1. In the Setup and Maintenance work area, go to the **Manage Administrator Profile Values** task.
2. On the Manage Administrator Profile Values page, search for and select the **Consistent Microsoft Numbering for Contract Terms Enabled** profile option.
3. Set the profile option to **Yes**.
4. **Save and Close**.

Enable Contract Expert

Select the **Enable Contract Expert** option to use the Contract Expert feature in a business unit. This setting takes precedence over enabling Contract Expert for individual contract terms templates.

Specify Printed Clause and Deviations Report Layouts

For each business unit, you can specify the Oracle Analytics Publisher RTF file that serves as the layout for:

- The printed contract terms

Enter the RTF file you want used for formatting the printed clauses in the **Clause Layout Template** field.

- The contract deviations report

  The RTF file you select as the **Deviations Layout Template** determines the appearance of the contract deviations report PDF. This PDF is attached to the approval notification sent to contract approvers.

6 Workflow Approvals and Notifications

Configure Workflow Approvals and Notifications

With approval management in BPM Worklist, you configure workflow tasks that users act on for approvals, including the notifications involved. For example, specify levels of approval needed, control approval routing, and configure email notifications.

After all assignees approve a workflow task, whatever got approved takes effect. Some tasks are just FYI, and assignees don't need to do anything. Either way, here are some examples of what you can do to configure workflow tasks, including notifications:

- Set how many levels of approval are needed for transactions over a particular amount
- Define whom the assignees would be, based on the supervisory hierarchy in Oracle Fusion Cloud HCM
- Create approval groups so that the workflow task can be assigned to the set of users in the group instead of an individual user
- Control when to send notifications to users involved with the task
- Disable or enable in-app or email notifications, or both

Get Started

In the Offerings work area, enable the Approval Routing Administration feature at the offering level so that these setup tasks are available in the Application Extensions functional area:

- Manage Task Configurations
- Manage Approval Groups

These setup tasks take you to BPM Worklist, where you do most of the setup and configuration related to workflow. But, depending on your offering, you might use a different functional area or even another approval setup task. Some product families have pages or tools that you can use instead of, or in addition to, BPM Worklist, depending on what you want to configure.

Manage Workflow Tasks

After users create a task, for example by submitting something for approval, you can use the Transaction Manager: Transactions page in the Transaction Console work area to keep track of the workflow task. And also to jump in when you need to, especially if something goes wrong.

For workflow data, you can use the tables that start with `FND_BPM` in the Oracle Fusion Cloud Applications Tables and Views for Common Features guide, and the Manage Tasks API in the REST API for Common Features in Oracle Fusion Cloud Applications guide. Don't query other tables or use other APIs that aren't documented.

Related Topics

- Oracle Fusion Cloud Applications Tables and Views for Common Features
- REST API for Common Features in Oracle Fusion Cloud Applications
- Configure Offerings
- How do I update existing setup data?

Roles That Give Workflow Administrators Access

Workflow administrators for a specific product family need a predefined, family-specific workflow role to access tasks and manage submitted tasks for that family. To configure workflow tasks, they also need BPM Workflow System Admin Role (BPMWorkflowAdmin).

For example, administrators with the family-specific roles can do things like reassign submitted tasks, but they also need BPM Workflow System Admin Role to define approval rules. Other than the family-specific workflow roles, there's also BPM Workflow All Domains Administrator Role (BPMWorkflowAllDomainsAdmin). This gives administrators access to all product families. Assign to the administrators a role that contains the workflow roles appropriate for their needs.

Workflow Roles

Here are the roles that give access to workflow administration.

Product Family	Role Name	Role Code
All	BPM Workflow All Domains Administrator Role	BPMWorkflowAllDomainsAdmin
All	BPM Workflow System Admin Role	BPMWorkflowAdmin
Financials	BPM Workflow Financials Administrator	BPMWorkflowFINAdmin
Higher Education	BPM Workflow Higher Education Administrator	BPMWorkflowHEDAdmin
Human Capital Management	BPM Workflow Human Capital Management	BPMWorkflowHCMAdmin
Incentive Compensation	BPM Workflow Incentive Compensation Administrator	BPMWorkflowOICAdmin
Procurement	BPM Workflow Procurement Administrator	BPMWorkflowPRCAdmin
Project Management	BPM Workflow Project Administrator	BPMWorkflowPRJAdmin
Sales	BPM Workflow Customer Relationship Management Administrator	BPMWorkflowCRMAdmin

Product Family	Role Name	Role Code
Supply Chain Management	BPM Workflow Supply Chain Administrator	BPMWorkflowSCMAdmin

Things to Know About the Roles

Here are some things to know about how these workflow roles should be used and what the roles let administrators do.

- If your administrators manage workflow for multiple product families, you should give those users a custom role with the appropriate family-specific workflow roles added.
- If your administrators manage workflow for all product families, give them a custom role with BPM Workflow All Domains Administrator Role.

  > **CAUTION:** Assign BPM Workflow All Domains Administrator Role only if your administrators really do need access to workflow tasks from all product families. For access in multiple product families, but not all, use the workflow roles for the corresponding families instead.

- All administrators can see to-do tasks, no matter which role they have for workflow administration.
- Only administrators with either BPM Workflow All Domains Administrator Role or BPM Workflow System Admin Role would have Skip Current Assignment as an action to take on workflow tasks.

Related Topics

- Assign Roles to an Existing User
- Edit Job Role and Abstract Role
- Role Copying or Editing
- Actions and Statuses for Workflow Tasks
- Create Roles in the Security Console

Search for Workflow Tasks to Configure

Some workflow setup applies to all tasks, but most of the time you configure specific tasks. To work on a specific workflow task in BPM Worklist, you first run a search and then select the task from the search results.

1. In the Setup and Maintenance work area, go to the **Manage Task Configurations** task in the Application Extensions functional area. Or, depending on your offering, you might use a different functional area or another approval setup task.
2. In BPM Worklist, on the Task Configuration tab, run a search in the **Tasks to be configured** pane.
3. If you don't get any results, or the ones you want, change your search term and try again.

Here are some things to know about the search:

- This searches against various attributes, for example the task title (the one on the General subtab that appears on the Task Configuration tab after you select a task from the search results), application name, and category. But, the search doesn't match against the task name you see in the search results.
- The search is case-sensitive.

- Search by * if you want all tasks in the search results.
- Only default tasks are included in the search results. You can click **Show** and select the **Active Versions** check box to get both default and active tasks.

Related Topics

- How do I update existing setup data?

Assignments and Routing

How Workflow Task Routing Is Mapped Out

To determine how to route and assign a workflow task, the task configuration has at least one stage and participant. In BPM Worklist, the Assignees subtab in the Task Configuration tab has a diagram that maps out stages and participants.

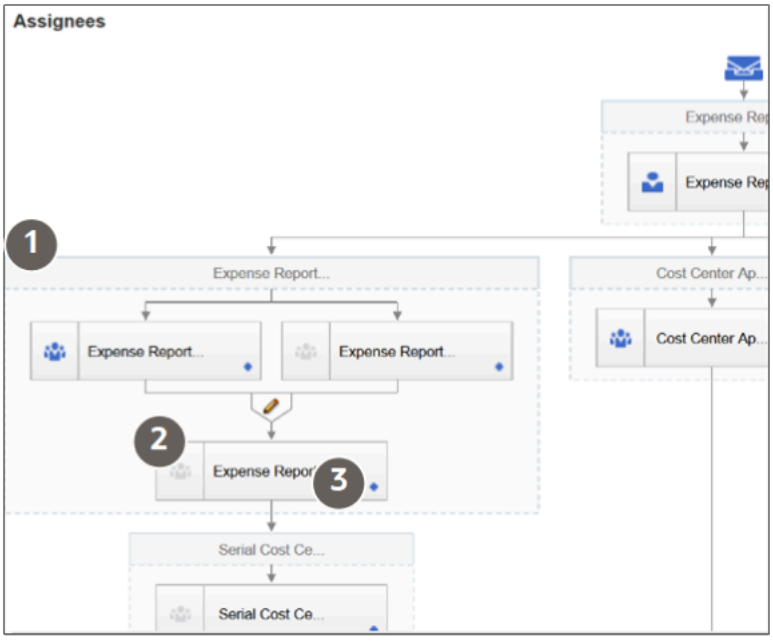
A participant represents a single user or group of users to assign the task to, and a stage is a way to organize those participants to map out the routing flow. You can have one or more stages in sequence or in parallel. And within each stage, you can have one or more participants in sequence or in parallel:

- Parallel: The task gets assigned and notifications are sent to all of the participants in the stage at once.
- Sequential: The task gets assigned and notifications are sent to one participant and then another, in a specific order. All assignees need to approve sequentially to get the task approved.

Each participant has at least one rule set defined, and each rule set has at least one rule. Rules contain the conditions that must be met for the task to be assigned to a participant, and rules also determine whom to assign the task to.

Example

Let's take a look at a diagram mapping out a workflow task. The flow and placement of the boxes show what's in parallel or in sequence.



Callout Number	What It Is	In This Example
1	Stage	The outermost boxes in the diagram are stages. We see four of the stages in this task, and two of them are in parallel at the second step of the sequence for the task.
2	Participant	Each box within a stage is a participant. Three of the stages have one participant, and one stage has three participants, two of which are in parallel at the beginning of the sequence for the stage.
3	**Go to rule** icon	Each participant has an icon that you can click to open the rule sets and rules for that participant.

Types of Participants

There are four types of participants for workflow tasks. In the diagram on the Assignees subtab, each participant has an icon that tells you what type it is. If an icon is grayed out, that means the participant is disabled.

Single

The assignee is a single user or an application role. (Even though LDAP group is also a possibility, it's recommended that they're not used.) For example, the task is assigned to a user's manager, and the manager's approval is all that's needed for the request to go through. With application role, the task is routed to all users with the role, and someone can claim the task to work on it.

Parallel

A set of assignees must work in parallel, usually by voting. For example, the task is assigned to people who must vote to decide whether to hire someone or not.

Serial

A set of assignees must work in sequence, and the set is usually dynamic. For example, the task is routed up a supervisory chain for approval.

FYI

This is like the Single participant type, except that the assignees just get a notification and don't need to act on the task. In some cases, they can add comments or attachments, but they can't affect the outcome of the task.

Disable Stages or Participants

If a stage or participant doesn't apply based on your business requirements, you can disable it.

1. In the Setup and Maintenance work area, go to the **Manage Task Configurations** task in the Application Extensions functional area. Or, depending on your offering, you might use a different functional area or another approval setup task.
2. In BPM Worklist, on the Task Configuration tab, search for the workflow task in the **Tasks to be configured** pane.
3. Select the task from the search results and click the **Edit task** icon in the toolbar.
4. Click the Assignees subtab.
5. If the diagram mapping out the workflow task is big, click the **Switch to Vertical Layout** link.
6. In the diagram, select the stage or participant you want to disable.
    - Stage: Click anywhere in the stage except inside the boxes representing participants.
    - Participant: Click in the box representing the participant.
7. In the pane after the diagram, click the Advanced subtab.
8. Select the **Ignore Stage** or **Ignore Participant** check box, depending on what you selected in the diagram.
9. In the **Tasks to be configured** toolbar, click the **Commit task** icon when you're ready to roll out your changes.

Related Topics

- Search for Workflow Tasks to Configure

Create Approval Groups

An approval group is a set of specific users that can act on workflow tasks. You can set up approval rules so that tasks can get routed to an approval group. An approval group can contain other approval groups.

- When a task is assigned to an approval group in a parallel participant, someone in the group can claim the task and act on it. When the task is claimed, no one else in the group can act on it. But if the person who claimed the task releases it, then someone else from the group can claim it.
- If it's a serial participant instead, the task is routed to each member of the approval group in sequence, so everyone must act on it.
- There are two types of groups in workflow. One is the approval groups we are talking about here that you can use in task configurations to define routing. The other is LDAP groups that are available for users to select when they delegate or reassign tasks, but it's not recommended for them to use LDAP groups.

There aren't any predefined approval groups, so it's up to you if you want to create any. Here's how you go about it:

1. In the Setup and Maintenance work area, go to the **Manage Approval Groups** task in the Application Extensions functional area.
2. In BPM Worklist, on the Approval Groups tab, click the **Create Approval Group** icon in the **Groups** toolbar.
3. On the Details page, enter the group name.
4. In the Members section, click the **Add Member** icon.
5. In the Add to Group dialog box, select **User** or **Approval Group**, depending on what you want to add to your group.
6. Find and select the specific user or group, and click **OK**.
7. Add more members, and edit or delete any if you need to.

   > **Note:** For approval groups that you plan to use in serial participants, add members in the order that you want tasks to get assigned. If you add User 1, User 2, and then User 3, the task is first assigned to User 1, then User 2, and finally User 3.

8. Click **Save**.

> **CAUTION:** Don't delete your approval group if it's used in at least one approval rule. You can still edit the group.

Configure Approval Rule Sets and Rules

Rule sets and rules control how a workflow task is routed, assigned, and completed, based on specific conditions. For example, a rule can say that transactions over a certain amount must have approvals up three levels in the management chain.

A workflow task has one or more rule sets, and a rule set has one or more rules. At run time, if a rule set has multiple rules, all the rules are evaluated at the same time. A rule has two parts, an If section that has the conditions, or tests, and a Then section that has the actions to take when the conditions are met.

Configure Rule Sets

First, create or find the rule set you want to work on:

1. In the Setup and Maintenance work area, go to the **Manage Task Configurations** task in the Application Extensions functional area. Or, depending on your offering, you might use a different functional area or another approval setup task.
2. In BPM Worklist, on the Task Configuration tab, search for the workflow task in the **Tasks to be configured** pane.
3. Select the task from the search results and click the **Edit task** icon in the toolbar.

   > **Note:** You may see a message saying that flexfields have been modified. This means someone used Application Composer to create new fields, which creates flexfields on the back end. Click the Start Synchronization button to get the latest set of flexfields that you can use for the rules in this task.

4. Click the Assignees subtab.
5. If the diagram mapping out the workflow task is big, click the **Switch to Vertical Layout** link.
6. In the diagram, find the participant you want to work on. Click the **Go to rule** icon and select **Go to rule**. Or, select the participant and, in the pane after the diagram, click the link in the **Business rule** field.
7. Go on to work on the rule set that's displayed on the Rules tab. Or, from the drop-down list with rule set names, select another rule set to edit, or select **Add New Rule Set**.

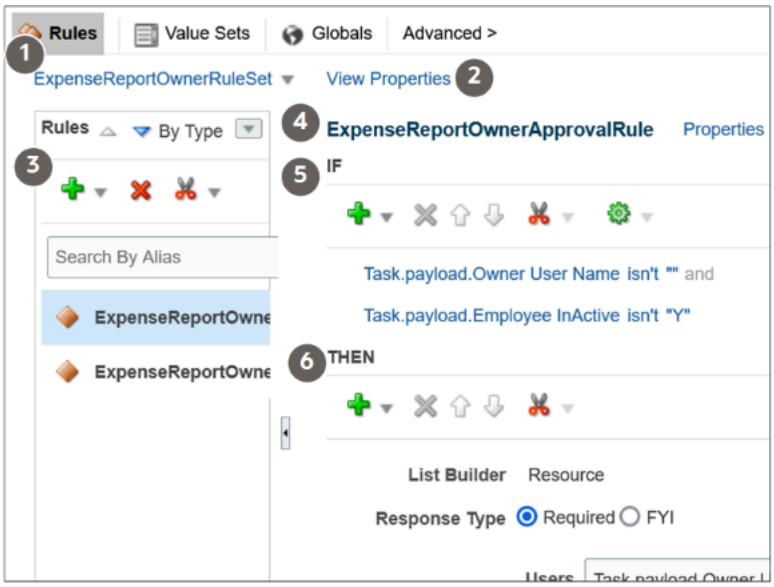
8. Click the **View Properties** link after the rule set name to see the **Effective Date** setting and **Active** check box. The rule set needs to be effective and active to apply when people create workflow tasks. It's a good idea to leave the effective date set to Always.

   > **CAUTION:** From here, you can also click the **Delete Rule Set** link. Before you delete any predefined rule sets, make sure you're really not using it and never will. Don't delete the predefined Modification Rules and Substitution Rules rule sets.

9. In the Rules pane, you can add, edit, or delete rules in the rule set. Expand the rule if it's not already. As with the rule set, you can click the **Show Advanced Settings** icon for a rule to make sure that the rule is effective and active.
   - Create: Click the **Advanced Add or Modify Options** icon and select **General Rule**.
   - Edit: Select the rule if it's not already.
   - Delete: Select the rule and click the **Delete** icon in the toolbar in the Rules pane.

   For the rule you're creating or editing, you can click the **Properties** link after the rule name to rename the rule and make sure that the rule is effective and active.

Here's a screenshot to help us understand what we see in the Rules subtab on the Assignees tab:



Callout Number	What It Is
1	The rule set drop-down list, where you can select a rule set to work on or create a new rule set.
2	The link to open properties for the rule set.
3	The Rules pane, which lists the rules within the rules set and has a toolbar for working on those rules, for example to add or delete them.
4	The names of the rule that's selected in the Rules pane, followed by a link to open properties for that rule.

Callout Number	What It Is
5	The If section of the rule, where the conditions are defined and there's a toolbar for working on those conditions.
6	The Then section of the rule, which defines what happens when the conditions are met. There's also a toolbar specific to this section.

Configure the If Section in Rules

In the If section of the rule, define conditions for the rule. Each line in this section is called a test.

1. For existing conditions, click on the line that you want to edit, making it active and selected. To add a new line, click the **Advanced Add or Modify Options** icon and select a type to add, for example **simple test**.
2. Click the **Left Value** icon to select an attribute in the Condition Browser dialog box.
3. Select an operator.
4. Click the **Right Value** icon to select something from the Condition Browser dialog box, or enter a value in the corresponding field.
5. If you're not working on the last line, you can click the **and** or **or** link at the end of the line to toggle between the two.

> **CAUTION:** If the attribute you're evaluating in the condition is optional, users might not have entered a value for that attribute in the UI. For your rule to work properly, it's highly recommended that you first have a line in the condition that checks if the attribute isn't blank. So that means you select the attribute, select **isn't** as the operator, and enter **null**. Then add another line with the condition that you're evaluating the attribute for, and make sure you have an and between the two lines.

To delete a line, put your cursor in any field in the line, and click the **Delete** icon.

Configure the Then Section in Rules

In the Then section of the rule, define what happens when the conditions in the If section are met.

1. Edit any existing actions. Or, click the **Insert Action** icon, and you usually select **Add Approver** and then a list builder, which controls how to route the task.
2. Fill in the rest of the section. The fields you get depends on the list builder, but here are some that you might use.

Field	What This Is
Response Type	Required: The assignee needs to take action, for example to approve or reject. FYI: The assignee doesn't need to take action.
Number of Levels	Number of levels required for the task to be completely approved, from the starting participant to the top participant.
Starting Participant	The first assignee in the approval chain.

Field	What This Is
Top Participant	The last assignee in the approval chain if the chain goes up that high. Approvals don't go beyond this participant, for example in the supervisory hierarchy.
Auto Action Enabled	If set to True, there's an automatic action that is taken on the task when the rule conditions are met.
Auto Action	"APPROVE": The task is automatically approved. "REJECT": The task is automatically rejected.
Rule Name	The name of the rule with the Then section that you want to use. o Leave the field with the name of the rule you're working on, to indicate that this rule will use the Then section defined here for this rule. o Or, you can enter the name of an existing rule from any task, enclosed with quotation marks, and leave all the other fields in this Then section blank. The Then section in the rule you entered would apply to this rule you're working on. So basically, you're reusing the Then section from another rule.

To select the starting or top participant:

a. Click the **Starting Participant** or **Top Participant** icon.
b. In the Add Hierarchy Participant dialog box, select the **Get User** option for a particular user, or **Get Manager** for an attribute, such as the task creator.
c. For the Get Manager option only, select the list builder that's used for the rule.
d. For the Get User option, enter in the **Reference User** field the user ID that the user signs in with, enclosed in quotation marks, for example "KLEE".

   For the Get Manager option, here's what you do for the **Reference User** field:

   i. Click the **Expression Builder** icon.
   i. In the Variables tab of the Expression Builder, select the attribute you want in the hierarchy. For example, expand Task > payload and find your attribute there.
   ii. Click the **Insert Into Expression** button.
   iii. Click **OK**.
e. Leave the **Effective Date** field blank to use the latest hierarchy, for example supervisory hierarchy.
f. Click **OK**.

What shows up in the **Starting Participant** or **Top Participant** field reflects what you have in the Add Hierarchy Participant dialog box. Here are a couple of examples.

- `HierarchyBuilder.getManager("supervisory",Task.payload.Owner User Name,-1,"","")`

Part of the Participant Value	What This Means
`getManager`	You selected the Get Manager option.

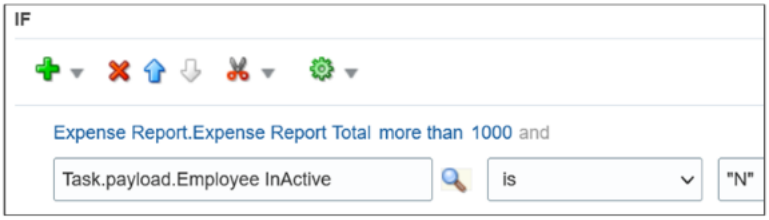
Part of the Participant Value	What This Means
`"supervisory"`	You selected the Supervisory list builder.
`Task.payload.Owner User Name`	For the **Reference User** field, you went to Task > payload > Owner User Name in the Variables tab to select the Owner User Name attribute.
`-1`	This is the default value, which corresponds to the primary employment assignment. That supervisory hierarchy will be used to find assignees for the task.
`"","`	You left the **Hierarchy Type** and **Effective Date** fields blank, so there's nothing between the quotation marks.

- `HierarchyBuilder.getPrincipal("KLEE","","")`

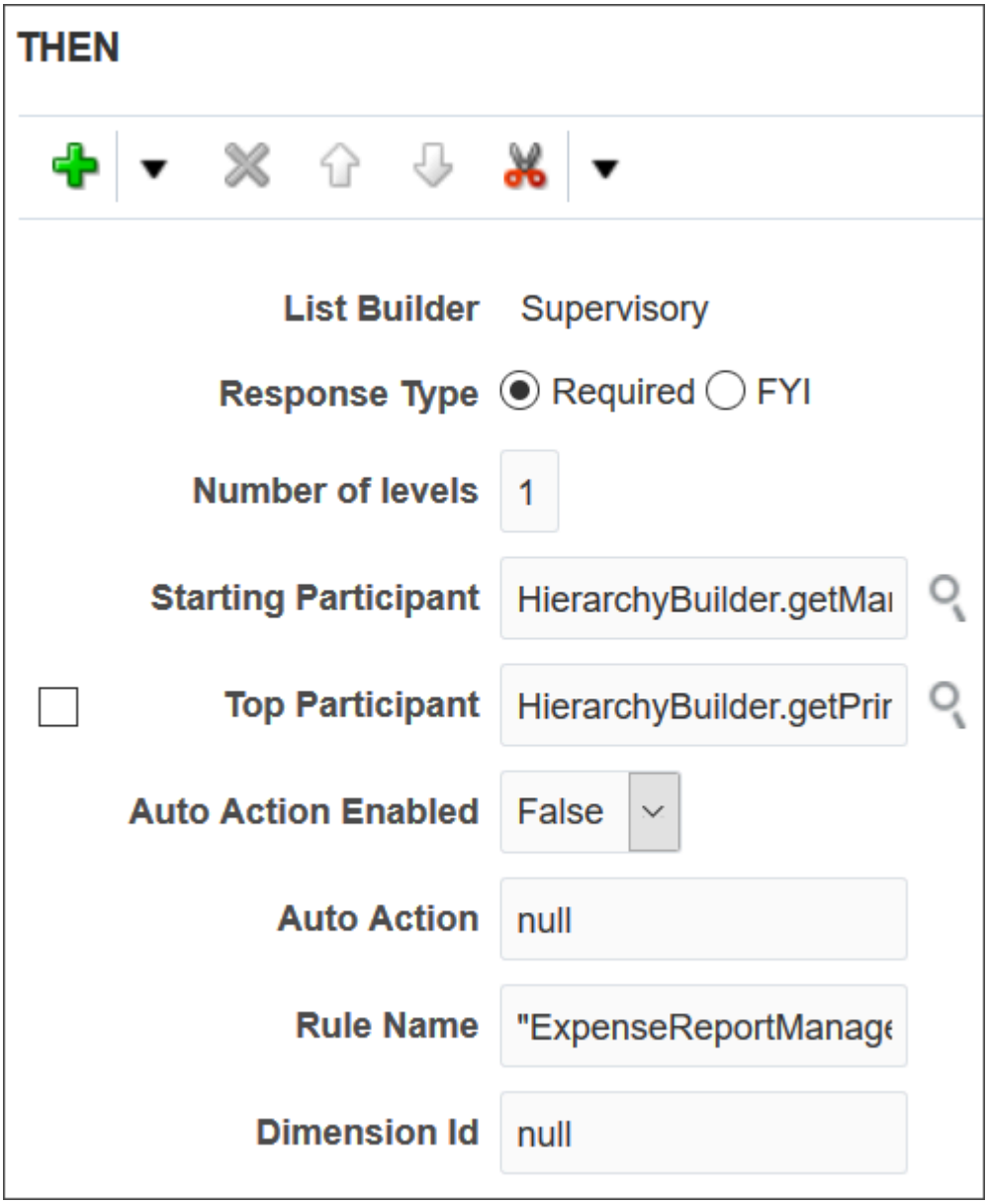
Part of the Participant Value	What This Means
`getPrincipal`	You selected the Get User option.
`"KLEE"`	For the **Reference User** field, you entered "KLEE".
`"","`	You left the **Hierarchy Type** and **Effective Date** fields blank, so there's nothing between the quotation marks.

Example of a Rule

Let's take a look at an example of a rule. In the If section, we have two tests, the first checking if an attribute is a specific value, the second checking if an attribute is more than a certain amount. The attribute names reflect where the attribute is in the hierarchy you get in the Condition Browser dialog box. The **and** connecting the two tests means that both conditions must be met.



In the Then section, there's the action that applies if the conditions are met, and it's defined based on a Supervisory list builder. Assignees must take action, and only one approval is needed.



Test and Apply Your Rule Set

1. Click the **Validate** button in the Assignees tab to see if there's anything wrong with the rules that needs to be fixed. Results appear in the Business Rule Validation – Log subtab after the Rules subtab.
2. In the **Tasks to be configured** toolbar, click the **Commit task** icon when you're ready to roll out your changes.

Related Topics

- Search for Workflow Tasks to Configure
- Overview of Flexfields
- Assignments

List Builders

A list builder is the method to use for routing a workflow task, for example, by going up the supervisory hierarchy or sending to an approval group.

When the conditions in a rule are met, the task is assigned based on the action in the Then section of the rule. To define an action, you select a list builder and then provide settings for that list builder to determine whom to assign the task to.

Here are the recommended list builders:

- Approval Group
- Job Level
- Position
- Resource
- Supervisory

Approval Group

An approval group is a specific set of users that can act on a task. Depending on the participant type, tasks are routed to an approval group in serial or parallel.

- Parallel: Someone in the approval group can claim the task and act on it. When the task is claimed, no one else in the group can act on it. But if the person who claimed the task releases it, then someone else from the group can claim it.
- Serial: The task is routed to each member of the approval group in sequence, so everyone must act on it.

After you select Approval Group as the list builder, you select the approval group to assign the task to when the rule's conditions are met. If you select True for the **Allow empty groups** list, there won't be any errors if the group you select doesn't have any members when the rule is evaluated. In most cases, the task is then rejected or routed back to the previous assignee, with the same status that the task was in when it was first routed to that assignee.

Job Level

This routing is based on the supervisor hierarchy in Oracle Fusion Cloud HCM. Employees must be set up in HCM with job levels and supervisors. The approval chain goes up the hierarchy and includes assignees based on what you define. For the number of levels, enter a positive number in the **At most** or **At least** fields, or both. And select a value from the **relative to** list.

- At least: Let's call the corresponding job level X1.
    - Users in the hierarchy are included in the list of assignees if their job level is less than X1. As soon as we get to a user whose job level is the same as or more than X1, the list of assignees includes that user but goes no further.

    - The at least condition takes precedence, so after it's met first, then the at most condition is applied from where the at least condition left off.
- At most: Let's call the corresponding job level X2.
    - We start with the last assignee from the at least condition. If their manager's job level is less than or the same as X2, then their manager is added to the assignees list and becomes the last assignee. The manager of this new last assignee is then evaluated the same way, and so on up the hierarchy.
    - When we reach a job level that's more than X2, the list of assignees ends, and that user isn't included.

The job levels that X1 and X2 represent depend on what you select from the **relative to** list. Here are examples of what X1 and X2 would be if you enter **3** in the **At most** and **At least** fields.

Relative To	What That Means	What X1 and X2 Would Be
Absolute	The first job level, job level 1	Job level 3
Creator	The user who did something to create a workflow task	Job level 5, if the user at job level 2 created the task
Starting Point	What you define in the **Starting Participant** field	Job level 6, if the starting participant corresponds to the user at job level 3

Also, there are a couple of optional settings you can use for the job level list builder:

- Utilized Participants: Include the entire assignee list or just a part of it.
    - All approvers: Everyone in the list.
    - Final approver only: Just the very last assignee in the list.
    - Manager and final approver: The first assignee in the list and the very last assignee.
- Include all managers at last level: Include all users with a job level that's the same as the last level needed for approval.

Let's take a look at some examples of what the assignee list would be from this reporting hierarchy:

- Clerk (job level 1)
- Manager (job level 2)
- Director (job level 3)
- Vice president (job level 5)
- Senior vice president (job level 6)
- Chief executive officer (job level 6)

For all the examples, the clerk at job level 1 created the task, and the rule has these settings:

- Relative to: Absolute
- Starting Participant: Manager at job level 2
- Top Participant: Job level 6

- Utilized Participants: All approvers

At Least (X1)	At Most (X2)	Include All Managers at Last Level	Assignees
3	3	No	The assignees are the manager (job level 2) and director (job level 3). • Starting participant: Manager at job level 2 is included no matter what. • At least condition: Director at job level 3, the last and only assignee for this condition because he has the first job level that's the same as or more than X1. • At most condition: No match because the director's manager, the vice president, has a job level (5) that's more than X2.
2	5	No	The assignees are the manager (job level 2), director (job level 3), and vice president (job level 5). • Starting participant: Manager at job level 2 is included no matter what. • At least condition: Director at job level 3, the last and only assignee for this condition because he has the first job level that's the same as or more than X1. • At most condition: Vice president at level 5, because she is the director's manager and has a job level that's the same as X2. But, her own manager isn't included because the senior vice president's job level (6) is more than X2.
4	6	No	The assignees are the manager (job level 2), director (job level 3), vice president (job level 5), and senior vice president (job level 6). • Starting participant: Manager at job level 2 is included no matter what. • At least condition: Director, whose job level (3) is less than X1, and the vice president, who is the last assignee for

At Least (X1)	At Most (X2)	Include All Managers at Last Level	Assignees
			this condition because her job level (5) is the first that's the same as or more than X1. • At most condition: Senior vice president at level 6, because he is the vice president's manager and has a job level that is the same as X2.
4	6	Yes	The assignees are the manager (job level 2), director (job level 3), vice president (job level 5), senior vice president (job level 6), and chief executive officer (job level 6). This example is the same as the previous one, except that the **Include all managers at last level** check box is selected. So in this case, the CEO is also an assignee because she has the same job level as the senior VP, who is the last assignee based on what's defined for the rule.
1	1	No	The only assignee is the manager (job level 2). • Starting participant: Manager at job level 2 is included no matter what. • At least condition: The manager is already the first assignee with a job level that's the same as or more than X1, so the condition is already met. • At most condition: No match because the manager's manager, the director, has a job level (3) that's more than X2.

Position

Create approval rules based on the position hierarchy in Oracle Human Capital Management Cloud. The approval process will ascend the position hierarchy, starting at the position level specified in the approval rule and continuing until a sufficient position is found, based on other conditions in the rule.

For the number of levels, enter a positive number in the **At most** or **At least** fields, or both. And select a value from the **relative to** list.

- Number of levels defines the number of levels the approval request should proceed to. It has two values, x1 (at least) and x2 (at most). It can be relative to Starting Point, Creator, or Absolute.
  - Starting Point: Here the values x1 or x2 are relative to the Starting Participant defined in the Rule. Again, x1 and x2 are relative to the position level of this user.
  - Creator: Here the values x1 or x2 are relative to the creator of the task.
  - Absolute: Here the values x1 or x2 (at least and at most) will be absolute values starting from the first position level.

- Starting Participant is the first participant in a list, usually a manager. This isn't affected by any other condition like at-least, at-most, or Top Participant. Substitution can happen after all the rules are executed.
- Top Participant is the last participant in the approval. If this participant is assigned in the approval flow and not skipped, then the request doesn't go beyond this participant.
- Utilized Participant: From the calculated list of participants, only participants specified in this option are used. Choose Everyone, First and Last manager, or Last manager.
- Auto Action Enabled: The list builder automatically acts on task based on the next option.
- Auto Action: Specifies the outcome to be set. This can be null if auto action is not enabled.

Let's take a look at an example of what the assignee list would be from this position hierarchy:

User with position level PL1 reports to PL2 and so on to level PL6. The task creator has PL1, and the Starting Participant is set as one higher than the creator, or PL2.

At least (relative to)	At most (relative to)	Utilized Participants	Approval Chain
3 (Absolute)	3 (Absolute)	All Approvers • Starting participant: PL2 • At least = PL3 • At most = PL5	PL2 > PL3 > > PL4 > PL5.
3 (Starting Participant)	3 (Starting Participant)	All Approvers • Starting participant: PL2 • At least = PL3 • At most = PL5	PL2 > PL3 > PL4 > PL5
3 (Starting Participant)	3 (Starting Participant)	Final Approver Only • Starting participant: PL2 • At least = PL3 • At most = PL5	PL5
3 (Starting Participant)	3 (Starting Participant)	Manager and Final Approver	PL2 > PL5

At least (relative to)	At most (relative to)	Utilized Participants	Approval Chain
		• Starting participant: PL2 • At least = PL3 • At most = PL5	
1 (Absolute)	1 (Absolute)	All Approvers • Starting participant: PL2 • At least = no match • At most = no match	PL2

Resource

You can assign the task to a specific user or application role. (Even though LDAP group is also a possibility, it's recommended that you don't use them.) Select the assignee in the **Users** or **Application Role** field, and leave the other fields for participants with **null**.

Supervisory

This routing is based on the supervisory hierarchy in Oracle Fusion Cloud HCM. Employees must be set up in HCM with jobs and supervisors. For example, the clerk reports to the manager, who reports to the director, who reports to the vice president. The list of assignees begins with the starting participant in the rule, then goes up the supervisory hierarchy. The list ends when it has gone through the specified number of levels or reached the top participant, whichever comes first.

Here's an example of an action in the Then section of the rule, based on the supervisory list builder.

Field	Example of a Value	What This Means
Number of Levels	3	Three approvals are needed
Starting Participant	`HierarchyBuilder.getPrincipal(Task.W Submitter,-1,"","")`	The user who created the task
Top Participant	`HierarchyBuilder.getPrincipal("KLEE"`	The person with the user ID KLEE, in this case, the vice president

So with the reporting structure from the clerk to the vice president, say the clerk submits a transaction that creates a workflow task. The starting participant is the clerk, so the task would go first to the clerk, the manager, and then the director. Because only three levels of approvals are needed, the task is completely approved without going up to the vice president, who would be the final assignee no matter how many levels are needed.

Define Rules to Automatically Approve or Reject Workflow Tasks

You can configure a rule so that the workflow task is automatically approved or rejected without having to send it to any approver. These are the main things to do for your rule in the Then section:

- Set up the routing so that the task gets assigned to the application (`workflowsystem`) or the submitter (`Task.Workflow Submitter`).
- Select **True** for the **Auto Action Enabled** list.
- Enter **"APPROVE"** or **"REJECT"** in the **Auto Action** field.

Here's an example of the Then section for a rule that's set up to automatically approve.

Field	Value
List Builder	Supervisory
Response Type	Required
Number of Levels	1

Starting Participant	`HierarchyBuilder.getPrincipal("workflowsystem",-1,"","")`
	or
	`HierarchyBuilder.getPrincipal(Task.creator,-1,"","")`

Auto Action Enabled	True
Auto Action	"APPROVE"
Rule Name	Example Approval
Dimension ID	null

For a rule that's set up to automatically reject, the only difference is that the **Auto Action** field has **"REJECT"** instead.

Create Rules in Advanced Mode

Configure rules in advanced mode to optimize how rules perform when they are applied. Usually you use advanced mode when the rule conditions involve business objects that have hierarchical attributes and collections.

A collection is a grouping of transactional data. For example, an expense report is a business object that has child attributes, such as expense items. Because each item can have a different cost center, the expense items are a collection

of data that the rule needs to evaluate across cost centers. So, the advanced rule can have a condition that looks at all expense items but matches only for specific cost centers.

Here's how you generally go about creating a new rule in advanced mode:

1. Click the **Properties** link after the rule name and select the **Advanced Mode** check box.
2. Click the **Insert Pattern** link in the If section to get a pattern with the is a operator. A pattern is a way to organize sets of lines, or tests, in the If section.
    - In the field before the operator, enter any term you want that represents the business object. This term is a variable that's used later in the rule.
    - After the operator, select the attribute for the business object, for example Expense Report.
3. Click the **Advanced Add or Modify Options** icon in the toolbar after the pattern, and select **simple test**.
4. Define a condition that the rule would match on for the business object. Select an attribute under the folder named after the variable you entered earlier.
5. Add more conditions if you need to.
6. In the toolbar for the business object pattern, click the **Add Pattern** icon.
    - In the field before the operator, enter **Lists_collection**.
    - After the operator, select **Lists**.

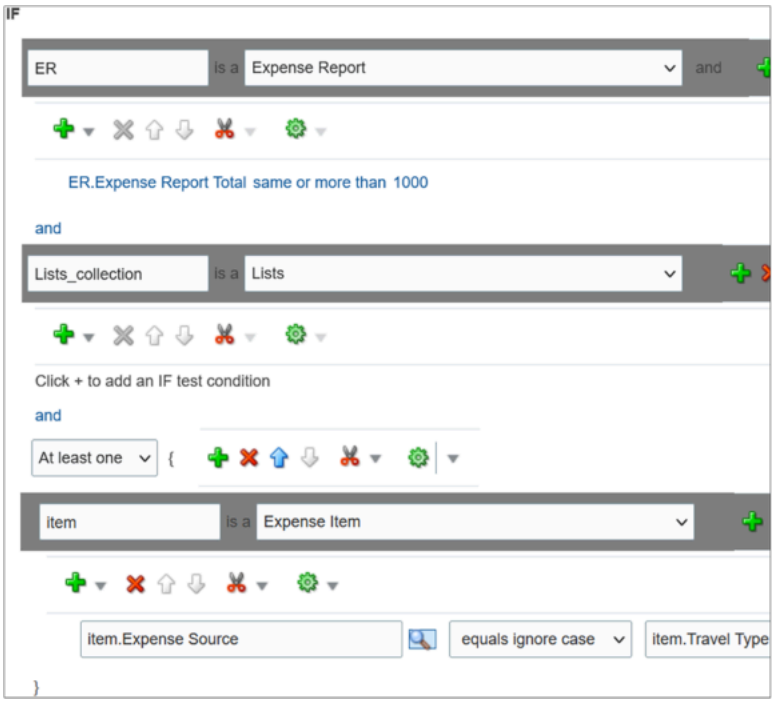
    This pattern is needed because the rule involves collections.
7. In the toolbar for the lists pattern, click the **Add Pattern** icon.
    - In the field before the operator, enter a variable.
    - After the operator, select the attribute that the collection is based on, for example Expense Item.

    This pattern defines what the collection contains.
8. In the toolbar for the collection pattern, click the **Surround selected tests with parenthesis** icon, and select **Surround**.

    The surround option puts the pattern you just added and other conditions you define later within parentheses, to group them all together. Conditions within parentheses are evaluated in their entirety, in this case, against the collection.
9. In the drop-down list before the collection pattern, select how you want the rule to match against the collection.
    - Each: There's a match every time something in the collection meets the conditions. Notifications are sent for each match.
    - At least one: As soon as the first match is found in the collection, a notification is sent and the rest of the collection isn't evaluated.
    - None: The entire collection is evaluated, and a notification is sent when nothing matches.
    - Aggregate: Use this option if you need operations like sum or average on attributes in the collection.
10. In the toolbar after the collection pattern, click the **Advanced Add or Modify Options** icon, and select **simple test**.
11. Define a condition that the rule would match on within the collection, selecting attributes under the folder named after the variable.
12. Add more conditions if you need to.
13. Configure the Then section as you would any rule.

Here's an example of the If section for a rule in advanced mode. The rule is looking for expense reports that total 1000 or more, where at least one of the expense items is categorized under Travel. **ER** and **item** are the two variables

that were entered, and the paths **ER.Expense Report Total** and **item.Expense Source** show that the attributes were selected from folders named after the variables.



Prevent Assigning Approvals to Specific Users

In rare cases, workflow tasks get routed to the person who created the task or someone who should not approve due to conflicts of interest. To prevent this, you can configure tasks to skip certain users in the approval chain.

Note: The skipped users can still get FYI notifications about the tasks, but not notifications they can act on.

1. In the Setup and Maintenance work area, go to the **Manage Task Configurations** task or another approval setup task in the Application Extensions functional area or another functional area.
2. In BPM Worklist, on the Task Configuration tab, search for the workflow task in the **Tasks to be configured** pane.
3. Select the task from the search results and click the **Edit task** icon in the toolbar.
4. Click the Configuration subtab.
5. In the Prohibit User Self-Approval section, select the **Prohibit self-approval by users named in these payload attributes** check box.

6. In the Payload Attributes subsection, add one or more attributes:
    a. Click the **Add** icon.
    b. Click the **Expression Builder** icon.
    c. In the Expression Builder, expand **Variables** > **Task** > **task:task**.
    d. Select an attribute that represents the users to skip, for example **task:creator** for the task creator. Or, open the **task:payload** node and select an attribute from there instead.

        > **Note:** Make sure you select an attribute that gives you user IDs at runtime, the IDs that users enter to sign in to the application.

    e. Click **Insert into Expression** and then **OK**.
7. Select the **Reassign approvals to those users' managers** check box if you want to reroute tasks to the manager of the skipped user. Otherwise, the task goes to the next assignee in the approval chain.
8. In the **Tasks to be configured** toolbar, click the **Commit task** icon when you're ready to roll out your changes.

You can also do this setup for specific participants in the task, if it's not an FYI task. In the Assignees subtab, select the participant, click **Advanced**, and find the same Prohibit User Self-Approval section.

- If you have settings at both the participant and task level, both would apply.
- If there's any conflict, for example with the setting of the **Reassign approvals to those users' managers** check box, the participant level setting takes precedence.

Related Topics

- Search for Workflow Tasks to Configure

When Tasks Are Automatically Released to Approval Groups

When a workflow task is assigned to an approval group, anyone in the group can claim it. But if they don’t act on the task after a certain amount of time, the task is automatically released to the group.

While a task is claimed, no one else in the approval group can act on it. But when the task is released, anyone in the group can claim and act on it. The time that a user has before the task is automatically released can depend on multiple factors. The factors that you can control are the task priority and expiration policy.

No Expiration Is Set

If the task has no expiration, it’s automatically released based only on the task’s priority.

Duration Based on Priority

Task Priority	Duration in Days
1	1
2	2
3	3
4	4
5	5

So, if a task has a priority of 3, the user who claimed the task has 3 days to act before it's automatically released.

Expiration Is Set

If the task is configured to expire, it's automatically released based on the task's priority and the expiration policy. The priority determines the expiration percentage, which is used in this formula to calculate how much time there is before the task is automatically released:

```
(Expiration Date - Calendar Date) * Expiration %
```

Percentage Based on Priority

Task Priority	Expiration Percentage
1	30
2	40
3	50
4	60
5	76

For example, a task has a priority of 3, and its expiration policy is set to 10 days. Whether the policy is set at the task or assignee level, it doesn't affect the calculation. Let's say someone claimed the task on May 5, and today is May 10. The expiration date is May 15 because the expiration is set to 10 days. The calculation based on the formula would then be:

```
(15 – 10) * .50 = 2.5
```

So, the user has two and a half more days from today to act on the task before it's automatically released.

Related Topics

- Define the Due Date and Expiration Policies for Workflow Tasks

Change the Workflow Task Priority

Workflow tasks can have a priority from 1 to 5, and they are most likely predefined with 3. You can change the priority to affect when the task is automatically released after someone claims but doesn't act on it.

Here's how you check what the priority is and change it:

1. In the Setup and Maintenance work area, go to the **Manage Task Configurations** task in the Application Extensions functional area. Or, depending on your offering, you might use a different functional area or another approval setup task.
2. In BPM Worklist, on the Task Configuration tab, search for the workflow task in the **Tasks to be configured** pane.
3. Select the task from the search results and click the **Edit task** icon in the toolbar.
4. On the General subtab, select a new value for the **Priority** list, with 1 as the highest and 5 as the lowest.
5. Click the **Commit task** icon in the **Tasks to be configured** toolbar when you're ready to roll out your changes,

Related Topics

- Search for Workflow Tasks to Configure

Limit Whom to Reassign or Delegate Workflow Tasks To

When users reassign or delegate workflow tasks, by default they can select any user. You can create and set a profile option so that users can select only someone with the same legal employer, or only from specific legal employers.

Note: Here's when the data restriction you set up applies or doesn't apply:

- Applies even when users are defining vacation rules that control what happens to tasks that are assigned to them while they're out of office.
- Applies only to users defined as employees in Oracle Fusion Cloud HCM.
- Doesn't apply to UIs where users request more information about a specific workflow task, or where you select users as part of workflow configuration, for example when creating an approval group.

Before You Start

Make sure your security administrator has already restricted the availability of employee data in general, by defining a security profile and assigning it to a custom job role.

Create the Profile Option

Here's what you do:

1. In the Setup and Maintenance work area, go to the **Manage Applications Core Profile Options** task in the Application Extensions functional area for your offering.
2. On the Manage Applications Core Profile Options page, click the **New** icon.
3. On the Create Profile Option page, enter **BPM_RESTRICT_WORKFLOW_USERS_BY_SECURITY_POLICY** as the profile option code.
4. Enter a display name that you can easily remember to help you find the profile option later.
5. From the **Application** list, select **Common Work Setup**.
6. From the **Module** list, select **Application Common**.
7. Specify a start date.
8. Click **Save and Close**.
9. On the Manage Applications Core Profile Options page, make sure your new profile option is selected in the Search Results: Profile Options subsection.
10. In the <Profile Option>: Profile Option Levels subsection, select the **Enabled** and **Updatable** check boxes for the Site level.
11. Save your work.

Set the Profile Option

In the Setup and Maintenance work area, go to the **Manage Applications Core Administrator Profile Values** task in the Application Extensions functional area. Set your profile option at the Site level with **true** as the profile value. This setting will take effect after about an hour.

Related Topics

- Set Profile Option Values
- Configure Employee List of Values

Define People to Support Workflow Tasks

Generally, workflow tasks involve the person who creates the task and the approvers who act on the task. But for any given task, you can also define others who might get involved:

- Task Owner: The task owner is an administrator for the business process that the workflow task is related to. Task owners can see the tasks for their business processes and act on behalf of anyone assigned to the task. They can also reassign, withdraw, or escalate tasks.
- Reviewers: Reviewers can add comments and attachments to a task without having the task directly assigned to them. They can do this only if you or someone else set them up as reviewers for the task.
- Error Assignees: Sometimes workflow tasks run into problems when trying to figure out the next assignee, for example when trying to carry out the escalation policy. You can define whom to automatically assign the task to so that the issue gets fixed. You can have different error assignees for different tasks. Error assignees can route or reassign the task to the appropriate people, or indicate that the issue can't be fixed (in which case, the task is set to the Error status).

Set Up Task Owner, Reviewers, or Error Assignees

This screenshot shows where you define supporting people on the Task Configuration tab in BPM Worklist.

1. In the Setup and Maintenance work area, go to the Manage Task Configurations task or another approval setup task in the Application Extensions functional area or another functional area.
2. In BPM Worklist, on the Task Configuration tab, search for the workflow task in the **Tasks to be configured** pane.
3. Select the task from the search results and click the **Edit task** icon in the toolbar.
4. Open the Assignees subtab.
5. Click one of the icons after the **Task Owner**, **Reviewers**, or **Error assignees** field.
    - First icon: Use the expression builder to define who gets assigned, and click **OK**.
    - Second icon: Find the person you want, and click **OK**.
6. Click the **Commit task** icon in the **Tasks to be configured** toolbar when you're ready to roll out your setup.

Related Topics

- Search for Workflow Tasks to Configure
- Define When to Send Workflow Notifications

Define the Due Date and Expiration Policies for Workflow Tasks

If you want workflow to finish within a general time frame, you can set a due date, expiration policies, or both.

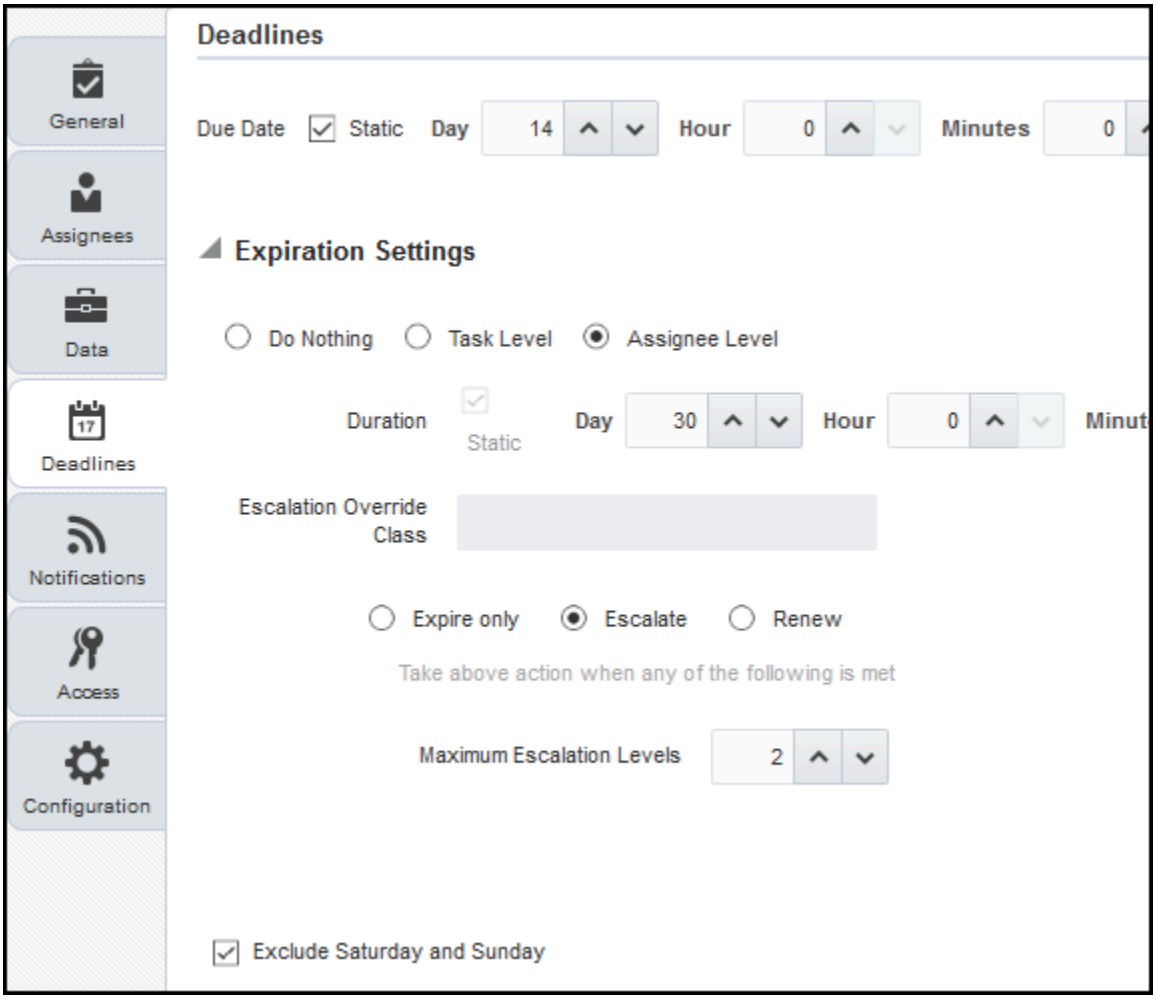
- Before the due date, the current assignee will be reminded to take action. Even after the due date passes, the task doesn't expire. The assignee, and any approvers after them, can still act on the task.
- But if you set expiration policies, the task can expire based on your settings. Expired tasks are in a final state and no one can make any more updates to them.

Overall Process

Here's how you set the due date, expiration policies, or both for a specific workflow task:

1. In the Setup and Maintenance work area, go to **Manage Task Configurations** or another approval setup task in Application Extensions or another functional area.
2. In BPM Worklist, on the Task Configuration tab, search for the workflow task in the **Tasks to be configured** pane.
3. Select the task from the search results and click the **Edit task** icon in the toolbar.
4. Open the Deadlines subtab and make your changes.
5. Click the **Commit task** icon in the **Tasks to be configured** toolbar when you're ready to roll out your changes.

Let's take a look at the Deadlines subtab and what you can set up there.



Specify a Due Date

On the Deadlines subtab, specify how much time you want to give to approvers. For example, if you enter 14 days for the **Due Date** fields, that means the task is due 14 days after it's created. All approvals should be done by then.

Indicate How Tasks Would Expire

If you want to set expiration policies, do this first:

1. On the Deadlines subtab, expand the Expiration Settings section.
2. Indicate how the task would expire:
    - **Task Level:** If all approvals aren't done within a certain time frame
    - **Assignee Level:** If the assignee doesn't act on the task within a certain time frame
3. Now let's move on with the rest of the setup, which depends on the level you selected.

There's no expiration policy if you leave it at Do Nothing. The task is automatically withdrawn if it's still open after the number of days (180) you see in the **Open Tasks Withdrawn After Number of Days** field. That field is on the Application Preferences page, which you can get to by opening the Administration tab in BPM Worklist.

Define Expiration Policies at the Assignee Level

If you selected Assignee Level, here's how you set expiration policies, including any escalations or renewals:

1. In the Expiration Settings section of the Deadlines subtab, enter a duration and optionally select the **Exclude Saturday and Sunday** check box. Let's say you enter 30 days and select the check box:
    - With sequential routing, the task expires if the last assignee doesn't act on the task within 30 weekdays after the task is routed to them. If the first assignee doesn't act within 30 weekdays, the task is passed to the next assignee, who gets another 30 weekdays. This goes on until the last assignee.
    - With parallel routing, the task expires if the current assignees don't act on the task within 30 weekdays after the task is assigned.
2. If you want to escalate or renew tasks after they expire, select the **Escalate** or **Renew** option. If not, leave the **Expire only** option selected.
3. To escalate, indicate how many times to go up the management chain. Suppose you enter **2** in the **Maximum Escalation Levels** field. Here's what happens when the task expires:
    - With sequential routing, the task goes to the manager (User 2) of the last assignee (User 1).
    - With parallel routing, the task goes to the managers (User 2) of all current assignees (User 1).

    When User 2 doesn't act within 30 weekdays, the task is escalated to the manager of User 2, who has another 30 weekdays before the task goes to a final Expired status.
4. To renew, indicate how many times the task can get renewed. For example, you enter **2** in the **Maximum Renewals** field. Here's what happens when the task expires:
    - With sequential routing, the last assignee gets another 30 weekdays.
    - With parallel routing, the current assignees get another 30 weekdays.

    If they still don't act within those 30 weekdays, they get another 30 weekdays before the task goes to a final Expired status.

Define Expiration Policies at the Task Level

If you selected Task Level, here's how you set expiration policies, including any escalations or renewals:

1. In the Expiration Settings section of the Deadlines subtab, enter a duration and optionally select the **Exclude Saturday and Sunday** check box. Let's say you enter 30 days and select the check box:
    - The task expires if all approvals aren't done 30 weekdays after the task is routed to the first assignee.
    - If there are three assignees and the first two take 25 weekdays to act, then the last assignee gets only five weekdays.
2. If you want to escalate or renew tasks after they expire, select the **Escalate** or **Renew** option. If not, leave the **Expire only** option selected.
3. To escalate, indicate how many times to go up the management chain. Suppose you enter **2** in the **Maximum Escalation Levels** field:
    - When the task expires, it's routed to the manager (User 2) of the current assignee (User 1).
    - When User 2 doesn't act within 30 weekdays, the task is escalated to the manager of User 2, who has another 30 weekdays before the task goes to a final Expired status.
4. To renew, indicate how many times the task can get renewed. For example, you enter **2** in the **Maximum Renewals** field:

- When the task expires, all pending assignees get another collective 30 weekdays to act.
- If they all don't act within that period, they get another 30 weekdays before the task goes to a final Expired status.

Related Topics

- Search for Workflow Tasks to Configure

Workflow Notifications

Disable or Enable Workflow Notifications

If you have BPM Workflow System Admin Role (BPMWorkflowAdmin), you can disable or enable email and in-app notifications for all users. For example, disable when testing changes to approval rules, to avoid sending test notifications. When done testing, reenable notifications.

When workflow tasks are assigned to users, they can get email notifications, as well as in-app notifications from a few places:

- The Things to Finish section on the home page.
- The notifications list in the global header.
- The Notifications page, which users can open from either of the first two places to see all their in-app notifications.

Here are things to know about disabling workflow notifications:

- You disable only email notifications that are sent as part of workflow tasks, not all emails in general.
- Users can still find their workflow tasks in the Worklist: Notifications and Approvals work area.

> **Note:** If the Approvals work area is enabled, it replaces the Worklist: Notifications and Approvals work area.

Set the Notification Mode

Here's how you disable or enable workflow notifications:

1. Click the **Notifications** icon in the global header.
2. Click **Show All**.
3. On the Notifications page, click the **Worklist** button.
4. In BPM Worklist, click your user name and select **Administration**.
5. On the Administration tab, open the Application Preferences page and go to the Notification section.
6. Select a value from the **Notification Mode** list:
    - All: This is the default value.
        - Email notifications are enabled.
        - Workflow notifications are included in the global header, home page, and Notifications page.
    - None:

        - Email notifications are disabled.
        - Workflow notifications aren't included in the global header, home page, and Notifications page.
    - Email:
        - Email notifications are enabled.
        - New workflow notifications won't appear in the global header, home page, and Notifications page.
    - In-app:
        - Email notifications are no longer sent.
        - Workflow notifications in the global header, home page, and Notifications page are enabled.
7. Click **Save**.

Related Topics

- More Setup for Workflow Email Notifications
- Send Test Workflow Email Notifications to One Address
- View and Act On Notifications

Define When to Send Workflow Notifications

When notifications are enabled, each workflow task sends notifications as part of the approval process. For any workflow task, you can change the setup to control when notifications are sent and whom they're sent to.

Note: This setup applies to email or in-app notifications, or both, depending on what's enabled.

Set Up Notification Scenarios

Here's how you define the scenarios for when to send notifications and whom to send to:

1. In the Setup and Maintenance work area, go to the **Manage Task Configurations** task in the Application Extensions functional area. Or, depending on your offering, you might use a different functional area or another approval setup task.
2. In BPM Worklist, on the Task Configuration tab, search for the workflow task in the **Tasks to be configured** pane.
3. Select the task from the search results and click the **Edit task** icon in the toolbar.
4. Click the Notifications subtab.
5. Click the **Add Notification** icon if you want more scenarios, or edit what's already there.
    a. In the **Task Status** column, select when to send the notification, for example when the task has expired. Other than the actions or statuses available to end users, you can also select any of these:
        - **Alerted:** Usually, when there's an error that can be fixed. The task is assigned to the error assignee, or someone else if the task doesn't have error assignees.
        - **Update:** Whenever the task is updated without affecting the approval status or routing. For example, when users add a comment or attachment.
        - **Update Outcome:** Whenever the outcome of the task is updated, for example approved or rejected.
        - **All other actions:** Any action that's not already in the list of values.

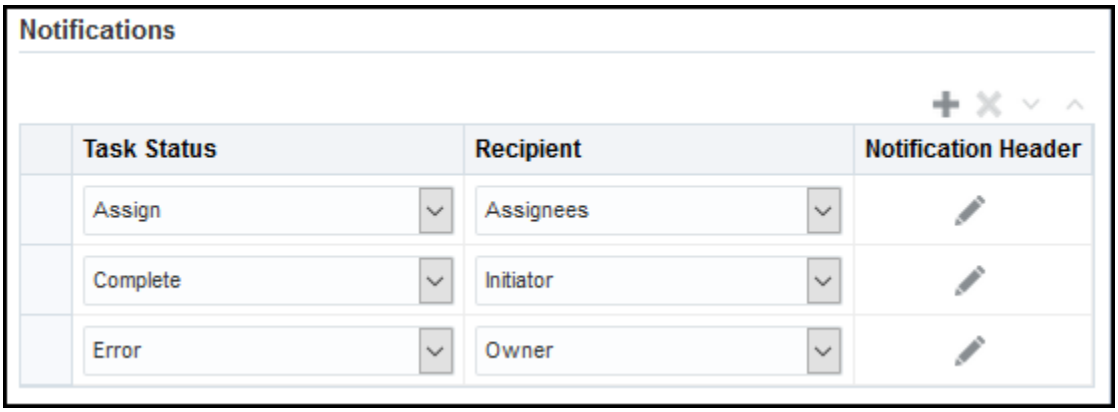
b. In the **Recipient** column, select whom to notify.
   - **Assignees:** The users or groups that the task is currently assigned to.
   - **Initiator:** The user who created the task.
   - **Approvers:** The users who already approved the task as part of a sequential approval chain.
   - **Owner:** The task owner, who's responsible for the business process that the task is related to.
   - **Reviewers:** The user who can only add comments and attachments to a task.
   - **Additional Assignees:** Additional users who the task is currently assigned to; this is used when you want to specify an email address instead of selecting an existing assignee. You can specify the user as an XPATH from the task payload using the expression builder, or enter an email address directly.

     For the Additional Assignees option, here's what you do for the **Recipient** field:

     a. Select **Additional Assignees**.
     b. Click the **Additional Assignees** icon.
     a. In the Variables tab of the Expression Builder, select the attribute you want in the hierarchy. For example, expand Task > payload and find the XPATH attribute there.
     b. Click the **Insert Into Expression** button.
     c. Click **OK**.

6. To remove any notification scenario, select a row and click the **Delete Notification** icon.
7. In the **Tasks to be configured** toolbar, click the **Commit task** icon when you're ready to roll out your changes.

This screenshot shows three scenarios on the Notifications subtab. In this example, notifications are sent to assignees whenever the task is assigned to them. The task initiator also gets a notification when the task is complete, and administrators are notified if the task ends up in error.

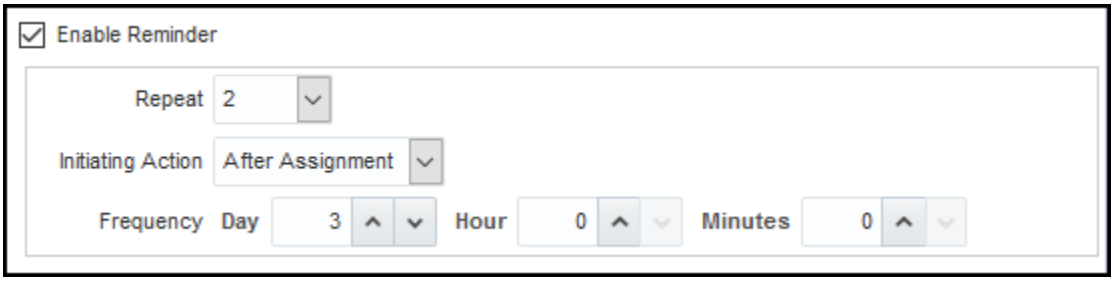


Set Up Reminders

Other than what's sent based on the notification scenarios, you can also set up the task to send reminders.

1. On the Notifications subtab, select the **Enable Reminder** check box.
2. From the **Repeat** list, select the number of reminders to send.
3. From the **Initiating Action** list, select an option for when to send a reminder to the assignee:
   - After Assignment: After the task is assigned to the assignee
   - Before Expiration: Before the task expires on the assignee
4. Define a frequency for when to send the first reminder and the time between reminders.
5. In the **Tasks to be configured** toolbar, click the **Commit task** icon when you're ready to roll out your changes.

Let's take a look at an example. Based on the setup we see in this screenshot, a reminder is sent three days after the user is assigned the task. Just one more reminder is sent three days after that, if the user still hasn't acted on the assigned task.



Note: By default, the word Reminder appears at the beginning of the title for reminder notifications. If you don't want that word there, set the Add Reminder Prefix to Notification Title (BPM_REMINDER_PREFIX) profile option to false. In the Setup and Maintenance work area, use the Manage Applications Core Administrator Profile Values task in the Application Extensions functional area. What you set for this profile option applies to all workflow tasks. This setting will take effect after about an hour.

Related Topics

- Search for Workflow Tasks to Configure
- Define People to Support Workflow Tasks
- Set Profile Option Values
- Actions and Statuses for Workflow Tasks

Aggregate Tasks to Minimize the Number of Notifications to Send

Depending on the approval rules, a task can be assigned to the same user more than once. You can aggregate the task so that a separate notification isn't sent to the assignee every time they're assigned the same task.

For example, the rules in a stage results in assigning a task to your manager. But then, a later stage in the same task also results in assigning the task to them. Here's how you can set things up so they would get only one notification in this scenario:

1. In the Setup and Maintenance work area, go to the **Manage Task Configurations** task in the Application Extensions functional area. Or, depending on your offering, you might use a different functional area or another approval setup task.
2. In BPM Worklist, on the Task Configuration tab, search for the workflow task in the **Tasks to be configured** pane.
3. Select the task from the search results and click the **Edit task** icon in the toolbar.
4. Click the Configuration subtab.

5. In the Miscellaneous section, select a value from the **Task Aggregation** list:
    - None: Send separate notifications every time the task is assigned to the same assignee.
    - Once per task: Send a single notification to the assignee no matter how many times they're assigned the same task.
    - Once per stage: Send a single notification to the assignee if they're assigned the same task more than once within a stage. If they're assigned the same task again because of another stage, they would get another notification for that stage.
6. In the **Tasks to be configured** toolbar, click the **Commit task** icon when you're ready to roll out your changes.

Note: When users select the Request Information action for an aggregated task, it doesn't matter what they select as the return option. When the requested information is submitted, the task is always assigned back to the requester.

Related Topics

- Search for Workflow Tasks to Configure
- Actions and Statuses for Workflow Tasks

Remove Prefix from Subject Lines and Titles in Workflow Notifications

By default, email and in-app workflow notifications have a prefix in the subject line or title, such as Action Required. Remove the prefix only if you have a specific requirement, for example to grab readers' attention about special offers.

For example, **Action Required: Early Payment Offer - Accelerate Payments for up to USD 1000** becomes **Early Payment Offer - Accelerate Payments** without the prefix. You can remove the prefix for any scenario in the Notifications subtab for a particular task. For example, you can exclude the prefix when the task status is Assigned and notifications are sent to the assignees. Your setup won't apply to FYI notifications, which will always show the prefix.

1. In the Setup and Maintenance work area, go to the **Manage Task Configurations** task in the Application Extensions functional area. Or, depending on your offering, you might use a different functional area or another approval setup task.
2. In BPM Worklist, on the Task Configuration tab, search for the workflow task in the **Tasks to be configured** pane.
3. Select the task from the search results and click the **Edit task** icon in the toolbar.
4. Click the Notifications subtab.
5. For any of the notification scenarios in the subtab, select the **Exclude Notification Prefix** check box.
6. In the **Tasks to be configured** toolbar, click the **Commit task** icon when you're ready to roll out your changes.

Related Topics

- Search for Workflow Tasks to Configure

Show Approve and Reject Options in Notifications

Users can approve or reject workflow tasks from email notifications or in-app notifications, for example the notifications list in the global header. Here's how you make sure that the Approve and Reject options appear in notifications for certain tasks.

1. In the Setup and Maintenance work area, go to the **Manage Task Configurations** task in the Application Extensions functional area. Or, depending on your offering, you might use a different functional area or another approval setup task.
2. In BPM Worklist, on the Task Configuration tab, search for the workflow task in the **Tasks to be configured** pane.
3. Select the task from the search results and click the **Edit task** icon in the toolbar.
4. Click the Access subtab.
5. In the Actions section, select **No Signature Required** for the Signature Policy list, if it's not set that way already.
6. Click the Configuration subtab.
7. In the Approval Pre-conditions section, select **Optional** for the Approve and Reject lists.
8. Make sure that the **Perform update outcome only from task form** check box isn't selected.
9. Click the **Commit task** icon in the **Tasks to be configured** toolbar when you're ready to roll out your changes.

Related Topics

- Search for Workflow Tasks to Configure

How do I sync in-app notifications for all users in Fusion Applications?

Run the **Synchronize Notifications in Global Header**#scheduled process on a regular basis. The process removes notifications from the global header older than 30 days, as well as all notifications acted on elsewhere, for example, by email or by other approvers.

You need the Manage Scheduled Job Definition (FND_MANAGE_SCHEDULED_JOB_DEFINITION_PRIV) privilege to run this process.

1. In Scheduled Processes, click **Schedule New Process**.
2. Leave the type as#Job.
3. Search for and select **Synchronize Notifications in Global Header**.
4. Use the Advanced option and schedule the process. It’s recommended to run every two hours. You can run more often depending on the volume of approvals, but never more often than every 30 minutes.
5. Submit the process.

The process might take hours to finish if it's running for the first time or if it hasn't been executed for an extended period of time.

Email Notifications

Add Header Content to Workflow Email Notifications

Each workflow task is configured with scenarios for sending email notifications as part of the approval process. For each scenario in the Notifications subtab, the Notification Header column determines what's in the email header, which appears before the email body.

- By default, all predefined notification scenarios have emails with blank headers.
- Any notification scenarios you add in the Notifications subtab would have the following header value: `concat(string('Task '), /task:task/task:title, string(' requires your attention.'))`. It is recommended to change that value to `null`.

For some workflow tasks, you can enable configurable email notifications based on report layouts to be used instead of the standard email notifications. The Notification Header setting doesn't apply to those configurable email notifications.

Adding Company Name or Logo

If you do want to add, for example, your company name or logo to the email header:

1. In the Setup and Maintenance work area, go to the Manage Task Configurations task or another approval setup task in the Application Extensions functional area or another functional area.
2. In BPM Worklist, on the Task Configuration tab, search for the workflow task in the **Tasks to be configured** pane.
3. Select the task from the search results and click the **Edit task** icon in the toolbar.
4. Open the Notifications subtab.
5. For the specific notification scenario on the Notifications subtab, click the icon in the **Notification Header** column.
6. In the Edit Notification Message dialog box, delete any existing content and enter the following in the **Notification Message** field.
    - **For company name:** Enter text in single quotes, for example `'Oracle'`. You can also use HTML formatting, for example `'<h2>Oracle</h2>'`.
    - **For company logo:** Enter the URL to your logo, following this syntax: `'<img src="https://cloud.oracle.com/res/images/header/oracle-cloud-logo.png" width="230" height="69" alt="Oracle Logo">'`. Replace the URL and alternative text with your own.
7. Click the **Save** icon in the **Tasks to be configured** toolbar.

Related Topics

- Search for Workflow Tasks to Configure
- Define When to Send Workflow Notifications
- Add a Branding Logo and Change Other Shared Components in Workflow Notifications

Set Up the From Field in Workflow Email Notifications

By default, the From field in workflow email notifications shows `<your pod>.fa.sender@workflow.mail.<your data center>.cloud.oracle.com`. You can change the email address, add a sender name, or do both.

For example, you indicate that Your Company is the sender name to display, and the from address should be `your.company@oracle.com`. The From field in emails would show: `Your Company <your.company@oracle.com>`. Your setting for the from address also applies to the reply-to address.

> **Note:** Make sure that the sender name and email address make sense together in the From field. For example, if you set up the From field to show the task submitter's email address, you should set up the sender name to be the task submitter's name.

Your users might get other types of email notifications, for example for things not related to workflow. Your setup here doesn't affect those emails, and you might not be able to specify the sender name for those emails.

Change the From and Reply-To Address

Before you define the address for the From and Reply-To fields, set a profile option to make that change possible. If you're not using the default email address, you must do additional setup steps.

Here's how you change the from and reply-to address for a specific workflow task:

1. If you plan to use any address other than the default, you need to do these steps to avoid email delivery issues:
    - Make sure that Sender Policy Framework (SPF) is set up.
    - Verify that whichever email address you want to use is valid.
2. In the Setup and Maintenance work area, go to the **Manage Applications Core Administrator Profile Values** task in the Application Extensions functional area.
3. Set the From and Reply To Email Address Configuration Enabled (ORA_FND_BPM_FROM_EMAIL_ADDRESS_ENABLED) profile option to **Yes** at the Site level. This setting will take effect after about an hour.
4. In the Setup and Maintenance work area, go to the **Manage Task Configurations** task in the Application Extensions functional area. Or, depending on your offering, you might use a different functional area or another approval setup task.
5. In BPM Worklist, on the Task Configuration tab, search for the workflow task in the **Tasks to be configured** pane.
6. Select the task from the search results and click the **Edit task** icon in the toolbar.
7. Open the Notifications subtab.
8. On the Notifications subtab, click the **Expand More** icon.
9. Select one of the **Email: From and Reply To address** options.
    - Select **Default email address** to use the default from and reply-to address. The address that you see for this option is the default from address. The default reply-to address is separate and could be a different predefined value.
    - Select **Submitter** to show the task submitter's email address. If that address can't be determined for a specific notification, the default email address is used.
    - Select the last option to show a specific email address. Enter the address in quotes, for example **"your.company@oracle.com"**.
10. Click the **Save** icon in the **Tasks to be configured** toolbar.

> **Tip:** If you later want to revert to the default email address for all workflow tasks, just set the profile option back to **No** at the Site level.

Related Topics

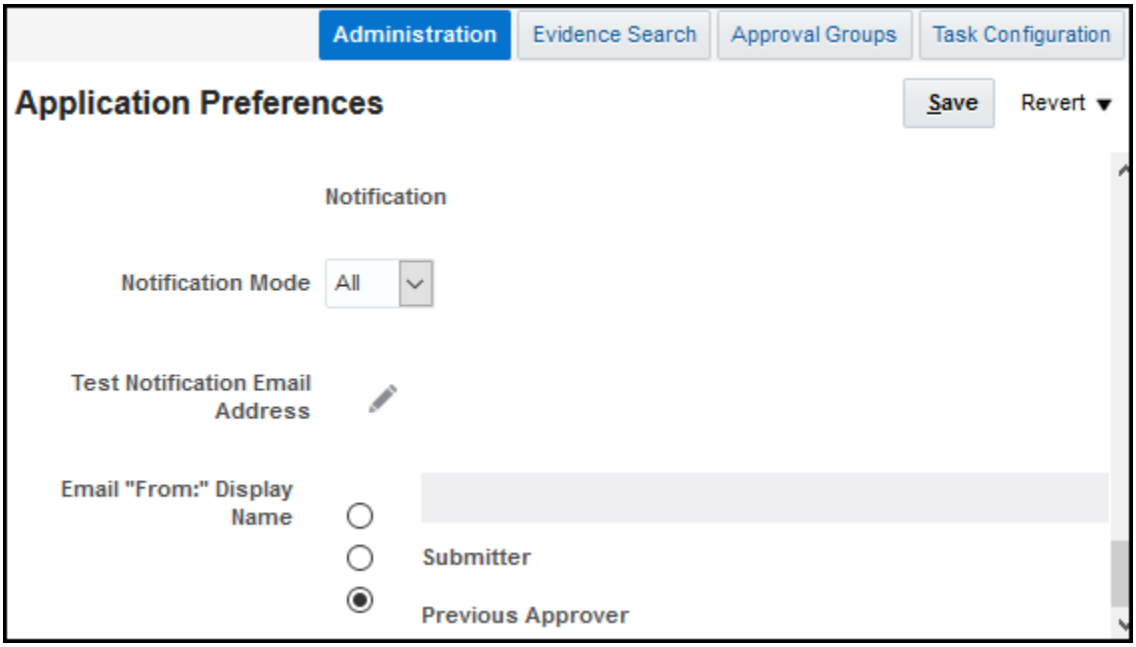
- Set Profile Option Values
- Search for Workflow Tasks to Configure
- Set Up Sender Policy Framework (SPF)

Add Sender Name to the From Field

You can set up the sender name in application preferences for all workflow tasks, or have different setup for specific workflow tasks. If not specified at the task level, the sender name setting defaults from the preferences.

All Workflow Tasks

Here's how you define the sender name for all workflow tasks that have no other applicable setup. This setting applies to tasks that require action as well as FYI-only tasks.



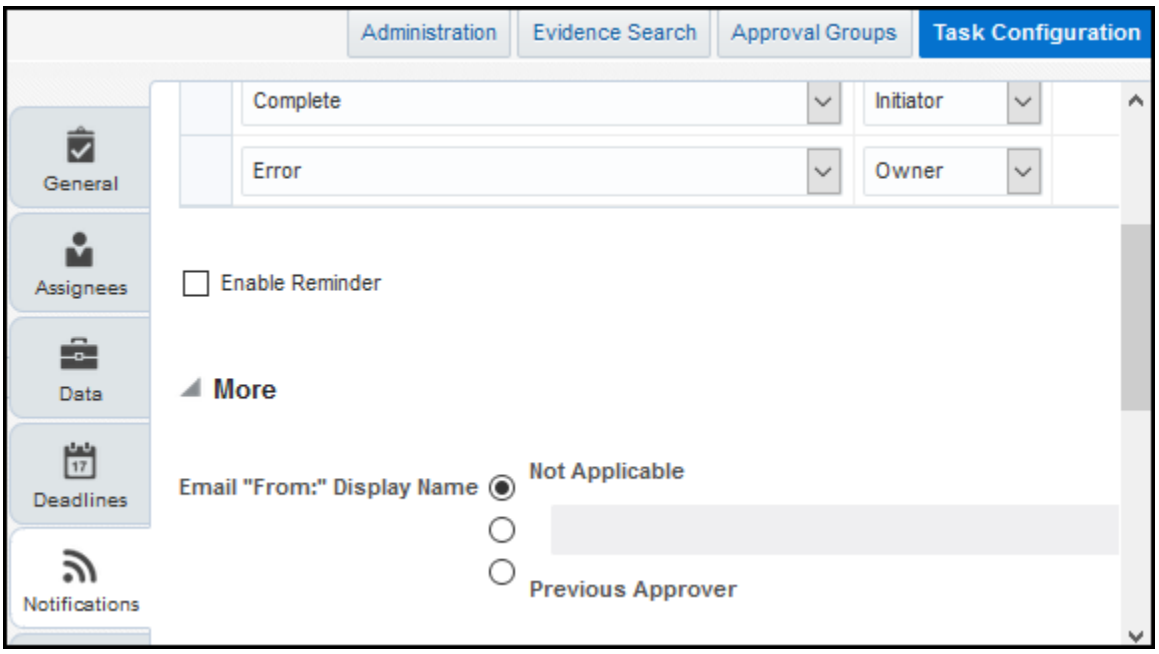
1. If you're not in BPM Worklist:
    a. Click the **Notifications** icon in the global header.
    b. Click **Show All**.
    c. On the Notifications page, click the **Worklist** button.
    d. In BPM Worklist, click your user name and select **Administration**.

    If you're already in BPM Worklist, just open the Administration tab.
2. On the Application Preferences page that's on the Administration tab, select one of the **Email "From:" Display Name** options.
    - Select to specify the text to display. Enter your value or leave blank if you want nothing to appear in the From field.
    - Select **Submitter** to show the person who created the task.
    - Select **Previous Approver** to show the previous assignee in the approval chain. When the notification is sent to the first assignee in the approval chain, the From field shows the person who created the task.

3. Click **Save**.

Specific Workflow Task

To specify the sender name for a specific actionable or FYI task:



1. In the Setup and Maintenance work area, go to the Manage Task Configurations task or another approval setup task in the Application Extensions functional area or another functional area.
2. In BPM Worklist, on the Task Configuration tab, search for the workflow task in the **Tasks to be configured** pane.
3. Select the task from the search results and click the **Edit task** icon in the toolbar.
4. Open the Notifications subtab.
5. On the Notifications subtab, click the **Expand More** icon.
6. Select one of the **Email "From:" Display Name** options.
    - Select **Not Applicable** so that what appears in the From field depends on the application preferences that apply to all workflow tasks.
    - Select the second option and do one of the following:
        - Enter the text to display, surrounded by quotes, for example **"Oracle"**.
        - Leave this field blank if you want nothing to appear in the From field.
        - Follow these steps to display the task submitter's user name, which is what they enter to sign in to the application:
            a. Click the **Sender Name** icon after the field.
            b. In the Expression Builder, select **task:creator**.
            c. Click the **Insert into Expression** button, then **OK**.
    - Select **Previous Approver** to show the previous assignee in the approval chain. When the notification is sent to the first assignee in the approval chain, the From field shows the person who created the task.
7. Click the **Save** icon in the **Tasks to be configured** toolbar.

Related Topics

- Search for Workflow Tasks to Configure

Set Up Attachments in Workflow Email Notifications

Workflow email notifications can have attachments. Many workflow tasks have this already set up by default. You can enable or disable email attachments, as well as set the maximum number and size of attachments.

Here's an example of attachments in workflow. When you request information from someone as part of the approval process, they might respond with a message and a file attachment. The email notification you get when they respond would include their attachment.

Enable or Disable Email Attachments

You can turn on or off email attachments for specific workflow tasks.

1. In the Setup and Maintenance work area, go to the **Manage Task Configurations** task in the Application Extensions functional area. Or, depending on your offering, you might use a different functional area or another approval setup task.
2. In BPM Worklist, on the Task Configuration tab, search for the workflow task in the **Tasks to be configured** pane.
3. Select the task from the search results and click the **Edit task** icon in the toolbar.
4. Click the Notifications subtab.
5. Expand the More section.
6. Select or deselect the **Send task attachments with email notifications** check box.
7. In the **Tasks to be configured** toolbar, click the **Commit task** icon when you're ready to roll out your changes.

Set Maximum Number and Size of Attachments

These settings apply to all workflow tasks that have email attachments enabled.

1. Click the **Notifications** icon in the global header.
2. Click **Show All**.
3. On the Notifications page, click the **Worklist** button.
4. In BPM Worklist, click your user name and select **Administration**.
5. On the Application Preferences page, go to the Notification section.
6. In the **Maximum Number of Email Attachments** field, enter a whole number to limit the number of attachments in a single email.
7. In the **Maximum Size of Email Attachments (in MB)** field, enter a whole number up to 10 to limit the size of individual attachments in the email. No matter what you enter here, the total size of an email, including all attachments, can't be more than 15 MB.

   > **Tip:** If you want the emails to have links to files instead of having the files attached to the email, enter **0** in at least one of these two fields.

8. Click **Save**.

Related Topics

- Search for Workflow Tasks to Configure

Send Test Workflow Email Notifications to One Address

While testing workflow setup, you can send all email notifications to a single address so that your users don't receive any test emails. The test emails are still sent based on the notification scenarios defined for the particular workflow task.

Specifying the Email Address

To enter the email address to send test emails to:

1. Click the **Notifications** icon in the global header.
2. Click **Show All**.
3. On the Notifications page, click the **Worklist** button.
4. In BPM Worklist, click your user name and select **Administration**.
5. On the Application Preferences page that's on the Administration tab, click the **Test Notification Email Address** icon.
6. In the dialog box, enter an email address in the **Test Notification Email Address** field.
7. Click **OK** and then **Save**.

After you're done testing, go back and delete the email address that you entered.

Related Topics

- More Setup for Workflow Email Notifications
- Define When to Send Workflow Notifications
- Disable or Enable Workflow Notifications

More Setup for Workflow Email Notifications

The More section on the Notifications subtab has other setup options for email notifications. In general, you would leave the default settings in this section for every workflow task, but here are some setup options you should know about.

1. In the Setup and Maintenance work area, go to the **Manage Task Configurations** task in the Application Extensions functional area. Or, depending on your offering, you might use a different functional area or another approval setup task.
2. In BPM Worklist, on the Task Configuration tab, search for the workflow task in the **Tasks to be configured** pane.
3. Select the task from the search results and click the **Edit task** icon in the toolbar.
4. Click the Notifications subtab.
5. Expand the More section.

   Here's what happens if these check boxes in the More section are selected:

   - **Make notification secure (exclude details):** Exclude business transaction details in email notifications.
   - **Hide End User Web URL in notifications:** Remove the default first line in the email body, which is: **Access this task in the Workspace Application or take direct action using the links in this email**. This line includes a link that opens BPM Worklist. It's recommended to select this check box.
   - **Make notification actionable:** Include links in email notifications that users can click to directly take action, for example to approve or reject.
   - **Send task attachments with email notifications:** Include files attached to the task as attachments in the email notifications.
6. If you do make any changes, click the **Commit task** icon in the **Tasks to be configured** toolbar when you're ready to roll out your changes.

Configurable Notifications

Overview of Financials Configurable Workflow Notifications

The Financial applications, as part of certain business flows, automatically send notifications for review or approval. For example, when a user submits an expense report, the approvers receive an email containing the approval request.

In addition to getting notifications in email, users can also view in-app notifications, for example, by:

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

Oracle Analytics Publisher reports generate the notification content and format for some flows. You can enable Analytics Publisher-based notifications, which are ready to use as delivered. You can easily configure the notification templates to meet other specific requirements. If required, you can change the delivered template layouts and content, to add images, change colors and styling, add or remove attributes or modify text.

This table shows the product that has configurable notifications, along with its associated feature. You can configure only the email notifications.

Product	Feature Name	Report or Notification Name	Workflow Task Name
Bill Management	User Registrations Notifications	Registration Confirmation New Account Registration Confirmation Account Access Revocation Notification Access Revocation Notification	N/A

This table shows the products that have configurable notifications, along with their associated features, and workflow task names. You can configure both the email and in-app notifications for these workflow tasks.

Product	Feature Name	Report or Notification Name	Workflow Task Name
Advanced Collections	Configurable Collections Bankruptcy Workflow Notification	Bankruptcy Notification	BankruptcyApproval
Advanced Collections	Configurable Collections Activity Management Notification	Collections Activity Management	ActivityManagement
Budgetary Control	Configurable Budgetary Control Override Workflow Notifications	Budget Override Request Notification Budget	OverrideNotificationFyi
Budgetary Control	Configurable Budgetary Control Override Workflow Notifications	Override Taken Notification	OverrideNotificationFyi

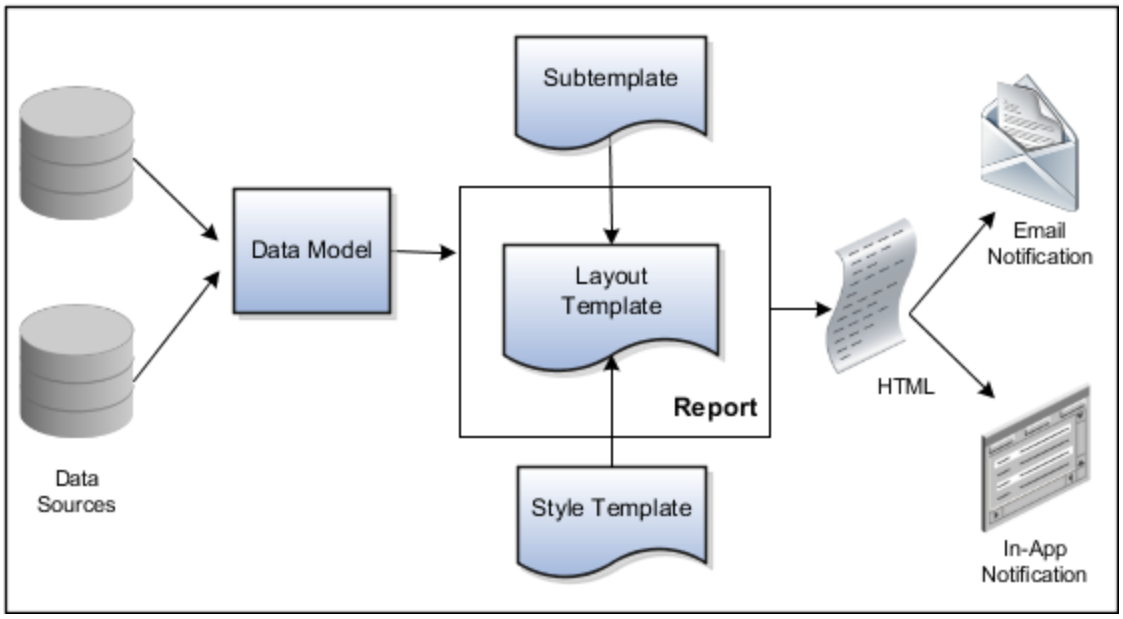
Product	Feature Name	Report or Notification Name	Workflow Task Name
Cash Management	Configurable Cash Management Workflow Notifications	Bank Transfer Approval Notification	BankAcctTransferRequestForAction
Expenses	Expense Report Approval Notifications	Expense Report Approval Notification	FinExmWorkflowExpenseApproval
Expenses	Expense Reimbursement Notifications	Reimbursement Paid to Card Issuer Notification Reimbursement Paid by Check Notification Reimbursement Paid by Direct Deposit Notification	FinExmReimToCardIssuerFyi FinExmReimToEmpByCheckFyiFin ExmReimToEmpByDepositFyi
Expenses	Expense Audit and Receipt Management Notifications	Expense Report Adjusted by Auditor Notification Expense Report Rejected by Auditor Notification Pending Payment with Warnings Notification Expense Report Returned by Auditor Notification Short-Paid Report with Receipt Issue Notification Short-Paid Report with Noncompliance Notification	FinExmExpenseAuditFyi FinExmExpenseAuditFyi FinExmExpenseAuditFyi FinExmReceiptManagementFyi FinExmReportShortpaidReceiptIssue FinExmReportShortpaidPolicyIssue
Expenses	Cash Advance Notifications	Cash Advances Approval Notification	FinExmWorkflowCashAdvanceApproval
Expenses	Expense Audit and Receipt Management Notifications	Payment is Held Notification	FinExmReceiptManagementFyi
Expenses	Expense Audit and Receipt Management Notifications	Payment is Released Notification	FinExmReceiptManagementFyi
Expenses	Expense Reimbursement Notifications	Reimbursement Has Been Paid to Employer Notification	FinExmReimToEmpByCheckFyi
Expenses	Expense Audit and Receipt Management Notifications	Mileage Adjustment Notification	ExpenseAuditMileageAdjustmentFyi
Expenses	Expense Audit and Receipt Management Notifications	Missing Receipt Declaration is Required Notification	FinExmReceiptManagementFyi

Product	Feature Name	Report or Notification Name	Workflow Task Name
Expenses	Cash Advances Notifications	Overdue Cash Advance Notification	FinExmWorkflowOverdueNotification
Expenses	Cash Advances Notifications	Cash Advances Automatically Applied Notification	FinExmWorkflowCashAdvanceAutoAppliedFyi
Expenses	Expense Audit and Receipt Management Notifications	Inactive Employee's Outstanding Transactions Notification	FinExmInactiveEmployeeSubmitExpenseFyi
Expenses	Expense Audit and Receipt Management Notifications	Inactive Employee-Accept Responsibility Notification	FinExmInactiveEmployeeAcceptResp
General Ledger	Configurable Journal Workflow Notifications	Journal Approval Report	FinGlJournalApproval
Intercompany	Configurable Intercompany Workflow Notifications	Intercompany Transaction Approval Notification Intercompany Enter Receiver Distribution Notification	FinFunTransactionApproval for Intercompany Transaction Approval Notification FinFunEnterDistRequestForAction for Intercompany Enter Receiver Distribution Notification
Payables	Configurable Invoice Approval Email Notifications Configurable Invoice Approval In-App Notifications	Invoice Approval Report	FinApInvoiceApproval
Payables	Configurable Hold Resolution Email Notifications Configurable Hold Resolution In-App Notifications	Hold Resolution Notification	FinApHoldApproval
Payables	Configurable Payment Approval Email Notifications Configurable Payment Approval In-App Notifications	Payment Approval Notification	PaymentApproval
Payables	Invoice Account Coding Notifications	Invoice Account Coding Email Notification	FinApInvoiceAccountCoding
Receivables	Configurable Credit Memo Request Approval Workflow Notification	Manual Credit Memo Request Notification	FinArTrxnsCreditMemosCreationPostProcessi
Receivables	Configurable Receivables Credit Memo Request Manual Entry Workflow Notification	Credit Memo Request Manual Entry Notification	FinArTrxnsCreditMemosManualEntryRequest

Process Overview

Generating configurable notifications through Analytics Publisher involves various types of objects in the BI catalog, including data models, subtemplates, style templates, and reports. Reports pull data from data models and generate notifications in an HTML format. The report layout templates use common table and paragraph styles and refer to a central subtemplate that contains reusable notification components.

This figure shows how these BI objects work together to generate the notification content.



- **Data Sources**: Store the attributes and attribute values for business objects and transactions in the application (example of data sources being transaction tables)
- **Data Model**: Determines which attributes from data sources that you can include in the notification and how to retrieve that data.
- **Subtemplate**: Provides common components, such as a branding logo and buttons that you can reuse in multiple reports.
- **Style Template**: Provides styles such as the type of lines and fonts to use in tables, or the font type, size, and color to use for headings
- **Report**: Contains a layout template that determines:
    - Which attributes appear in the notification, from the data model used for the report
    - What the notification looks like, using components from the subtemplate and styles from the style template of the report
- **HTML**: Format of the output generated by the report
- **Email Notification**: Has the HTML output embedded in the email body
- **In-App Notification**: Has the HTML output embedded in the application UI

Each workflow task with configurable notifications has a corresponding predefined report in the BI catalog. For example, the Invoice Approval report contains the Invoice Approval Notifications report layout template and uses the Invoice Approval Data Model.

Notification Modifications

After you enable configurable workflow notifications, the predefined reports and related objects in the BI catalog start working. The report-based notifications provide the same information as the standard notifications. In addition, mobile devices use an optimized format of report-based notifications. If you need to modify the notifications, you can edit copies of the predefined reports, data models, and subtemplate. However, you can't change the style template. You proceed as you would edit any report, data model, or subtemplate in the catalog, for example:

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

Before modifying configurable notifications, Oracle recommends that you familiarize yourself with Analytics Publisher in general. This improves your ability to format your notifications to meet your business requirements.

Analytics Publisher-based notifications let you do the following.

- Use only the Template Builder for Word add-in to edit the .rtf template in Microsoft Word. This works better than using the layout editor or other tools available for creating and editing report layout.
- Edit a copy of predefined layout templates, rather than creating reports or layout templates.

> **Note:** For more information, see Configurable Workflow Notifications: Implementation Considerations (2215570.1) on My Oracle Support at https://support.oracle.com.

Related Topics

- Best Practices for Content and Layout in Workflow Notifications
- Overview of Notifications and Approval Workflows
- Example of Modifying Expenses Email Notifications Using Oracle Analytics Publisher
- Example of Editing Invoice Approval Workflow Notifications Using Oracle Analytics Publisher

Best Practices for Working on Workflow Notifications

To configure workflow notifications, you use Oracle Transactional Business Intelligence features, specifically Oracle Analytics Publisher. Here are some recommendations, tips, and reminders for working with those features in the context of configurable notifications.

Know What You're Doing

Before you start configuring notifications, make sure you have plenty of experience with reports and data models in Analytics Publisher, along with the BI catalog. You should already be comfortable editing report layout templates.

Find the Data Model

If you don't know which data model a report is using, find the report in the catalog and click the **Edit** link. From there, you can see the name of the data model. Click the **Select Data Model** icon to see where the data model is at in the catalog.

Never Edit or Rename Predefined Objects in the BI Catalog

In the catalog, make sure that you don't edit or rename anything predefined in the Shared folder. Here's what you do instead.

- For reports and subtemplates, use the Customize option. This option is available only if you sign in to the Analytics Publisher server directly, for example by using `http://<hostname>.com:7001/xmlpserver`.
- To edit any predefined data model, copy and paste it into the Custom folder, and edit the copy.

Make Sure You Can Revert Your Changes

Before you start making changes, note down which layout is the default layout for the report. Also, download and keep the original .rtf file, just in case. For troubleshooting purposes, you might need to reproduce any issues using the predefined BI catalog objects.

- To go back to a predefined layout, you can select the predefined layout template as the default.
- To go back to using the predefined report or data model for notifications, just remove the custom report or data model from the Custom folder.

Use Predefined Styles

A predefined style template will apply to any layout template that you're editing. So, don't make a copy of this style template and try to apply an edited copy to your notifications. You also should not change the styles in Word when working on your notifications.

> **Note:** When you're modifying any of the predefined reports using the Customize option, keep the **Apply Style Template** check box deselected for the default layout.

Test Your Layout Changes

Preview your layout template changes to make sure that everything is fine before you upload your .rtf file to the catalog. You can preview from Word without uploading to the catalog and simulating an approval cycle.

Also, when you use the Customize option to edit a predefined report, your changes won't be reflected until a refresh that happens every 24 hours. So, before you work on reports, create and set a profile option that determines the refresh interval. That way you can test the changes you save in the catalog sooner, instead of waiting for the 24-hour refresh.

Related Topics

- Preview Changes and Upload Layout Templates for Workflow Notifications
- Designing Pixel-Perfect Reports in Oracle Transactional Business Intelligence
- How You Access and Modify Report Components
- Reflect Changes from Edited Reports Sooner

Best Practices for Content and Layout in Workflow Notifications

Here are some recommendations, tips, and reminders regarding the content and format of your configurable workflow notifications. Keep these in mind while you work on layout templates.

Follow the General Structure

In general, the workflow notifications contain a set of components that are displayed in a certain order. When you modify notifications, try to keep to this general structure and don't remove essential elements such as the action buttons.

The callouts in this figure identify the email notification components listed in the following table:

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

Callout	Component	Notification Type
1	Buttons with the primary actions to take on the task, such as **Approve** and **Reject**. These buttons aren't part of the configurable, report-based notification content.	In-app
2	Notification header listing key attributes of the workflow task and the associated transaction.	Both
3	Notification body that usually includes transaction and line level details, displayed in tables or sets of attributes with corresponding values. The data model for the report restricts the total number of rows displayed in some tables. If the limit is exceeded, the table footer provides a link to the transaction details page, where users can view all the rows. To change this limit, you can edit a copy of the data model.	Both
4	Buttons for the primary actions to take on the task, such as **Approve** and **Reject**.	Email
5	Approval history, including any attachments that users in the history uploaded for the task. You can't edit the approval history component, which usually appears in the body of only email notifications. For in-app notifications, you can usually view the history by clicking the **Actions** button and selecting **History**.	Both
6	A link to the corresponding transaction page, and another link to the in-app notification.	Email

Keep Mobile in Mind

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

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

Note: For workflow tasks with configurable notifications, make sure that the **Hide End User Web URL in notifications** checkbox is selected in BPM Worklist. If not, a default first line will appear in the emails, in addition to what comes from the report layout template. It's best to hide this additional content because it might cause emails to not render well, especially when viewed from mobile devices.

Make sure to test your email notifications on mobile devices. As part of your testing, confirm that the default line about accessing the task in the Workspace Application isn't showing up.

Related Topics

- More Setup for Workflow Email Notifications
- Create RTF Templates Using the Template Builder for Word

Add a Branding Logo and Change Other Shared Components in Workflow Notifications

A predefined subtemplate has common components for all workflow notifications based on predefined report layouts. You can edit these shared components so that the same changes apply to your notifications.

Here are some of the shared components in the subtemplate:

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

For example, you can add a branding logo in the designated place in the subtemplate, or change the text on the buttons and links.

Note:

- When you make a copy of a predefined layout template to edit, the copy automatically inherits the same predefined subtemplate.
- Other than this central subtemplate for all notifications, you might also find predefined subtemplates specific to a product family. We talk about the central one here, but you would generally follow the same steps for other subtemplates.
- You must edit a copy of the subtemplate in the Custom folder of the BI catalog. Don't directly update the predefined subtemplate, including renaming it.
- When you work on your copy of the subtemplate, add your own content or edit what's already there, but don't remove anything.
- The exact steps can vary depending on your version of Microsoft Word.

Modify Shared Components in the Subtemplate

Here's how you edit a copy of the predefined subtemplate that has the shared components:

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

   If you're not using the Customize option, even though it's recommended:

   a. Click **Copy** in the toolbar with Workflow Notification Subtemplate selected.
   b. In the catalog, expand **Shared Folders** > **Custom** > **Common Content** > **Templates**. Create a Templates folder in this location if it doesn't exist.
   c. Click **Paste** in the toolbar.
5. In the catalog, with the Templates folder open under the Custom folder, click **More** for the subtemplate and select **Rename** to give it a new name.
6. Click the **Edit** link for the renamed subtemplate.
7. In the Templates section, click the link in the Locale column.
8. Save the subtemplate .rtf file to your computer.
9. Open the .rtf file with Microsoft Word.
   - To add a logo, insert your own image in the subtemplate.
   - To change button or link text, edit the text accordingly. Make the same edits wherever that button or link text appears in the subtemplate.

     CAUTION: To make sure that your layout templates reflect these changes without more rework, don't edit any other text in the subtemplate .rtf file.

10. Update Word options so that existing links remain intact in the subtemplate.
    a. Click **File** > **Options** > **Advanced**.
    b. In the Word Options dialog box, click **Web Options** in the General section.
    c. In the Web Options dialog box, open the Files tab.
    d. Deselect the **Update links on save** check box.
11. Save your changes in Word.

Upload the Modified Subtemplate

Now you upload your subtemplate to the BI catalog:

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

Point Layout Templates to Your Subtemplate

Update all the report layout templates that you want to apply your subtemplate to:

1. In Microsoft Word, open the .rtf file for the layout template, as you would to make any other changes to the notification.
2. At the beginning of the document, change the subtemplate reference. For example, change `<?import:xdoxsl:///Common Content/Templates/Workflow Notification Subtemplate.xsb?>` to `<?import:xdoxsl:///Custom/Common Content/Templates/My Workflow Notification Subtemplate.xsb?>`.
3. Save your work.
4. Test things out to make sure you see your subtemplate changes in the notification output.

Related Topics

- What is a subtemplate?
- Customize Pixel-Perfect Reports

Use Quick Parts for Workflow Notifications

Use the Quick Parts feature in Microsoft Word to insert reusable pieces of formatted content. When you edit copies of predefined report layout templates for workflow notifications in Word, you can add predefined Quick Parts content to your .rtf file.

Quick Parts are helpful when you do more advanced work on layout templates. For example, from the Quick Parts gallery, you can select and add a table in a format that's consistent with predefined tables already on your notifications. The predefined Quick Parts content is available in a style template .dotx file on My Oracle Support.

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

Prerequisites

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

1. Open Quick Parts for Configurable Workflow Notifications (2215570.1) on My Oracle Support at https://support.oracle.com.

2. Download the .dotx file and save it to your Microsoft Word template folder, for example **C:\Users\<user name>\AppData\Roaming\Microsoft\Templates**. You need to save the .dotx file where the Normal.dotm Microsoft Word template is stored.

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

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

Adding Quick Parts Content to Workflow Notifications

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

1. In the BI catalog, find the predefined report with the layout template that you want to modify.
2. For the report, click **More** and select **Customize**.

   If you're not using the Customize option:

   a. Copy the predefined report and paste it in an appropriate subfolder within the Custom folder.
   b. Click the **Edit** link for the copied report.
3. Click **Edit** for the layout template to insert Quick Parts content into, and save the .rtf file to your computer with a new file name.
4. Open the .rtf file with Microsoft Word.
5. Put your cursor where you want to insert new content.
6. From the Insert tab on the ribbon, click **Quick Parts** within the Text group, and select the component to insert.
7. Edit the inserted component as needed and add any other components.
8. Save your changes in Word.

Previewing the Layout Template Changes

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

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

Uploading the Modified Layout Template

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

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

Related Topics

- Quick Parts for Configurable Workflow Notifications
- Understand Style Templates
- Test Data Models and Generate Sample Data
- Customize Pixel-Perfect Reports

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

The same .rtf report layout template is used for both email and in-app notifications. When you edit a copy of predefined templates, you can make content conditional. For example, add an attribute and have it appear only in email notifications.

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

Prerequisites

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

Defining Conditional Regions

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

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

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

11. Save your changes in Word.

Entering Conditional Code

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

1. In your .rtf report layout template, put your cursor immediately before the content you want to make conditional.
2. Enter the following code, which functions the same as the `c` form field:
    - `<?if:BINDISONLINENOTIF='true'?>` for in-app only

- `<?if:BINDISONLINENOTIF='false'?>` for email only

3. Put your cursor immediately after your conditional content.
4. Enter `<?end if?>`, which functions the same as the `EC` form field.
5. Save your changes in Word.

Related Topics

- Best Practices for Content and Layout in Workflow Notifications
- Add a Branding Logo and Change Other Shared Components in Workflow Notifications
- Test Data Models and Generate Sample Data

Preview Changes and Upload Layout Templates for Workflow Notifications

Before uploading .rtf files for report layout templates to the BI catalog, preview the output with your changes in Microsoft Word. You can avoid uploading a broken report that displays an error in the notifications sent to users.

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

Before You Start

- Generate sample report data from the data model used for the report, and save the .xml file to your computer.
- Download a local copy of the subtemplate that applies to your own report layout template:

a. In the BI catalog, expand **Shared Folders** > **Supply Chain Management** > **Workflow Notifications** > **Product Management**if you're using a predefined subtemplate.

> **Note:** To configure a template, select a predefined template from the location **Shared Folders** > **Supply Chain Management** > **Workflow Notifications** > **Product Management**, click the **More** button, and select **Customize** from the drop-down list. The template is downloaded to **Shared Folders** > **Custom** > **Supply Chain Management** > **Workflow Notifications** > **Product Management**.

b. Click **Edit** for Workflow Notification subtemplate.
c. In the Templates section, click the link in the Locale column.
d. Save the subtemplate .rtf file to your computer.

Preview Output

To generate sample output from a local layout template:

1. Open your .rtf report layout template in Microsoft Word and make your edits.
2. On the ribbon, open the Analytics Publisher tab and click **Sample XML** within the Load Data group.
3. Select the .xml file you downloaded to import sample data from the data model.
4. At the beginning of your .rtf document, replace the path with the location of the downloaded subtemplate file on your computer. For example, change `<?import:xdoxsl:///Common Content/Templates/Workflow Notification Subtemplate.xsb?>` to `<?import:file:///C:/Template_Directory/FinFunWorkflowNotificationSub.rtf?>`.
5. From the Analytics Publisher tab on the ribbon, click **HTML** in the Preview group.
6. If the preview reflects your changes as expected, then change the path back to the original location.
7. From the Analytics Publisher tab on the ribbon, click **Validate Template** in the Tools group.
8. Also in the Tools group, click **Check Accessibility**.
9. Save your changes in Word.

Upload the Modified Layout Template

Here's how you upload your layout template to the BI catalog after previewing the changes:

1. Back in the catalog, click **Edit** for the report within the Custom folder, if that page isn't still open.
2. Click the **View a list** link.
3. Click the **Create** icon on the table toolbar.
4. In the Upload or Generate Layout section, click **Upload**.
5. Upload your edited .rtf file with a unique layout name.
6. Back on the page for editing the report, go back to the list view.
7. Select the **Default Layout** checkbox for your layout template. If you ever want to go back to the predefined layout, you can select it as default later.
8. Click the **Save Report** icon.

Related Topics

- Best Practices for Content and Layout in Workflow Notifications
- Test Data Models and Generate Sample Data

Approval and Notification History

Application records the approval and rejection history of a Payables invoice that passes through the Invoice Approval Workflow process.

Here’s how you can view the Approval and Notification History for an invoice.

1. Go to **Navigator** > **Payables** > **Invoices**.
2. Open an existing invoice and go to the Hold and Approvals tab.

The Approval and Notification History section has the following columns:

Column name	Definition
Workflow Type	Name of the workflow
Line	Line number for line-level approval
Action	Date when the assignee performed an action on the workflow approval notification
Approver	Name of the approver
Reviewed Amount	Invoice amount at the time of approver’s response
Comments	Comments provided by the approver on the invoice
Hold Reason	Hold reason (displays if the invoice has a hold)

Approval History Actions

After a user submits an invoice for approval, the application records every action taken on the invoice (including the submission). Here’s a list of actions that you might see.

Action	Meaning
Initiated	Approval notification is created because an invoice is submitted for approval.
Assigned to	Approval notification is assigned to an approver.
Withdrawn	Submitter has withdrawn the invoice for approval.
Resubmitted	Invoice is resubmitted for approval after rejection or being withdrawn.
Automatic approved	Invoice is autoapproved because of a configured rule.
Automatic rejected	Invoice is autorejected because of a configured rule.
Acquired by	Approval notification was initially assigned to 2 approvers, but one of them has claimed it by taking an action first.
Comments updated	Comments are added to the approval notification during the approval process.
Attachments updated	Attachments are added to the approval notification during the approval process. **Note:** The application doesn't record history for any attachments added while submitting the invoice for approval.
• Information requested by • Information requested from	• Approver has requested more information from the user who submitted the invoice. • Approver's action is recorded as **Information requested by** and a new row is created for the submitter with action as **Information requested from**.
• Information submitted by • Information submitted to	• Submitter has entered comments and attachments in response to the request for more information. • Submitter's action changes to **Information submitted by** and the invoice is reassigned to the approver with action as **Information submitted to**.
• Delegated by • Delegated to	• Pending Approval notification is delegated by the current approver to a different user. • New assignee's name is recorded as the Approver.
• Reassigned by • Reassigned to	• Approver has reassigned the approval notification to a different user after adding some comments. • New assignee's name is recorded as the Approver.
• Escalated by • Escalated to	Invoice approval task was escalated by the user, or the application based on the deadline task setup.
Approved	Invoice was approved by the approver.
Rejected	Invoice was rejected by the approver.
Manually approved	Invoice was force approved by a user with administrator privileges.
Expired	Approval task was expired by the application because of no response by the approvers by the time task deadline arrived.

The application updates the Approver column every time an action is performed, with the name of the user who performed the action or to whom the action is assigned. The application records Workflow system as the approver in these cases:

- Approval notification is autoapproved or autorejected because of a predefined rule.
- Approval task was escalated by the application based on the task deadline setup.
- Approval task was expired by the application because of no response after the stipulated deadline has passed.

Manage Workflow Rules Using a Spreadsheet

Create Workflow Rules Using a Spreadsheet

The Simplified Workflow Rules Configuration feature is a spreadsheet-based alternative to creating rules in Oracle Business Process Management (BPM). Use this feature to create workflow rules for Payables Invoice Approval and General Ledger Journal Approval workflows.

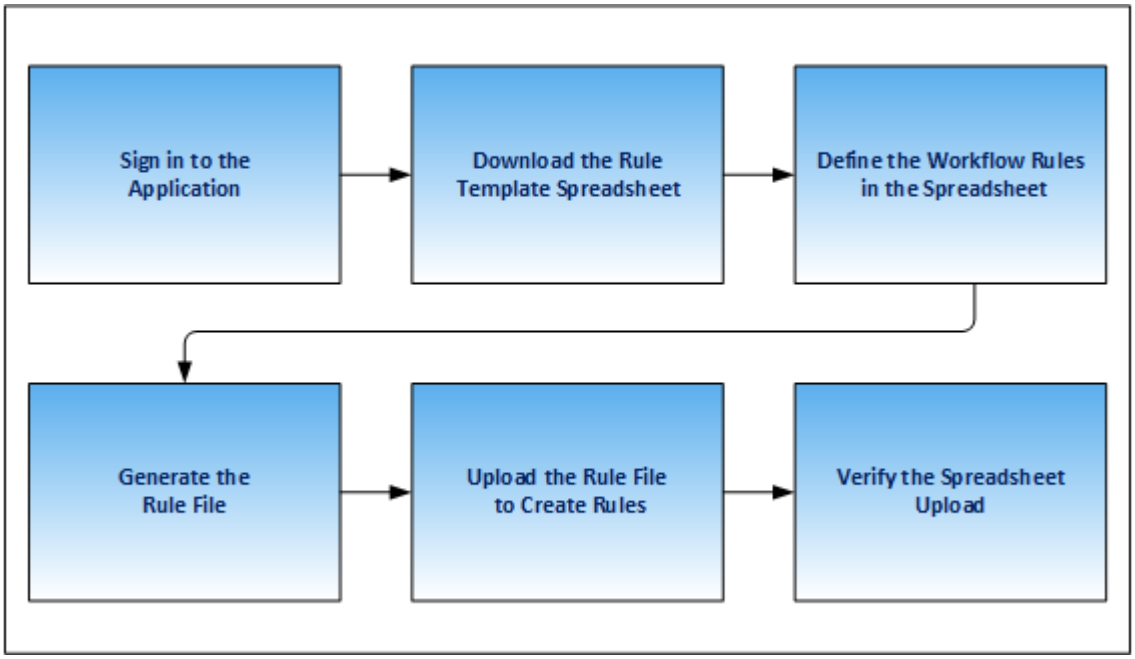
You can download the spreadsheet templates from the Manage Workflow Rules in Spreadsheet page to create and manage rules according to your approval policies.

In addition to creating and managing rules, this feature also lets you do the following.

- Name the rule blocks
- Initiate various approvals in parallel
- Configure or model the blocks to facilitate better approval routing
- Use the Lists feature to define customized approval rules with more flexibility.
- Access advanced configuration, with an expanded range of functions and more information about each function.
- Enable or disable rules and rule blocks.
- Add multiple approval actions on the same rule conditions.

Create Workflow Rules

To create workflow rules in a spreadsheet, perform the following steps:



1. Sign in and navigate to the Manage Workflow Rules in Spreadsheet task.
2. Download the rule template from the Rule Templates section of the Manage Workflow Rules in Spreadsheet page.
3. Define the workflow rules in the spreadsheet.
4. Generate the rule file.
5. Upload the rule file to create rules.
6. Verify the spreadsheet upload.

CAUTION: You must use MS Excel version 2016 to create workflow rules. Also, every successful rule upload using a spreadsheet template overrides the existing rules for the workflow.

Tip: Once you create rules using the rule templates, we recommend you use the spreadsheet method only for any future maintenance of rules.

Name Rule Blocks

You can name the rule blocks to organize the approval process. Naming also makes it easier for users to understand and navigate, as users can clearly see the purpose and function of each block.

Configure Rule Blocks for Approval Routing

Configuring rule blocks can increase the accuracy of decision-making during the approval process. It becomes easier to track the flow of approvals and identify any potential issues or bottlenecks in the process. It allows for easy configuration and adaptation to specific business needs.

Related Topics

- Name the Rule Blocks
- Enable Rule Block Configuration

Manage Workflow Rules Using a Spreadsheet

Before creating and managing workflow rules, perform these steps:

1. Sign in to the application as a Financial Application Administrator.
2. Verify if the Approval Routing Administration feature is enabled at **Offerings > Financials > Opt In Features**. Click the **Edit** icon for Financials. If the feature isn't enabled, select its checkbox.
3. In the Setup and Maintenance work area, go to **Financials > Application Extensions > Manage Workflow Rules in Spreadsheet** task.

Download the Rules Template

Download the rule template by performing these steps:

1. In the Rule Templates section of the Manage Workflow Rules in Spreadsheet page, select the required workflow.
2. Click **Download**. The Download Templates dialog box appears.
3. From the dialog box, select the required template. Save the template to your local computer.

> **CAUTION:** You must use MS Excel version 2016 to create workflow rules.

> **Note:** Each rule template contains an example of an approval business case to show how to manage workflow rules using the rule template.

Define the Rules in the Spreadsheet

After downloading the rule template, you must define the workflow rules using the sheets provided in the rule template. Here's a list of sheets you can see in the rule template spreadsheet:

1. **Instructions**: This sheet contains details of the help topics present on Oracle Help Center for this feature and the **Generate Rule File** button. You can also update your rule template version from the Instructions sheet.
2. **Workflow Rules**: Provides a template for configuring transaction approval rules.

   > **Note:** The name of this sheet varies for each product. For example, for Payables, the sheet is labeled as Invoice Approval Rules.

3. **Data Set**: This sheet provides a template to map the varying attributes to the data.

   > **Note:** Currently, data sets are only available for Payables workflows. For more information about data sets, see the Data Sets section.

A business rule is an approval requirement within your approval policy. Before defining rules in the rule template, you must analyze approval policy. Consider these points before defining a business rule:

- Which transactions require approval?
- Who approves transactions in your organization?
- Do the approvers vary based on the transaction attributes? If so, use a data set.
- What are approval conditions?
- How do you want to route the approval notifications?

- Which approvals require FYI notifications?
- Which transactions are exempted from the approval rule?

For example, for Payables, if your organization's approval policy mandates that:

- All invoices that aren't matched to a purchase order must be approved at two levels of the supervisory hierarchy. This hierarchy starts from the manager of the user who creates the invoice.
- All invoices that have an invoice amount of more than 5000 USD must be approved by a group of personnel from the Finance department.

For this example, you need two business rules.

Use the Workflow Rules sheet to define approval rules. Enter these details:

1. **Rule Description**

   Enter the description for each approval business rule that you define.
2. **Approvers**

   In this section, choose approvers, specify approval routing, and define rule priority. The template supports various approval routing options. This table provides you details on approval routing and how it works.

Approval Routing	How Approval Routing Works
Supervisory Hierarchy	Members of the supervisory hierarchy beginning from the first applicable approver receive approval notifications.
Group in Parallel	Members of an approval group receive approval notifications. All members receive notifications at the same time. All members must take an action on the approval notification.
Group in Serial	Members of an approval group receive approval notifications. Only when a member takes an action on the approval notification does the next member of the series receive the approval notification.
Group First Responder	Members of an approval group receive approval notifications. All members receive notifications at the same time. Only one member is required to take an action on the approval notification.
Job Level Hierarchy	Members of the job hierarchy beginning from the first applicable approver receive approval notifications.
User	The specified application user receives the approval notification.
Role	The users with the specified application role receive the approval notification.
Auto Approve	Transactions that are automatically approved. No notifications are sent.

Approval Routing	How Approval Routing Works
Auto Reject	Transactions that are automatically rejected. No notifications are sent.
FYI	Information only notifications. No action is required from the approver.
Skip Approval	Transactions for which the rule isn't applicable. No notifications are sent.

Note: You can only use an approval group that exists in the BPM.

For detailed instructions on the other columns in the Approvers section, see the tool tip on each column header.

Rule Priority

Rule priority specifies the order in which rules are evaluated within a particular block during evaluation of the rule set. Administrators can define the priority in the Simplified Workflow Rules Configuration spreadsheet. By default, the rule priority is set as Medium for all rules. You can change the rule priority by selecting a different value. If a data set is being used for the rule, then its rule priority applies to all rules created using that data set.

3. **Approval Conditions**

In the Approval Conditions section you can select the attributes based on which the transaction should be evaluated for the workflow rules. You can also add attribute categories.

To add an attribute category:

a. Open the list of values associated with the last column in the Approval Conditions section.
b. Select the required attribute category.

To add an attribute:

a. Open the list of values associated with the attribute category.
b. Select the required attribute.

For example, in the Invoice Approval template for Payables, you can select Business Unit and Invoice Amount attributes for the attribute category Invoice Header. Similarly, you can select attributes for categories, such as Invoice Line, Invoice Distributions, and more.

While defining approval conditions, you can use various operators. This table lists the supported operators.

Condition	Value Type	Format	Example
Attribute is a specific value	Text, number, or date	value	If the Invoice Type is Standard, then enter the value as:

Condition	Value Type	Format	Example
		Note: No specific format applies here.	Standard
Attribute value is one of multiple specific values	Text or number	`in (value 1, value 2, ...)`	If the BU name is Vision Operations, Vision Services, or Vision Foods then enter the value as: In (Vision Operations, Vision Services, Vision Foods
Attribute value should be within a range of values	Number or date	between value 1 and value 2 OR value 1 to value 2	If the Invoice Date is between 01 August 2018 to 01 August 2019, then enter the value as: Between 01/aug/2018 and 31/aug/2019 OR 01/aug/2018 to 31/aug/2018
Attribute value starts with a specific value	Text	Starts with value	If the BU name starts with Vision then enter the value as: Starts with Vision
Attribute value ends with a specific value	Text	Ends with value	If the BU name ends with Operations then enter the value as: Ends with Operations
Attribute value contains a specific value	Text	Contains value	If the Pay Group contains Standard then enter the value as: Contains Standard
Attribute value matches a specific value	Text	Matches value	If the Description matches manual invoice then enter the value as:

Condition	Value Type	Format	Example

			`Matches manual\\s(.*) invoice`
			
			In this example, the Matches operator begins with Manual and ends with Invoice. Between the two words, there can be one space and any character.
			
			Other options that can be used with the Matches operator are:
			
			`(.*)` - Denotes zero or more characters.
			
			`(.+)` - Denotes one or more characters.
			
			`\\s` - Denotes space.
			
			`\\d` - Denotes numbers from 0-9.
			
			`?` - Makes a character optional. For example: `\\d?`
			
			`[ ]` - Specifies range such as A-Z, 0-9

Attribute value is more than or equal to a specific number	Number	More than equal to number OR >= number	If the Invoice amount is more than or equal to 500, then enter the value as: More than equal to 500 OR >= 500
Attribute value is less than or equal to a specific number	Number	Less than equal to number OR <= number	If the Invoice amount is less than or equal to 500, then enter the value as: Less than equal to 500 OR <= 500

Condition	Value Type	Format	Example
Attribute value is more than a specific number	Number	More than number OR >number	If the Invoice amount is more than 500, then enter the value as: More than 500 OR >500
Attribute value is less than a specific number	Number	Less than number OR <number	If the Invoice amount is less than 500, then enter the value as: Less than 500 OR <500
Attribute value is on or before a specific date	Date	On or before date	If the Invoice date is on or before 01/10/2018, then enter the value as: On or before 01/oct/2018
Attribute value is on or after a specific date	Date	On or after date	If the Invoice date is on or after 01/10/2018, then enter the value as: On or after 01/oct/2018
Attribute value is before a specific date	Date	Before date	If the Invoice date is before 01/10/2018, then enter the value as: Before 01/oct/2018
Attribute value is after a specific date	Date	After date	If the Invoice date is after 01/10/2018, then enter the value as: After 01/oct/2018

Condition	Value Type	Format	Example
Attribute value is a specific value and the condition must be evaluated as case insensitive	Text	Equals ignore case value	If the Invoice Source is equal to Manual, then enter the value as: Equals ignore case manual

Note: The operators aren't case-sensitive. However, you must enter the date in the DD/MMM/YYYY or DD-MMM-YYYY format only.

If you've a negative approval condition, add Not as a prefix to any of the supported operators. For example, your approval condition states that BU name isn't Vision Operations, Vision Services, or Vision Foods then enter the value as: Not In (Vision Operations, Vision Services, Vision Foods).

If you've two distinct rule conditions that require the same approval routing, then you must enter the rule conditions in two separate rows. Ensure that the information in the Approvers section is identical for both the rows.

Rule Blocks

A rule block is a group of rows in the workflow rules spreadsheet. You can define a business rule and all aspects of the business rule in these rows. Use a separate block for each business rule.

While all rule aspects defined within a rule block are processed simultaneously, rule blocks are processed in sequence. Therefore, before defining the rules, you must consider the sequence in which the rules should be processed.

You can create more rows in a block and extra blocks in a sheet as needed.

To insert more blocks in a rule block:

1. Select a row.
2. Right-click and select **Add Block**.

To add a rule block after the existing rule blocks, click **Add Block** in the sheet.

To insert more rows in a rule block:

1. Select a row and right-click.
2. From the menu, select **Insert**.

To delete a rule block:

1. Select all the rows in a rule block.
2. Right-click and select **Delete Block**.

Lists

You can use Lists to configure approval rules based on specific business needs, such as associating a department or project with an invoice or setting threshold limits. This provides greater flexibility and control over the approval process, reduces the need for creating and maintaining many rules, and helps improve both efficiency and compliance.

Data Sets

In your approval policy, if the approver of a transaction varies based on the transaction attributes, then you should use a data set. A data set lets you define a mapping between your data and the variation in approvers based on such data.

For example, a transaction with an amount greater than 5000 USD must be approved by an approval group. However, the approval group varies depending on the cost center. In this case, you can use a data set to define a mapping between the cost center and the approval group.

> **Note:** Currently, data sets are only available for templates for Payables Invoice Approval Workflow.

To define a data set, perform these steps:

1. Open the Data Set sheet of the rule template.
2. In the **Set Name** column, enter a unique name.
3. Enter the value in the **Approval Group/Supervisory Level/Job Level Range/User/Role** column. This value depends on the approval routing of the rule for which you're using the data set.

   For the given example, specify the approval group name in the **Approval Group/Supervisory Level/Job Level Range/User/Role** column.

   > **Note:** You can only use an approval group that already exists in the BPM.

4. If your starting approver for rules using Supervisory or Job Level Hierarchy approval routing varies based on transaction attributes, click **Add Start Approver**. This adds the Start Approver column in the data set. You can select any of the values from the list of values or directly enter a user name as the start approver.

   > **Note:** You must select a **Use Data set** value in the Start Approver column of the Approvers section in the Invoice Approval Rules or Invoice Request Approval Rules sheet to specify a start approver in the data set. This ensures that the Start Approvers are picked up from the data set for such rules.

5. In the **Varying Attribute** section, select the attributes based on which the approver varies for the transaction.

   For the given example, select **Distribution Cost Center Segment** from the list of values and specify the cost center values for each approval group.
6. Enter values for each varying attribute. You can also use the supported operators with the values.
7. Click **Add New Column** to create more columns for varying attributes.
8. Click **Add Data Set** to create more data sets.

After you create a data set, you must enter a data set reference in your rule in the Workflow Rules sheet. Prefix the data set name with `$` to create a reference. For example, to reference a data set named Supervisory, enter the value as `$Supervisory Set` in the Workflow Rules sheet.

You can enter the data set references in the Approvers section of the Workflow Rules sheet. Based on the approval routing used for the rule, enter data set references in these columns:

- Job Level Range
- Approval Level
- Group/User/Role Name

> **Note:** You can enable or disable rules and rule blocks. This helps improve efficiency by eliminating the unnecessary steps of copying rules. Disabled rules don't affect approval processing.

Generate Rule File

After entering the data in the Workflow Rules sheet, click the **Generate Rule File** button in the Instructions sheet to generate the rule file. A compressed file is generated. Save the file in your local computer.

Upload the Rule File

To upload the rule file, perform the following steps:

1. Navigate to the Manage Workflow Rules in Spreadsheet page.
2. In the Rule Templates section, select the required workflow.
3. Click **Upload**. The Upload File dialog box appears.
4. In the **File** field, click **Choose File**.
5. From your local directory, select the compressed rule file that was generated from the workflow rules template.
6. Click **Submit**. A confirmation message stating the process ID appears.

   > **CAUTION:** Every successful rule upload using a spreadsheet template overrides the existing rules for the workflow.

7. Click **OK**.
8. Check the status of the upload in the Upload History section.

Update the Rule Template Version

While uploading your rule template, if you're asked to update the file version, perform the following steps:

1. Download the latest version of the rule template from the Manage Workflow Rules in Spreadsheet page. You can select any of the available templates for the workflow.
2. In the Instructions sheet of the rule template, click **Update Spreadsheet**.
3. Select the older version of the rule template and click **OK**.

   This copies rules from the older version of your rule template to the latest version.
4. Review the copied rules and proceed as usual to create rules using the latest version of the rule template.

Verify the Spreadsheet Upload

The Upload History section displays details of the spreadsheet uploads such as the date, user, rule template used, and the status.

If the rule upload process fails, the status is displayed as Error. Click Error to download the Error CSV file. Review the error details, resolve the errors in the spreadsheet, and generate the rule file again.

Related Topics

- Configure Offerings
- How do I update existing setup data?

Rule Blocks

Name the Rule Blocks

You can assign names to the rule blocks created for your approval rules.

Naming rule blocks helps in organizing the approval process. It also shows the purpose and function of each block, making it easier for users to understand and navigate.

In the spreadsheet template, go to the workflow rules sheet. Enter the rule block name in the **Block Name** column. You may enter any legible name that describes the rules in this block.

Enable Rule Block Configuration

Configuring rule blocks improves decision-making during the approval process. It makes it easier to track the flow of approvals, and identify any potential issues in the process.

By default, the blocks defined in the Workflow Rules sheet are executed in the order they are defined. However, you can modify this sequence after enabling rule block configuration.

Here's how you enable rule block configuration.

1. In the Workflow Rules sheet, click **View Additional Settings**.
2. Select the **Enable Rule Block Configuration** checkbox. This opens a new sheet named **Rule Block Configuration**.
3. You can assign then execution order (levels) for the rule blocks in the Rule Block Configuration sheet.

Note: You must name the rule blocks to use them in the configuration sheet.

Configure Rule Block for Parallel Execution

You can enter multiple rule blocks in the same level. By doing so, you ensure that they are executed simultaneously. This ability allows parallel execution of multiple rule blocks. This lets multiple participants review and approve an item simultaneously, improving the approval times.

Additional Rule Blocks

You can insert additional rule blocks in the data sets worksheet if needed.

By default, the worksheet will have a single block with 10 rows in which you can define rules. You can insert additional rows as you require. All the rules that you define within a block will be executed in serial.

If you wish to define additional rules that need to be executed in sequence after the first set of rules is executed, then add an additional block. You can do this using the ‘Add’ button provided in the spreadsheet. Each additional block will have 5 rows by default. You can insert as many rows as you wish in a block.

The rules specified in each block will be executed in sequence after the rules for the previous block have been executed. There is no restriction on the number of blocks that can be added to the sheet.

Types of Rule Blocks

The rule blocks are defined as serial rule block by default but you can change them to parallel or single if needed.

Parallel Rule Blocks

If any of the rules are defined with Approval Routing: Group in parallel then the block or participant type is parallel.

To convert the rule block to parallel, you can define additional rules. If rules have approval routing defined as Supervisory or Job Level Hierarchy then define an additional rule to convert the Block into Parallel as follows:

- Rule Description: SRC_MIGRATION_RULE
- Approval Routing: Group in Parallel

- Approval Group Name: SRC_MIGRATION_GROUP

Single Rule Blocks

If any of the rules are defined with Approval routing: Group First Responder then the block type is single by default.

If rules have approval routing defined as Supervisory or Job Level Hierarchy then define an additional rule to convert the Block into Single:

- Rule Description: SRC_MIGRATION_RULE
- Approval Routing: Group First Responder
- Approval Group Name: SRC_MIGRATION_GROUP

Here's an example for single rule block:

This table shows the Invoice Approval Rates table showing a rule defined for a single block type:

Block Name	Rule Description	Approval Rating	Group/User/ Role Name	Rule Priority	Invoice Header	
					Invoice Amount	*
ManagerApproval	Manager Approver Rule Auto Approval Rule	Supervisory Hierarchy Auto Approve		Medium	>=1000	
	SRC MIGRATION RULE	Group in Parallel	SRC MIGRATION GROUP	Medium	<1000	

Note: You can't have parallel and single types within the same block. You can only have one block type.

Migrate Workflow Rules to Simplified Workflow Rules Configuration Templates

Import existing rules from Oracle Business Process Management (BPM) directly into spreadsheet-based templates.

You can then use the spreadsheet to view and update these rules, before uploading this spreadsheet back on the Manage Rules in Spreadsheet page. Earlier, BPM rules needed to be manually entered into the spreadsheets to use the Simplified Workflow Rules Configuration feature.

Now, you can use this feature to migrate rules for these workflows:

- Payables Invoice Approval
- General Ledger Journal Approval

Here's how you migrate BPM rules to a Simplified Workflow Rules Configuration spreadsheet:

1. Download a BPM rules file.
2. Import the rules from the BPM rules file into the Simplified Workflow Rules Configuration template for the workflow.

Download BPM Rules File

Perform these steps to download a file that contains the BPM rules:

1. Go to the Manage Workflow Rules in Spreadsheet page.
2. In the Migrate Rules from BPM section, click **Download BPM Rules**.
3. On the Download BPM Rules dialog box, select the workflow for which you want to download the rules.
4. Click **OK**.

> **Note:** The BPM rule file is generated only when your rules are supported for migration. You get a message when your rules aren't supported for migration. In such cases, you must use Oracle BPM to manage your rules. Click **BPM Worklist** to go to the Task Configuration tab of the BPM Worklist.

A copy of your current rule configuration for a workflow is saved in UCM when you successfully download it for the first time. The configuration copy is used to restore the rules back to this state after migration.

Import Rules to Simplified Workflow Rules Configuration Spreadsheet

Here's how you import the downloaded rules into a Simplified Workflow Rules Configuration spreadsheet:

1. Go to the Manage Workflow Rules in Spreadsheet page.
2. In the Rule Templates section, select any of the available templates for a workflow and click the **Download** icon in the same row.
3. Open the downloaded file and go to the **Instructions** sheet.
4. Click the **Import Rules** button and then select the BPM rule file downloaded earlier. This imports your BPM rules into the spreadsheet.

> **Note:** Ensure that you select a template for the workflow for which you want to migrate the rules. For example, you must use an Invoice approval workflow template to migrate Invoice rules.

Once the rule migration has completed, you can review the rules and proceed to use this template to view and modify the rules. Once you're done, go to the Instructions sheet and generate the rule file. Next, upload the rule file on the Manage Workflow Rules in Spreadsheet page. The migration process is completed only after a successful upload.

Restore Rules

Use the Restore Rules feature to restore the rules to their previous state (the way they were when the BPM rules file was first downloaded).

Here's what you do to restore the rules:

1. Go to the Manage Workflow Rules in Spreadsheet page.
2. In the Migrate Rules from BPM section, click **Restore Rules**.

   > **Note:** The Restore Rules button is enabled only when there's at least one workflow for which a BPM rule file has been successfully downloaded at least once previously.

3. On the Restore Rules dialog box, select the workflow for which you want to restore the rules.
4. Click **OK**.

After you confirm this action, the configuration file stored in UCM is used to restore the workflow rules to the state before migration.

Note: The Restore Rules always restores the rules to the state they were in at the first time the rule file was ever downloaded. Even if you later change the BPM rules and download the rules file again, this doesn't change the rules file stored in the UCM. It remains the same as the first time the rule file was ever downloaded.

Modify Workflow Rules Using a Spreadsheet

After creating the rules using a spreadsheet template, you can modify them using a spreadsheet.

Note: Each time you make modifications, a new set of rules are created. The new rules overwrite the existing rules.

To modify workflow rules using a spreadsheet, perform the following steps:

1. Navigate to the Manage Rules in Spreadsheet page.
2. In the Rule templates section, select the required workflow.
3. For the workflow, select the link in the Last Successful Upload column. Save the copy of the last successfully uploaded rule template to your local computer.
4. Make the necessary changes in the spreadsheet and click **Generate Rule File**. A compressed file is generated. Save the generated rule file in your local directory.
5. On the Manage Rules in Spreadsheet page, select the required workflow in the Rule Templates section.
6. Click **Upload**. The Upload File dialog box appears.
7. In the **File** field, click **Choose File**.
8. From your local directory, select the compressed rule file to be uploaded for the rule creation that was generated from the workflow rules template.
9. Click **Submit**. A confirmation message stating the process ID appears.
10. Click **OK**.
11. Check the status of the upload in the Upload History section.

    Note: If the upload fails, the status is displayed as Error. Click Error to download the Error CSV file. Review the error details, resolve the errors, and generate the rule file again.

Simplified Rules Configuration

The Simplified Workflow Rules Configuration provides an easy-to-use, spreadsheet-based method to create workflow rules for many features including the Payables Invoice Approval and General Ledger Journal Approval Workflows.

Each workflow that is currently supported by this feature has a set of sample template. For instance, the Invoice Approval Workflow has four templates available for download. Each of these templates uses the same base template for rule creation. However, each template contains a set of rules for different use cases, a summary of which is available in the Instructions worksheet of the template.

Check the specific product feature's documentation to understand which templates are available and how to download/upload them.

Rules Definition Guidelines for the Spreadsheet

Follow the guidelines when defining rules in the spreadsheet.

The structure of spreadsheets may vary based on feature but each spreadsheet contains a worksheet where you can define rules and an instruction worksheet with these columns:

- Approval Related

  For columns related to defining the approval routing and approval participants, reference the specific product feature's documentation as well as the tooltips in the rule templates.

- AND / OR Conditions

  Each row in the rules worksheet represents one rule. Values for attributes specified in the same rule are evaluated as AND conditions.

  You can't specify an OR condition within a single rule. However, you can use IN condition based on the requirements or define a separate rule. Here's an example where invoice approval is a requirement:

  ```
  Business Unit = US and Amount > 1000 or Business Unit = UK and Amount > 10000.
  ```

  Define these rules to meet the above requirement: This table displays the settings to define this rule requirement:

Block Name	Rule Description	Rule Priority	Invoice Header	
			Invoice Amount	Business Unit Item
	Rule 1	Medium	>=1000	US
	Rule 2	Medium	>=1000	UK

  Refer to the specific product feature's documentation to learn how to define rules.

- Reference Transaction Attributes

  Enter the values for attributes with an operator. Position Hierarchy is not supported but Job Level List Builder is available for use.

  Operators supported for defining rules include Strings, Numbers, Dates, Booleans or other attributes. Other transaction attributes are referenced using dot notation. For example:

  Invoice Header.Creation Date or Invoice Header.Invoice Amount.

- Keep Rules to a Minimum

  The number of rules should ideally not exceed 500, you may experience performance issues if it exceeds 500.

- Avoid Rule Proliferation

  Avoid creating multiple rules which only differ by the values of one or two attributes. For example, consider the following Invoice Approval rules, where a different rule has been created for each cost center. These rules can be simplified and the overall number reduced by rewriting using the IN Operator to evaluate the cost center.

- Implementing Position Hierarchy for Approvals

  Position Hierarchy is not supported but Job Level List Builder is available for use.

Operators Supported for Defining Rules

This section provides a list of operators that are supported for defining rules.

This table displays list of operators supported when defining conditions.

Operator	Supported Data Types	Combination with NOT Operator
No Operator	STRING / NUMBER / DATE / BOOLEAN	No
IN	STRING / NUMBER	Yes
BETWEEN	NUMBER / DATE	Yes
STARTS WITH	STRING	Yes
ENDS WITH	STRING	Yes
CONTAINS	STRING	Yes
MATCHES	STRING (also supports regular expressions)	Yes
MORE THAN EQUAL TO / >=	NUMBER	No
LESS THAN EQUAL TO / <=	NUMBER	No
MORE THAN / >	NUMBER	No
LESS THAN / <	NUMBER	No
NOT	STRING / NUMBER / DATE / BOOLEAN	No
EQUALS IGNORE CASE	STRING	Yes
ON OR BEFORE	DATE	No
ON OR AFTER	DATE	No
BEFORE	DATE	No
AFTER	DATE	No
Exists / Not Exists	All nullable attributes	

Note that only round brackets () are to be used and only when set values are being specified and that the supported date format is DD-MON-YYYY OR DD/MON/YYYY.

This table lists operators and their usage.

Operator	Supported Data Types	Forms	Comments	Example
No Operator	STRING / NUMBER / DATE / BOOLEAN	<value>	If no operator is specified, it will be treated as equal to (IS operator).	Seeded, Standard
IN	STRING / NUMBER	in (<value1> , <value2>...)	At least two values required.	in (100,200,300)/ not in (100,200,300) in (Tax, Hold, Standard) / not in (Tax, Hold, Standard)
BETWEEN	NUMBER / DATE	between <value1> AND <value2>	Case insensitive static string (between, and).	between 1000 and 2000 / Not between 1000 and 2000
		<value1> TO <value2>	Both values inclusive	1000 to 2000 / Not 1000 to 2000 between 1/nov/2018 and 1/dec/2018 / Not between 1/nov/2018 and 1/dec/2018 1/jan/2018 and 31/jan/2018 / Not 1/jan/2018 and 31/jan/2018

Operator	Supported Data Types	Forms	Comments	Example
STARTS WITH	STRING	starts with <value>	Case insensitive static string (starts with, startswith).	starts with Text / Not starts with Text
		startswith <value>		startswith Standard / Not startswith Standard
ENDS WITH	STRING	ends with <value>	Case insensitive static string (ends with, endwith).	ends with Manager / Not ends with Manager
		endswith <value>		endswith Approval / Not endswith Approval
CONTAINS	STRING	contains <value>	Case insensitive static string (contains).	contains invoice / Not contains invoice
MATCHES	STRING (also supports regular expressions)	matches <value>	Case insensitive static string (matches).	matches Seeded\\s(.*)Configuration
				Not matches Seeded\\s(.*)Configuration
				It matches strings Starts with Seeded and ends with configuration. In between there can be one space and any character.
				(.*) - zero or more character
				(.+) - one or more character
				\\s - denotes space
				\\d - digit 0-9
				? - to make a char optional ex - \\d?
				[ ] - to give range like a-z, A-Z, 0-9

Operator	Supported Data Types	Forms	Comments	Example
				refer java regex support for more.
MORE THAN EQUAL TO / >=	NUMBER	more than equal to <num>	Case insensitive static string (more than equal to).	more than equal to 1000
		>= num		>= 1000
LESS THAN EQUAL TO / <=	NUMBER	less than equal to <num>	Case insensitive static string (less than equal to).	less than equal to 2000
		<= <num>		<= 2000
MORE THAN / >	NUMBER	more than <num>	Case insensitive static string (more than).	more than 10000
		> <num>		>10000
LESS THAN / <	NUMBER	less than <num>	Case insensitive static string (less than).	less than 50000
		< <num>		< 50000
NOT	STRING / NUMBER / DATE / BOOLEAN	Not <value>	Case insensitive static string (not).	not Seeded
EQUALS IGNORE CASE	STRING	equals ignore case <value>	Case insensitive static string (equal ignore case, equalsignorecase).	not 1000
				not 01/jan/2018
				not true
				equalsignorecase withholding tax / Not equalsignorecase withholding tax
ON OR BEFORE	DATE	on or before <value>	Case insensitive static string (on or before).	equals ignore case withholding tax / Not equals ignore case withholding tax
				on or before 1/Dec/2018

Operator	Supported Data Types	Forms	Comments	Example
ON OR AFTER	DATE	ON or BEFORE on OR before On Or Before on or after <value>	Case insensitive static string (on or after).	on or after 1/Jan/2018
BEFORE	DATE	before <value>	Case insensitive static string (before).	before 1/Nov/2018
AFTER	DATE	after <value>	Case insensitive static string (after).	after 1/Nov/2018

Data Set Configuration for Approval Groups

You can use data sets to map Approval Groups based upon varying attributes.

A data set lets you define a mapping between your data and the variation in approvers based on the values of varying transaction attributes.

For example, if an organization requires approval by Approval Group for any invoice having an invoice amount greater than USD 500. In addition, they have different approval groups for different cost centers within the organization. Therefore, the approval group to which the invoice will be routed for approval will depend upon the cost center on the invoice.

Use the Data Set sheet to map Approval Groups based upon varying attributes:

- Specify the conditions based upon which approvers vary for your approval rules.
- Define each set of varying attributes a dataset. Using data sets is optional.

You must prefix the data set with '$' when using data sets in the rule definition. For example, a data set named FINAPPROVALGROUPS must appear as '$FINAPPROVALGROUPS' in the rules.

This table displays the columns for defining data sets:

Column	Description	Mandatory (Y/N)
Set	Name of the data set. This name should be used in the rules worksheet whenever required during rule definition.	Y
Group/Job Level/User/Role	The value of Approval Group or Job Level or User or Role.	Y

Column	Description	Mandatory (Y/N)
	The value provided will depend upon the Approval Routing of the rule.	
Varying Attributes	There will be three columns provided for Varying Attributes. Therefore, you can define data sets that by 3 or less attributes. Each data set can refer to a different set of attributes.	N

Data set sheets have one block for each data set by default. However, you can add additional blocks as needed. Each block has 5 rows by default. You can insert additional rows to the block.

Additional Settings

You can use the Additional Settings dialog box to enable additional settings.

You can click **View Additional Settings** on the Invoice Approval Rules page and enable these options on the Additional Settings dialog box:

- Supplementary Job Level Options
- Voting Outcome Properties
- Enable Rule Block Configuration
- Enable Lists

Advanced Configuration in Attribute Categories

Aggregate Functions

You can specify advanced configuration for aggregate functions.

This table lists the aggregation functions of advanced configuration.

Function	Description	Syntax	Example
Count	Returns the total number of data items such as Invoice Lines and Invoice Distributions.	Count of <item type> {where <conditions...>}	Count of Invoice Distribution { where Exchange Rate > 75 AND Exchange Rate Type ="Fixed" } Greater Than 1000
Sum	Returns the total of all the values of the selected attribute.	Sum of All <rule attribute> {where <conditions...>}	Sum of all Invoice Line.Amount { where Match Type = "2-way Match" } Equals 1000

Function	Description	Syntax	Example
			Sum of all Invoice Line.Amount { where Line Type = "Tax" } Between 1000 and 5000
Maximum	Returns the largest value in a set of values of the selected attribute.	Maximum of <rule attribute> {where <conditions...>}	Maximum of Invoice Distribution.Amount { where Distribution Match Type = "NOT MATCHED" } Equals 1000
Minimum	Returns the smallest number in a set of values of the selected attribute.	Minimum of <rule attribute> {where <conditions...>}	Minimum of Invoice Distribution.Amount { where Distribution Match Type = "NOT MATCHED" } Equals 1000
Average	Returns the average of all the values of the selected attribute.	Average of <rule attribute> {where <conditions...>}	Average of Invoice Line.Base Amount { where Expense Group = "Travel" } Less Than or Equal 1000

Method Functions

You can specify advanced configuration for method functions.

This table lists the method functions of advanced configuration:

Function	Description	Syntax	Example
Absolute	Always returns the positive value of the selected attribute.	Absolute value of <rule attribute>	Absolute value of Invoice Distribution.Amount Variance Greater Than 1500 Absolute value of Invoice Distribution.Amount Variance Between 500 and 1000
Negate	Changes the sign of numerical value for the selected attribute.	Negate value of <rule attribute>	Negate value of Invoice Line.Control Amount Between 500 and 1000
Index Of Character	Returns the position of the first occurrence of specified character(s) in a string.	Index of <search string> from <a given point> in <rule attribute>	Index of "VS" from 1 in Invoice Line.Account Segment Equals 6
Replace All	Replace parts of the text with a different string.	Replace All <search string> with <replacement string> in <rule attribute>	Replace All "Vision" with "VS" in Invoice Header.Business Unit Name ends with VS
Sub String	Extract part of a given string, based on a specified starting position and ending position.	Sub string of <rule attribute> from <start index> to <end index>	Sub string of Cost Center Total.Center Name from 1 to 3 Equals EE
Transform to Uppercase	Converts the text in the attribute to upper case.	To upper case of <rule attribute>	To upper case of Invoice Header.Invoice Source equals INVOICE To upper case of Invoice Header.Invoice Source not equals APPROVALS

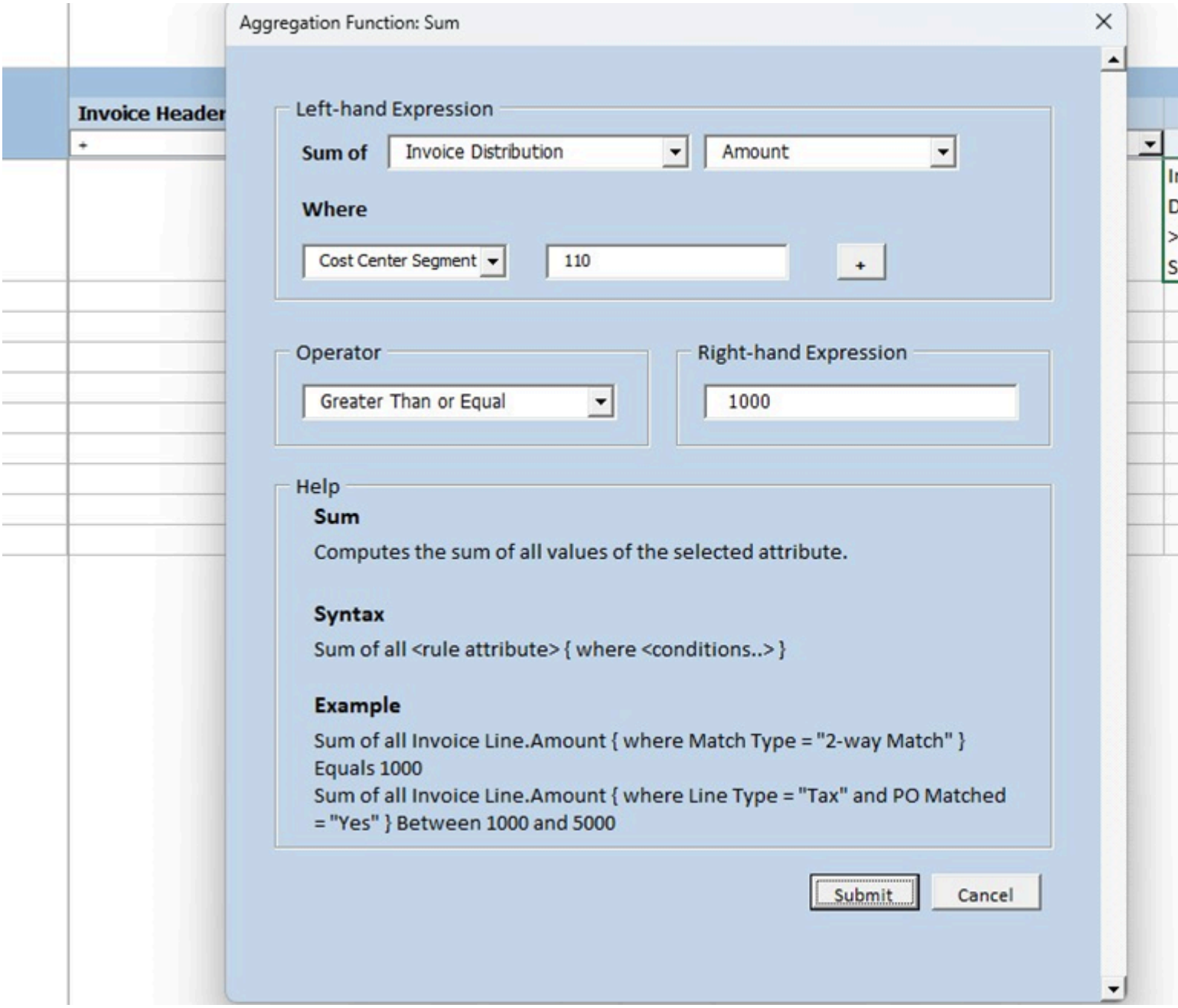
Function	Description	Syntax	Example
Transform to Lowercase	Converts the text in the attribute to lower case.	To lower case of <rule attribute>	To lower case of Invoice Header.Invoice Source starts with pos To lower case of Invoice Header.Invoice Source equals internal
Trim White Spaces	Removes white spaces and rearranges the text in the attribute.	Trim of <rule attribute>	Trim of Invoice Header.Invoice Type equals Standard Trim of Invoice Header.Invoice Type not equals Memo

Example Using SUM

Here's an example showing the Aggregation Function SUM dialog box with preferred settings.

For cost center 110, Approver A is authorized to approve when total Invoice Distribution Amount is greater than or equal to $1000.

This image shows the settings for the above condition.



There is No Case Where Condition

You can implement the 'there is no case where' pattern with the Advanced Configuration COUNT function when required.

To implement this pattern, you must specify that the count should be equal to 0. This indicates that the selected data item has a count of 0.

An example is to validate that there is no case where an Invoice Distributions has not been matched to a PO.

FAQs for Manage Workflow Rules Using a Spreadsheet

What version of MS Excel is supported for rule creation?

Currently, only MS Excel version 2016 is supported for rule creation.

How can I generate the rule file??

After entering the data in the Workflow Rules sheet, click the Generate Rule File button in the Instructions sheet to generate the rule file. A compressed file is generated. Save the file in your local computer.

How can I make my existing BPM rules available in the rule template?

You can't move your existing BPM rules to a rule template automatically. You must enter them in the rule template manually and upload it to create rules.

Why can't I see the rules that I created using the rule template in BPM?

Here are two reasons why you can't see the rules:

- Your rule file upload failed. Check its status in the Upload History section on the Manage Workflow Rules in Spreadsheet page.
- You are viewing workflow rules in edit mode in BPM. On the **Task Configuration** tab, click **Reset** to see the updated rules.

What happens to my existing rules when I successfully upload a rule file for a workflow?

With each successful upload, all existing rules for that workflow are overwritten. You must download the last successfully uploaded rule file and use it to make any modifications when required.

Define Where and How Users Can Act On Workflow Tasks

For any workflow task, you can prevent users from acting on tasks through email. Or, require them to verify their identity before updating the task outcome. You can also make comments required, optional, or not allowed.

By default, users can act on workflow tasks from email notifications, their worklist, and anywhere else they get to the task. Also, users can add comments while updating the task outcome, for example to explain why they're rejecting something.

Here's more detail about what you can configure for a workflow task:

- Set it up so that users can act on tasks only when they're in the application, not from emails.

- Make it required, optional, or not allowed to enter comments when approving or rejecting tasks. For example, you might require comments for auditing or regulatory purposes.
- Require users to verify their identity before updating the task outcome from the application.

Here's how you go about it:

1. In the Setup and Maintenance work area, go to **Manage Task Configurations** in the Application Extensions functional area. Or, depending on your offering, you might use a different functional area or another approval setup task.
2. In BPM Worklist, on the Task Configuration tab, search for the workflow task in the **Tasks to be configured** pane.
3. Select the task from the search results and click the **Edit task** icon in the toolbar.
4. Open the Configuration subtab.
5. If you want users to update tasks only from the application, not from email, select the **Perform update outcome only from task form** check box in the Approval Pre-conditions section.
6. To make comments required, optional, or not allowed when users approve or reject tasks, select an option for the **Approve** and **Reject** lists. For example, select the **Required** option for both **Approve** and **Reject** lists to make comments required.

   > **Note:**
   > - These settings apply only to new tasks that users submit after you finish these steps, not to tasks that are already in progress.
   > - For in-app UIs, the validation applies right before the user approves or rejects. For example, let's say comments aren't allowed for approval. The user adds a comment and then does something else immediately to the task, like save, if such actions are available. When they then click **Approve**, they won't get an error. If they add a comment and then immediately click **Approve**, they would get an error.

7. Click the Access tab.
8. Select a value for the **Signature Policy** list to determine what users need to do or not before updating the task outcome.
   - No Signature Required: Users don't need to verify their identity.
   - Password Required: Users need to enter a password or more, depending on the task.
9. Click the **Commit task** icon on the **Tasks to be configured** toolbar when you're ready to roll out your changes.

Related Topics

- Search for Workflow Tasks to Configure

Change Workflow Task Titles

Titles for workflow tasks appear in many places, such as the notifications list in the global header. You can change task titles and specify titles for specific languages. For example, Korean users see the task title you define for Korean.

This screenshot shows parts of the Task Configuration tab in BPM Worklist, where you can define the task title.

1. In the Setup and Maintenance work area, go to the **Manage Task Configurations** task or another approval setup task in the Application Extensions functional area or another functional area.
2. In BPM Worklist, on the Task Configuration tab, search for the workflow task in the **Tasks to be configured** pane.
3. Select the task from the search results and click the **Edit task** icon in the toolbar.

Tip: At any time before you click the **Commit task** icon in the **Tasks to be configured** toolbar, you can still click the **Reset** icon to go back to the predefined title.

Define a Single Title for All Languages

If you want different titles for specific languages, skip this section and follow the steps in the next section.

1. On the General subtab, click the first **Title** icon after the **Title** field.
2. Use the expression builder to define what's shown as the title at runtime.
3. Click **OK**.
4. Click the **Commit task** icon in the **Tasks to be configured** toolbar when you're ready to roll out your changes.

Define Different Titles for Specific Languages

Repeat these steps for each language where you want to override the predefined title.

1. On the General subtab, click the second **Title** icon after the **Title** field.
2. In the Translations dialog box, select a language in the **Locale** list.
3. Click the **Add Row** icon.
4. In the Key column, enter whatever you want to identify this title with. If you choose to use this title, then the key is shown in the **Title** field on the General subtab. Users won't see it.
5. In the column with the locale name, enter the title that users see. If you want the title to have variables, then use numbers in braces for each variable, starting with 0. For example, your title can look something like this: Request from {0} for Transaction {1}.
    a. Click the **Edit** icon if you have any variables.
    b. In the Edit Arguments dialog box, click the **Expression Builder** icon in the Value column.
    c. Use the expression builder to define what's shown in the title at runtime instead of the variable.
    d. Click **OK** to get back to the Translations dialog box.
6. Optionally add more rows and define more titles in the Translations dialog box for this language, for example, if you have other titles you might want to use later.
7. In the Translations dialog box, select the title to use for this language, and click **OK**.
8. Click the **Commit task** icon in the **Tasks to be configured** toolbar when you're ready to roll out your changes.

Related Topics

- Search for Workflow Tasks to Configure

Workflow Task Life Cycle Setup

Define When to Automatically Dismiss or Withdraw Workflow Tasks

For a workflow task to be purged and removed from users' worklists, it must have a final status, like Completed or Withdrawn. FYI tasks must be dismissed. You can control when FYI tasks are eligible to be automatically dismissed.

Tasks go from the Assigned status to the Completed status when the final assignee approves or rejects the tasks. For your information (FYI) tasks get a final status when assignees explicitly dismiss the tasks. If assignees don't do anything within a certain period of time that result in a final task status, the tasks are automatically dismissed (FYI tasks) or withdrawn (all other tasks).

When FYI Tasks Are Eligible to Be Automatically Dismissed

The **FYI Notifications Expiration Period** (FND_NOTIFICATION_EXP_PERIOD) profile option controls when FYI tasks are eligible to be automatically dismissed.

1. In the Setup and Maintenance work area, go to the **Manage Applications Core Administrator Profile Values** task in the Application Extensions functional area.
2. On the Manage Applications Core Administrator Profile Values page, leave the profile option with the default value of **7** at the Site level, or replace it with a different number.

The profile value represents the number of days after the FYI task is created. When assignees don't read or dismiss an FYI task within this many days after the task was created, the task is then eligible to get automatically dismissed.

When All Other Tasks Are Eligible to Be Automatically Withdrawn

All other tasks (the ones that aren't FYI) are eligible to be automatically withdrawn if both of these things happen:

- The expiration settings for the particular task is set to **Do Nothing** on the Deadlines subtab, within the Task Configuration tab in BPM Worklist.
- Assignees don't take action to send the task to a final status within 180 days after the task was created. This number is reflected in the **Open Tasks Withdrawn After Number of Days** field on the Application Preferences page, which you can open by clicking the Administration tab in BPM Worklist.

When Eligible Tasks Are Automatically Dismissed or Withdrawn

Now we know when tasks are eligible, but when are they actually dismissed or withdrawn automatically?

- FYI tasks: A process runs every three days, starting the first day of each month. For example, it runs on May 1, 4, 7, and so on, and again on June 1 and every three days after. So, if you leave the FYI Notifications Expiration Period profile value at 7, depending on when the process runs, an FYI task can be automatically dismissed within seven to ten days after it's created. The process changes the task status from Assigned to Completed.
- All other tasks: A process runs every three days, starting the second day of each month. For example, it runs on May 2, 5, 8, and so on, and again on June 2 and every three days after. The process changes the task status to Withdrawn.

Related Topics

- Set Profile Option Values
- Define the Due Date and Expiration Policies for Workflow Tasks
- How do I update existing setup data?

How Workflow Tasks Are Archived and Purged

Workflow tasks with a final status of Completed, Errored, Expired, or Withdrawn can be archived and purged. In progress tasks with statuses like Assigned, Information Requested, or Suspended aren't eligible.

- Archiving keeps a copy of the task data for audit, data retention or analysis, and other purposes. Archived data includes task details, approval history, comments, and attachments. How you view or use the archived data depends on the products you're using. For example, the data might be displayed in a table on a page, or available through a business intelligence subject area that you can select to create an analysis.

  These are the database tables that store the archived data:

  - FND_BPM_TASK_B
  - FND_BPM_TASK_TL
  - FND_BPM_TASK_HISTORY_B
  - FND_BPM_TASK_HISTORY_TL
  - FND_BPM_TASK_ASSIGNEE
  - FND_BPM_TASK_COMMENT
  - FND_BPM_TASK_ATTACHMENT
- Purging removes the completed tasks from users' worklists and permanently deletes the original data.

Archive

Tasks are automatically archived once a day without you having to set anything up. You can't change or stop this automatic archive, which includes all eligible tasks that aren't archived yet. These scheduled processes run in this order to get the daily archive done:

- Extract Workflow Tasks for Archive
- Process Translations for Workflow Tasks Archive
- Upload Workflow Task Attachments for Archive

All three scheduled processes must complete for tasks to get archived. But, as soon as **Extract Workflow Tasks for Archive** is done, the tasks are available for purge. It usually takes around two hours for each automatic process to finish.

Though unlikely, if you ever need to archive more frequently, you can use the Scheduled Processes work area to manually run these processes. But it's best not to unless it's really necessary. In which case, keep these in mind:

- Run the processes in the same order that they're run for the automatic archive.
- Don't run these processes when any of the three processes are still running, including the automatic runs.
- Run the processes during off hours, but not at midnight when the purge is running.

- Optionally set parameters for the **Extract Workflow Tasks for Archive** process. Let's say you select 50000 for the Number of Tasks in Batch parameter and 120 for the Maximum Runtime in Minutes parameter. That means the process will archive in batches of 50000 workflow tasks. If it's still running after two hours, the process finishes archiving the current batch and then stops. You can check the log file of the process to see how many tasks are included in the archive.

If the automatic archive isn't working, don't manually run the processes to compensate. Instead, contact your help desk to ensure that the automatic archive works again.

Purge

Archived tasks that were last updated over 30 days ago are purged without you doing any setup. The purge runs daily at midnight. You can't change or stop this automatic purge.

After a task is purged, users can no longer find it in BPM Worklist or the Worklist: Notifications and Approvals work area. The task's approval history won't be available either. But, the tasks are still in the archive tables and available in analytics or anything else that reflects the archived data.

Note: If the Approvals work area is enabled, it replaces the Worklist: Notifications and Approvals work area.

Related Topics

- Submit Scheduled Processes and Process Sets
- View Status and Other Details for Scheduled Processes
- Oracle Fusion Cloud Applications Tables and Views for Common Features

Set Up the Worklist Region on My Dashboard

The Worklist: Notifications and Approvals region displays the workflow tasks assigned to the user. You can add this region to My Dashboard for all users, and set the Welcome Dashboard Worklist Timeout Interval (ATK_HOME_PAGE_WORKLIST_TIMEOUT) profile option.

Adding the Region

To add the Worklist: Notifications and Approvals region to My Dashboard:

1. Click **Navigator** > **Others** > **My Dashboard**.
2. If the Page Composer isn't active, click the **Activate a sandbox** link in the warning dialog box to activate a sandbox with that tool.
3. Click your initials in the global header, and select **Edit Pages** in the Administration menu group.
4. Click the **Add Content** button where you want to place the region.
5. Open the Application Content folder in the Add Content dialog box.
6. Click **Add** for the Worklist: Notifications and Approvals item.
7. Click **Close**.
8. Save your work, and then click the **Close** button.

Defining the Timeout Interval

When users open My Dashboard and it contains the Worklist: Notifications and Approvals region, data for the region is retrieved. The Welcome Dashboard Worklist Timeout Interval profile option determines how long to continue retrieving before timing out and displaying no data. In the Setup and Maintenance work area, use the following:

- Functional Area: Application Extensions
- Task: Manage Application Toolkit Administrator Profile Values

> **Note:** If you don't see this task, then make sure that the Application Toolkit Component Maintenance feature is enabled at the offering level in the Offerings work area.

On the Manage Application Toolkit Administrator Profile Values page, set the Welcome Dashboard Worklist Timeout Interval profile option.

- If you don't set a value for this profile option, which is blank by default, then the region doesn't time out.
- Retrieving data for the Worklist region affects the performance of My Dashboard as a whole. So, select a value for this profile option if your users have the Worklist region on My Dashboard and notice performance issues.

After the timeout, users can refresh the region to try retrieving the data again.

Related Topics

- Set Profile Option Values
- Create and Activate Sandboxes
- Configure Offerings
- How do I update existing setup data?

Best Practices for Approval Management

Use Direct Attribute Reference

During approval rules configuration, you may need to specify some transactional attributes. You can do this in two ways:

- Use a direct attribute reference.
- Use the attribute from the task payload object.

For example, consider the attribute Invoice Amount, which is a part of the Invoice Header object. Here's how you can specify the attribute in the approval rule.

Using Direct Attribute Reference	Accessing Attribute from Task Payload Object
`Invoice Header.Invoice Amount`	`Task.payload.getInvoiceHeader1Response.result.Invoice Amount`

The recommended best practice is to always use a direct attribute reference when creating approval rules. This optimizes the rule evaluation process at runtime.

Use Null Checks for Optional Attributes

Among the transaction attributes used in rule conditions, there might be some attributes which are optional during transaction entry.

When creating rules using such optional attributes, it's recommended to include a null check condition. This ensures that rule evaluation doesn't fail for transactions which have no value entered for such optional attributes.

For example, for an approval rule condition using Purchase Order Number attribute for Payables Invoices:

```
InvoiceHeader.Purchase Order Number startsWith ABC
```

Add a null check condition to cover those invoices which don't have a purchase order number referenced on them.

```
InvoiceHeader.Purchase Order Number != null
```

It happens quite often that the user doesn't enter any value for an optional attribute on the UI. If an optional attribute is used in the approval rules, it will lead the server to throw a null pointer exception. The application will reject the transaction when such a rule is executed. It is highly recommended to include a null check operation wherever optional attributes are used.

Optimize Rule Evaluation

Business rules involve complex interactions between attributes from various objects. These interactions are sometimes repetitive in nature. Cartesian product condition occurs when such a rule leads to the creation of many objects (or child facts). It causes performance issues during rule evaluation.

Avoid these issues by optimizing the rule evaluation when parent and child attributes are used within the same rule. When a rule is configured using child and grandchild attributes, you must establish the relationship between them. When a rule is configured using both line and distribution attributes, establish the relationship between parent and child attributes. This ensures that only the distributions for those lines that meet the line conditions are evaluated. If such relationship isn't established, then all distributions for the invoice as a whole are evaluated for every line matching the rule conditions.

Consider an organization where the approval policy mandates that the Finance department must approve all invoices with capital expenditure more than 5000 dollars, if they are matched to a purchase order. Capital expenditures are charged to a specific account. For such invoices, the workflow administrator must configure a rule to check the following conditions:

- Invoice amount is more than 5000.
- Invoice line is matched to purchase order.
- Invoice distribution account for the related lines references the capital expenditure account number.

In the basic mode, both the parent (Invoice Line) and the child (Invoice Line Distributions) attributes may be present in the same rule without any additional condition establishing their relationship.

When the basic rule is validated, BPM checks whether a join condition exists between the parent and child attributes. When a relationship doesn't exist, the business rule validation displays the message that the rule configuration ended in an inefficient rule evaluation. You can click the message link to add the missing join condition.

On clicking the message link, the Rule Recommendation dialog box displays 2 options. Here's a table describing the options and the effects of selecting them:

Option	Effect
Optimize rule definition by adding 'contains' condition automatically between parent and child facts	Selecting this option adds the additional join condition automatically between the parent and child attributes.
Edit rule in basic mode to optimize rule definition by adding join condition between parent and child facts. Alternatively, change rule to Advanced mode and optimize rule definition.	Selecting this option displays the problematic rule and condition. You can either add the join condition manually, or change the rule to Advanced mode.

You can select either option to establish the relationship between the parent and child attributes. Then, BPM validates and saves the rule.

Workflow Transaction Console

Overview of Workflow Transaction Console for Financials

Use the workflow Transaction Console to monitor and troubleshoot workflow tasks for the Invoice, Expenses, Journal, Payment Approval, and Account Coding workflows.

From the console you can:

- View the latest status of all workflow tasks.
- Review the issue description and resolution for failed tasks.
- Take appropriate action on a failed task.
- Search tasks based on user-defined criteria.
- Download search results to a spreadsheet.

Related Topics

- Give Users Access to Manage Financials Workflow Transactions

Give Users Access to Manage Financials Workflow Transactions

Users can manage transactions for the Invoice, Expenses, Journal, Payment Approval, and Account Coding workflows from the Transaction Console.

Give Financial Users Administrator Access

You can give users access to the Transaction Console work area using predefined job roles or your own configured job roles. Depending on what you choose, you have a couple of options.

- Assign the predefined Financials Application Administrator (ORA_FUN_FINANCIAL_APPLICATION_ADMINISTRATOR_JOB) job role.
- Your own configured job role must include the Financial Transaction Approval Reviewing (ORA_FIN_REVIEW_APPROVAL_TRANSACTIONS) duty role.

Limit What Users Can See

By default, users who have access to the Transaction Console work area can see all transactions, from all product families.

To make sure that financial users view only the financial workflows, enable transaction security:

1. In the Setup and Maintenance work area, go to the Manage Enterprise HCM Information task.
    - Offering: Financials
    - Functional Area: Enterprise Profile
    - Task: Manage Enterprise HCM Information
2. On the Edit Enterprise page, click **Edit** and then select **Update**.
3. Complete the fields in the Update Enterprise dialog box and click **OK**.
4. In the Transaction Console Information section, select **Enable Transaction Security**.
5. Click **Submit**.

> **Note:** You just need to do this for one offering. The setting now applies to all product families. If you're also using Oracle HCM Cloud, make sure to set up transaction security profiles so that HCM administrators can see and act on HCM transactions.

Related Topics

- Assign Roles to Implementation Users
- Edit Job Role and Abstract Role
- Role Copying or Editing

Things to Check If There Are Issues with Workflow Tasks

After you configure workflow tasks, it's possible to have some issues when they're actually in use. Let's take a look at some issues that might come up and how you can proceed when they do.

Task Isn't Getting Assigned to Approvers

One main way to tell this is happening is that when users open a workflow task, they see a message saying that the approval history can't be displayed. That usually means something about the related approval rule is not quite right, so approvers can't be found. Here are some things to check to make sure the rules are working correctly:

- Click the **Show Advanced Settings** icon for the rule set and rules to make sure that both are active and effective.
- If the rule is routing to an approval group, make sure that the group actually exists and has members.
- If the list builder is using the supervisory hierarchy, check for these things:
    - Are there enough manager positions to fulfill the number of levels needed for approval?
    - Does the supervisor hierarchy go up that far from the task creator or the person the task is created for, depending on which is the starting participant?
    - Is there a top participant defined in the rule?
    - Is the rule configured to always route to an implementation user instead of managers in the hierarchy?
- Review the rules in general to make sure the conditions have enough information to be true.
- If the rule is defined to automatically approve or reject, ask the task creator to try and submit their transaction again.

Assignees Don't Get a Notification

In the Transaction Console work area, look for the transaction, which would have an error. If available as an option, withdraw the transaction. Otherwise, review the error and logs, if any, and address the issue.

To confirm that something went wrong with the notification, the task creator or the current assignee can also check for tasks with errors, for example in the notifications list in the global header or the Worklist: Approvals and Notifications work area.

Assignees Can't Approve By Email

Here are some things to check:

- Is this an email-only issue? Can the assignee can approve from somewhere else, for example the notifications list in the global header or the Worklist: Approvals and Notifications work area?
- Does the email have links that the assignee can click to take action? If not, open the task configuration and make sure that the Make notification actionable check box is selected in the More section of the Notifications subtab.
- Did the assignee already take action on the task elsewhere, outside email?

Pending Task Prevents Further Update

If there's no movement on a task for a while, future approvers can't act on the task and move things along.

- It could be that there's nothing wrong. The task is just pending action from the current assignee. In which case, remind them to act on the task.
- Find out who created the task and check if there's an error with the task.
    - If you recently had an upgrade and the error wasn't already there before the upgrade, make sure to resolve the issue.
    - If the creator wants to withdraw the task, whether there's an error or not, they can do that themselves or have you withdraw for them from the Transaction Console work area.

Approvals Are Complete But Result Isn't Reflected

Even though a workflow task has a Completed status, it could be that what you expect to happen next due to the approval hasn't happened yet. In which case, check on these things:

- Did all approvers act on the task? Did any approver reject?
- Has the task expired? Check the task configuration to see if expiration policies are set on the Deadlines subtab. Also, the task creator should have received a notification if it expired.
- Did the task creator get any notifications about errors with the task? In the Worklist: Notifications and Approvals work area, they should select Any for the Status filter to make sure they review all notifications.

> **Note:** If the Approvals work area is enabled, it replaces the Worklist: Notifications and Approvals work area.

Monitor and Troubleshoot

Audit the Changes Made to Task Configurations

To help you troubleshoot or manage workflow setup, you can get audit information about changes to task configurations. For example, which task was updated, who made the change and when. Use the Audit Reports work area to get audit results.

Here's what you search on:

- Product: Oracle SOA Suite (SOA)
- Event Type: SOA DT@RT Change

Setup

Workflow tasks are audited as long as the audit level is set to Low, Medium, or High for Oracle SOA Suite on the Manage Audit Policies page. You get the same audit results for workflow tasks no matter which of these levels is selected. To check the setup, in the Setup and Maintenance work area, use the **Manage Audit Policies** task in the Application Extensions functional area. If you don't see this setup task, make sure the Maintain Common Reference Objects feature is enabled at the offering level.

Related Topics

- Audit Policies
- Audit Reports
- How do I update existing setup data?
- Configure Offerings

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> **Note:** If the Approvals work area is enabled, it replaces the Worklist: Notifications and Approvals work area.

Transaction Console

Manage Workflow Transactions

After workflow tasks are created, it's helpful to keep track of them and jump in when needed, especially when something goes wrong. If you have the appropriate access, you can monitor and troubleshoot workflow tasks for others and for yourself.

Use the Transaction Manager: Transactions page in the Transaction Console work area to manage transactions. A transaction is a business process that involves a workflow task. Here are some of the things you can do:

- Track transaction statuses and download spreadsheets with information about transactions.
- Download and review diagnostic logs for transactions. For example, you can see the conditions in the approval rules that might have caused an error.
- Depending on what's going on with the transaction and what access you have, you might be able to, for example, reassign or recover the transaction.

Find Transactions

Follow these steps:

1. Click **Navigator** > **Tools** > **Transaction Console**.
2. If you see tabs, make sure you're on the Transaction Summary tab.
3. On the Transaction Manager: Transactions page, check the **Last Refresh** time stamp after the page title to see when the transaction statuses were last updated. Click the **Refresh** icon if needed. You can refresh any time as long as someone else didn't already start a refresh.
    - You can also click the **Refresh** icon for a specific row in the table to refresh individual transactions.
    - Also, the **Refresh Transaction Administrator Console Transaction Status** scheduled process automatically runs to refresh the statuses.
    - If you open the details for a specific transaction (step 5), its status also refreshes and you see the latest on the details page.
4. View the transactions with a status that matches the default Status filter, for example Failed. You can remove this filter to get results for all statuses. Or, use the search and filters to apply your own criteria, for example, to find transactions that are priority 1 or submitted by a specific person, or to use more performant fields.
    - You can use the search to find results based on keywords in the **Name** or **Process Name** column, or specifically use the Name or Process Name filters. Name is the person or object the workflow task applies to, and the process reflects the type of workflow task.
    - You can personalize filters to add or hide filters, and create saved searches for future use. For example, it's recommended to use the more performant **Assignee Name** field instead of Assigned To, and to select the **Assignee Role** field to search for transactions assigned to a specified role. If the **Submitted By** field is part of your saved search, you may be prompted to re-create the search to take advantage of a more performant Submitted By field.
5. Select and act on the transactions right there from the results table, or click the transaction in the **Name** column to see details, such as diagnostic information for failed transactions, and go from there.

Act On Transactions Without Opening Details

Here's what you do:

1. Select one or more transactions from the results table.
2. Optionally use the **Priority** menu to set an issue priority, so that you can later filter on the priority to find these transactions.
3. Open the **Actions** menu and select an action. If you selected more than one transaction, you see only the actions that can apply to all of them.

Use Transaction Details

What you can see and do in the transaction details depends on the transaction status and what access you have. For example, for transactions that are in progress or completed, you might see the approval history, which shows who already approved and who the current assignee is, if any.

For failed transactions, you can get information about the issues and, if you're an administrator, usually take some action:

1. Select an issue from the **Issues** list, if the transaction has more than one issue.
2. Review the information in the Instructions and Details sections, including any description and resolution for the issue, as well as the related workflow task and approval rule.
3. Click the **Download** link to get the diagnostic log.

4. Use the **Issue Priority** list to set an issue priority, if you want to later filter on the priority to find this transaction.
5. From the **Assigned To** list, select the person who should fix the issue, for tracking and filtering purposes.

   > **Note:** You can change the Assigned To field in your saved search to the more performant **Assignee Name** field, and add the **Assignee Role** field to search for transactions assigned to a specified role.

6. Add comments, for example to track what you're doing to address the issue, or note down any service request IDs. You and others can see these comments only in the Transaction Console, not with the workflow task in the worklist.
7. If you can, take action to address the issue. Here are some examples of how you might go about it:
   - Open the **Actions** menu and select an action to manage the transaction.
   - Follow up with the person you assigned the issue to or your help desk. Give them the diagnostic log and other information from the transaction details.
   - Reconfigure the approval rule that the transaction is based on, and have the workflow task resubmitted.
8. Select another issue from the **Issues** list, if any, and go through the same process.
9. Click **Save and Close**.

Download a Spreadsheet of Transactions

This is all you need to do:

1. In the results table, select the transactions you want to include in the spreadsheet. To get all transactions, either select all of them or none at all.
2. On the **Actions** menu, click **Download**.

Related Topics

- Statuses for Filtering Transactions
- Automatically Refresh Transaction Statuses
- Actions for Managing Transactions
- Use Filters with Keyword Searches
- Save Keyword Searches with Filters

Statuses for Filtering Transactions

Use the Transaction Manager: Transactions page in the Transaction Console work area to track the status of transactions. For example, you can filter the transactions by status to see just the transactions that are in progress or stuck.

> **Note:** These statuses aren't the actual workflow task statuses that you see in the worklist or in notifications.

Status	Description
Auto Recovery	The transaction ran into some issues, but the application is trying to fix them without any action on your end.
Completed	All approvals are done and the transaction successfully went through all processes.
Draft	The transaction is saved but not submitted yet. This status doesn't apply to all product families.

Status	Description
Failed	The transaction has one or more errors, for example, due to a network or database outage, or an issue in the approval rules setup.
In Progress	At least one approval is still pending for the transaction before it's all done.
Stuck	The transaction was submitted, but ran into issues so the workflow task doesn't exist yet.
Submitted	The transaction was just created and hasn't moved on yet to another status. This status doesn't apply to all product families.

Related Topics

- Manage Workflow Transactions
- Actions and Statuses for Workflow Tasks

Automatically Refresh Transaction Statuses

The **Refresh Transaction Administrator Console Transaction Status** scheduled process automatically runs every hour. It refreshes the statuses on the Transaction Manager: Transactions page in the Transaction Console work area.

Hourly is the recommended frequency, and it should be enough, especially since you can just refresh using the **Refresh** icons on the page. But if you really need to, say due to an extraordinary volume of transactions, you can submit the process to run on a more frequent schedule.

- Be careful if you do this, because you are adding load to the queue of all scheduled processes. Consider if that potential performance impact is really warranted.
- If your manually submitted process has any scheduled runs that overlap with the automatic hourly ones, your process would run instead of the automatic one.
- The automatic process still runs whenever there's no overlap with your process.
- The time it takes for the process to finish depends on the volume of transactions, but it usually ends in minutes. So if it's taking hours or longer, something is most likely wrong.

To run this scheduled process, you need a custom job role that has the Perform HCM Approval Transaction Actions (PER_PERFORM_APPROVAL_TRANSACTION_ACTIONS_PRIV) privilege. If you can access transactions on the Transaction Manager: Transactions page, you already have this privilege.

Related Topics

- Submit Scheduled Processes and Process Sets

Actions for Managing Transactions

Use the Transaction Manager: Transactions page in the Transaction Console work area to manage and troubleshoot transactions. There are many actions you can take. For example, you can withdraw a transaction even if you're not the one who submitted it.

What you can do depends on the transaction status and the custom roles you have. Some actions, such as approve and reassign, are the same as the ones you can take on the workflow tasks from the worklist or from notifications.

Action	Description
Add Comment	Add your notes for the transaction, for example to track what you're doing to address the issue, or to jot down any service request IDs. You and others can see these comments only in the Transaction Console.
Alert Initiator on Error	Notify the submitter if the transaction ends up in error.
Approve	Approve the transaction if the workflow task is currently assigned to you to approve or reject.
Download	Get a spreadsheet with information about the selected transactions.
Reassign	Reassign the workflow task to an approver, the submitter, or someone else. This action isn't available if the workflow task is based on a Position list builder.
Recover	Restart the process after the transaction stopped due to errors. After you address the issue, use this action to pick up where the process had stopped and try what had ended up in error again.
Reject	Reject the transaction if the workflow task is currently assigned to you to approve or reject.
Resend Email Notification	Send an email notification to the current assignee of the workflow task, for example, if they can't find the original email. This action is available only if the transaction is in progress and involves a workflow task that's currently assigned. • In some cases, the in-app notification is sent as well. • If someone from a group of approvers has claimed the task but hasn't acted on it, the notification is still sent to the entire group.
Terminate Process	Completely end the transaction so that no one can see or act on the workflow task again.
Withdraw	Remove the workflow task from the workflow. You can ask the submitter to submit again, for example, after an issue is resolved.

Related Topics

- Manage Workflow Transactions
- Statuses for Filtering Transactions
- Actions and Statuses for Workflow Tasks

Manage Included Sections in Logs

Create and set profile options to include Rule Details, Audit Trail, Task Level Configuration and Transaction History sections in the diagnostic logs for any pending or failed transactions in the transaction details page in the Transaction Console work area.

If your users have access to these sections, they can download logs with audit trail history, rule details, and review the configuration and approval history for tasks that need attention.

- Audit Trail section shows approval history.

- Rule Details section shows rule details for a transaction. This section is dependent on the inclusion of the audit trail.
- Task Level Configuration section shows details of current task configuration in BPM Worklist for the process type of the selected transaction.
- The Transaction History section shows all the approval stages a transaction has passed through based on the approval rule configuration. This section is dependent on the inclusion of the audit trail.

The sections' inclusion in the logs is controlled using two profile options. Let's look at their use and impact on logging.

- HRC_TXN_TAC_DISABLE_RULE_AUDIT_TRAIL, a predefined profile option, disables the audit trail segment and rule details. If the audit trail is disabled, the task level configuration isn't available and that section isn't included. It also disables the Rule Details section. You might disable the audit trail and other sections in cases where there's a performance issue.
- HRC_TXN_TAC_DISABLE_EXTN_LOG disables the Task Level Configuration section. You need to create this profile option to use it.

Depending on the existence and settings of the profile options, different sections are included in the log.

Transaction Console Work Area Logging Profile Options

Profile Option	Profile Option Exists	Profile Option Setting	Sections Included or Not Included
HRC_TXN_TAC_DISABLE_RULE_AUDIT_TRAIL	No	N/A	Audit Trail, Rule Details, and Task Level Configuration sections included.
HRC_TXN_TAC_DISABLE_RULE_AUDIT_TRAIL	Yes	False	Audit Trail, Rule Details, and Task Level Configuration sections included. If HRC_TXN_TAC_DISABLE_EXTN_LOG exists and is set to false or doesn't exist, the Transaction History section is included.
HRC_TXN_TAC_DISABLE_RULE_AUDIT_TRAIL	Yes	True	Audit Trail, Rule Details, and Task Level Configuration sections not included. If HRC_TXN_TAC_DISABLE_EXTN_LOG is set to false or doesn't exist, the Transaction History section is included.
HRC_TXN_TAC_DISABLE_RULE_AUDIT_TRAIL	Yes	Not set	Audit Trail, Rule Details, and Task Level Configuration sections not included. Only the Transaction History section is included, if the HRC_TXN_TAC_DISABLE_EXTN_LOG exists and is set to false or doesn't exist.
HRC_TXN_TAC_DISABLE_EXTN_LOG	No	N/A	Audit Trail, Rule Details, and Task Level Configuration sections included.
HRC_TXN_TAC_DISABLE_EXTN_LOG	Yes	True	Task Level Configuration and Transaction History sections not included.
HRC_TXN_TAC_DISABLE_EXTN_LOG	Yes	False	If the HRC_TXN_TAC_DISABLE_RULE_AUDIT_TRAIL profile option

Profile Option	Profile Option Exists	Profile Option Setting	Sections Included or Not Included
			is set to False or doesn't exist, Audit Trail, Rule Details, and Task Level Configuration, and Transaction History sections are included. If the HRC_TXN_TAC_DISABLE_RULE_AUDIT_TRAIL profile option is set to True, the Audit Trail, Rule Details, and Task Level Configuration sections aren't included because they're part of the audit trail segment, but the Transaction History section is included.
HRC_TXN_TAC_DISABLE_EXTN_LOG	Yes	Not set	Same as if set to False.

Create the Profile Option

Here's what you do:

1. In the Setup and Maintenance work area, go to the **Manage Applications Core Profile Options** task in the Application Extensions functional area for your offering.
2. On the Manage Applications Core Profile Options page, click the **New** icon.
3. On the Create Profile Option page, enter **HRC_TXN_TAC_DISABLE_EXTN_LOG** as the profile option code.
4. Enter a display name that you can easily remember to help you find the profile option later, for example **Disable Diagnostic Log**.
5. From the Application list, select **Common Work Setup**.
6. From the Module list, select **Application Common**.
7. Specify a start date.
8. Click **Save and Close**.
9. On the Manage Profile Options page, make sure that your new profile option is selected in the Search Results: Profile Options subsection.
10. In the <Profile Option>: Profile Option Levels subsection, select the **Enabled** and **Updatable** check boxes for the Site level.
11. Save your work.

Set the Profile Options

In the Setup and Maintenance work area, go to the **Manage Applications Core Administrator Profile Values** task in the Application Extensions functional area. Set your profile options at the Site level depending on what sections you want to include.

Related Topics

- Set Profile Option Values

Control Display of Approval History

To optimize the performance of the Transaction Details page you can create and enable the Transaction Console Disclose Approval History profile option. This profile option enables you to collapse the display of approval history.

If this profile option is set to **true**, the Approval History section will be in collapsed mode and users need to expand to view details. If this profile option is set to **false** or if the profile option isn't defined, then approval history displays after opening the transaction.

Create the Profile Option

If this profile option is set to **true**, the Approval History section will be in collapsed mode and users need to expand to view details. If this profile option is set to **false** or if the profile option isn't defined, then approval history displays after opening the transaction.

1. In the Setup and Maintenance work area, go to the **Manage Applications Core Profile Options** task in the Application Extensions functional area for your offering.
2. On the Manage Applications Core Profile Options page, click the **New** icon.
3. On the Create Profile Option page, enter TAC_DISCLOSE_APPROVAL_HISTORY as the profile option code.
4. Enter a display name that you can easily remember to help you find the profile option later, for example Transaction Console Disclose Approval History.
5. From the Application list, select **Common Work Setup**.
6. From the Module list, select **Common Architecture**.
7. Specify a start date.
8. Click **Save and Close**.
9. On the Manage Profile Options page, make sure that your new profile option is selected in the Search Results: Profile Options subsection.
10. In the <Profile Option>: Profile Option Levels subsection, select the **Enabled** and **Updatable** check boxes for the Site level.
11. Save your work.

Set the Profile Option

In the Setup and Maintenance work area, go to the **Manage Applications Core Administrator Profile Values** task in the Application Extensions functional area. Set the TAC_DISCLOSE_APPROVAL_HISTORY profile option to true at the Site level.

Related Topics

- Set Profile Option Values

Archive and Purge Transactions

To optimize the performance of the Transaction Manager: Transactions page in the Transaction Console work area, archive and purge completed transactions. Run the **Archive Transaction Console Completed Transactions** scheduled process to remove transactions from the page.

A transaction must meet these criteria to be eligible for archive and purge:

- The transaction has the Completed status for at least a certain amount of time. The default is three months.

  If you have access to the Approval Rules tab in the Transaction Console work area, you can change the duration for all transactions of specific business processes. Here are the options you can select:

  - 3 months
  - 6 months
  - 9 months
  - Don't archive

- All workflow tasks in the transaction are already archived and purged.

If you have access to the Approval Rules tab, you can also click the **Archive** icon to run the scheduled process immediately.

Before You Start

You need a custom job role that has the Run Approval Transactions Archive Process (PER_RUN_APPROVAL_TRANSACTIONS_ARCHIVE_PROCESS_PRIV) privilege.

Review this before you submit the process:

- You're strongly advised to schedule the process to run once a day, during off hours.
- Make sure that the process doesn't try to start while another run of the same process is still going. This process is self-incompatible and only one instance of the process can run at any given time.
- The time it takes for the process to finish depends on the volume of transactions, but it usually ends in minutes. If you're running the process for the first time, or it hasn't run in a very long time, the process might take much longer to finish. So it's best to run it daily, as recommended.

Parameters

If you have access to the Approval Rules tab, most likely you don't need to worry about these parameters. You can just define and use the settings on that tab. But if you don't have access, you can use these parameters to override those settings. Another reason you might use these parameters is if you have a need to archive immediately at any given time, for one or more business processes.

- **Days:** Enter the number of days that a transaction must already have the Completed status to be eligible for archive and purge.
  - Enter **0** if you want all transactions with the Completed status to be eligible immediately.
  - This parameter isn't available by default, but requires setup.
  - This parameter applies to transactions in all business processes.
  - If you leave this parameter blank, or the parameter isn't available, the setting for each business process on the Approval Rules tab takes effect. For example, the **3 months** default, or **Don't archive**.
- **Process Name:** Select all or specific business processes.
  - The scheduled process includes transactions for the selected business process names.
  - If you leave this parameter blank, the scheduled process considers all business processes except the business processes set to **Don't archive** on the Approval Rules tab, if any.

Let's say you enter **30** for the Days parameter and leave the Process Name parameter blank. Business processes set to **Don't archive** on the Approval Rules tab are excluded. The 30 days would still apply to all other business processes on the tab.

Purge Archived Transactions

You can set up purge policies to archive transactions in the Transaction Console based on your organization's data retention policies.

Related Topics

- Submit Scheduled Processes and Process Sets
- How Workflow Tasks Are Archived and Purged

Make the Days Parameter Available for Archiving Transactions

Create and set a profile option to make the Days parameter available for the **Archive Transaction Console Completed Transactions** scheduled process. The process includes only transactions that have the Completed status for at least the specified number of days.

For example, if the user enters **30** for the parameter, the scheduled process includes transactions that have the Completed status for 30 days or longer. If the Days parameter isn't available, the process would use the settings on the Account Rules tab of the Transaction Console work area. There, for all transactions of specific business processes, the default duration is three months. If you have access to that tab, you can change the setting for individual business processes to another duration, or to not archive at all. The Days parameters let the user decide if they want to override or use those settings when they submit the scheduled process.

If your users have access to the Approval Rules tab, most likely you don't need to make the Days parameter available. But, say that your company has a need to archive immediately at any given time, for one or more business processes. In that case, you need the Days parameter, because the shortest duration for the setting on the Approval Rules tab is three months.

Create the Profile Option

Here's what you do:

1. In the Setup and Maintenance work area, go to the **Manage Applications Core Profile Options** task in the Application Extensions functional area for your offering.
2. On the Manage Applications Core Profile Options page, click the **New** icon.
3. On the Create Profile Option page, enter **HRC_ARCHIVE_DAYS_SHOW** as the profile option code.
4. Enter a display name that you can easily remember to help you find the profile option later.
5. From the **Application** list, select **Common Work Setup**.
6. From the **Module** list, select **Application Common**.
7. Specify a start date.
8. Click **Save and Close**.
9. On the Manage Applications Core Profile Options page, make sure that your new profile option is selected in the Search Results: Profile Options subsection.
10. In the <Profile Option>: Profile Option Levels subsection, select the **Enabled** and **Updatable** check boxes for the Site level.
11. Save your work.

Set the Profile Option

In the Setup and Maintenance work area, go to the **Manage Applications Core Administrator Profile Values** task in the Application Extensions functional area. Set your profile option at the Site level with **True** as the profile value.

Related Topics

- Set Profile Option Values

Employee Vacation and Delegation Rules Report

Use the Employee Vacation and Delegation Rules Report to get details about the rules that users defined to reassign or delegate the workflow tasks assigned to them. This report is available as a scheduled process.

For example, your employee is on vacation, and you need to know what happens to tasks assigned to them during that time. The report tells you if they've set up a rule to reassign or delegate to someone else to approve. You can also see who the designated person is.

> **Note:** Delegation only works for individual employees. For approval groups or application roles, a request can be approved by any member of the group.

Before You Start

Review this before you run the report:

- You can run the report as a scheduled process from the Scheduled Processes work area if you've a role that contains the following:
  - Run BPM Workflow Reports (FUN_RUN_BPM_WORKFLOW_REPORTS_PRIV) privilege
  - Run BPM Workflow Reports (FUN_RUN_BPM_WORKFLOW_REPORTS_PRIV_OBI) role
- Run the report on an as needed basis, whenever you need information about users' vacation or other delegation rules. Don't submit this report to run on a recurring schedule.

In addition to running the report as a scheduled process from the Scheduled Processes work area, you can also perform these steps:

1. Go to the Manage Workflow Rules in Spreadsheet page.
2. Click **Submit Vacation Rules Report** to submit the report with user input parameters.

You receive a confirmation bell notification when the report is generated and ready for download.

Report Parameters

The report includes rules that are active, inactive, or both on the day that you run the report. Let's say you run the report on November 10, and select **October 1** for the From Date parameter and **October 30** for the To Date parameter.

And for example, there are three rules with these active dates:

1. September 25 to October 10
2. October 5 to October 15
3. October 30 to November 30

The report can potentially include any of these rules because they've active dates that fall within the period you set in the From Date and To Date parameters. What you select for the Rule Status parameter determines which of the three rules are actually included in the report:

- Active: Only the third rule is included because only that rule is still active on November 10.
- Inactive: Only the first two rules are included because those are inactive on November 10.
- All: All three rules are included.

> **Note:** If you submit the report with blank From Date and To Date parameters, the report runs as if you had entered the first and last date of the current month.

Report Output

You don’t need to define the output when you submit the report. You'll get a spreadsheet with these sections:

- Originator Employee Details: Information about the user who defined the rule.
- Rule Details: Information about the rule, including when the rule is effective and any conditions that a workflow task must meet for the rule to apply. There are two types of rules:
  - Vacation: A rule for when the user is out of office.
  - Delegation: Any other rule that the user defined for tasks assigned to them, for example to delegate or reassign tasks based on certain conditions.
- Destination Employee Details: Information about the person whom tasks are delegated or reassigned to.

If you don't get a spreadsheet, or the spreadsheet is blank, one thing you can do is to confirm with your security administrator if you do in fact have the privilege and role listed earlier.

Related Topics

- Submit Scheduled Processes and Process Sets
- View Output from Scheduled Processes

Review Employee Vacation and Delegation Rules

Use the Employee Vacation and Delegation Rules Report to get details about the rules that users defined to reassign or delegate the workflow tasks assigned to them. This report is available as a scheduled process.

For example, your employee is on vacation, and you need to know what happens to tasks assigned to them during that time. The report tells you if they have set up a rule to reassign or delegate to someone else to approve. You can also see who the designated person is.

Before You Start

Review this before you run the report:

- You can run the report as a scheduled process from the Scheduled Processes work area if you have a custom role that contains the following:
  - Run BPM Workflow Reports (FUN_RUN_BPM_WORKFLOW_REPORTS_PRIV)
  - Run BPM Workflow Reports (FUN_RUN_BPM_WORKFLOW_REPORTS_PRIV_OBI)
- Run the report on an as needed basis, whenever you need information about users' vacation or other delegation rules. Don't submit this report to run on a recurring schedule.

Report Parameters

The report includes rules that are active, inactive, or both on the day that you run the report. Let’s say you run the report on November 10, and select **October 1** for the From Date parameter and **October 30** for the To Date parameter.

And for example, there are three rules with these active dates:

1. September 25 to October 10
2. October 5 to October 15

3. October 30 to November 30

The report can potentially include any of these rules, which have active dates within the period you set in the From Date and To Date parameters. What you select for the Rule Status parameter determines which of the three rules are actually included in the report:

- Active: Only the third rule is included because only that rule is still active on November 10.
- Inactive: Only the first two rules are included because those are inactive on November 10.
- All: All three rules are included.

Note: If you leave the From Date and To Date parameters blank, the report runs as if you had entered the first and last date of the current month.

Report Output

You don't need to define the output when you submit the report. You will get a spreadsheet with these sections:

- Originator Employee Details: Information about the user who defined the rule.
- Rule Details: Information about the rule, including when the rule is effective and any conditions that a workflow task must meet for the rule to apply. There are two types of rules:
  - Vacation: A rule for when the user is out of office.
  - Delegation: Any other rule that the user defined for tasks assigned to them, for example to delegate or reassign tasks based on certain conditions.
- Destination Employee Details: Information about the person whom tasks are delegated or reassigned to.

If you don't get a spreadsheet, or the spreadsheet is blank, one thing you can do is to contact your security administrator. Confirm if you do in fact have the privileges listed earlier.

Related Topics

- Submit Scheduled Processes and Process Sets
- View Output from Scheduled Processes

How You Can Regularly Reassign Pending Approvals for Workers That Become Inactive

A manager assignment can become inactive due to the end of an assignment or work term, termination, or global transfer. If the manager has any pending approval notifications, you must reassign them.

Run this process: Run Reassign Pending Approvals for Terminations and Correct Invalid Supervisor Assignments Process in the Scheduled Processes work area. You can set a schedule to run it at least once a day. You can run it more frequently if you want things updated faster.

Here's what the process does:

- It reassigns the direct reports of a terminated manager to that person's line manager and also assigns any pending notifications to the line manager. Only actionable notifications will be reassigned.

- It reassigns pending approval notifications based on the number of days you specify using the Past Period in Days Considered for Reassigning Pending Approvals parameter.

Related Topics

- Submit Scheduled Processes and Process Sets

Workflow Transactions Reassignments and Delegations Report

Use the Workflow Transaction Reassignments and Delegations report to review the workflow transactions reassigned or delegated by the designated employee or user to another employee or user. This report is available for Invoice Approval Workflow.

Workflow administrators and auditors can review this report to ensure the following.

- The workflow tasks are appropriately reassigned or delegated to other users.
- The reassignment or delegation of tasks adheres to the organization's approval policy.

Before You Start

Users with Financials Application Administrator role can run this report from the Scheduled Processes work area. You must have the following privilege:

- Run BPM Workflow Reports (FUN_RUN_BPM_WORKFLOW_REPORTS_PRIV) privilege

You can submit a scheduled process for Workflow Transactions Reassignments and Delegations Report with the required parameters.

Report Parameters

You can run this report for either reassignment or delegation transactions, as well as both. You must provide these values while submitting the report.

Field	Value
Family	Financials
Product	Payables
Workflow	Invoice Approval

If you don’t enter the from and to dates while submitting the report, the report is run for the last 30 days by default.

Report Output

You will receive the report as a spreadsheet with the following details:

Section	Content
Transaction Details	Details of the transactions such as invoice number, invoice date, invoice currency, invoice amount, and workflow status.

Section	Content
Action Details	Information about the action type (Reassign or Delegation) and action date performed by approver.
Rule Details	Details of the vacation rules defined by the employee. Includes the rule name, creation date, and the validity period based on which the workflow tasks are reassigned or delegated.
Originator User Details	Information about the employee who has reassigned or delegated the workflow task through vacation or delegation rule or manual action. The information includes the name, person number, job name, and job level of the employee.
Destination User Details	Information about the employee to whom the workflow tasks are reassigned or delegated. Includes the name, person number, job name, and job level of the employee.

Related Topics

- Submit Scheduled Processes and Process Sets
- View Output from Scheduled Processes

Synchronize Transaction Workflow Status

You can use the Synchronize Transaction Workflow Status process to manage stuck transactions for Invoice Approval or Journal Approval workflows.

Submitting this ESS job generates a spreadsheet report with transactions from the selected workflow and their status. When a transaction doesn't complete successfully (or is stuck), it continues to remain in Initiated status.

How You Deal with Stuck Transactions

Here's how you use this report for incomplete transactions.

1. Go to **Navigator** > **Tools** > **Scheduled Processes** and select **Synchronize Transaction Workflow Status**.
2. Select the workflow for which you want to view the report.
3. Select **View Transaction Workflow Status** and download the spreadsheet.
4. In the **User Action** column, select the action you want to perform.
5. Submit the process again while selecting the same workflow and selecting **Synchronize Transaction Workflow Status with File Upload**.
6. Upload the spreadsheet with the saved user action and click **Submit**.

Note: For Invoice Approval workflow, you can also select the supplier name. This will list only the transaction related to the selected supplier.

Available User Actions

Action	Workflow	Action Details
Withdraw	• Invoice Approval • Journal Approval	• Stops the transaction • Updates the comments in ESS as Withdrawn by Synchronize Transaction Workflow Status ESS Job

Action	Workflow	Action Details
Force Approve	Invoice Approval	• Marks the transaction as Manually Approved • Updates the comments in ESS as Force Approve by Synchronize Transaction Workflow Status ESS Job

You can also leave the User Action as blank. In this case, the application takes no action and there's no change in the status.

Note: To enable the Force Approve action, create the **FUN_ENABLE_FORCEAPPROVE_FROM_STUCK_TRANS_ESSJOB** profile option and set it to **True**.

7 Define Help Configuration

Set Up Help

You don't have to set anything up for help to work. But you can do optional setup, for example to give people access to add help content. First enable help features, then perform tasks in the Application Extensions functional area.

Enable Features

In the Offerings work area, review these features at the offering level.

- Local Installation of Help: Make sure to leave this enabled.
- Access to Internet-Based Help Features: This feature isn't used, so it doesn't matter if you enable it or not.
- Help Content Management: Enable this feature if you want some people to be able to add company-specific help to help windows or the Getting Started work area.
- Security for Added Help: Enable this feature if you want certain help to be available only to a restricted set of user roles.

> **CAUTION:** Enable this feature only if you have this requirement, because the feature can affect performance.

Related Topics

- Hide or Show Help Icons
- Give People Access to Create and Edit Help
- Configure Offerings
- How You Manage Different Types of Help
- Create Groups to Limit Access to Added Help

Hide or Show Help Icons

By default, help icons that open help windows are visible. You can control whether users see the icons every time they sign in, on any page with help icons. You can disable or enable help icons by default, for everyone.

1. In the Setup and Maintenance work area, go to the **Set Help Options** task in the Application Extensions functional area.
2. On the Set Help Options page, deselect or select the **Show help icons by default** check box. You just need to do this for one offering, and the setting applies to everyone.
3. Sign out and sign back in to see your change take effect. The same goes for any user next time they sign in.

To show or hide the icons in a specific user session, people can still click their user image or name in the global header and select **Show Help Icons** or **Hide Help Icons**.

Note: What we are talking about here affects only help windows, not help text that appears when you hover over or click certain UI elements on the page. To edit or delete UI element help text, use Page Composer or other tools.

Related Topics

- How do I update existing setup data?
- Manage Help for Fields and Other UI Elements

Give People Access to Create and Edit Help

If you enabled the Help Content Management feature, check who has the Manage Help Content (ATK_CUSTOMIZE_HELP_TOPICS_PRIV) privilege. Here's what these users can do:

- Add help in any help window, and also edit and manage the help that anyone added.
- Edit existing pages in the Getting Started work area and also add new pages.

Your security administrator can assign custom job roles with this privilege to users. The **Assign Help Text Administration Duty** task is a reminder for you to follow up with your security administrator. Make sure that people who want to create and edit help have the access to do so.

Related Topics

- How You Manage Different Types of Help

Create Groups to Limit Access to Added Help

In this example, you want to add company policies as help in a help window. But only human resources (HR) specialists should be able to see those policies. You can use a help security group to limit access like this.

Let's look at the steps to create a help security group that includes only a custom job role for HR specialists. You can then secure your company policies with this help security group so that only people with that job role can see the help.

Before You Start

In the Offerings work area, make sure that these features are enabled at the offering level:

- Local Installation of Help
- Help Content Management
- Security for Added Help

Ask your security administrator for the name of the custom job role granted to HR specialists in your company.

Create the Help Security Group

1. In the Setup and Maintenance work area, go to the **Manage Help Security Groups** task in the Application Extensions functional area.

2. On the Manage Help Security Groups page, add a new row.
3. Enter these values, but leave the start and end dates blank.

Field	Value
Help Security Group	HR
Display Name	HR Only
Description	Viewing by HR specialists only

4. Click **Save**.
5. With your new help security group selected, go to the Associated Roles section and add a new row.
6. Select the custom job role for HR specialists as the role name.
7. Click **Save and Close**.

Related Topics

- Set Up Help
- Configure Offerings
- How do I update existing setup data?
- Add Your Content to a Help Window
- Create and Edit Added Help

8 Define Application Toolkit Configuration

Set Watchlist Options

Disable or Enable Watchlist Categories and Items

To disable or enable predefined Watchlist categories and items for all users, use the following in the Setup and Maintenance work area.

- Functional Area: Application Extensions
- Task: Set Watchlist Options

Ultimately, what users see in their own Watchlist would be the categories and predefined items that you enable in the Set Watchlist Options page:

- Plus any saved searches that the user is using as Watchlist items
- Minus any categories or items that the user decides to hide using Watchlist preferences
- Minus any items with no results found, if the user decides to hide such items using Watchlist preferences

Any Category or Item

When you disable any category or item, you also disable the processes that calculate the Watchlist item counts. These processes include creating data caches, performing security checks, calling services across domains, running queries, and so on.

Predefined Watchlist Items

An item with the Predefined type represents the actual predefined Watchlist item that appears in the Watchlist. If you disable this type of Watchlist item, then:

- The item isn't available for users to display in their Watchlist.
- The item is removed from any Watchlist where it's currently displayed.

If you disable a Watchlist category, then the category isn't available for users to include in their Watchlist. All Watchlist items within the category are also disabled.

User-Created Saved Search Watchlist Items

A Watchlist item with the User-Created Saved Search type doesn't appear in the Watchlist. It controls the display of the **Manage Watchlist** button on pages with saved searches. If you disable this type of Watchlist item, then:

- The **Manage Watchlist** option isn't available on the corresponding page, so users can't use their own saved searches as Watchlist items.
- Any user-defined saved searches (from that page) already used as Watchlist items are removed from the users' Watchlist. The saved searches are still available for searching, but not for the Watchlist.

Watchlist Category

If you disable a Watchlist category, then:

- The category isn't available for users to include in their Watchlist.
- All Watchlist items within the category are also disabled.

Related Topics

- Refresh Intervals for Watchlist Items
- How can I change predefined Watchlist category and item names?
- Create Watchlist Items
- Set Watchlist Preferences
- Why can't I see icons in the global header?

Refresh Intervals for Watchlist Items

All Watchlist items have a predefined refresh interval, which controls how often the query that calculates the count for a Watchlist item can run. You can use the Set Watchlist Options page to edit the interval values.

In the Setup and Maintenance work area, use the following:

- Functional Area: Application Extensions
- Task: Set Watchlist Options

How the Refresh Works

The count for any Watchlist item gets refreshed as follows.

- When users open the Watchlist in the global header for the first time after signing in, the item is refreshed if five minutes have passed since its last refresh in an earlier session.
- When users open the Watchlist again, the item is refreshed only if the time since its last refresh is equal to or greater than the refresh interval.

User-Created Saved Search Watchlist Items

What you enter as the refresh interval for a Watchlist item of type User-Created Saved Search applies to all Watchlist items based on saved searches that users create for that item. For example, you set the refresh interval for the Corporate Card Transactions item to five minutes. Multiple users create saved searches for corporate card transactions and use those saved searches as Watchlist items in their own Watchlist. All of these Watchlist items would have a refresh interval of five minutes.

Related Topics

- Disable or Enable Watchlist Categories and Items
- How can I change predefined Watchlist category and item names?
- Create Watchlist Items

FAQs for Set Watchlist Options

How can I change predefined Watchlist category and item names?

Edit the standard lookup type that stores the predefined Watchlist category and item names.

1. In the Setup and Maintenance work area, go to the **Manage Standard Lookups** task in the Application Extensions or a product-specific functional area.
2. On the Manage Standard Lookups page, find the lookup type for the Watchlist category you want to edit. The lookup types for predefined categories end with WATCHLIST, for example EXM_EXPENSES_WATCHLIST.
3. Edit the lookup type meaning to change the category name.
4. To change item names, edit lookup code meanings.
5. Save your work.

Related Topics

- Overview of Lookups
- How do I update existing setup data?

9 Define Enterprise Scheduler Job Definitions and Job Sets

Overview of Managing Job Definitions and Job Sets

Users run scheduled processes based on jobs to process data and, in some cases, to provide report output.

Each job has a job definition which, for example, determines the parameters that users can set. Jobs are based on Oracle Enterprise Scheduler Services. Using Enterprise Scheduler Jobs tasks, you can define job definitions, list of values sources, and job sets.

- **Job Definitions**: Contain the metadata about the job and the options available to users. A job definition is defined by a job type, such as Oracle Analytics Publisher or PL/SQL Job type or others.
- **List of Values Sources**: Determine where a list of values for the parameters in a job definition comes from and what the specific values are.
- **Job Sets**: Collections of several jobs in a single process set that the users submit instead of running separate jobs.

The various Enterprise Scheduler Jobs tasks are:

- Manage Enterprise Scheduler Job Definitions and Job Sets for Financial, Supply Chain Management, and Related Applications
- Manage Enterprise Scheduler Job Definitions and Job Sets for Human Capital Management and Related Applications
- Manage Enterprise Scheduler Job Definitions and Job Sets for Customer Relationship Management and Related Applications

In the Setup and Maintenance work area, you can find these tasks in the Application Extensions functional area, or, depending on your offering, another functional area. If you don't see the task, make sure that the Enterprise Scheduler Job Definitions and Job Sets feature is enabled at the offering level in the Offerings work area.

Related Topics

- Job Definitions
- Manage List of Values Sources
- Job Sets
- What are scheduled processes?
- Configure Offerings
- Best Practices for Scheduled Processes in Fusion Applications

Manage List of Values Sources

A list of values source for job definitions determines where a list of values comes from and what the specific values are. Users can select from the list when they set parameters.

For example, the list of values for a Country parameter gives users a list of countries to choose from. You can create list of values sources to use in job definitions that you or someone else created. Parameters in predefined job definitions can have lists of values too, but not from list of values sources that you can manage. But if you duplicate a predefined job definition, list of values sources might be automatically created for your new job definition. You can manage those sources as you would a source that you created yourself.

Here's how you get started to create, edit, or delete list of values sources:

1. In the Setup and Maintenance work area, go to the **Manage Enterprise Scheduler Job Definitions and Job Sets** task in the Application Extensions functional area. Or, depending on your offering, you might use a different functional area.

   > **Note:** If you don't see the task, make sure that the Enterprise Scheduler Job Definitions and Job Sets feature is enabled at the offering level.

2. Click the Manage List of Values Sources tab. If you don’t see anything here, that just means you haven’t created any sources or duplicated any predefined job definitions that would result in automatically creating list of values sources.
3. Go on to create or edit list of values sources.

Create List of Values Source

Create a source based on predefined view objects or your own SQL query.

- For predefined view objects, contact your help desk to find out if there are any that meet your needs. And to get the view object's full path, which you enter when creating the list of values source.
- For your own SQL query, you can see the Tables and Views guides for more information, if you want to base the list of values source on a specific table or view.

Your list of values source might behave differently from similar sources used in predefined jobs. There are some limitations to creating custom sources. For example, you can’t add new filtering criteria or configure the search.

1. On the Manage List of Values Sources tab, click the **Create** icon.
2. In the Create List of Values Source dialog box, select something from the **Application Name** list that's related to your list of values. If you don't know what to select or can't find anything that applies, just select **Application Toolkit**.
3. In the **User List of Values Source Name** field, enter a name that helps you identify your list of values source.
4. From the **LOVType** list, select **Predefined** to use a view object or **User Defined** to use a SQL query.

5. If you selected Predefined, then in the **List of Values Source Definition Name** field, enter the full path of the view object that your help desk provided.

   If you selected User Defined, enter your own SQL in the **Query** field.

   - Your query can't have any aggregate function like DISTINCT, SUM, MAX, or AVG in the direct select clause. It can't have UNION, UNION ALL, INTERSECT, or MINUS either.
   - If you absolutely need to use any of those functions, you need to wrap the query in another select clause. Here are a couple examples:

Don't Use This	Use This Instead
`SELECT DISTINCT CHANNEL.MEANING MEANING FROM FND_LOOKUP_VALUES_TL`	`SELECT MEANING FROM (SELECT DISTINCT MEANING MEANING FROM FND_LOOKUP_VALUES_TL);`
`select lookup_code as LookupCode from fnd_lookup_values_b where lookup_type='EXM_REPORT_STATUS' UNION select 'NULL' as LookupCode from dual`	`SELECT LOOKUPCODE FROM (select lookup_code as LookupCode from fnd_lookup_values_b where lookup_type='EXM_REPORT_STATUS' UNION select 'NULL' as LookupCode from dual)`

6. Make sure everything looks fine and then click **Save and Close**. You can't change most of the things about your source after you create it.

Edit or Delete List of Values Source

Here are some things to know about editing and deleting list of values sources, which you can do on the Manage List of Values Sources tab.

- You can edit only the application name and description.
- When you delete a list of values source, you can't find it and manage it any more, but it's not really gone. Any job definitions using that source can continue using it. So after you delete a source, you can't create another one later with the same name, even though you won't be able to find the deleted one. To avoid confusion, it's recommended that you don't ever delete any list of values source. Just create new ones as needed, with unique names.

Related Topics

- How do I update existing setup data?
- Configure Offerings

Managing Job Definitions

Job Definitions

Scheduled processes are based on jobs that process data and, in some cases, provide output. Each job requires a job definition. A job definition can also include parameters and user properties that the user defines while submitting the scheduled process.

You are encouraged to use predefined scheduled processes as is, so usually you don't need to do anything with job definitions. But if you do need something specific to your needs, you can create Oracle Analytics Publisher reports as the basis for custom jobs, and create job definitions for those custom jobs. You can also duplicate predefined job definitions and edit your copy, mainly to update the parameters. But, usually you wouldn't duplicate predefined job definitions. Some of them can't be duplicated anyway, and there are many limitations to consider with the duplicate.

To view, create, edit, or duplicate job definitions, use the Manage Job Definitions tab on the Manage Enterprise Scheduler Job Definitions and Job Sets page. In the Setup and Maintenance work area, here's where you go to open that page:

- Functional Area: Application Extensions a product-specific functional area
- Task: Manage Enterprise Scheduler Job Definitions and Job Sets

Viewing Job Definitions

Use the table on the Manage Job Definitions tab to view the job definitions created for the application. An asterisk in the name column indicates a predefined job definition. Not all job definitions are shown. You always see only the ones you have access to, and only the first 100 are shown when you open the tab.

> **Tip:** Use Query by Example to find the job definition you're looking for, even those not shown in the table by default.

This table describes the columns in the table on the Manage Job Definitions tab.

Column Name	Description
Name	Name of the job definition.
Display Name	Name of the job definition as available to users while submitting scheduled processes.
Description	Description for the job definition.
Path	The full directory path where the job definition is saved.
Execution Type	The type of job request for the given job definition, such as a Java, C, PL/SQL, Perl, or hosted script job.
Job Type	The name of the job type that the job definition is based on.

Column Name	Description
	• BIPJobType: Jobs that run as Oracle Analytics Publisher reports • CJobType: Jobs that are implemented in C and run in the container • HostJobType: Jobs that run as host scripts executed from the command line • JavaJobType: Jobs that are implemented in Java and run in the container • PerlJobType: Jobs that are implemented in Perl and run in the container • PlsqlJobType: Jobs that run as PL/SQL procedures stored in a database server • SqlLdrJobType: Jobs that are implemented in SQL*Loader and run in the container • SqlPlusJobType: Jobs that are implemented in SQL*Plus and run in the container **Note:** If you create a brand new job definition (not by duplicating an existing one), the only job type you can use is BIPJobType.

Parameters

A parameter controls which records are included or how they are affected when the job runs. Parameters are available to users when they submit scheduled processes based on your job definitions. For example, a job updates only the records that are effective after the date that users enter in a Start Date parameter. You can create, edit and delete parameters for job definitions that are not predefined.

User Property

A user property is set in the job definition to attain some specific results.

Related Topics

- Create Job Definitions to Run Reports as Scheduled Processes
- Edit Job Definitions
- What are scheduled processes?
- Use Query By Example

Create Job Definitions to Run Reports as Scheduled Processes

Every job definition has a job type that reflects the executable for the job, such as Java or Oracle Analytics Publisher reports. You can only create job definitions that are based on Analytics Publisher reports.

When there's a job definition for an Analytics Publisher report, users can run the report as a scheduled process in the Scheduled Processes work area. Otherwise, they can open reports (which are set up to be run online) elsewhere, for example in the Reports and Analytics work area.

CAUTION: Make sure your user name doesn't contain any spaces. If you create a custom job definition using a user name that contains spaces, other users might get errors when they submit this custom job definition.

Create Job Definitions

Here's how you create a job definition for an Analytics Publisher report:

1. In the Setup and Maintenance work area, go to the **Manage Enterprise Scheduler Job Definitions and Job Sets** task in the Application Extensions functional area. Or, depending on your offering, you might use a different functional area.

   > **Note:** If you don't see the task, make sure that the Enterprise Scheduler Job Definitions and Job Sets feature is enabled at the offering level.

2. On the Manage Enterprise Scheduler Job Definitions and Job Sets page, click the Manage Job Definitions tab.
3. Click the **Create** icon.
4. Fill in the Job Definition section.

Field or Check Box	What You Do
Display Name	Enter the name that users see and select to submit the scheduled process.
Name	Enter a name with only alphanumeric characters, for example, `AtkEssPrograms1`. It can't have spaces or any special characters.
Job Application Name	Select the application to associate the job definition with. What you select depends on the task you're using. - Manage Enterprise Scheduler Job Definitions and Job Sets for Customer Relationship Management and Related Applications: Select **CrmEss**. - Manage Enterprise Scheduler Job Definitions and Job Sets for Financial, Supply Chain Management, and Related Applications: Select **FscmEss**. - Manage Enterprise Scheduler Job Definitions and Job Sets for Human Capital Management and Related Applications task: Select **EarHcmEss**.
Enable submission from Enterprise Manager	Make sure you don't select this check box.
Job Type	Select **BIPJobType**. Don't select any other type.
Default Output Format	Select the output format users get by default when they submit the scheduled process.
Report ID	Enter the path to the report in the BI catalog, starting with the folder within Shared Folders, for example: `Custom/<Family Name>/<Product Name>/<Report File Name>.xdo`. Make sure to include the `.xdo` file extension for the report definition.
Enable submission from Scheduled Processes	Leave the check box selected.

5. In the Parameters subtab, you can define parameters that are available to users when they submit the scheduled process based on your job definition.
6. In the User Properties subtab, don't create or edit a user property unless you have the accurate information that's required to create or edit one. The `EXT_PortletContainerWebModule` user property is automatically created.
7. Click **Save and Close**.

When you create a job definition, a privilege with the same name as the job definition is automatically created with a Run prefix. For example, for a job definition named MyProcess1, with display name My Process, the privilege code is RUN_MYPROCESS1, with Run My Process as the name. Make sure to use the Security Console to assign this privilege to roles so that users who need to run the process can do so.

Related Topics

- Define Parameters for Job Definitions
- Manage List of Values Sources
- Edit Job Definitions
- How do I update existing setup data?
- Configure Offerings

Duplicate Job Definitions

A parameter controls which records are included or how they are affected when a job runs. Job definitions can have one or more parameters or none at all.

1. However, usually you wouldn't duplicate predefined job definitions. Some of them can't be duplicated anyway, and there are many limitations to consider with the duplicate. If you're duplicating a predefined job definition, make sure you test the duplicate carefully because it might not work exactly like the original.

1. In the Setup and Maintenance work area, go to the **Manage Enterprise Scheduler Job Definitions and Job Sets** task in the Application Extensions functional area. Or, depending on your offering, you might use a different functional area.

   > **Note:** If you don't see the task, make sure that the Enterprise Scheduler Job Definitions and Job Sets feature is enabled at the offering level.

2. On the Manage Enterprise Scheduler Job Definitions and Job Sets page, click the Manage Job Definitions tab.
3. On the Manage Job Definitions tab, select a job definition with any job type.
4. Click **Duplicate** to get another row in the table with the duplicate job definition.
5. Select the duplicate job definition and click **Edit**.
6. Enter the name and path.
7. Update the parameters if you need to. Make sure that all mandatory parameters are populated properly.
8. Click **Save and Close**.

Results:

When you create a job definition by duplicating, a privilege with the same name as the duplicate job definition is automatically created with a Run prefix. For example, for a job definition named MyProcess1, with display name My Process, the privilege code is RUN_MYPROCESS1, with Run My Process as the name. Make sure to use the Security Console to assign this privilege to roles so that users who need to run the process can do so.

You also automatically create a view object with the same name in the list of values sources. Validations for the attributes in the parameters view object aren't copied over.

Related Topics

- Define Parameters for Job Definitions
- How do I update existing setup data?
- Configure Offerings

Edit Job Definitions

You can only edit certain fields in predefined job definitions, as some of the fields are read only. However, you can edit all aspects of job definitions that are not predefined.

Editing Job Definitions

Follow these steps:

1. In the Setup and Maintenance work area, go to the **Manage Enterprise Scheduler Job Definitions and Job Sets** task in the Application Extensions functional area. Or, depending on your offering, you might use a different functional area.

   > **Note:** If you don't see the task, make sure that the Enterprise Scheduler Job Definitions and Job Sets feature is enabled at the offering level.

2. On the Manage Enterprise Scheduler Job Definitions and Job Sets page, open the Manage Job Definitions tab.
3. Select the job definition you want to edit.
4. Click **Edit**.
5. Make the changes that you want, for example:
   - You can edit the display name of the job definition to use terms that are more familiar to your users.
   - You can use the **Prompt** field to edit parameter display names.
6. Click **Save and Close**.

Predefined Job Definitions

You cannot update parameters in predefined job definitions, but this table lists some of the other fields that you can edit.

Field	Description
Retries	The number of times to automatically run this job again if the scheduled process fails.
Job Category	Specific to the application of the job definition, it's used to group definitions according to your requirements.
Timeout Period	The amount of time before stopping a scheduled process that couldn't complete.

Field	Description
Priority	Priority of scheduled processes submitted, with 0 as lowest. If other processes, based on the same or another job, are scheduled to run at the same time, then priority determines the run order.

Related Topics

- Job Definitions
- Create Job Definitions to Run Reports as Scheduled Processes
- How do I update existing setup data?
- Configure Offerings

Define Parameters for Job Definitions

A parameter controls which records are included or how they are affected when a job runs. Job definitions can have one or more parameters or none at all.

You define parameters while creating or editing job definitions using the Manage Enterprise Scheduler Job Definitions and Job Sets page. In the Setup and Maintenance work area, use the following:

- Functional Area: Application Extensions or a product-specific functional area
- Task: Manage Enterprise Scheduler Job Definitions and Job Sets

When users run the scheduled process for job definitions of type BIPJobType, the values they enter for the parameters determine the data to be included in the report. Also, the values are passed to the data model that the report is using.

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

- `P_START_DATE`
- `P_END_DATE`
- `P_CURRENCY`

You create parameters as follows:

- Start Date
- End Date
- Currency

Defining Parameters: Job Definitions

To define parameters while creating or editing job definitions:

1. On the Manage Job Definitions page, open the Parameters sub tab.
2. Click **Create**.
3. Enter the parameter prompt that users see when they submit the scheduled process.
4. Select a data type and configure how the parameter and the data entered are displayed, as described in this table.

Data Type	Fields
Boolean	Select this if you want the parameter to be a check box. Select **True** or **False** to determine if the check box is selected or not.
Date or time	Select **Date and time** or **Date only** option. Select a value from the **Default Date Format**. **Note:** Make sure the format you select here is the same as the format used for the job. If the job definition type is BIPJobType, select **yyyy-MM-dd**, and make sure the data model for the corresponding Oracle Analytics Publisher report is using the same date format.
Number	Select a **Number Format**. Select **Left** or **Right** for data alignment.
String	Select a **Page Element**. Select **Text box** if you want the user to provide a text. Select **Choice list** if you want a list with limited options (maximum 10). If there are more than 500 values, users will get an error when they try to set the parameter as part of submitting the scheduled process. Select **List of values** if you want a list with unlimited options with a search facility.

5. Select the **Read Only** check box if you don't want to enable users to set this parameter. When a parameter is set as read only, the user is required to provide a default value to be passed to the job definition.
6. If you select list of values or choice list page element, select a **List of Values Source** and an **Attribute**. Use the list of values sources from the Manage List of Values Sources tab. Don't define lists of values in the data model that the report is using.
7. From the list of available attributes, select the attributes you want to appear in the list and move them to the selected attributes section. These attributes determine the values that the user can see.
8. Define a **Default Value** for the parameter.
9. In the **Tooltip Text** field, provide additional information for the user to follow.
10. Select the **Required** check box if users must set this parameter to submit the scheduled process.
11. Select the **Do not Display** check box if users should not see this parameter while submitting the process.
12. Click **Save and Create Another** or **Save and Close**.

Dependent Parameters

The attributes of some parameters depend on the attributes or values of certain other parameters. The attributes of a parameter would change if the value of its dependent parameter changes.

For example, you have three parameters, namely Country, State and, City. In this case, the value of the Country parameter would determine the values available in the State parameter. The values in the State parameter would determine the values available in the City parameter.

Related Topics

- Create Job Definitions to Run Reports as Scheduled Processes
- Define Dependent Parameters in Job Definitions

Define Dependent Parameters in Job Definitions

This example demonstrates how to define dependent parameters.

This table summarizes key decisions for this scenario.

Decisions to Consider	In this Example
Which parameters do I want to make dependent?	**Region**, **Country** and **City**. **Region** list of values includes the names of the regions like North America, EMEA, JAPAC and so on. The **Country** list of values includes the names of countries like USA, Canada, France, England, India, Japan and so on. Similarly **City** list of values includes the names of different cities like New York, Washington, London, Paris, Mumbai, Tokyo and so on. The **Country** parameter list of values includes only the countries like USA, Canada and so on, if user selects North America. The **City** parameter list of values includes the names of the cities in the country that the user has selected.
What are view criteria?	The view criteria determine the values that appear in the dependent parameter list of values for the users to see. The view criteria are used to filter the list and pass the required bind variables based on the user's selection. To filter countries based on the selected region, you must select **`getCountriesByRegion`** and pass **Region** as a bind variable.

Prerequisites

Create the parameters **Region**, **Country** and **City**. The values available to the users in the Country parameter list of values depends on the value selected for the Region parameter. City parameter list of values depends on the value that the user selects for the Country parameter.

Defining Dependent Parameters

To define parameters with dependent lists of values:

1. On the Manage Job Definitions tab, open the Parameters sub tab.
2. Select the **Region** parameter.
3. Click the **Manage Dependencies** button located next to the **Delete** button.
4. From **Available View Criteria**, select **`getCountriesByRegion`** and move it to **Selected View Criteria** using the move icons.

   The selected view criteria appears in the Bind Variables section.
5. In the Bind Variables section, for the **`getCountriesByRegion`** view criteria, select **Country** from the mapped parameters list of values.

The Country parameter list of values is now dependent on the value selected for the Region parameter.

6. Click **OK**.
7. Repeat the steps with **Country** parameter. Select `getCitiesByCountries` from the available view criteria and pass **City** as a bind variable.

Related Topics

- Define Parameters for Job Definitions
- Create Job Definitions to Run Reports as Scheduled Processes
- Create Job Sets
- Manage List of Values Sources

Job Sets

Job Sets

A job set is a collection of several jobs in a single process set that the users can submit instead of running individual jobs separately.

The job set definition also determines if the jobs run in serial or parallel, or based on some other predetermined logic. In the Setup and Maintenance work area, go to the following:

- Functional Area: Application Extensions or a product-specific functional area
- Task: Manage Enterprise Scheduler Job Definitions and Job Sets

Use the Manage Enterprise Scheduler Job Definitions and Job Sets page to open the Manage Job Sets tab.

- On this tab, you can view and define job sets, and use Query By Example to find a specific job set.
- You can't edit or delete the predefined job sets which are indicated by an asterisk. You can create job sets, and also edit and delete job sets that are not predefined.

Job Set Steps

A job set can contain any number of individual jobs as well as other job sets. There can also be multiple levels of nested job sets within a single job set. For example, a job set can include three jobs and two job sets, one of which contains another job set. Each individual job or job set that's included within a job set is called a job set step. A job set and each of its job set steps can have additional parameters. Users provide the values for these parameters when they submit the process set.

Application Defined Properties

Some Job Sets require the user to enter certain additional properties before submitting a job request. Application Defined Properties are the additional properties that the user has to enter during runtime. For example, when `enableDuplicateJobWithParamTaskflow` property is set to **True**, it can be used to run a single job multiple times with different parameter values, within a job set.

System Properties

System Properties are the additional settings that determine how a job set runs. For example, you can use a system property to determine the number of retries for a job set that fails to execute. On this tab, you can view and define job sets, and use Query By Example to find a specific job set.

Related Topics

- Create Job Sets
- System Properties for Job Sets
- Overview of Managing Job Definitions and Job Sets

Create Job Sets

Create a job set so that users can run multiple jobs with a single submission.

Before you create the job set, plan the sequence and hierarchy of the job steps within the job set. You can create job sets using the Manage Job sets tab. You can also edit and delete job sets that aren't predefined.

> **Note:** Remember, when you're creating a job set, you should use jobs only from a single module. If you need to use jobs from multiple modules, create separate job sets.

Steps to Create Job Sets

Follow these steps:

1. In the Setup and Maintenance work area, go to the **Manage Enterprise Scheduler Job Definitions and Job Sets** task in the Application Extensions functional area. Or, depending on your offering, you might use a different functional area.

   > **Note:** If you don't see the task, make sure that the Enterprise Scheduler Job Definitions and Job Sets feature is enabled at the offering level.

2. On the Manage Enterprise Scheduler Job Definitions and Job Sets page, open the Manage Job Sets tab.
3. Click **Create**.
4. Complete the fields as shown in this table.

Field	Description
Name	Provide a name with only alphanumeric characters, for example, `ExportMetadataTables1`. **Note:** A job set name can't have space or any special character.
Display Name	Provide a name that the users see while submitting the scheduled process.

Field	Description
Description	Provide more information about what the job set does.
Package	Specify the path where you want to save the job set.

5. In the Job Set Steps section, select **Serial** or **Parallel** to define the sequence of the job set.
6. Click **Add Job Set Step** to open the Add Step dialog box.
7. In the Step tab:
    a. Enter a **Step ID** to easily identify the steps.
    b. Search for and select a job or job set to include in your job set.
    c. Select **Job definition** or **Job set**.
    d. Type a valid name or package, or both of the Job or Job Set you are looking for and click search.
    e. Select the required job definition or job set and click **OK**.
    f. If you selected Parallel in step 4:
        - Select **Insert into main diagram** if you want the step to be executed independently.
        - Select **Add to list of available steps** if you want the step to be one of the outcomes in the available steps.
        - If you choose to add the step to the list of available steps, select an option for the possible job outcomes. For example, you can determine whether the process must stop or another step must be executed if the step fails to run successfully.
8. In the **Application Defined Properties** tab:
    a. Click **Add Application Defined Property** icon and select a data type.
    b. Enter a name and an initial value.
    c. Select the **Read Only** check box if you don't want users to update this property when they submit the process set.
    d. Click **OK**.
9. In the **System Properties** tab:
    a. Click **Add System Property**.
    b. From the name list, select a system property.
    c. Enter a value in the **Initial Value** field.
    d. Select **Read Only** check box if you don't want users to update this property when they submit the process set.
    e. Click **OK**.

> **Note:** You can also add and edit the Application Defined Properties and System Properties in the respective sections on the Create Job Set page.

10. Click **OK** to add the Job Set Step.
11. Add jobs and job sets as required. You can select job steps in the Job Set Steps section and edit, remove, or reorder (for Serial only). You can also switch between **Serial** and **Parallel**.
12. Click **Save and Close**.

Note: When you create a job set, a privilege with the same name as the job set is automatically created with a Run prefix. For example, for a job set named ExportAppsData, with display name Export Application Data, the privilege code is RUN_EXPORTAPPSDATA, with Run Export Application Data as the name. Make sure to use the Security Console to assign this privilege to roles so that users who need to run the process set can do so.

Related Topics

- Job Sets
- System Properties for Job Sets
- Overview of Managing Job Definitions and Job Sets
- How do I update existing setup data?
- Configure Offerings

System Properties for Job Sets

System Properties are the additional settings that determine how a job set runs. For example, you can use a system property to determine the number of retries for a job set that fails to execute.

You can open the Manage Job Sets tab using the Manage Enterprise Scheduler Job Definitions and Job Sets page. In the Setup and Maintenance work area, use the following:

- Functional Area: Application Extensions or a product-specific functional area
- Task: Manage Enterprise Scheduler Job Definitions and Job Sets

System Properties

This table lists some system properties with description.

System Property Name	Description
`SYS_allowMultPending`	Specifies if the same job definition can have multiple pending requests.
`SYS_application`	Specifies the logical name of the Scheduling Services folder application used for request processing. Oracle Enterprise Scheduler automatically sets this property during request submission.
`SYS_effectiveApplication`	Specifies the logical name of the Scheduling Services folder application that is the effective application used to process the request. You can associate a job definition, job type, or a job set step with a different application by defining the **`EFFECTIVE_APPLICATION`** system property. This property can only be specified through metadata and cannot be specified as a submission parameter.
`SYS_priority`	Specifies the request processing priority. The priority interval is 0 to 9, where 0 is the lowest priority and 9 is the highest. If this property is not specified, the default value used is 4.
`SYS_product`	Specifies the product used for submitting the request.
`SYS_request_timeout`	Enables the job request to time out.

System Property Name	Description
`SYS_requestExpiration`	Specifies the expiration time for a request. This represents the time (in minutes) that a request will expire after its scheduled execution time. An expiration value of zero (0) means that the request never expires. If this property is not specified, the default value used is 0. Request expiration only applies to requests that are waiting to run. If a request waits longer than the specified expiration period, it does not run. After a request starts running, the request expiration no longer applies.
`SYS_retries`	Specifies the retry limit for a failed request. If request execution fails, the request is retried up to the number of times specified by this property until the request succeeds. If the retry limit is zero (0), a failed request is not retried. If this property is not specified, the default value used is 0.

Related Topics

- Job Sets
- Create Job Sets

Assign Roles for Access to Manage Scheduled Processes

Users can view and manage the scheduled processes that they submit, for example, to cancel the process or see the output. But, if they need to do that for processes other people submitted, they need certain roles.

Here are the roles and what they let users do with scheduled processes that anyone submitted.

Role Name	Role Code	View	Update	Cancel	See Output	Republish Output
ESS Operator Role	ESSOperator	Yes	No	No	No	No
ESS Monitor Role	ESSMonitor	Yes	No	No	No	No
ESS Administrator Role	ESSAdmin	Yes	Yes	Yes	No	No
BI Administrator Role	BIAdministrator	No	No	No	Yes	Yes

You can use the Security Console to create a custom role that has the needed roles, and assign the custom role to the user. Usually it's best to give access just by giving users the needed roles.

- But, sometimes you might need to give more access to specific tasks. For example, someone with ESS Monitor Role can see scheduled processes from others, but they also need to put processes on hold. And you don't want to give them the ESS Administrator Role because that would be too much access.

- Another case is that a user should not have access to all processes, but they still need to do certain tasks for some processes.

In these cases, the custom role you assign to users should have a data security policy, which gives users access to certain tasks. Here are the actions you should choose from for the policy, for the specific tasks you want to give users access to.

Action	Description
ESS_REQUEST_CANCEL	Cancel processes.
ESS_REQUEST_HOLD	Put processes on hold.
ESS_REQUEST_OUTPUT_READ	See the output from processes.
ESS_REQUEST_OUTPUT_UPDATE	Update the output from processes, for example to change what output you want if the process hasn't started running yet.
ESS_REQUEST_READ	Access processes and view details.
ESS_REQUEST_RELEASE	Release processes that were put on hold.

Access for All Scheduled Processes

Here's how you give someone access to manage all processes:

1. On the Roles page in the Security Console, click **Create Role**.
2. On the Create Role: Data Security Policies page, create a data security policy only if you need to give access to specific tasks.
    a. For the **Data Resource** field, select **ESS_REQUEST_HISTORY**.
    b. For the **Data Set** list, select **All Values**.
    c. For the **Actions** list, select any of the tasks that you want to give access to.
3. On the Create Role: Role Hierarchy page, add any of the needed roles.
4. On the Create Role: Users page, enter the users you want to assign this custom role to.

Access to Do Certain Tasks for Specific Processes

Say you don't want to give users access to all scheduled processes. When you create the custom role, instead of selecting a role like ESS Monitor Role, you enter a condition that controls what processes are included. You first create the condition in a data resource:

1. On the Administration page in the Security Console, click **Manage Database Resources** on the General tab.
2. On the Manage Database Resources and Policies page, search with **ESS_REQUEST_HISTORY** in the **Object Name** field.
3. In the Search Results table, select the ESS_REQUEST_HISTORY database resource and click **Edit**.
4. On the Edit Data Security page, click the Condition tab.
5. On the Condition tab, click the **Create** icon.
6. In the Create Database Resource Condition dialog box, select **SQL predicate** for the **Condition Type** option.

7. In the **SQL Predicate** field, enter SQL that identify what processes to give access to, for example:

```
EXISTS
(select 1 from dual)
and DEFINITION in (
'JobDefinition://oracle/apps/ess/hcm/users/SyncRolesJob'
)
```

8. Save your work.

Now you're ready to create your custom role and assign it to users:

1. On the Roles page in the Security Console, click **Create Role**.
2. On the Create Role: Data Security Policies page, create a data security policy.
    a. For the **Data Resource** field, select **ESS_REQUEST_HISTORY**.
    b. For the **Data Set** list, select **Select by instance set**.
    c. For the **Condition Name** list, select the condition you created.
    d. For the **Actions** list, select **ESS_REQUEST_READ** so users can access the process in the first place. Include any other action that you want to give access to. For example, if the user needs to see output, select **ESS_REQUEST_OUTPUT_READ** too.
3. On the Create Role: Users page, enter the users you want to assign this custom role to.

Related Topics

- Create Roles in the Security Console

Allow Updates to Scheduled Process Priority

Every scheduled process has a default priority, from 0 to 9. When many scheduled processes are submitted, those with a lower number, for example 2, would usually run before those with a higher number, for example 7.

1. You can set the **Scheduled process priority change allowed** (ESS_ALLOW_CHANGE_PROCESS_PRIORITY) profile option so that administrators can change the priority for specific submissions.

1. In the Setup and Maintenance work area, use the **Manage Applications Core Administrator Profile Values** task in the Application Extensions functional area. Set the **Scheduled process priority change allowed** profile option to **Yes** at the Site level.
2. In the Security Console, create a custom role that has the ESS Administrator Role (EssAdmin), and assign it to administrators who should have access to change priorities. Or, ask your security administrator to do this.

Related Topics

- Set Profile Option Values
- Assign Roles for Access to Manage Scheduled Processes

FAQs for Enterprise Scheduler Job Definitions and Job Sets

Why can't I see certain job definitions, and how do I find them?

In the table on the Manage Job Definitions tab, not all job definitions are shown. You always see only the ones you have access to, and only the first 100 are shown when you open the tab.

Use Query by Example to find what you're looking for, even the job definitions that aren't shown in the table by default.

Related Topics

- Use Query By Example

Why can't I see all the parameters in a predefined job definition?

When you view, edit, or duplicate a predefined job definition, it's possible that you won't see all the parameters that users see when they submit the scheduled process.

There are two types of parameters, based on task flows and view objects. Only the parameters based on view objects are available on the Manage Job Definitions tab. The ones based on task flows are not visible. Any parameters you create would also be based on view objects.

What do I select for job application name when I create a job definition?

What you select from the **Job Application Name** list depends on the setup task you're using.

- Manage Enterprise Scheduler Job Definitions and Job Sets for Customer Relationship Management and Related Applications: Select **CrmEss**.
- Manage Enterprise Scheduler Job Definitions and Job Sets for Financial, Supply Chain Management, and Related Applications: Select **FscmEss**.
- Manage Enterprise Scheduler Job Definitions and Job Sets for Human Capital Management and Related Applications task: Select **EarHcmEss**.

Can I use a table value set as the list of values for a parameter?

No, you should create a list of values source instead to provide the same values for the parameter.

How can I restrict user access so that they can run only custom scheduled processes?

You can try creating a custom role with the Manage Scheduled Processes (FND_MANAGE_SCHEDULED_PROCESSES_PRIV) privilege to give access to the Scheduled Processes work area, along with the privileges that are automatically created when you create a job definition or job set.

> **Note:** You need to test the custom role to make sure it doesn't have any roles or privileges that give access to predefined processes.

Can I create a job set with jobs from multiple modules?

Currently, you can only create a job set with jobs from a single module.

To use jobs from multiple modules, you must create separate job sets.

10 Define Applications Core Configuration

Define Lookups

Overview of Lookups

Lookups are lists of values in applications. You define a list of values as a lookup type comprising a set of lookup codes, each code's translated meaning, and optionally a tag.

On the UI, users see the list of translated meanings as the values available for selection. Lookups provide a means of validation and lists of values where valid values appear on a list with no duplicate values. For example, an application might store the values Y and N in a column in a table, but when displaying those values in the user interface, Yes or No (or their translated equivalents) should be available for users to select. For example, the two lookup codes Y and N are defined in the REQUIRED_INDICATOR lookup type.

> **Note:** Don't include spaces in lookup codes. Use the underscore character (_) to separate the words if needed. For example, instead of creating the lookup code as DEV PROGRAM, create it as DEV_PROGRAM.

The following table contains an example of a lookup type for marital status (MAR_STATUS) that has lookup codes for users to specify married, single, or available legal partnerships.

Lookup Code	Meaning	Tag
M	Married	Not applicable
S	Single	Not applicable
R	Registered Partner	+NL
DP	Domestic Partner	-FR, AU

In this case, tags are used for localizing the codes. All legislations list Married and Single. Only the Dutch legislation lists Registered Partner. And all legislations except France and Australia also list Domestic Partner.

When managing lookups, you need to understand the following.

- Using lookups in applications
- Configuration levels
- Accessing lookups
- Enabling lookups
- The three kinds of lookups: standard, common, and set-enabled

Using Lookups in Applications

Use lookups to provide validation or a list of values for a user input field in a user interface.

An example of a lookup used for validation is a flexfield segment using a table-validated value set with values from a lookup type. An example of a lookup in a list of values is a profile option's available values from which users select one to set the profile option. Invoice Approval Status gives the option of including payables invoices of different approval statuses in a report. The lookup code values include All, so that users can report by all statuses: Approved, Resubmitted for approval, Pending or rejected, and Rejected.

Configuration Level

The configuration level of a lookup type determines whether the lookups in that lookup type can be edited. This applies data security to lookups.

Some lookup types are locked so no new codes and other changes can be added during implementation or later, as needed. Depending on the configuration level of a lookup type, you may be able to change the codes or their meanings. Some lookups are designated as extensible, so new lookup codes can be created during implementation, but the predefined lookup codes can't be modified. Some predefined lookup codes can be changed during implementation or later, as needed.

The configuration levels are user, extensible, and system. The following table shows the lookup management tasks permitted at each configuration level.

Permitted Task	User	Extensible	System
Deleting a lookup type	Yes	No	No
Inserting new codes	Yes	Yes	No
Updating start date, end date, and enabling the lookup code	Yes	Yes, only if the code isn't predefined data	No
Deleting codes	Yes	Yes, only if the code isn't predefined data	No
Updating tags	Yes	No	No
Updating module	Yes	No	No

Predefined data means LAST_UPDATED_BY = SEED_DATA_FROM_APPLICATION.

If a product depends on a lookup, the configuration level must be system or extensible to prevent deletion.

Once the configuration level is set for a lookup type, it can't be modified. The configuration level for newly created lookup types is by default set at the User level.

Access to the REST Resources

Users can retrieve information about lookups using the following REST resources:

- standardLookupsLOV
- commonLookupsLOV
- setEnabledLookupsLOV
- genericLookupsLOV

However, you can control whether a lookup is a part of the LOV or not. On the UI, for each lookup you can specify the **REST Access Secured** value that in turn determines whether it's included in the response or not. These values are:

- Anonymous: Lookup is available to a user having anonymous role or authenticated role.
- Authenticated: Lookup is available to a user having only the authenticated role.
- Secure: Lookups aren't available to users as part of generic REST Resources (Standard, Common, or Set-Enabled). To make it available, your security administrator must assign a specific function security policy for each lookup type to a role and assign that role to the selected users.

  > **Note:** The function security policy is provided only for predefined lookup types.

For all lookups, the default value is set to **Secure**. So, if you want to make the lookup available to users through any of those resources, you must change the value to Authenticated or Anonymous, depending on who needs to access that information.

Standard, Common, and Set-Enabled Lookups

The following table shows the available types of lookups.

Lookup Type	Description
Standard	Lists the available codes and translated meanings.
Set-enabled	Associates a reference data set with the lookup codes.
Common	Legacy lookups or lookups that have attributes.

Standard lookups are the simplest form of lookup types consisting only of codes and their translated meaning. They differ from common lookups only in being defined in the standard lookup view. Common lookups exist for reasons of backward compatibility and differ from standard lookups only in being defined in the common lookup view. These can also be lookups having attribute columns. Set-enabled lookup types store lookup codes that are enabled for reference data sharing. At runtime, a set-enabled lookup code is visible because the value of the determinant identifies a reference data set in which the lookup code is present.

Accessing Lookups

Standard, set-enabled, and common lookups are defined in the Standard, Set-enabled, and Common views, respectively. Applications development might define lookups in an application view to restrict the UI pages where they might appear.

In lookups management tasks, lookups might be associated with a module in the application taxonomy to provide criteria for narrowing a search or limiting the number of lookups accessed by a product specific task such as Manage Purchasing Lookups.

Enabling Lookups

A lookup type is reusable for attributes stored in multiple tables.

Enable lookups based on the following.

- Selecting an **Enabled** check box
- Specifying an enabled start date, end date, or both
- Specifying a reference data set determinant

If you make changes to a lookup, users must sign out and back in before the changes take effect. When defining a list of values for display rather than validation, limit the number of enabled lookup codes to a usable length.

To view the predefined lookups and their lookup codes, use the following tasks in the Setup and Maintenance work area:

- Manage Standard Lookups
- Manage Common Lookups
- Manage Set-Enabled Lookups

Translating Lookups

You can translate the lookups that you defined to the preferred language(s) without changing the language session of the application. Use the translation option available on the lookup code table. By default, for each lookup, all the permitted language rows in the translator dialog box appear in the source language (the current session language). When you edit a particular language entry, you can modify the translated meaning and description to the language in which you want the lookup to appear. Once the updates are made, the end-users can view the lookup in the translated text.

> **Note:** You can add the translation for only as many languages as are permitted by the administrator. The functionality to limit the number of languages displayed on the dialog box is controlled through the Translation Editor Languages profile option. It can be set at the SITE or USER level. If nothing is specified, all active languages are displayed.

Deleting Lookup Types and Lookup Codes

You can delete lookup types and lookup codes from the lookups management tasks in the Setup and Maintenance work area. For example, you can delete lookups that are part of the Purchasing module, from the Manage Purchasing Lookups task in the Setup and Maintenance work area. Select the required lookup type to see the lookup codes associated with it. To delete a lookup code, select the required code and click the **Delete** icon. To delete a lookup type, similarly, select the required lookup type and click the **Delete** icon.

You can also use REST resources to delete lookup types and lookup codes.

- For more information about deleting a lookup type using REST resources, see the Delete a standard lookup section in the *REST API for Common Features in Oracle Fusion Cloud Applications* guide.
- For more information about deleting a lookup type, see the Delete a lookup code section in the *REST API for Common Features in Oracle Fusion Cloud Applications* guide.

Here are a few things to know about deleting lookup types and codes:

- Certain lookup types and codes can't be deleted, for example, predefined lookup types and codes can't be deleted.
- You can't delete lookup codes in bulk. Instead, you can delete an entire lookup type.

Related Topics

- How can I access predefined lookups?
- Example of a Set-Enabled Lookup
- What's the difference between a lookup type and a value set?
- Example of a Standard Lookup
- How can I enter or edit translated text in Fusion Applications?
- Create Roles in the Security Console

Example of a Standard Lookup

Creating a new standard lookup involves creating or selecting a lookup type containing the lookup code. The task also involves determining appropriate values for the lookup codes and their meanings.

You can create or edit lookup codes only if the configuration level for that lookup type supports it.

Creating a Lookup Type Called COLORS

Your enterprise needs a list of values to be used as different statuses on a process. Each status is indicated using a color. Therefore, you create a lookup type called COLORS. The following table lists a mapping between the lookup type parameters and the actual values assigned to those parameters to create the required list of values.

Lookup type parameters	Value
Lookup type name	COLORS
Meaning	Status
Description	Status by color
Module	Oracle Fusion Middleware Extensions for Oracle Application

After you define the lookup type, you need to define the lookup codes and their related details. The following table lists the lookup codes you define for the COLORS lookup type.

Lookup Code	Meaning	Enabled	Display Sequence
BLUE	Urgent	No	4

Lookup Code	Meaning	Enabled	Display Sequence
RED	Stop	Yes	1
GREEN	Proceed	Yes	3
YELLOW	Check	Yes	2

The Resulting Data Entry List of Values

Only the enabled lookup codes appear in the list of values for the COLORS lookup type. You must select one of them to complete the activity.

The following table lists the meanings and the codes that were enabled. They appear in the order of the defined display sequence.

Meaning	Lookup Code
Stop	RED
Check	YELLOW
Proceed	GREEN

The BLUE lookup code wasn't enabled and doesn't appear in the list of values. The display sequence of values in the list of values is alphabetic, unless you enter a number manually to determine the order of appearance. Number 1 indicates the first value that appears in the list. Only lookups that are enabled and active between start and end dates are visible.

The Transaction Table

When users enter one of the values from the list of values for the lookup type COLORS, the transaction table records the lookup code. The following table contains an example, where the lookup code is stored in the Status column of the transaction table.

Transaction number	User name	Status
1	Jane	RED
2	Bob	YELLOW
3	Alice	BLUE

The status for one user is BLUE because at the time they entered a value, BLUE was enabled. Disabling a lookup code doesn't affect transaction records in which that code is stored. Data querying and reporting have access to disabled lookup codes in transaction tables.

Related Topics

- What's a lookup tag used for?
- What's the difference between a lookup type and a value set?
- Why can't I see my lookup types?
- How can I edit lookups?

Example of a Set-Enabled Lookup

Creating a new set-enabled lookup is similar to creating a standard lookup with the addition of specifying a reference data set determinant for the lookup codes.

The reference data set for a set-enabled lookup code is part of its foreign key. This is unlike other set-enabled entities. Use the Manage Set Assignments task to define and manage reference data set assignments. Note that you can create or edit lookup codes only if the configuration level for that lookup type supports it.

Selecting a Reference Group for a Set-Enabled Lookup Type

Specify a reference group for a set-enabled lookup type to indicate which reference data set assignments are available for its lookup codes. For example a COLORS lookup type might be set-enabled for a Countries reference group that includes the US and EU reference data set assignments.

Selecting a Reference Data Set for a Set-Enabled Lookup

The reference data set determines which lookup code is included in the list of values. For example, there are two references data sets - one for the US and the other for EU. If a COLORS lookup type contains RED, YELLOW, ORANGE, and GREEN lookup codes, you can enable one RED lookup code from the US reference data set and another RED lookup from the EU reference data, each lookup code having different meanings.

The following table elaborates the example, how these two reference data sets (US and EU) contain one lookup code that's common, but each differing in its lookup meaning.

Reference Data Set	Lookup Code	Lookup Meaning
US	RED	Red
US	YELLOW	Yellow
US	GREEN	Green
EU	RED	Rouge
EU	ORANGE	Orange

Some lookup codes may be unique to one or another reference data set as the ORANGE lookup is to the EU reference data set in the example.

In another example in the following table, a lookup type called HOLD_REASON provides a list of reasons for putting a contract renewal on hold. Reference data sets determine which codes are included in the Hold Reason list of values.

Reference Data Set	Lookup Code	Lookup Meaning
US	SEC	SEC Compliance Review
US	DIR	Needs Director's Approval
US	VP	Needs Vice President's Approval
CHINA	CSRC	Pending China Securities Regulatory Commission Review
CHINA	PR	Needs President's Approval
COMMON	REQUESTED	Customer Request

Referring to the example in the table, when end-users place a contract on hold in the US business unit, the three reason codes in the US set are available. When placing a contract on hold in the China business unit, the two codes in the China set are available.

Related Topics

- Example of a Standard Lookup

Import Lookups

On each page pertaining to the tasks of managing the Standard, Common, and Set Enabled lookups, use the Import option to import the lookup type and lookup code information.

Prerequisite

The separate files containing the lookup types and lookup codes are already available in the document repository of Oracle WebCenter Content.

Importing Lookups

To import lookups:

1. In the Setup and Maintenance work area, go to the Manage Standard Lookups task. Depending on the lookup you want to import, you may select the other lookup tasks.

2. In Search Results, from the Actions menu, select **Import**.

   The Import Lookups dialog box appears.
3. Select the WebCenter Content account to which the files were uploaded.
4. Enter the names of the separate files containing the lookup type and lookup code information. The names here must match with the names of the files uploaded to the selected account.
5. Click **Upload**. The lookup details are imported.

> **Note:** If the import fails, click the link to the log file on the confirmation dialog box and examine the cause of failure.

Related Topics

- File Format for Importing Lookups

File Format for Importing Lookups

You can import lookups to your application by creating separate text files containing lookup types and lookup codes. You can then upload these files to the Oracle WebCenter Content document repository.

Here are a few things that you need to keep in mind while creating these files:

- Use a vertical bar or pipe (|) as a delimiter between fields for both the header and the value rows.
- According to the Oracle WebCenter Content specification, set the file encoding to UTF-8 without the Byte Order Mark (BOM).
- The first line in the file must be a header line, and the files must look exactly the same as shown in the sample file.

The following sections contain details about the specific lookup types and codes.

Prerequisite

You must have worked with lookups in Oracle Fusion Cloud applications.

Standard and Common Lookups

The lookup types and codes are similar for standard and common lookups. To create a file containing the lookup types, include the following headers:

Header	Description	Required or Optional
`LookupType`	This value displays the lookup type.	Required
`Meaning`	This value displays the name of the lookup type.	Required
`Description`	This value displays the description of the lookup type.	Optional
`ModuleType`	This value displays the module associated with the lookup type.	Required

Header	Description	Required or Optional
ModuleKey	This value displays the module code.	Required

Here's a sample file with the header values at the beginning of the file, followed by line entries of the two lookup types. For importing several lookup types, add more line entries in a similar format.

```
LookupType|Meaning|Description|ModuleType|ModuleKey
AFLOG_22APR_1|Log1|AFLOG_desc_1|APPLICATION|FND
PROD_22APR_2|Product1|PROD_desc_2|APPLICATION|FND
```

To create a file containing the lookup codes, include the headers specified in this table:

Header	Description	Required or Optional
LookupType	This value displays the lookup type.	Required
LookupCode	This value displays the lookup code associated with the lookup type.	Required
DisplaySequence	This value displays the sequence in which the lookup code appears in the list of values.	Required
EnabledFlag	This value lets you enable or disable the display status of the lookup code: • Y: Enable the display status of the lookup code • N: Disable the display status of the lookup code	Required
Meaning	This value displays the name of the lookup code.	Required
StartDateActive	This value displays the beginning of the date range during which the lookup code is active and visible on the page. The format is dd/MM/yyyy.	Optional
EndDateActive	This value displays the end of the date range during which the lookup code is active and visible on the page. The format is dd/MM/yyyy.	Optional
Description	This value displays the description of the lookup code.	Optional
Tag	This value indicates any tag associated with the lookup code that you can use for a quick reference or retrieval of information.	Optional
Seg	This value displays the API name used for a global segment that you can define for the descriptive flexfield associated with the lookup.	Optional
CONTEXT_ATTRIBUTE	This value displays the context value specified in the CSV file for a particular descriptive flexfield.	Optional
ctxSeg	This value displays the name of the API for a context-sensitive segment defined for a context attribute.	Optional

Here's a sample file that contains two lookup codes:

```
LookupType|LookupCode|DisplaySequence|EnabledFlag|StartDateActive|EndDateActive|Meaning|Description|Tag|Seg|
CONTEXT_ATTRIBUTE|ctxSeg
TASK_22APR_1|Code1_1|1|Y|25/12/2014|25/5/2015|TASK_22apr_1|Task_desc_1|Tag1_1|testSeg1|TEST_CTX1|ctx1Seg1
TASK_22APR_1|Code1_2|2|N|25/1/2014|25/11/2015|TASK_22apr_2|Task_desc_2|Tag1_2|testSeg1TEST_CTX1|ctx1Seg1
TASK_22APR_2|code2_1|3|N|25/12/2012|25/7/2015|TASK_22qpr_2_1|Task_desc_2|tag2_1|testSeg2|TEST_CTX2|ctx2Seg2
TASK_22APR_2|code2_2|3|Y|25/12/2012|25/7/2015|TASK_22qpr_2_2|Task_desc_2_2|tag2_2|testSeg2|TEST_CTX2|
ctx2Seg2
```

Set Enabled Lookups

To create a file containing the set enabled lookup types, include the headers specified in this table:

Header	Description	Required or Optional
`LookupType`	This value displays the lookup type.	Required
`Meaning`	This value displays the name of the lookup type.	Required
`Description`	This value displays the description of the lookup type.	Optional
`ModuleType`	This value displays the module associated with the lookup type.	Required
`ModuleKey`	This value displays the module code.	Required
`ReferenceGroupName`	This value displays the name of the reference group that contains the reference data set.	Required

Here's a sample that contains two set enabled lookup types:

```
LookupType|Meaning|Description|ModuleType|ModuleKey|ReferenceGroupName
CODE_22APR_1|CODE_22apr_1|Code_desc_1|APPLICATION|FND|BU_APAC
CODE_22APR_2|CODE_22qpr_2|Code_desc_2|APPLICATION|FND|BU_APAC
```

To create a file containing the set enabled lookup codes, include the headers specified in this table:

Header	Description	Required or Optional
`LookupType`	This value displays the lookup type.	Required
`LookupCode`	This value displays the lookup code associated with the lookup type.	Required
`DisplaySequence`	This value displays the sequence position at which the lookup code appears in the list of values.	Required
`EnabledFlag`	This value lets you enable or disable the option to view the display: • Y: Enable the option to view the display • N: Disable the option to not view the display	Required
`Meaning`	This value displays the name of the lookup code.	Required
`SetName`	This value displays the name of the reference data set.	Required

Header	Description	Required or Optional
StartDateActive	This value displays the beginning of the date range during which the lookup code is active and visible on the page. The format is dd/MM/yyyy.	Optional
EndDateActive	This value displays the end of the date range during which the lookup code is active and visible on the page. The format is dd/MM/yyyy.	Optional
Description	This value displays the description of the lookup code.	Optional
Tag	This value indicates any tag associated with the lookup code that you can use for a quick reference or retrieval of information.	Optional

Here's a sample file with the header values at the beginning and lists four set enabled lookup codes. For importing several lookup codes, add more entries in the same format.

```
LookupType|LookupCode|DisplaySequence|EnabledFlag|StartDateActive|EndDateActive|Meaning|Description|Tag|
SetName
DATA_22APR_1|Code1_1|1|Y|25/12/2014|25/5/2015|DATA_22apr_1|Data_desc_1|Tag1_1|TEST SET CODE 2
DATA_22APR_1|Code1_2|2|N|25/1/2014|25/11/2015|DATA_22apr_2|Data_desc_2|Tag1_2|TEST SET CODE 3
DATA_22APR_2|code2_1|3|N|25/12/2012|25/7/2015|DATA_22qpr_2_1|Data_desc_2|tag2_1|TEST SET CODE 2
DATA_22APR_2|code2_2|3|Y|25/12/2012|25/7/2015|DATA_22qpr_2_2|Data_desc_2_2|tag2_2|TEST SET_ERR_CODE_Z
```

Related Topics

- Overview of Files for Import and Export
- Guidelines for File Import and Export
- Overview of Lookups
- Import Lookups

FAQs for Define Lookups

How can I access predefined lookups?

Search for predefined lookups using any of the manage lookups tasks.

1. In the Setup and Maintenance work area, go to any of the following tasks that contains the lookups you're looking for:
    - Manage Standard Lookups
    - Manage Common Lookups
    - Manage Set-enabled Lookups
2. Enter any of the search parameters and click **Search**. If you don't know the lookup type or the meaning, use the **Module** field to filter search results.
3. Click a lookup type to view its lookup codes.

> **Tip:** Click the Query By Example icon to filter the lookup codes.

Related Topics

- Use Query By Example
- How do I update existing setup data?

How can I edit lookups?

On any of the Manage Lookups pages, you can edit the existing lookup codes of a lookup type or add new lookup codes. You can edit lookups using the following tasks in the Setup and Maintenance work area:

- Manage Standard Lookups
- Manage Common Lookups
- Manage Set Enabled Lookups

Each task contains a predefined set of lookup types that are classified and stored. Open a task to search and edit the required lookup. However, you may not be able to edit a lookup if its configuration level doesn't support editing.

Why can't I see my lookup types?

Lookup types are classified using tasks that involve a group of related lookups, such as Manage Geography Lookups. Each task gives you access only to certain lookup types.

However, the generic tasks provide access to all lookups types of a kind, such as common lookups associated with the Manage Common Lookups task. If the lookup types in an application are available in the standard, common, or set-enabled lookups view, they're central to an application. However, lookup types defined for a specific application are managed using the task for that application.

What's the difference between a lookup type and a value set?

A lookup type consists of lookups that are static values in a list of values. Lookup code validation is a one to one match.

A table-validated value set may consist of values that are validated through a SQL statement, which allows the list of values to be dynamic. The following table brings out the differences between a lookup type and a value set.

> **Tip:** You can define a table-validated value set on any table, including the lookups table. Thus, you can change a lookup type into a table-validated value set that can be used in flexfields.

Area of Difference	Lookup Type	Value Set
List of values	Static	Dynamic if the list is table-validated
Validation of values	One to one match of meaning to code included in a lookup view, or through the determinant of a reference data set	Validation by format or inclusion in a table
Format type of values	char	varchar2, number, and so on
Length of value	Text string up to 30 characters	Any type of variable length from 1 to 4000
Duplication of values	Never. Values are unique.	Duplicate values allowed

Area of Difference	Lookup Type	Value Set
Management	Both administrators and end-users manage these, except system lookups or predefined lookups at the system configuration level, which can't be modified.	Usually administrators maintain these, except some product flexfield codes, such as GL for Oracle Fusion General Ledger that the end-users maintain.

Both lookup types and value sets are used to create lists of values from which users select values.

A lookup type can't use a value from a value set. However, value sets can use standard, common, or set-enabled lookups.

What's a lookup tag used for?

A tag is an additional label attached to the lookup. Tags are user-defined and can be grouped depending on the user's requirement to make search convenient and effective.

The same tag may be used across lookup categories. In such cases, tags are used as a refined search criterion to filter information across several groups and get the search results.

> **Note:** Lookup tags are optional descriptions of attribute values. These descriptions aren't validated. In some product-specific implementations, tags are used for specific purposes. For more information, see product-specific documentation.

Related Topics

- Overview of Lookups
- Considerations for Deleting Tags from Lookup Codes

How can I search for a specific lookup code?

Use the Query By Example functionality to sort through hundreds of lookup codes for a lookup type, and display a specific lookup code.

Enter the first few characters of the lookup code value in any of the relevant fields to filter the records.

> **Note:** The search functionality is case sensitive.

Related Topics

- How do I update existing setup data?
- Use Query By Example

Manage Messages

Messages

Messages provide users with information about business or application errors or warnings.

Typically, messages inform the users about the following:

- Missing or incorrect data
- Status of an application, page, or a business object
- Status of an ongoing process
- Result of a user action

Besides notifying users about the problem, messages provide guidance to users on taking corrective action. Messages also warn users about the consequences of a certain action.

Oracle provides a set of predefined messages that are stored in a message dictionary. You can create additional messages or modify the existing ones using the Manage Messages task in the Setup and Maintenance work area.

Note: Don't delete predefined messages unless you're sure that they aren't used anywhere.

Message Dictionary

The message dictionary stores messages that the application requires at run time. Messages are predefined for specific applications and modules, but a few are common messages that can be used in any application or module.

When you create messages, use the message text and the following components to cover additional details addressing users and help desk personnel:

- User Details: A detailed explanation of the message short text meant for users.
- Administrator Details: Details of the identified problem meant for the help desk personnel. The end users don't see this text.
- Cause: An end-user version of the cause of error.
- User Action: Instructions to users for addressing the identified problem. Where there is no guidance for end users, they must approach the help desk.
- Administrator Action: Corrective action that help desk personnel must take to correct the problem. This information isn't available to the end users.

Related Topics

- Message Types
- Create and Edit Messages

Message Types

All messages must be associated with a message type. You can select the message type based on the message severity.

The available message types are:

- Error
- Warning
- Information
- UI String

Error Messages

Use the Error message to inform users about, for example, entering incorrect data or performing actions that trigger validation. Error messages also inform users how to correct the situation so that they can continue with their task.

For example: You can't specify a task without specifying the project.

Error messages also tell users about any serious problem with the application or process, and when they must seek assistance from the help desk. Some error messages trigger incidents or logs and have a mechanism to notify the help desk automatically.

Warning Messages

Use the Warning message type to inform users about an application condition or a situation that might require their decision before they can continue.

Warning messages:

- Describe the reason for the warning and potential consequence of the selected or intended user action.
- Can be either a question or a statement.

For example: You delete the primary user. Do you want to continue?

The message is usually followed by Yes and No buttons.

Information Messages

The Information message type tells users about changes in the application, a page, or a business object. These messages aren't triggered by users, and they don't have to take any immediate action in response.

For example: No events have been started or processed for this employee.

Use the Information message type to communicate information that's neither an error nor a warning.

UI String Messages

Use the UI string message type to store shorter messages such as UI prompts, titles, or translated text, in the message dictionary.

Related Topics

- Message Groups

Message Groups

You can group messages by severity to internally define logging and classifying incident policies. You can group by category based on the functionality or program.

Category and severity values don't appear in logging entries, incidents, or on the UI.

> **Note:** The values in both options are predefined lookups but you can modify them. However, the maximum size of this field is 30 characters.

To group the messages, in the Setup and Maintenance work area, use the **Manage Messages** task.

Group by Category

Use this option to group messages that relate to one functionality, such as a scheduled process, together into one category. Select one of the predefined categories to enable automatic incident creation when the error message activates. By default, the following categories are available:

- **Product**: Issues related to product functionality, setup, and maintenance. Such messages are typically intended for functional administrators or product super users.
- **System**: Issues concerning the application, database, technology stack, and so on. Such messages are typically intended for technical users such as application administrators or database administrators.
- **Security**: Issues concerning permissions, access, compliance, passwords, and so on. Such messages are typically intended for security administrators.

Group by Severity

This grouping attribute is very specific and indicates the severity of the message. You must set the severity to High to enable automatic incident creation for the message. The following are predefined values, but you can add more if required.

- **High**: Used for serious messages that completely stop the progress of an important business process or affect a large user community, and require help desk's attention. Use this option to enable implicit incident creation for the message.
- **Medium**: Used for less severe and more isolated messages.
- **Low**: Used when you can't determine whether the message has a negative impact on end users or business processes.

Logging and Incidents

Select the **Logging Enabled** check box to include the UI message in the stored log file. To enable automatic incident creation when the error message appears on the UI, set the severity to High.

Incidents collect information about the application errors for which users may require assistance from help desk. An incident contains information about the state of the application at the time the problem occurred. Help desk can use the information in the incidents to resolve the problems.

Related Topics

- Overview of Lookups
- What's an incident?
- Run Diagnostic Tests
- Run Diagnostic Tests to Verify, Troubleshoot, and Analyze

Create and Edit Messages

You can create messages or edit the predefined messages stored in the message dictionary.

Creating a Message

To create a message, perform the following steps:

1. In the Setup and Maintenance work area, go to the **Manage Messages** task.
2. On the Manage Messages page, click the **New** icon.
3. On the Create Message page, enter details in each section.
4. In the Message Properties section, do these.
    a. Enter a unique message name that helps you find the messages you create and avoid name conflicts with predefined messages. Use underscore as a separator if the name contains multiple parts.
    b. Select the application and module to associate the message with.
    c. Enter a unique number that can be used as an identifier for the message. Users can quote this number when they contact the help desk for assistance.

        > **Note:** You can use any number between 10,000,000 and 10,999,999. This number range is allocated for the messages you create. At runtime, this number appears along with the application code after the message text, for example FND-2774.

    d. In the Translation Notes field, enter a description of the message indicating its use.
    e. Select the relevant message type, category, and severity.
    f. Select the **Logging Enabled** check box to create incidents or logs when messages appear on the UI.
5. In the Message Text section, do these.
    a. In the Short Text field, provide the actual message text that appears on the page at runtime.

        The short text can include tokens that are placeholders for displaying dynamic values at runtime. However, to support easy translation, keep the message length (including values of tokens) within 160 characters in American English.
    b. In the User Details field, enter information for the users to know why the message appeared. You can also include information for the users to resolve the issue themselves.

        If your Short Text component has tokens that expand the text beyond the 160-character limit, move that portion of text here.
    c. In the Administrator Details field, provide a detailed technical explanation of the message. This field is only visible to the help desk.
    d. In the Cause field, provide a concise explanation of why the message appears. This text is visible to the users.

This information is optional and is only applicable to messages of type Error and Warning. However, if you mention the cause, you must mention in the User Action field the action that users must take.

e. In the User Action field, enter the user action to guide the users with steps to respond to the message and complete the task.
f. In the Administrator Action field, provide information that the help desk can use to resolve the problem.

6. In the Message Tokens section, define tokens that you want to use in this message.
7. Click **Save and Close**.

Editing a Message

You can edit a predefined message or a message that you created.

To edit a message, search for a message on the Manage Messages page and perform the following steps:

1. Select the existing message and click the **Edit** icon.
2. On the Edit Message page, modify the existing details according to the instructions provided in the Creating a Message procedure.

> **Note:** Don't edit the message number for predefined messages.

3. Click **Save and Close**.

While creating and editing messages, you can translate the message details to the preferred languages without changing the language session of the application. To specify the translations in all the enabled language rows, use the Translation Editor option. Once the updates are made, users can view the translated text for the specific details.

Related Topics

- Message Types
- Message Groups
- Use of Tokens in Messages
- How can I make message components visible only to specific users?
- How can I enter or edit translated text in Fusion Applications?

Use of Tokens in Messages

Certain messages must display variable information at run time to help users clearly relate to the actual data and perform the required action.

Instead of writing a unique message for every possible situation, you can use tokens to display the variable values at run time.

Tokens are programmatic parts of message text that are placed within curly brackets when creating the message. Tokens serve as placeholders for the actual data. At run time, tokens dynamically display the actual text or value in the message, making a message specific to the situation. For example, the message "Enter an effective date that's the same as or later than `{MATURITY_DATE}`" contains the token `{MATURITY_DATE}`. At run time, instead of the token, the represented value (the actual date) appears. Thus, users see the message "Enter an effective date that's the same as or later than 25-APR-2015".

Use the Manage Messages task in the Setup and Maintenance work area to create and manage tokens. You must edit a message to define tokens for it. You can create tokens for a message and also delete them. However, you can't edit or delete the predefined tokens.

Token Definition

To define a token, you must provide the following information:

- A unique name for the token.
- The type of data that the token replaces at run time. Available types are Date, Number, or Text.
- A description about what the token represents at run time.

Guidelines

Follow these general guidelines while defining tokens:

- Use curly brackets and all uppercase letters for the token names.
- Use underscore as a separator for a name containing two words or more.
- Don't use a space between words.

The following table contains specific guidelines for each token data type.

Data Type	Guideline
Text	Use tokens for substituting any variable text element that qualifies as a noun.
Number	Plan carefully while using tokens for numbers especially, where a token could refer to either a singular or a plural number. You can use tokens for numbers representing an order, customer, or any other business object bearing a numeric value.
Date	Clearly define the context of the date, such as the start date, or end date, or a date range.

Common Messages

Message names that begin with FND_CMN are common messages. Each common message can appear in multiple places in any product family across Oracle Applications Cloud.

For example, the FND_CMN_NEW_SRCH message can be used for any search to indicate that no results were found. Common messages of type error or warning are part of the message dictionary.

Creating and Editing Common Messages

You can create common messages for use in multiple places. However, ensure that you follow the predefined naming convention and numbering series associated with the application or module.

> **Note:** Don't use FND_CMN as the prefix for the messages you create because all the predefined common messages begin with it.

Common messages can be used in any application. Therefore, consider the ramifications if you edit any aspect of the message, including incident and logging settings. Changes would be reflected in all instances where the message is used. For example, if you change the message text, ensure that the text is generic and applies to the entire site of Oracle Applications Cloud implementation.

How can I make message components visible only to specific users?

Use the Manage Administrator Profile Values task to determine the visibility of the message components. For the Message Mode profile option, set the profile value to either User or Administrator.

Based on the set value, the administrator or user actions and details appear for the intended audience.

However, the message components are visible to the audience based on their predefined access rights. Anyone having a user level access can't view the Administrator message components. If you set the profile value to the administrators of a specific product, the message components are visible only to that specific audience.

> **Note:** If you don't set any value to the profile option, the visibility of the message component is determined by the default profile option settings.

Related Topics

- Set Profile Option Values

Define Document Sequences

Document Sequences

You can assign a document sequence number to each business document or business event to uniquely identify it. For example, you can assign a document sequence number to an invoice that gets generated in response to a purchase order.

However, you must enable the document sequencing option for that business document or event to start assigning the number. A document sequence number is useful in tracking completed or failed transactions.

You can set up document sequencing in three different modes:

- Automatic
- Manual
- Gapless

> **Note:** Plan your document sequencing carefully before you start applying sequence numbers. Avoid switching to a different mode after you saved your work on the Manage Document Sequences and Manage Document Sequence Categories pages.

Automatic Sequencing

Automatic document sequencing assigns a unique number to each document automatically when the document is generated. That unique number is stored in the database. You can set an initial value for the numbering sequence. Thereafter, the numbering is sequential by date and time of creation. If you don't provide an initial value, the application sets the default initial value as 1.

However, you might notice gaps in the numbering sequence because automatic sequencing isn't gapless.

Manual Sequencing

Use the manual sequencing mode to assign a unique number to each document before the document is generated. In manual sequencing, the numeric ordering and completeness of a transaction isn't automatically enforced. As a result, users can skip or omit numbers when entering the sequence value. However, each time a user assigns a number, the application validates its uniqueness.

Gapless Sequencing

Gapless sequencing is similar to automatic sequencing. It automatically generates a unique number for each document, but does that only for successfully generated documents. Sequence numbers aren't assigned to incomplete or failed documents. As a result, the sequence is maintained for all the successfully generated documents.

Additionally, you can control the gapless document sequencing by enforcing the Transaction Date Validation option. When enabled, this option checks for the transaction date of a particular document and assigns the sequence number accordingly, to chronologically maintain the documents. The sequence numbers and the transaction dates are chronologically correlated to prevent any mismatch of a new document sequence assigned to an older document or an older document sequence assigned to a new document.

> **Note:** Use this type of sequencing only if necessary because it may affect the performance of the application and slow down transaction processing.

Related Topics

- Modules in Application Taxonomy
- Guidelines for Managing Document Sequences

Document Sequence Categories

A document sequence category is a set of documents that share similar characteristics and that are formed into a logical group. Document sequence categories simplify the task of assigning number sequences to specific documents.

Instead of assigning a number to each document, you assign a document sequence to one or more document sequence categories. The document sequence category automatically takes care of numbering the documents.

A document sequence category identifies the database table that stores documents resulting from transactions that your users enter. When you assign a sequence to a category, the sequence numbers the documents that are stored in a particular table. You must create document sequence categories to be able to manage the task of assigning document sequences.

Note: Once a document sequence category is created, you can't change the application, the category code, or the table name. Therefore, carefully consider these details and plan your document sequencing requirement before you begin working with the application.

Once you create a document sequence category, it's available for use in the **Document Sequences: Assignments** section on the Manage Document Sequences page. The **Category** field contains the name of the document sequence category. After you create a document sequence, you can assign it to a document sequence category.

Guidelines for Managing Document Sequences

Sequencing documents is an important business and legal requirement. Therefore, you must first decide the appropriate document sequence to use for a set of documents. Before you begin, here are a few prerequisites:

- Determine beforehand the mode of document sequencing, because you can't switch to other types once a sequence is in use.
- Note details such as the document sequence and document sequence category, for later reference.
- Identify if there are any restrictions or configuration prerequisites.

Note: Products that implement document sequencing have specifications about its usage. See the corresponding product documentation for specific details and also to identify if there are any restrictions or configuration prerequisites.

Creating and Editing Document Sequences

You can create document sequences that are automatic, manual, or gapless, depending on the business or legal requirement. By default, the current date is considered as the start date. The sequence definition never expires if you don't provide an end date. Among the several options used in creating and editing document sequences, the following options are functionally more important and therefore must be carefully identified:

- **Determinant Type**: Select to limit the document sequencing activity to certain documents that belong to a specific business entity, such as Ledger, Tax Registration, and so on.
- **Initial Value**: Enter a value for the first document in your sequence. This field applies only to sequences with automatic or gapless numbering types. Sequence numbers must not be more than 11 digits. If you leave this field blank, the first document is automatically assigned a value of 1. Once a document sequence is defined, you can't change this initial value.

Note: The **Display Message?** checkbox is deprecated. However, it might be visible on the page, to support legacy values.

Creating and Editing Document Sequence Categories

Document sequence categories are defined to make it easy to assign document sequence definitions to a group of documents instead of to individual documents. Each document sequence category is mapped to a specific table, where the documents belonging to that category are stored. When specifying the table, you must consider the following points:

- When the sequential numbering feature checks for completeness or generates a report, it finds the category's documents in the table.

- Select only those tables that belong to the application associated with the category.
- Once a category is defined, you can't switch to another table.

Assigning Document Sequences

Identify the documents to be numbered before assigning them a document sequence. For each document sequence, there can be only one active assignment to a document sequence category, and a determinant value (if applicable). As part of the assignment, specify whether the document is created automatically (for example, due to a batch process, or manually through a form). If you don't specify an end date, the assignment continues to remain active throughout the process cycle. If a determinant type was specified for the document sequence, then enter a specific determinant value related to the determinant type.

At runtime, when users create documents, the document sequence to be assigned is decided based on the following:

- An active assignment that matches the correct combination of category
- The numbering method
- The date range containing the transaction date

Auditing Document Sequences

You can audit document sequences, if required, to provide an audit trail of the changes made to the document sequence definitions. To do so, an administrator must enable auditing for the application in which document sequences are used, from the **Manage Audit Policies** page. After auditing is enabled for the application, use the **Audit Reports** work area to view the results.

In addition to the application level auditing, you can also enable auditing to provide an audit trail of the document sequences used in a specific product. This audit captures the document sequence numbers as the numbers are assigned. In the **Manage Document Sequences** page, click the required document sequence name, and select the **Audit** checkbox. When the document sequence is updated, an entry is added to the FND_DOC_SEQUENCE_AUDIT table. See *Tables and Views for Common Features*.

Related Topics

- Guidelines for Managing Modules in Application Taxonomy

Define Trees

Overview of Trees

Trees are hierarchical data models that you can use to organize data, apply business rules, control data access, and improve performance while querying.

For example, an application maintains data of an organization called Vision Corporation that has two departments: Marketing and Finance. The Finance department has two functional divisions: Receivables and Payables. You can define a tree for Vision Corporation to establish a hierarchy across its departments, and their respective functional divisions. You can use the hierarchy to manage data at various levels of the organization.

To work with trees, in the Setup and Maintenance work area, use any of the following tasks:

- Manage Tree Structures: To create and update tree structures. You must first define a tree structure to create a tree.
- Manage Trees and Tree Versions: To create and update trees and their versions.
- Manage Tree Labels: To create and update tree labels.

Tree Structures

As the name suggests, tree structures provide you the framework to organize data such that you can establish a hierarchy for use by the tree. So, similar to a template, a tree structure guides the creation of a tree.

Tree

A tree is an instance of the tree structure. The root node is the highest nodal point of a tree. Child nodes branch off from the root node. Child nodes at the same level, branching off from a common parent node, are called siblings. Leaves are details branching off from a node but not extending further down the tree hierarchy. You can create trees for multiple data sources and share them across applications.

Tree Versions

A tree by default has only one version. If required, you can create and maintain more than one editable tree version. At any point, only one tree version must be active. If you edit an existing version, it changes from active to draft. To use it again, you must set it to active. Similar to any other version control system, versions of trees are maintained to track all the changes that a tree undergoes in its life cycle.

Tree Labels

Tree labels are short names given to trees and tree structures. You can label the tree versions for better accessibility and information retrieval. When nodes are created in a tree, the existing tree labels are automatically assigned to the new tree nodes. You can use any table to store the labels and register the label data source with the tree structure.

Related Topics

- Tree Structures
- Tree Labels

Manage Tree Structures

Tree Structures

A tree structure defines the hierarchy for creating trees and prescribes rules based on which trees are created, versioned, and accessed. You can associate multiple data sources with a tree structure.

A tree is an instance of this hierarchy and each tree structure can contain one or more trees. You can create tree structures specific to an application but you can share tree structures across applications. If you apply version control to the tree structure, it's carried over to the trees that are based on the tree structure. Each tree version contains at least one root node. Occasionally, a tree version may have more than one root node.

An administrator controls the access to tree structures through a set of rules that are periodically audited for validity.

Related Topics

- Guidelines for Managing Tree Structures
- Tree Structure Audit Results

Guidelines for Defining the Tree Structure

You may create a tree structure from scratch or use any predefined tree structure. To complete the tree structure definition, specify the required details on the Create Tree Structure: Specify Definition page.

Tree Node Selection

The data in **Tree Node** table maps to the data in nodes of the tree structure. You must select the correct and most appropriate tree node table to define the tree structure, based on which you establish the tree hierarchy. This selection also affects the level of security that's set on a tree node and its child entities.

Tree Sharing Mode

Use the following options to determine the mode of sharing a tree structure across the applications.

- Open: Indicates that the tree is associated with all reference data sets.
- Set ID: Indicates that the tree is associated with a specific reference data set.

Modification

You can modify the predefined tree structures as well as those you create. However, modifying a predefined tree structure is restricted and permitted through additional privileges. Modification is limited to specific tree nodes and lower in the tree hierarchy.

Multiple Tree Versions

Although multiple tree versions can exist together, Oracle recommends that only one version be active at any given time. However, if required, you can have more tree versions to be in the active state for the same date range. You can use this flexibility to select the tree version you want to implement.

Guidelines for Managing Tree Structures

You can create, edit, and delete tree structures. You can also change the status of a tree structure and audit the changes.

Creating and Editing Tree Structures

When you edit an active tree structure, the status of the tree structure and all associated trees and their versions changes to draft. To reuse a tree structure, create a copy of the tree without copying the associated trees and tree versions. After making changes, set the status again to active. If you delete a tree structure, all the associated trees and tree versions are automatically deleted.

For information about working with the offering-specific predefined tree structures, refer to the relevant product documentation.

Status

When you change the status of a tree structure, the status of the trees and tree versions associated with that tree structure also changes.

The following table lists the different statuses of a tree structure.

Status	Meaning
Draft	In a modified state, or not yet in use.
Active	In use, indicating that one or more trees or tree versions are created from the tree structure.
Inactive	Not in use.

Related Topics

- Guidelines for Defining the Tree Structure
- How Trees and Data Sources Work Together
- Tree Structure Audit Results

Tree Structure Audit Results

Use the tree structure audit results to verify the tree structure's correctness and data integrity. The audit results include the following details:

- The name of the validator, which is a specific validation check
- The result of the validation, including a detailed message
- Corrective actions to take if there are any validation errors

Running an Audit

Setting the status of a tree structure to active automatically triggers an audit of that tree structure. To manually trigger an audit, select Audit from the Actions menu on the Manage Tree Structures page. The Tree Structure Audit Result table shows a list of validations that ran against the selected tree structure.

Audit Validators

The following table lists the validators used in the audit process and describes what each validator checks for. It also lists possible causes for validation errors and suggests corrective actions.

Validator	Page	Description (what's validated)	Possible Cause for Validation Failure	Suggested Corrective Action
Restrict By Set ID	Manage Tree Structures: Specify Data Sources	If you select the **Reference Data Set** check box for the **Restrict Tree Node List of Values Based on** option, each of its data source view objects must have a reference data set attribute.	Even when the check box is selected, one or more data source view objects doesn't contain a reference data set attribute.	If reference data set restriction is required for this tree structure, include a reference data set attribute on all data sources. Otherwise, deselect the check box.
Available Label Data Sources	Manage Tree Structures: Specify Data Sources	If you select a list item from **Labeling Scheme** to specify a labeling scheme, the label data source view object specified for each data source must be accessible. Also, the	• Any of the specified label data source view objects doesn't exist. • Any of the specified label data source view	• Correct the specified label data source view object. • Correct the primary keys of the specified

Validator	Page	Description (what's validated)	Possible Cause for Validation Failure	Suggested Corrective Action
		primary keys must be valid. This restriction doesn't apply if you select **None** from the list.	objects doesn't have primary keys. • When a label data source view object is initially defined, the database registers the primary keys for the view object. If the view object is later modified such that its primary keys no longer match the primary keys that were registered earlier, this validation fails.	label data source view object. • Do one of the following: ○ Correct the primary keys in the label data source view object to match the primary keys that were earlier registered in **FND_TS_DATA_SOURCE**. ○ Correct the primary keys registered in that table to match the new view object definition.
Row Flattened Table Name	Manage Tree Structures: Specify Performance Options	You must specify a valid row flattened table for the tree structure. It can either be the standard row flattened table **FND_TREE_NODE_RF** or another table.	• The specified table doesn't exist in the database. • The specified table doesn't contain the same columns as the **FND_TREE_NODE_RF** table.	Correct the row flattened table definition.
Available Data Sources	Add Data Source	Each data source view object specified for the tree structure must be accessible, and all its primary key attributes must be valid.	• Any of the specified data source view objects doesn't exist. • When you define a data source view object, keep the **Use non-defined primary key columns** check box deselected. The database automatically registers the primary keys for the view object. Select this check box if you want the database to register the primary keys you specify. However, if the registered primary keys contain any duplicates, this validation fails. • The **Use non-defined primary key columns** check box is selected in a data source, but the list of specified primary key columns doesn't match the primary keys defined in the corresponding	• Correct the specified data source view object. • Correct the duplicate column in the registered primary keys. • Correct the primary keys of the specified data source view object. • Correct any mismatch in data types.

Validator	Page	Description (what's validated)	Possible Cause for Validation Failure	Suggested Corrective Action
			data source view object. • Any common attribute that exists in both the data source view object and the tree node view object isn't of the same data type in both view objects.	
Column Flattened Table Name	Manage Tree Structures: Specify Performance Options	You must specify a valid column flattened table for the tree structure. It can either be the standard row flattened table **FND_TREE_NODE_CF** or another table.	• The specified table doesn't exist in the database. • The specified table doesn't contain the same columns as the **FND_TREE_NODE_CF** table.	Correct the column flattened table definition.
Restrict by Date	Manage Tree Structures: Specify Data Sources	If you select the **Date Range** check box for the **Restrict Tree Node List of Values Based on** option for a tree structure, each of its data source view objects must have effective start date and end date attributes. This validation doesn't take place when the check box isn't selected.	Even when the check box is selected, one or more of its data source view objects doesn't contain effective start date and end date attributes.	If the date restriction is required for this tree structure, include the effective start date and effective end date attributes on all data sources. Otherwise, deselect the check box.
Tree Node Table Name	Manage Tree Structures: Specify Definition	You must specify a valid tree node table for the tree structure. It can either be the standard row flattened table **FND_TREE_NODE** or another table.	• No table is specified in the **Tree Node Table** field. • The specified table doesn't exist in the database. • The specified table doesn't contain the same columns as the **FND_TREE_NODE** table.	Correct the tree node table definition.

Guidelines for Specifying Data Sources for Tree Structures

The data sources provide the items for establishing hierarchy in a tree structure. In the tree management infrastructure, these data sources are Oracle ADF business components view objects, which are defined by application development.

Labeling Schemes

Selecting a labeling scheme determines how the tree nodes are labeled. You may select a labeling scheme to assign at the data source level, at the parent node level, or keep it open for customers assignment. You may also choose not to

have any labeling scheme. However, if you decide to use any of the labeling schemes, select the following additional options, to restrict the list of values that appear in the selected tree node.

- **Allow Ragged Nodes**: To include nodes that have no child nodes, and are shorter than the remaining nodes in the entire hierarchy.
- **Allow Skip Level Nodes**: To include nodes that are at the same level but have parent nodes at different levels.

Restriction of Tree Node Values

You can decide the depth of the tree structure by selecting an appropriate value from the list. Keeping the depth limit open renders an infinite list of values.

Using the following options, you can restrict the list of values that appear for selection in a specific tree node.

- **Date Range**: Specifies whether a selection of nodes should be restricted to the same date range as the tree version.
- **Allow Multiple Root Nodes**: Allows you to add multiple root nodes when creating a tree version.
- **Reference Data Set**: Specifies whether a selection of nodes should be restricted to the same set as the tree.

Data Source Values and Parameters

Tree data sources have optional data source parameters with defined view criteria and associated bind variables. You can specify view criteria as a data source parameter when creating a tree structure, and edit the parameters when creating a tree. Multiple data sources can be associated with a tree structure and can have well-defined relationships among them.

> **Note:** Parameter values modified at the tree level override the default values specified at the tree-structure level.

The data source parameters are applied to any tree version belonging to that data source, when performing node operations on the tree nodes. Data source parameters also provide an additional level of filtering for different tree structures. The tree structure definition supports three data source parameter types.

- Bound Value: Captures any fixed value, which is used as part of the view criteria condition.
- Variable: Captures and binds a dynamic value that's being used by the data source view object. This value is used by the WHERE condition of the data flow.
- View Criteria: Captures the view criteria name, which is applied to the data source view object.

You can also specify which of the data source parameters are mandatory while creating or editing the tree structure.

View objects from the Oracle ADF business components are used as data sources. To associate the view object with the tree structure, you can pick the code from Oracle ADF business component view objects and provide the fully qualified name of the view object, for example, **oracle.apps.fnd.applcore.trees.model.view.FndLabelVO**.

Guidelines for Improving the Performance of a Tree Structure

Tree structures are heavily loaded with data. As a tree management guideline, use the following settings to improve performance of data rendering and retrieval.

- Row Flattening
- Column Flattening
- Column Flattened Entity Objects
- BI View Objects

CAUTION: Force flattening handles both row and column flattening. This is applicable for all modes of force flattening, such as, **Schedule Force Flattening**, **Online Force Flattening**, and **Offline Force Flattening**. You must not run row flattening and column flattening separately using force flattening. Running two flattening processes in parallel for the same tree will lead to inconsistent results.

Row Flattening

Row flattening optimizes parent-child information for run-time performance by storing additional rows in a table for instantly finding all descendants of a parent without initiating a CONNECT BY query. Row flattening eliminates recursive queries, which allows operations to perform across an entire subtree more efficiently.

To store row flattened data for the specific tree structure, users can either use the central `FND_TREE_NODE_RF` table or they can register their own row flattened table. For example, in a table, if Corporation is the parent of Sales Division (Corporation-Sales Division), and Sales Division is the parent of Region (Sales Division-Region), a row-flattened table contains an additional row with Corporation directly being the parent of Region (Corporation-Region).

Column Flattening

Column flattening optimizes parent-child information for runtime performance by storing an additional column in a table for all parents of a child.

To store column flattened data for the specific tree structure, users can either use the central `FND_TREE_NODE_CF` table or they can register their own column flattened table. For example, in a table, if Corporation is the parent of Sales Division (Corporation-Sales Division), and Sales Division is the parent of Region (Sales Division-Region), a flattened table in addition to these columns, contains three new columns: Region, Sales Division, and Corporation. Although positioned next to each other, the column Region functions at the lower level and Corporation at the higher level, retaining the data hierarchy.

Column Flattened Entity Object

In the absence of a column-flattened table, if you need to generate the business component view objects for your tree structure for the flattened table, use the tree management infrastructure to correctly provide the fully qualified name of the entity object for the column flattened table.

BI View Object

View objects from Business Intelligence can be used as data sources, eliminating the need to create new types of data sources. This field is to store the fully qualified name for the BI view object generated by the tree management for business intelligence reporting and usage The BI view object is a combination of the tree data source and column flattened entity. Using this option prevents data redundancy and promotes greater reuse of existing data, thereby improving the performance of the tree structure.

Search View Object

Specify the full name of the view object for the tree node to ensure that search operations performed on the tree node are efficient.

Manage Tree Labels

Tree Labels

Tree labels are tags that are stored on tree nodes. You can store labels in any table and register the label data source with the tree structure.

When a labeling scheme is used for trees, the selected labels are stored in the tree label entity, and each tree node contains a reference to a tree label in the labeling scheme. The following table lists the three ways in which tree labels are assigned to the tree nodes.

Labeling Scheme	Description
Level	Labels that are automatically assigned based on the data source to which the tree node belongs. A level label points to a specific data source. For example, in a tree that reflects the organizational hierarchy of an enterprise, all division nodes appear on one level and all department nodes on another.
Group	Labels that you can arbitrarily assign to tree nodes.
Depth	Labels that are automatically assigned based on the depth of the tree node within the tree. No manual assignment is performed. **Note:** In an unbalanced hierarchy, a level may not be equal to depth.

Manage Trees and Tree Versions

Guidelines for Managing Trees and Tree Versions

You can create and edit trees and tree versions depending upon the requirement. A tree can have one or more tree versions. When changes are made to an existing tree, a new version is created and published.

Creating and Editing Trees

Trees are created based on the structure defined in the tree structure. You can create trees, modify existing trees, and delete trees. If you want to copy an existing tree, you can duplicate it. You can also select and copy the associated tree versions.

Creating a tree involves specifying the tree definition and specifying the labels that are used on its nodes. You can even select an icon of your choice to represent the tree in the search results. If the selected tree structure has data sources and parameters defined for it, they appear on the page allowing you to edit the parameter values at the tree node level.

Note: Parameter values modified at the tree level will override the default values specified at the tree-structure level.

Creating and Editing Tree Versions

Tree versions are created at the time of creating trees. Each tree must contain a version.

Editing an existing tree provides you with the option of updating the existing version. You can also edit the existing version that lies nested in the tree in the search results.

When you edit a tree version bearing Active status, the status changes to Draft until the modifications are saved or canceled. To edit a tree version while keeping the status active select the **Update tree nodes while keeping the tree version active** check box.

Related Topics

- Tree Nodes
- Tree Version Audit Results

Tree Version Audit Results

Use the tree version audit results to verify the tree version's correctness and data integrity. The audit results include the following details:

- The name of the validator, which is a specific validation check
- The result of the validation, including a detailed message
- Corrective actions to take if there are any validation errors

Running an Audit

An audit automatically runs whenever a tree version is set to active. You can also manually trigger an audit on the Manage Trees and Tree Versions page, using **Actions** > **Audit**. If you run an audit on a tree version, which is in Draft status, and want to change the status to Active after the audit is complete then select the **Set tree version status to active after audit is successfully complete** Check Box.

The Tree Version Audit Result table shows a list of validations that ran against the selected tree version.

Validation Details

The following table lists the validators used in the audit process and describes what each validator checks for. It also lists possible causes for validation errors and suggests corrective actions.

Validator	Description (what's checked)	Possible Cause for Validation Failure	Suggested Corrective Action
Effective Date	The effective start and end dates of the tree version must be valid.	The effective end date is set to a value that isn't greater than the effective start date.	Modify the effective start and end dates such that the effective start date is earlier than the effective end date.
Root Node	On the Manage Tree Structures: Specify Data Sources page, if the **Allow Multiple Root Nodes** check box for the **Restrict Tree Node List of Values Based on** option isn't selected, and if the tree structure isn't empty, the tree version must contain exactly one root node. This	Even if the check box is deselected, the tree version has multiple root nodes.	Modify the tree version such that there is exactly one root node.

Validator	Description (what's checked)	Possible Cause for Validation Failure	Suggested Corrective Action
	validation doesn't take place if the check box is selected.		
Data Source Maximum Depth	For each data source in the tree structure, on the Data Source dialog box, if the data source is depth-limited, the data in the tree version must adhere to the specified depth limit. This validation doesn't apply to data sources for which the **Maximum Depth** field is set to **Unlimited**.	The tree version has data at a depth greater than the specified depth limit on one or more data sources.	Modify the tree version such that all nodes are at a depth that complies with the data source depth limit.
Duplicate Node	On the Data Source dialog box, if the **Allow Duplicates** check box isn't selected, the tree version must not contain more than one node with the same primary key from the data source. If the check box is selected, duplicate nodes are permitted.	Even when the check box is deselected, the tree version contains duplicate nodes.	Remove any duplicate nodes from the tree version.
Available Node	All nodes in the tree version must be valid and available in the underlying data source.	• A node in the tree version doesn't exist in the data source. Deleting data items from the data source without removing the corresponding nodes from the tree version can result in orphaned nodes in the tree version. For example, if you added node A into your tree version, and subsequently deleted node A from the data source without removing it from the tree version, the validation fails. • The tree version contains a tree reference node, which references another tree version that doesn't exist.	Remove any orphaned nodes from the tree version. Update tree reference nodes so that they reference existing tree versions.
Node Relationship	All nodes must adhere to the relationships mandated by the data sources registered in the tree structure.	The tree structure has data sources arranged in a parent-child relationship, but the nodes in the tree don't adhere to the same parent-child relationship. For example, if the tree structure has a Project data source with a Task data source as its child, Task nodes must always be within Project nodes in the tree version. This validation fails if there are instances where a Project node is added as the child of a Task node.	Modify the tree version such that the nodes adhere to the same parent-child relationships as the data sources.
SetID Restricted Node	On the Manage Tree Structures: Specify Data sources page, if the	Even when the check box is selected, the tree version has	Modify the tree version such that all nodes in the tree have data

Validator	Description (what's checked)	Possible Cause for Validation Failure	Suggested Corrective Action
	Set ID check box is selected to enable the **Restrict Tree Node List of Values Based on** option for each tree node, the underlying node in the data source must belong to the same reference data set as the tree itself. This restriction doesn't apply when the check box isn't selected.	nodes whose data source values belong to a different reference data set than the tree.	sources with reference data set matching that of the tree.
Label Enabled Node	On the Manage Tree Structures: Specify Data Sources page, if a labeling scheme is specified for the tree structure by selecting a list item from the **Labeling Scheme** list, all nodes must have labels. This restriction doesn't apply when you select **None** from the **Labeling Scheme** list.	The tree structure has a labeling scheme but the tree version has nodes without labels.	Assign a label to any node that doesn't have a label.
Date Restricted Node	On the Manage Tree Structures: Specify Data Sources page, if the **Date Range** check box is selected to enable the **Restrict Tree Node List of Values Based on** option for a tree structure, each node in the underlying data source must have an effective date range same as the effective date range of the tree version. This restriction doesn't apply if the check box isn't selected.	Even when the check box is selected, there are data source nodes that have a date range beyond the tree version's effective date range. For example, if the tree version is effective from Jan-01-2012 to Dec-31-2012, all nodes in the tree version must be effective from Jan-01-2012 to Dec-31-2012 at a minimum. It is acceptable for the nodes to be effective for a date range that extends partly beyond the tree version's effective date range (for example, the node data source value is effective from Dec-01-2011 to Mar-31-2013). It isn't acceptable if the nodes are effective for none or only a part of the tree version's effective date range (for example, the node data source value are effective only from Jan-01-2012 to June-30-2012).	Ensure that all nodes in the tree version have effective date range for the effective date range for the tree version.
Multiple Active Tree Version	On the Manage Tree Structures: Specify Definition page, if the **Allow Multiple Active Tree Versions** check box isn't selected for the tree structure, there must not be more than one active tree version for a tree at any time. This restriction doesn't apply if the check box is selected.	Even when the check box isn't selected, there is more than one active tree version in the tree for the same date range.	Set no more than one tree version to Active within the same date range and set the others to inactive or draft status.
Range Based Node	On the Data Source dialog box, if the **Allow Range Children** check box isn't selected, range-based nodes aren't permitted from	Even when the check box isn't selected, there are range-based nodes from a data source.	Ensure that any range nodes in your tree version are from a data source that allows range children.

Validator	Description (what's checked)	Possible Cause for Validation Failure	Suggested Corrective Action
	that data source. This restriction doesn't apply if the check box is selected.		
Terminal Node	On the Data Source dialog box, if the **Allow Use as Leaves** check box isn't selected, values from that data source can't be added as leaves (terminal nodes) to the tree version. This restriction doesn't apply if the check box is selected.	Even when the check box isn't selected, values from a data source are added as leaf nodes (terminal nodes).	Modify the tree version such that all terminal nodes are from data sources for which this check box is selected.
Usage Limit	On the Data Source dialog box, if the **Use All Values** option is selected to set the **Usage Limit** for the data source, every value in the data source must appear as a node in the tree. This restriction doesn't apply if **None** option is selected.	Even if the **Use All Values** option is selected, there are values in the data source that aren't in the tree version.	For each data source value that isn't yet available, add nodes to the tree version.

Copy, Audit, and Flatten Tree Versions Using a Scheduled Process

You can run the **Manage All Trees Operations Centrally** scheduled process to do these tasks.

- Copy tree version – Duplicate from an existing tree version.
- Audit and activate tree version – Audit the tree version, and mark the tree version as active, if audited successfully.
- Flatten tree version – Incrementally flatten both rows and columns, and force flatten the tree version.

Run the **Manage All Trees Operations Centrally** process from the Scheduled Processes work area.

Related Topics

- Submit Scheduled Processes and Process Sets

FAQs for Manage Trees and Tree Versions

Why is it taking so long to duplicate my tree version?

For a faster response, duplicate your tree version using the **Manage All Trees Operations Centrally** scheduled process.

Related Topics

- Copy, Audit, and Flatten Tree Versions Using a Scheduled Process
- Submit Scheduled Processes and Process Sets

How Trees and Data Sources Work Together

Data sources are the foundation of tree management. Tree structures, trees, and tree versions establish direct and real-time connectivity with the data sources.

Changes to the data sources immediately reflect on the Manage Trees and Tree Versions page and wherever the trees are in use.

Metadata and Data Storage

Tree structures contain the metadata of the actual data and the core business rules that manifest in trees and tree versions. You can select and enable a subset of trees to fulfill a specific purpose in that application.

Access Control

Source data is mapped to tree nodes at different levels in the database. Therefore, the changes you make to the tree nodes affect the source data. Access control set on trees prevents unwanted data modifications in the database. Access control can be applied to the tree nodes or anywhere in the tree hierarchy.

Related Topics

- Guidelines for Specifying Data Sources for Tree Structures

Tree Nodes

Tree nodes are points of data convergence where a tree branches into levels. Nodes are the building blocks of a tree structure and are attached to tree versions.

Whenever you create or edit a tree version, you need to specify its tree node. To manage tree nodes, in the Setup and Maintenance work area, go to the **Manage Trees and Tree Versions** task.

Managing Tree Nodes

You can create, modify, or delete tree nodes on the **Tree Version: Specify Nodes** page. To add a tree node, ensure that the tree structure with which the tree version is associated is mapped to a valid data source. You can also duplicate a tree node if the multiple root node feature is enabled.

Node Levels

Usually, the nodes at a particular level represent similar information. For example, in a tree that reflects the organizational hierarchy, all nodes representing divisions appear at one level and all the department nodes on another. Similarly, in a tree that organizes a user's product catalog, the nodes representing individual products might appear at one level and the nodes representing product lines on the immediate higher level.

The following node levels are in use:

- Root node: The highest node in the tree structure
- Parent node: The node that branches off into other nodes
- Child node: The node that's connected to a node higher in hierarchy (parent node)

- Sibling node: Nodes that are at the same level and belong to the same parent node
- Leaf node: Entities branching off from a node but not extending further down the tree hierarchy

Node Types

A tree node has the following node types.

- Single: Indicates that the node is a value by itself.
- Range: Indicates that the node represents a range of values and possibly could have many children. For example, a tree node representing account numbers 10000 to 99999.
- Referenced Tree: Indicates that the tree node is actually another version for the tree based on the same tree structure, which isn't physically stored in the same tree. For example, a geographic hierarchy for the United States can be referenced in a World geographic hierarchy.

File Format for Importing Data Loaders of Tree Hierarchies

You can import tree hierarchies to your application by creating separate text files containing values and value set codes. You can then upload these files to the Oracle WebCenter Content document repository.

Here are a few things that you need to keep in mind while creating these files:

- Use a vertical bar or pipe (|) as a delimiter between fields for both the header and the value rows.
- According to the Oracle WebCenter Content specification, set the file encoding to UTF-8 without the Byte Order Mark (BOM).
- The first line in the file must be a header line, and the files must look exactly the same as shown in the sample file.

Note: This requirement is specific for a tree with structure code "GL_ACCT_FLEX".

Flat File

To create a file containing tree data loaders, include the headers specified in this table:

Header	Data Type	Data Size	Description	Required or Optional
`ValueSetCode`	String	30	This value determines the value used as a parameter for the tree.	Required
`TreeCode`	String	30	This value displays the code for the tree.	Required
`TreeVersionName`	String	30	This value displays the name for the tree version.	Required
`TreeVersionStartDate`	Date	-	This value displays the beginning of the date range during which the tree is active and visible on the	Required

Header	Data Type	Data Size	Description	Required or Optional
			page. The format is (DD/MM/YYYY).	
`TreeVersionEndDate`	Date	-	This value displays the end date for the tree version. The application inserts the default date. The format is (DD/MM/YYYY).	Optional
`Parent 30....Parent1`	String	30	This value displays the value set values of the value set code field and represents the internal nodes.	Optional
`Value`	String	30	This value displays the value set values of the value set code field and represents the leaf nodes.	Optional
`IsChild`	String	1	Set this option to enable or disable the option to add the node as a parent: • Y: Enable node as parent or detail value of the hierarchy. • N: Disable as parent or detail value of the hierarchy.	Optional

Here's a sample file with the header values at the beginning of the file, followed by the line entries of the hierarchies (tree) data loader. For importing several data loaders, add more line entries in a similar format.

```
ValueSetCode|TreeCode|TreeVersionName|TreeVersionStartDate|TreeVersionEndDate|Parent30|Parent29|Parent28|
Parent27|Parent26|Parent25|Parent24|Parent23|Parent22|Parent21|Parent20|Parent19|Parent18|Parent17|Parent16|
Parent15|Parent14|Parent13|Parent12|Parent11|Parent10|Parent9|Parent8|Parent7|Parent6|Parent5|Parent4|
Parent3|Parent2|Parent1|Value|IsChild
Operations Company|OC COA_Company|OC COA_Company|01/1/2019|||||||||||||||||||||||||||||PARENT3366941|||N
Operations Company|OC COA_Company|OC COA_Company|01/1/2019|||||||||||||||||||||||||||||PARENT3366941|
PARENT3366942|||N
Operations Company|OC COA_Company|OC COA_Company|01/1/2019|||||||||||||||||||||||||||||PARENT3366941|
PARENT3366943|||N
Operations Company|OC COA_Company|OC COA_Company|01/1/2019|||||||||||||||||||||||||||||PARENT3366941|
PARENT3366942|PARENT3366944||N
Operations Company|OC COA_Company|OC COA_Company|01/1/2019|||||||||||||||||||||||||||||PARENT3366941|
PARENT3366942|PARENT3366944|3366128|Y
Operations Company|OC COA_Company|OC COA_Company|01/1/2019|||||||||||||||||||||||||||||PARENT3366941|
PARENT3366943|PARENT3366945||N
Operations Company|OC COA_Company|OC COA_Company|01/1/2019|||||||||||||||||||||||||||||PARENT3366941|
PARENT3366943|PARENT3366946|3366126|Y
Operations Company|OC COA_Company|OC COA_Company|01/1/2019|||||||||||||||||||||||||||||PARENT3366941|
PARENT3366943|PARENT3366947|PARENT3366948|3366127|Y
```

Related Topics

- Overview of Files for Import and Export
- Overview of Trees
- Tree Structures
- Guidelines for Defining the Tree Structure
- Guidelines for Managing Tree Structures
- Tree Labels
- How Trees and Data Sources Work Together

Define Profile Options

Overview of Profile Options

Profile options are a set of preferences that you use to centrally manage the user interface settings and application behavior.

You can use the profile options to manage, for example:

- User preferences to specify language or currency.
- Configuration choices to change the user interface skin or appearance of fonts.
- Processing options to determine how much of an activity needs to be logged and at which level.

In the Setup and Maintenance work area, go to these tasks:

- Manage Profile Options
- Manage Profile Categories
- Manage Administrator Profile Values

This table explains what each task is used for.

Task	Purpose
Manage Profile Options	Create new profile options or modify existing profile options, except some which are predefined and restricted to prevent any modifications.
Manage Profile Categories	Group the profile options based on their functional similarities.
Manage Administrator Profile Values	Set the profile values for the enabled profile options to control application behavior.

Related Topics

- Create and Edit Profile Options
- Set Profile Option Values
- Profile Categories
- How can I access predefined profile options?

Hierarchy in Profile Levels

The hierarchy in profile levels determines the context for making a profile option effective.

You can enable a profile option at the following levels:

- Site level (lowest): The entire site of deployment
- User level (highest): A specific user

After you create or edit a profile option on the Manage Profile Options page, you must enable it. You can enable it at multiple levels. The setting at the highest enabled level takes precedence over the lower levels. User level is the highest in the hierarchy and always takes precedence over the settings at the site level.

On the Manage Administrative Profile Values page, set the profile value at any of the enabled levels of the profile option.

Example of Profile Option Hierarchy

The following table shows an example of setting the currency profile option at different levels.

Profile Level	Hierarchy	Currency
Site	Lowest	Euro
User	Highest	US Dollar

For this example, there are two users, John and Lisa. For John, the user-level profile value currency is set to US Dollar. If the Currency profile option is enabled only at the site level, both John and Lisa would see Euro as the default currency. If the profile option is enabled at the user level, users having a different currency set as their currency profile value would see only that currency. In this case, John would see US Dollar as the default currency. If the Currency profile option is enabled at the user level and there is no user level currency defined, the site level setting takes effect. When both site and user levels are enabled, the value for the user level takes precedence over the site level value.

Set Profile Option Values

Each profile option contains specific values that determine how it affects the application. You can add or modify the values for each profile option.

Select or enter the value for one or more of the available levels (site, product, and user) so that each setting takes effect at the intended level.

Setting the Profile Value

1. In the Setup and Maintenance work area, go to the profile option task that correlates to the product or functionality of the profile option you want to set. If needed, use the **Manage Administrator Profile Values** task, which provides access to all profile options.
2. Search for and select the profile option.
3. In the Profile Values section, select or enter a value in the **Profile Value** column for any default row with a predefined Site level.
4. If there isn't any row, or if you need more rows, click the **New** icon.
    - Profile Level: Specify the level at which the profile value is to be set. If the profile value applies to the entire site, select **Site**. Otherwise, select **User.**

      Note:
      - Don't select **Site** if a row for the Site level already exists. There can only be one row for the Site level, but you can have multiple rows for the User level.
      - The **Product** level is deprecated and can no longer be used. However, it might be visible in the list to support legacy profile values.
    - User Name: If you select **User** as the profile level, select the user name and specify the associated profile value.
    - Profile Value: Select or enter the value corresponding to the selected profile level. For an existing entry, you can modify only the profile value.
5. Click **Save and Close**. Changes in the profile values affect users the next time they sign in.

Import Profile Values

Use the Import option on the Manage Administrator Profile Values page to import profile values in bulk and associate them with a profile option.

Before you begin, make sure that the file containing the profile values is available in the document repository of Oracle WebCenter Content.

1. In the Setup and Maintenance work area, go to the **Manage Administrator Profile Values** task.
2. In the Search: Profile Options section, search for the profile option for which you want to import the values.
3. In the Search Results: Profile Options section, select the profile option.
4. In the <Profile Option>: Profile Values section, click **Actions** > **Import**.
5. On the Import User Profile Values window, select the WebCenter Content account to which the file was uploaded.
6. Enter the name of the file containing the profile values. The name here must match with the name of the file uploaded to the selected account.
7. Click **Upload**. The profile values are imported.

Note: If the import fails, click the link to the log file on the confirmation dialog box and examine the cause of failure.

Related Topics

- File Format for Importing Profile Values
- How can I bulk update user preferences?
- Overview of Files for Import and Export

File Format for Importing Profile Values

You can import profile option values to your application by creating separate text files containing values. You can then upload these files to the Oracle WebCenter Content document repository.

Here are a few things that you need to keep in mind while creating these files:

- Use a vertical bar or pipe (|) as a delimiter between fields for both the header and the value rows.
- Set the file encoding to UTF-8 without the Byte Order Mark (BOM). When entering data, use only UTF-8 compatible characters and avoid platform-dependent or unsupported characters.
- The first line in the file must be a header line, and the files must look exactly the same as shown in the sample file.

To create a file containing the profile values, include the headers specified in this table:

Header	Description
`ProfileOptionCode`	This value displays the profile option code.
`LevelName`	This value displays the level name of the profile. It must be one of these level names: • `Site` • `Product` • `User`
`UserName`	This value must correspond to the registered user name in the application. Don't provide any other shortened or coded name of the user.
`ProfileOptionValue`	This value displays the profile value that you can import.

Here's a sample file with the header values at the beginning of the file, followed by line entries of the two profile values. For importing several profile values, add more line entries in a similar format.

```
ProfileOptionCode|LevelName|UserName|ProfileOptionValue
AFLOG_BUFFER_MODE|USER|APP_IMPL_CONSULTANT|TEST
AFLOG_LEVEL|USER|APPLICATION_DEVELOPER|FINEST
```

Related Topics

- Overview of Files for Import and Export
- Guidelines for File Import and Export
- Overview of Profile Options
- Import Profile Values

Create and Edit Profile Options

Use profile options to manage user preferences and control the general function of applications. For example, you can control user preferences involving language, date, time, currency, and other similar general settings.

You can create a profile option and also determine the level at which that profile option takes effect. You can also define the profile values for the profile option. The profile values appear on the Manage Administrator Profile Values page when you select the profile option.

Creating a Profile Option

1. In the Setup and Maintenance work area, go to the **Manage Profile Options** task.
2. On the page, click **Actions** > **New**.
3. On the Create Profile Option page, fill all the fields with relevant details with specific attention to the following:
    - Use the SQL Validation field to provide an SQL statement that displays the permissible profile values to be used. Using an SQL statement, you can select the values from another table and display them as a list of values.

      For example, to display the values **Yes** and **No** from a lookup table, you can use the following SQL statement:

      ```
      select MEANING, LOOKUP_CODE from FND_LOOKUPS where LOOKUP_TYPE='YES_NO'
      ```

      As a result, on the **Manage Administrator Profile Values** page, the profile values Yes and No are available for selection for that profile option.
    - You can specify a date range to keep the profile option active during that period. Beyond the specified duration, the profile option automatically becomes inactive. If you no longer require the profile option, you must manually delete it from the **Manage Profile Options** page.
4. Click **Save and Close**.
5. On the Manage Profile Options page, search for the newly created profile option and from the results, select it.
6. In the Profile Option Levels section, do the following:
    a. In **Enabled**, select the levels at which you want to enable the profile option.

       > **Note:** You can enable a profile option at multiple levels, but a higher-level profile value overrides a lower-level value. Therefore, enable them only at the required levels.

    b. In **Updatable**, select the profile level at which you want implementors to have update privileges. Leave the check box deselected if you don't want the implementors to modify the profile values (they appear in read-only mode).
7. Click **Save and Close**.

To edit a profile option that you created, search for it and edit the necessary details.

Note:

- While creating and editing profile options and profile categories, you can translate the details to the preferred languages without changing the language session of the application. To specify the translations in all the enabled language rows, use the Translation Editor option. Once the updates are made, users can view the translated text for the specific details.
- If you want to access the profile option using REST API, you must add it to the Authenticated User Profile Option Values (`ORA_FND_AUTH_REST_ACCESS`) profile category.

Related Topics

- Hierarchy in Profile Levels
- Set Profile Option Values
- Profile Categories
- How can I enter or edit translated text in Fusion Applications?

Profile Categories

You can create profile categories to group profile options based on their functional similarities and their use. In the Setup and Maintenance work area, use the Manage Profile Categories task.

Profile categories help administrators or implementors in retrieving profile options using a search criterion on the Manage Administrator Profile Values page.

Managing Profile Categories

Consider the following options while managing profile categories:

- Create profile categories and add existing profile options to them
- Add newly created profile options to existing user-defined profile categories

Note: While you can add a profile option to more than one category, some profile categories are predefined and restricted from any modifications. So, you can't edit them or add profile options to them.

Setting Display Sequence for the Profile Options

You must set the display sequence for each profile option that you add to a profile category. Display sequence determines the order in which the profile options appear in a search result, based on the profile category. You can set the sequence beginning with zero or one for the first profile option to display, and proceed sequentially to assign the values to the remaining profile options.

The following table demonstrates the effect of the display sequence on the profile options when they're retrieved as search results.

Profile Category	Included Profile Option - Assigned Display Sequence	Display Sequence of Profile Options in the Search Results
Attachments	• Attachment File Directory - 2 • Indicate Attachments - 1	1. Indicate Attachments 2. Attachment File Directory

Related Topics

- Set Profile Option Values

FAQs for Define Profile Options

How can I access predefined profile options?

Search for predefined profile options using the Manage Profile Options task.

1. In the Setup and Maintenance work area, go to the **Manage Profile Options** task.
2. On the page, enter any of the search parameters and click **Search**. Search functionality is case-sensitive.

   > **Tip:** If you don't know the profile option code or the display name, use the **Application** or **Module** fields to filter search results.

3. In the results, click a profile option to view its details.

How can I bulk update user preferences?

User preferences such as Language, Date Format, Time Zone are stored as profile options. You can use the import option on the Manage Administrator Profile Values task to bulk import these profile options and apply them to the user's profile.

Here are the profile options that affect user preferences, and can be imported using a text file:

- Default Currency (FND_CURRENCY)
- Default Date Format (FND_DATE_FORMAT)
- Default Decimal Separator (FND_DECIMAL_SEPARATOR)
- Display Name Language Preference (FND_DISPLAY_NAME_LANGUAGE)
- Default Language (FND_LANGUAGE)
- Default Number Format (FND_NUMBER_FORMAT)
- Default Time Format (FND_TIME_FORMAT)
- Default User Time Zone (FND_TIMEZONE)
- Default Territory (FND_TERRITORY)

Before you begin, you must prepare the text file in the prescribed format, where the top row is the header and the rest are values for the profile option. For example, if you're importing profile values for territories, create the text file in the format:

```
ProfileOptionCode|LevelName|UserName|ProfileOptionValue
FND_TERRITORY|USER|john.doe@oracle.com|France
```

You must have uploaded the text file to Oracle WebCenter Content so that you can import it. For instructions on uploading the file, see Overview of Files for Import and Export. For instructions on importing the file contents, see Import Profile Values.

Related Topics

- Overview of Files for Import and Export
- Import Profile Values

Define Flexfields

Overview of Flexfields

A flexfield is a set of placeholder fields associated with business objects and placed on the application pages to contain additional data.

You can use flexfields to modify the business objects and meet enterprise data management requirements without changing the data model or performing any database programming. Using flexfields, you can capture different data on the same database table and modify the application features. For example, airline manufacturers may require specific attributes for orders that aren't predefined. Using a flexfield for the order business object, they can create and configure the required attribute.

When you first define your flexfields, you choose how many segments you want to use and what order you want them to appear in. You also choose how you want to validate each of your segments. The decisions you make affect how you define your value sets. When your user enters a value, your value sets validate that value. The value sets can be one of these types:

- List of valid values that aren't stored in any application table.
- Table-validated value sets that use a predefined list of values stored in an application table.
- Format only value sets that use any value as long as it conforms to your specified formatting rules. For example, the value must not exceed the maximum length you define for your value set.

You can assign a value set to a flexfield segment to define the valid values in that segment. While defining valid values in a segment, either reuse an existing value set or define a new value set. You can reuse a value set as often as you want across multiple flexfields or different segments within the same flexfield.

Flexfield Types

Here are the types of flexfields:

- Descriptive flexfields
- Extensible Flexfields
- Key Flexfields

Both extensible and descriptive flexfields provide an expansion space that you can use to configure additional attributes without additional programming. Descriptive flexfields are stored in additional columns on the same table as that of the object, whereas extensible flexfields are stored in a separate extension table.

Key flexfields consist of one or more segments, where each segment can have a meaning. You can use key flexfields to enter multipart values, such as a part number, a job code, or an account code. Users see the flexfields as fields or attributes on UI pages. To manage the flexfields, use any of these tasks in the Setup and Maintenance work area:

- **Manage Descriptive Flexfields**: To configure descriptive flexfield segments if you have enabled descriptive flexfields on a page.
- **Manage Extensible Flexfields**: To configure extensible flexfield segments if you have enabled extensible flexfields on a page.
- **Manage Key Flexfields**: To configure key flexfields, which is a configurable multipart key.
- **Manage Value Sets**: To create reusable value sets to validate values in flexfield segments.

  > **Note:** You can manage value sets within the **Manage Descriptive Flexfields** or **Manage Extensible Flexfields** tasks.

Related Topics

- How can I access predefined flexfields?
- Overview of Descriptive Flexfields
- Overview of Extensible Flexfields
- Overview of Key Flexfields
- Overview of Value Sets

Flexfield Components

A flexfield is made up of several data entities that store and render information pertaining to flexfield configuration.

Flexfields are made up of the following components:

- Segments
- Value Sets
- Contexts
- Structures

Segments

A segment is a field within a flexfield and represents a single table column of your database. When configuring a flexfield, define the appearance and meaning of individual segments. Segments represent attributes of information. Segments can appear globally wherever the flexfield is implemented, or based on a structure or context. Each segment captures a single atomic value and represents an attribute of information.

The characteristics of a segment vary based on the type of flexfield in which it's used.

- In key flexfields, a segment describes a characteristic of the entity. For example, a part number that contains details about the type, color, and size of an item.
- In a descriptive or extensible flexfield, a segment represents an information attribute on the application page. For example, details about a device containing components, some of which are global while the remaining are contextually dependent on the category of the device.

Value Sets

Users enter values into segments while using an application. A value set is a named group of values that validate the content of a flexfield segment. You configure a flexfield segment with a value set to enforce entries of only valid values for that segment.

The configuration involves the following tasks:

- Defining the values in a value set, including characteristics such as the length and format of the values.
- Specifying formatting rules or values from an application table or predefined list.

Multiple segments within a flexfield, or multiple flexfields, can share a single value set.

Contexts

Context-sensitive flexfield segments are available to an application based on a context value. You define contexts as part of configuring a flexfield. Users see global segments as well as any context-sensitive segments that apply to the selected context value.

In descriptive flexfields and extensible flexfields, you can reuse the context-sensitive segments that are based on the database columns, in multiple contexts.

Structures

Key flexfields have structures. Each key flexfield structure is a specific configuration of segments. Adding or removing segments, or rearranging their order, produces a different structure. You can reuse the segments that are based on the database columns, in multiple structures.

> **Note:** You can translate all these flexfield components to the preferred languages without changing the language session of the application. To specify the translations in all the enabled language rows, use the Translation Editor option on the respective edit pages. Once the updates are made, users can view the translated text for the specific flexfield components.

Related Topics

- How Flexfields Work with Oracle Application Cloud Architecture
- Overview of Value Sets
- How can I enter or edit translated text in Fusion Applications?

Overview of Flexfield Configuration

Configuring a flexfield involves identifying the need for enhancing a business object with user-defined attributes and then integrating the attributes into deployment. In the case of key flexfields, configuring the flexfield involves identifying value set assignments and determining segment structures.

Overall Process for Configuring User-Defined Attributes

Before using flexfields to create attributes, familiarize yourself with the context layers and the configuration life cycle of the application. You can add attributes to a business object using a flexfield, if developers have registered that object to a flexfield. For descriptive and extensible flexfields, the overall configuration process involves the following:

1. Use the Highlight Flexfields feature from the Administration menu to find flexfields on pages associated with business objects.
2. Plan the flexfield configuration.
3. Plan flexfield validation.
4. Define the attributes by configuring the flexfield segments.
    a. Use the Manage Extensible Flexfields or Manage Descriptive Flexfields tasks, or use the **Configure Flexfield** icon button directly on the page where the flexfield is highlighted. For simple configurations, use the **Add Segment**, **Add Context Value**, and **Edit Segment** icon buttons directly on the page where the flexfield is highlighted.
    b. Optionally, validate the flexfield configuration.
    c. Optionally, deploy the flexfield to a sandbox for initial testing.
5. Deploy the extensible flexfields changes to the mainline metadata, to display the attributes on the application pages and to make them available for integration with other tools such as Oracle Transactional Business Intelligence. But for descriptive flexfields, you must deploy your changes to a sandbox and test the changes before publishing your sandbox. To deploy your descriptive flexfield to a sandbox:
    a. Create or activate a sandbox, and select **Flexfields** from the list of tools.
    b. In the Setup and Maintenance work area, go to the **Manage Descriptive Flexfields** task.
    c. Open the flexfield you want to edit, and make your changes.
    d. On the **Actions** menu, select **Deploy Flexfield to Sandbox**.
    e. Click **Yes** to continue with the deployment.
6. Perform the necessary steps to integrate the attributes into the technology stack.

A simple configuration is limited to such actions as adding a format-only field or adding a field with a basic list of values.

Overall Process for Configuring User-Defined Keys

Using key flexfields, you can configure intelligent key codes containing meaningful parts according to your business practices. You configure the key flexfield to have one segment for each part that makes up your key code.

For key flexfields, the overall configuration process involves the following:

1. Use the Highlight Flexfields feature from the Administration menu to find flexfields on pages associated with business objects.
2. Plan the flexfield configuration.
3. Plan the flexfield validation.
4. Define the value sets before configuring the key flexfield segments by going to the Manage Value Sets task.
5. Define the key flexfield structures and their segments, and define structure instances for each structure.
    a. Use the Manage Key Flexfields task or the **Configure Flexfield** icon button directly on the page where the flexfield is highlighted.
    b. Optionally, validate the flexfield configuration.
    c. Optionally, deploy the flexfield to a sandbox for initial testing.
6. Deploy the key flexfield changes to the mainline metadata to display it on the application pages and to make it available for integration with other tools such as Oracle Transactional Business Intelligence.

> **Note:** You can't deploy your changes in value sets, key flexfields, and extensible flexfields to your sandbox. You must deploy them directly to the mainline environment. However, if you're making changes to any descriptive flexfields, you must deploy your flexfield to the sandbox and test your changes before publishing your sandbox.

7. Perform the necessary steps to integrate the flexfield into the technology stack.

Related Topics

- Overview of Extensible Flexfields
- Considerations for Managing Flexfields
- Overview of Key Flexfields
- Overview of Context Layers
- Configuration Life Cycle

Flexfields at Runtime

Business objects have an associated descriptive or extensible flexfield. Using these, you can create attributes for the business object at run time. Some business objects have an associated key flexfield for configuring flexible multiple part keys.

Finding Flexfields on a Page

At run time, the attributes you define as flexfield segments appear in the application page just like any other attribute. However, each type of flexfield appears in a different way.

The following characteristics help you determine the type of flexfield on the application page:

- Descriptive flexfield segments appear as label and field pairs or as a table of fields that correspond to the column headers. The fields represent the flexfield segments and accept values that derive from the segment's assigned value set.
- Extensible flexfield segments appear grouped within labeled regions, where each grouping is a context and the region labels are the context names.
- Key flexfields appear in the application page as a field with a key flexfield icon, where the field's value is a collection of segments.

You can locate flexfields on a page using the **Settings and Actions** menu. Click your user image or name in the global header to open this menu, and select **Highlight Flexfields** to locate flexfields on a page. The page renders in a special mode, displaying the location of flexfields, if any, on the page. Do the following:

- Hover over the **Basic Info** icon to view flexfield details.
- Click the **Configure Flexfield** icon to manage the flexfield using the Manage Flexfields task.
- Click the **Add Context Value**, **Add Segment**, or **Edit Segment** icons to add a context value or edit a global or context-sensitive flexfield segment. This applies to both descriptive and extensible flexfields.

Note: You can't create attributes on all flexfields. For example, some flexfields are protected, and you either can't edit their configurations at all, or can do only limited changes to them. Consult the product-specific documentation to verify whether there are any restrictions on using the flexfield.

All segments of a single flexfield are grouped together by default. The layout and positions of the flexfield segments depend on where the application developer places the flexfield on the page. Flexfields may also be presented in a separate section of the page, in a table, or on their own page or a dialog box. You can use the Application Composer tool to edit the layout, position, or other display features of the flexfield segments.

When you no longer want to view the flexfields on a page, select **Unhighlight Flexfields** from the Administration menu.

Related Topics

- Modify Flexfields Using Page Composer

Modify Flexfields Using Page Composer

In Page Composer, you get the Design view by default to edit pages. But on some pages, you must use the Source view. Set the **Source View for Page Composer Enabled** (FND_PAGE_COMPOSER_SOURCE_VIEW) profile option to **Yes** so that the **View** menu is available for you to switch between the **Design** view and the **Source** view. You can find the profile option in the **Manage Administrator Profile Values** task in the Setup and Maintenance work area.

Modify Extensible Flexfields

Here are the steps to modify extensible flexfields.

1. Activate a sandbox that has the Page Composer tool in it. Make sure the context layer of your sandbox is supported by the page you want to edit. Otherwise, you won't be able to edit the page.
2. Open the page with the flexfield you want to modify.
3. Click your user image or name in the global header and select **Edit Pages** from **Settings and Actions**.
4. From the **View** menu, select **Source**.
5. Expand the Source View pane at the bottom of the page.
6. In the Source View pane look for the component that's bound to an `EffContextsPageContainer` task flow.
7. Select the component and click the **Show the properties of EffContextsPageContainer** .
8. Edit the component properties and click **Ok** to save your changes.
9. Click **Close** in the Page Template Composer toolbar to save your changes.
10. Test your changes and publish the sandbox. See *Publish Sandboxes*.

Modify Descriptive Flexfields

Here are the steps to modify descriptive flexfields.

1. Activate a sandbox that has the Page Composer tool in it. Make sure the context layer of your sandbox is supported by the page you want to edit. Otherwise, you won't be able to edit the page.
2. Open the page with the flexfield you want to modify.
3. Click your user image or name in the global header and select **Edit Pages** from **Settings and Actions**.
4. From the **View** menu, select **Source**.
5. Expand the Source View pane at the bottom of the page.
6. In the Source View pane look for the component that's bound to a `descriptiveFlexfield` task flow.
7. Select the component and click the **Show the properties of descriptiveFlexfield**.
8. To edit the properties, do these tasks:
    a. Select or enter a value for each property.

b. Optionally, you can also click the **Edit** icon next to the property.
   i. In the Expression Editor dialog box, select **Type a value or expression** .
   ii. You can enter any of these values:
      - True: The property is enabled for the UI element.
      - False: The property isn't enabled for the UI element.
      - EL expression: The evaluation of the EL expression decides whether the property will be enabled or disabled for the UI element.
   iii. To make sure the value or expression you entered is correct, click **Test**.
   iv. Click **Ok**.
c. On the Component Properties: descriptiveFlexfield dialog box, click **Ok** to save your changes.
d. Click **Close** in the Page Composer toolbar to save your changes.

9. Test your changes and publish the sandbox. See *Publish Sandboxes*.

Here's the list of descriptive flexfields properties that you can edit.

Property	Description
Read-only	Indicates whether the flexfield is rendered as read-only.
Auto Submit	Indicates whether the component submits automatically when the user changes the segment's value.
Rendered	Indicates whether the flexfield is rendered on the page. **Note:** If a value for this property is explicitly set within the descriptive flexfields metadata, it's shown as read-only. Users can't override the metadata settings using Page Composer.
Required	Indicates whether users must enter data for the component, before saving the page. **Note:** If a value for this property is explicitly set within the descriptive flexfields metadata, it's shown as read-only. Users can't override the metadata settings using Page Composer.
Inline Style	Specifies the inline style of the component. You can use this property to set individual properties, such as background color, font style, or padding.
Style Class	Specifies the style class of the flexfield. You can use this property to group a set of inline styles.
Mode	Indicates the UI mode of the descriptive flexfield component. You can use this property to render all the segments or just some of them. You can select any one of these values: • global: Renders only the global segments of the flexfield. You can use this value for a descriptive flexfield inside a table column to generate sub-columns for the global segments. • contextSensitive: Renders only the context-sensitive segments of the flexfield (including the context segment). You can use this value for a descriptive flexfield inside a table detail region to render the context values. **Note:** If no value is selected, all descriptive flexfield segments are rendered by default.
Auto Submit	Indicates whether the component submits automatically when the user changes the segment's value.

Property	Description
ShortDesc	Specifies a text that appears when a user hovers over an element.
Label	Specifies the display text for the component. For example, the field prompt or the single prompt for a group of checkboxes.
Columns	Specifies the width of the control in terms of the default font size of the browser.

Note: Flexfield segments can't be edited using their individual component elements. They can only be edited from the properties panel of the descriptiveFlexfield element they belong to. To find these components, open the properties panel of the descriptive flexfield, switch to the relevant tab, and search using the unique identifying information. For example, to find a context sensitive segment, open the properties panel for the flexfield and go to the Flexfield Context Segments tab. Search for the segment using its Context Value and Segment Code.

Modify Key Flexfields

Here are the steps to modify extensible flexfields.

1. Activate a sandbox that has the Page Composer tool in it. Make sure the context layer of your sandbox is supported by the page you want to edit. Otherwise, you won't be able to edit the page.
2. Open the page with the flexfield you want to modify.
3. Click your user image or name in the global header and select **Edit Pages** from **Settings and Actions**.
4. From the **View** menu, select **Source**.
5. Expand the Source View pane at the bottom of the page.
6. In the Source View pane look for the component that's bound to a `KffComponent` task flow.
7. Select the component and click the **Show the properties of KffComponent**.
8. To edit the properties, do these tasks:
    a. To enable the property for the UI element, select the checkbox next to the property.
    b. Optionally, you can also click the drop-down button next to the property and click **EL Expression**.
        i. In the Expression Editor dialog box, enter a value or expression:
            - True: The property is enabled for the UI element.
            - False: The property isn't enabled for the UI element.
            - EL expression: The evaluation of the EL expression decides whether the property will be enabled or disabled for the UI element.
        ii. To make sure the value or expression you entered is correct, click **Test**.
        iii. Click **Ok**.
9. On the Component Properties: KffComponent dialog box, click **Ok** to save your changes.
10. Click **Close** in the Page Composer toolbar to save your changes.
11. Test your changes and publish the sandbox. See *Publish Sandboxes*.

Here's the list of key flexfield properties that you can edit.

Property	Description
Required	Indicates whether user must enter data for the component, before saving the page.

Property	Description
	Note: If a value for this property is explicitly set within the key flexfields metadata, it's shown as read-only. Users can't override the metadata settings using Page Composer.
Read-only	Indicates whether the flexfield is rendered as read-only.
Rendered	Indicates whether the flexfield is rendered on the page. **Note:** If a value for this property is explicitly set within the key flexfields metadata, it's shown as read-only. Users can't override the metadata settings using Page Composer.
Auto Submit	Indicates whether the component submits automatically when the user changes the segment's value.
Visible	Indicates whether the flexfield is visible on the page.
Disabled	Indicates whether the flexfield is disabled on the page.
Immediate	Indicates whether the flexfield value is converted and validated immediately in different Oracle ADF life cycle phases.
Value	Indicates the value of the flexfield pointing to an iterator object. If you enter an EL expression, it should point to an iterator object.
Accessor	Indicates the name of the accessor between the product view object and the flexfield view object.
Label	Indicates the display text for the component. For example, the field prompt or the single prompt for a group of checkboxes.
Default Combination	Specifies the default value of the flexfield.
Help Topic Id	Specifies the help ID used to find a topic in the help content.
Inline Style	Specifies the inline style of the component. You can use this property to set individual properties, such as background color, font style, or padding.
Style Class	Specifies the style class of the flexfield. You can use this property to group a set of inline styles.

Related Topics

- Flexfields at Runtime
- Set Profile Option Values

File Format for Importing Extensible Flexfields

You can import extensible flexfields to your application by creating separate text files containing value sets, contexts, and context segments. You can then upload these files to the Oracle WebCenter Content document repository.

Here are a few things that you need to keep in mind while creating these files:

- Use a vertical bar or pipe (|) as a delimiter between fields for both the header and the value rows.
- According to the Oracle WebCenter Content specification, set the file encoding to UTF-8 without the Byte Order Mark (BOM).
- Make sure the first line in the file is a header line, and the files look exactly the same as shown in the sample file.

The following sections contain specific details about each file format.

Value Sets

To create a file containing value sets, include the headers specified in this table:

Header	Data Type	Data Size	Description	Required or Optional
`ValueSetCode`	String	60	This value identifies your value set across components.	Required
`ModuleType`	String	60	This value determines the module type of your value set.	Required
`ModuleKey`	String	60	This value determines the specific module of your value set.	Required
`ValidationType`	String	30	This value determines your value set type. Here are the types of value set: • `DEP` • `INDEP` • `FORMAT` • `SUBSET` • `RELATED`	Required
`ValueDataType`	String	30	This value determines the data type that your value set uses. Here are the supported data types: • `VARCHAR2` • `NUMBER` • `DATE` • `TIMESTAMP`	Required
`ValueSubType`	String	30	This value determines the data subtype that your value set uses. Here are the supported data subtypes:	Required for `ValueDataType` `VARCHAR2`

Header	Data Type	Data Size	Description	Required or Optional
			• TEXT • TIME_HM • NUMERIC • TIME_HMS • TRANSLATED	
MaximumLength	Integer	-	This value determines the maximum length of values in your value set.	Required for ValueDataType VARCHAR2
Description	String	240	This value describes your value set.	Optional
Precision	Integer	-	This value determines the number of digits in the number data that you add to your value set.	Optional Use this header only for ValueDataType NUMBER
Scale	Integer	-	This value determines the number of digits after the decimal point in the number data that you add to your value set.	Optional Use this header only for ValueDataType NUMBER
UppercaseOnlyFlag	String	1	This value indicates whether only uppercase characters are supported for your value sets: • Y: Supports only uppercase characters. • N: Supports both uppercase and lowercase characters.	Optional Use this header only for ValueDataType VARCHAR2
ZeroFillFlag	String	1	This value lets you add zeroes to the left of the text you add in your value set till the text length matches the value in the MaximumLength header: • Y: Zeroes are added. • N: Zeroes aren't added.	Optional Use this header only for ValueDataType VARCHAR2.
SecurityEnabledFlag	String	1	This value indicates whether data security resource is added to your value set:	Optional

Header	Data Type	Data Size	Description	Required or Optional
			• Y: Data security resource is added to your value set. • N: Data security resource isn't added to your value set.	
DataSecurityObjectNam	String	60	This value selects the data security resource that you want to add to your value set. The value must match a data security resource in the application.	Required if SecurityEnabledFlag is set to Y.
MinimumValue	String	150	This value specifies the minimum value for the values in your value set.	Optional
MaximumValue	String	150	This value specifies the maximum value for the values in your value set.	Optional
IndependentValueSetCo	String	60	This value determines the independent value set your dependent or subset value set is linked to.	Required for only ValidationType, DEP, and SUBSET validation types. Don't use this header for any other validation types.

Here's a sample file for value sets. You can see the header values at the beginning of the file, followed by the line entries of the three value sets that are to be imported. For importing several value sets, add more entries in the same format.

```
ValueSetCode|ModuleType|ModuleKey|ValidationType|ValueDataType|ValueSubtype|MaximumLength|Description
VS_TEST_91|APPLICATION|FND|INDEP|VARCHAR2|TEXT|2|desc1
VS_TEST_92|APPLICATION|FND|INDEP|VARCHAR2|TEXT|3|
VS_TEST_93|APPLICATION|FND|INDEP|VARCHAR2|TEXT|3|desc3
```

Context

To create a file containing the contexts, include the headers specified in this table:

Header	Data Type	Data Size	Description	Required or Optional
ApplicationId	Long	-	This value determines the application your flexfield and context belong to.	Required
EFFCode	String	40	This value is the code of the extensible flexfield where you're adding your context. The value should match	Required

Header	Data Type	Data Size	Description	Required or Optional
			the code of an extensible flexfield that's already in the application.	
ContextCode	String	80	This value is the code for your context.	Required
Name	String	80	This value determines the display name of your context.	Required
MultirowFlag	String	1	This value indicates whether multiple rows are supported for your context: • Y: Your context supports multiple rows. • N: Your context supports only single row.	Required
EnabledFlag	String	1	This value lets you enable or disable your context: • Y - Enable context • N - Disable context	Required
Description	String	240	This value describes your context.	Optional
TranslatableFlag	String	1	This value indicates whether the segments in your context are translatable: • Y: Segments in your context are translatable. • N: Segments in your context aren't translatable.	Optional
ContextIdentifier	String	30	This value determines the API name for your context. While naming APIs, follow the naming conventions.	Optional
InstructionHelpText	String	400	This value provides user instructions on how to use the context region.	Optional

Header	Data Type	Data Size	Description	Required or Optional
FlexfieldUsageCode	String	30	This value determines the usage code for your context. The value should match a usage code in the application.	Required
ViewPrivilegeName	String	400	This value determines the privileges that can view this context usage. The value should match a privilege in the application.	Optional
EditPrivilegeName	String	400	This value determines the privileges that can edit this context usage. The value should match a privilege in the application.	Optional
CExtAttribute1	String	150	This value adds a user-defined attribute to a context usage. To add your user-defined attributes, you can use up to 5 headers of this type, **CExtAttribute1** to **CExtAttribute5**.	Optional
CONTEXT_ CExtAttribute1	String	150	This value adds a user-defined attribute to a context. You can use up to 5 headers of this type, **CONTEXT_ CExtAttribute1** to **CONTEXT_ CExtAttribute5** to add your user-defined attributes.	Optional
DatabaseViewNamePrefi	String	15	This value is used as a prefix for the database view name for a given context. While entering this value, follow the naming conventions similar to that of flexfield API names.	Optional

Here's a sample file that contains the header values at the beginning and lists three contexts to be imported. For importing several contexts, add more entries in the same format.

```
ApplicationId|EFFCode|ContextCode|Name|EnabledFlag|MultirowFlag|Description|FlexfieldUsageCode|
ViewPrivilegeName|CExtAttribute1|CExtAttribute2|CExtAttribute3|CExtAttribute4|CExtAttribute5
0|FLEX_SN_EFF1|OBJ_TEST_4|Object test 44|Y|N|desc 44 3363|FLEX_SN_EFF1_USAGE2|flex_sn_sitems_view|||||
0|FLEX_SN_EFF1|OBJ_TEST_3|Object test 33|Y|N||FLEX_SN_EFF1_USAGE1|flex_sn_view||||NEW_TEST11
```

```
0|FLEX_SN_EFF1|OBJ_TEST_3|Object test 33|Y|N|new desc aug 14|FLEX_SN_EFF1_USAGE2|flex_sn_sitems_edit|
CE1_TESTupd_aug15||||
```

Context Segment

To create a file containing context segments, include the headers specified in this table:

Header	Data Type	Data Size	Description	Required or Optional
`ApplicationId`	Long	-	This value determines the application your flexfield, context, and segment belong to.	Required
`EFFCode`	String	40	This value is the code of the extensible flexfield where you're adding your context segment. The value should match the code of an extensible flexfield that's already in the application.	Required
`ContextCode`	String	80	This value is the code of the context where you're adding your segment. The value should match a context code that's in the application.	Required
`SegmentCode`	String	30	This value is the code for your segment.	Required
`Name`	String	60	This value is the name for your segment.	Required
`ColumnName`	String	30	This value determines the table column that your segment uses to save data. The value must match a column that's in the application.	Required
`ValueSetCode`	String	60	This value is the code for the value set you want to use in your segment. The value must match a value set code in the application.	Required
`DisplayType`	String	30	This value determines the display type of the segment. Here are the valid values for this attribute: • `TEXT_BOX`	Required

Header	Data Type	Data Size	Description	Required or Optional
			• TEXT_AREA • RICH_TEXT_EDITOR • HIDDEN,LOV • POP_UP_LIST • DROP_DOWN_LIST • RADIO_BUTTON_GROUP • STATIC_URL • CHECKBOX • COLOR • DATE_TIME	
Prompt	String	80	This value determines the display name of the segment.	Required
ShortPrompt	String	80	This value determines the shortened display name of the segment.	Required
EnabledFlag	String	1	This value lets you enable or disable your segment: • Y - Segment is enabled • N - Segment is disabled	Required
RequiredFlag	String	1	This value indicates whether you must specify the segment. • Y: You must specify the segment. • N: You may not specify the segment.	Required
ReadOnlyFlag	String	1	This value lets you set your segment to be read-only. • Y: The segment is set to read-only. • N: The segment isn't set to read-only.	Required
Description	String	240	This value describes your segment.	Optional

Header	Data Type	Data Size	Description	Required or Optional
`UOMclass`	String	20	This value determines the unit for the data you add to your segment.	Optional
`TerminologyHelpText`	String	80	This value provides a description for the segment.	Optional
`InFieldHelpText`	String	160	This value provides instructions on how to use the segment.	Optional
`SequenceNumber`	Integer	-	This value determines the order in which your segments are displayed in your context.	Optional
`DefaultType`	String	30	This value specifies the type of default value for your segment. Here are the types of default values: • `CONSTANT` • `SQL` • `GROOVY_EXPRESSION`	Optional
`DefaultValue`	String	4000	This value provides the default values for your segment.	Optional
`DisplayWidth`	Integer	-	This value specifies the maximum number of characters that display in a line.	Optional
`DisplayHeight`	Integer	-	This value specifies the maximum number of lines that display in the segment.	Optional
`CheckboxCheckedValue`	String	30	This value determines the value of a selected check box in your segment.	Required for display type `CHECKBOX`.
`CheckboxUncheckedValu`	String	30	This value determines the value of a check box that's not selected in your segment.	Required for display type `CHECKBOX`.
`RangeType`	String	30	This value specifies the range of values for the low-end and high-end fields. You can set the value as	Optional

Header	Data Type	Data Size	Description	Required or Optional
			`LOW` or `HIGH` for your low-end and high-end fields respectively.	
`BIEnabledFlag`	String	1	This value indicates whether your segment is BI enabled. • Y: Your segment is BI enabled. • N: Your segment isn't BI enabled.	Optional
`MultirowUniqueKeyFlag`	String	1	This value indicates whether the segment is marked as a unique key for context with multiple rows. • Y: Segment is marked as a unique key. • N: Segment isn't marked as a unique key. This is the default value. At least one segment in a context with multiple rows must be marked as the unique key.	Required for contexts with multiple rows
`ShowValueDescription`	String	1	This value lets you display the value set description for the value set associated with the segment: • Y: The value set description is displayed for the value set associated with the segment. • N: The value set description isn't displayed for the value set associated with the segment.	Optional
`SegmentIdentifier`	String	30	This value determines the API name for your segment. While naming APIs, follow the naming conventions.	Optional

Here's a sample file for the context segment. You can see the header values at the beginning of the file, followed by the line entry of a context segment that's to be imported. For importing several context segments, add more entries in the same format.

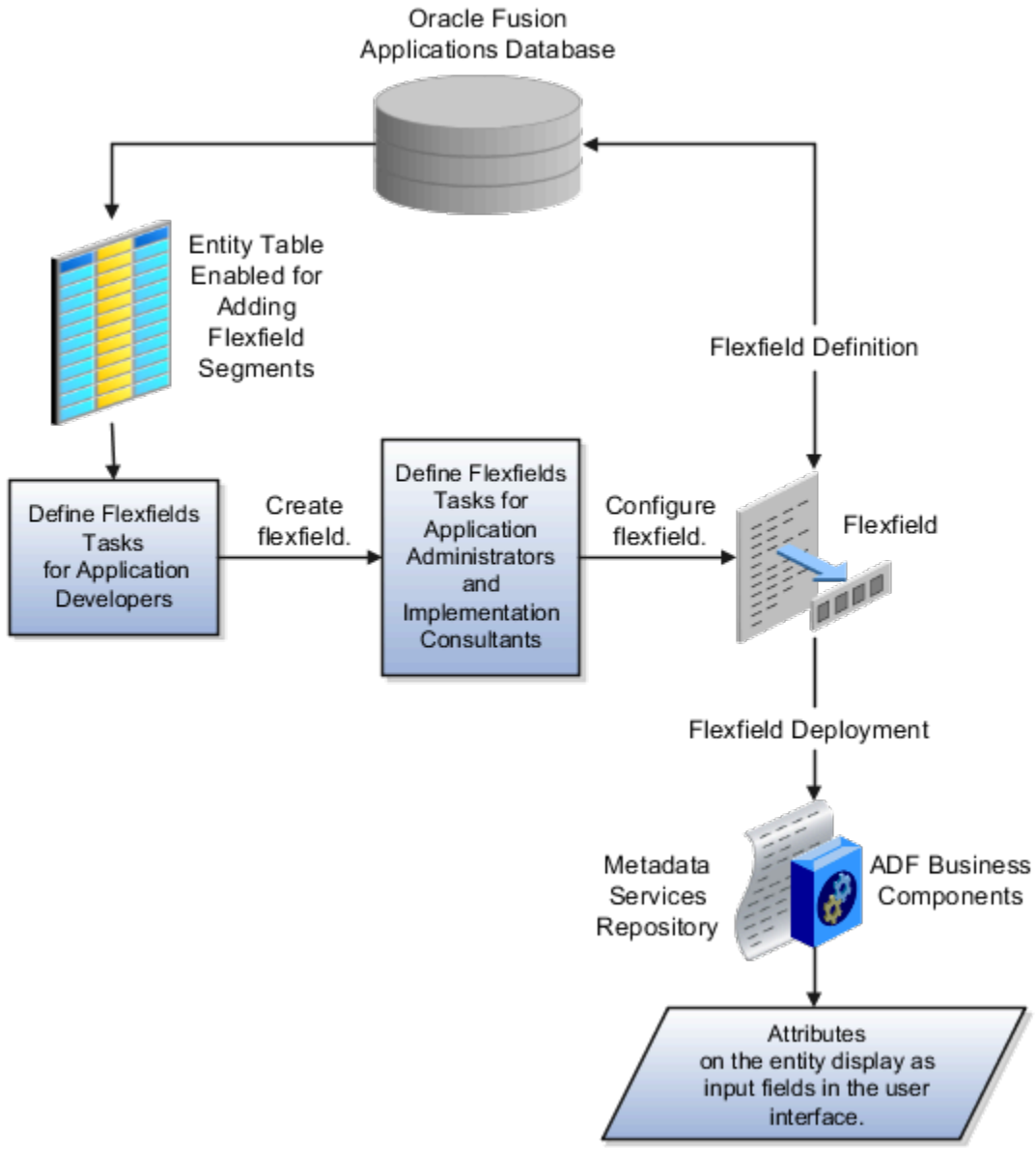
```
ApplicationId|EFFCode|ContextCode|SegmentCode|Name|ColumnName|ValueSetCode|DisplayType|Prompt|ShortPrompt|
EnabledFlag|RequiredFlag|ReadOnlyFlag|Description|UomClass
0|FLEX_SN_EFF1|ColdSourceTargetContext|Cold_TEST_SEG1|cold seg 1|ATTRIBUTE_CHAR3|EFF_BASIC_FMT_CHR|TEXT_BOX|
Prompt|Short Prompt|Y|Y|N|TEST desc aug 14_3PM|
```

Related Topics

- Overview of Files for Import and Export
- Overview of Extensible Flexfields
- Import Extensible Flexfields
- Naming Conventions for Flexfield APIs

How Flexfields Work with Oracle Application Cloud Architecture

To capture additional data, administrators or implementors configure flexfield segments that represent attributes of business objects. Business objects are enabled for both descriptive flexfields and extensible flexfields.



Application developers create a flexfield and register it so that it's available for configuration. Administrators and implementation consultants configure segments and other properties of the available flexfields. This information is stored as additional flexfield metadata in the database. Deploying the flexfield generates ADF business components based on the flexfield metadata in the database.

The following aspects are important in understanding how flexfields and Oracle Fusion Cloud Applications architecture work together:

- Integration
- Deployment
- Import and export
- Runtime
- Patching

Integration

The attributes that you add by configuring flexfields are available throughout the Oracle Middleware technology stack. You can use the flexfield segment's Application Programming Interface (API) to identify segments and integrate the flexfields in the following:

- User interface pages
- Service-oriented Architecture (SOA) infrastructure
- Oracle Transactional Business Intelligence
- Extended Spread Sheet Database (ESSbase)

Flexfield configurations are preserved across application updates.

Deployment

The metadata for the flexfield is stored in the application database as soon as you save your configuration changes. Deploying the flexfield generates the ADF business components so that the user interface reflects the latest flexfield definition in the metadata.

Importing and Exporting

Using the Setup and Maintenance work area, you can import and export flexfields across the implementation site. The deployment status must be either Deployed or Deployed to sandbox. Therefore, before you attempt migration, verify and ensure that a flexfield is successfully deployed.

Runtime

The latest definitions of a flexfield reflect on the user interface only if the flexfield is deployed. When the user interface accesses a business object, the deployed flexfield definition identifies the attributes associated with the captured values. On a page, if you add display configurations for a flexfield using the Application Composer tool, the same flexfield segments can appear differently on different pages.

Patching

Flexfield configurations are preserved during patching and upgrading.

Related Topics

- How Flexfield Deployment Status is Calculated

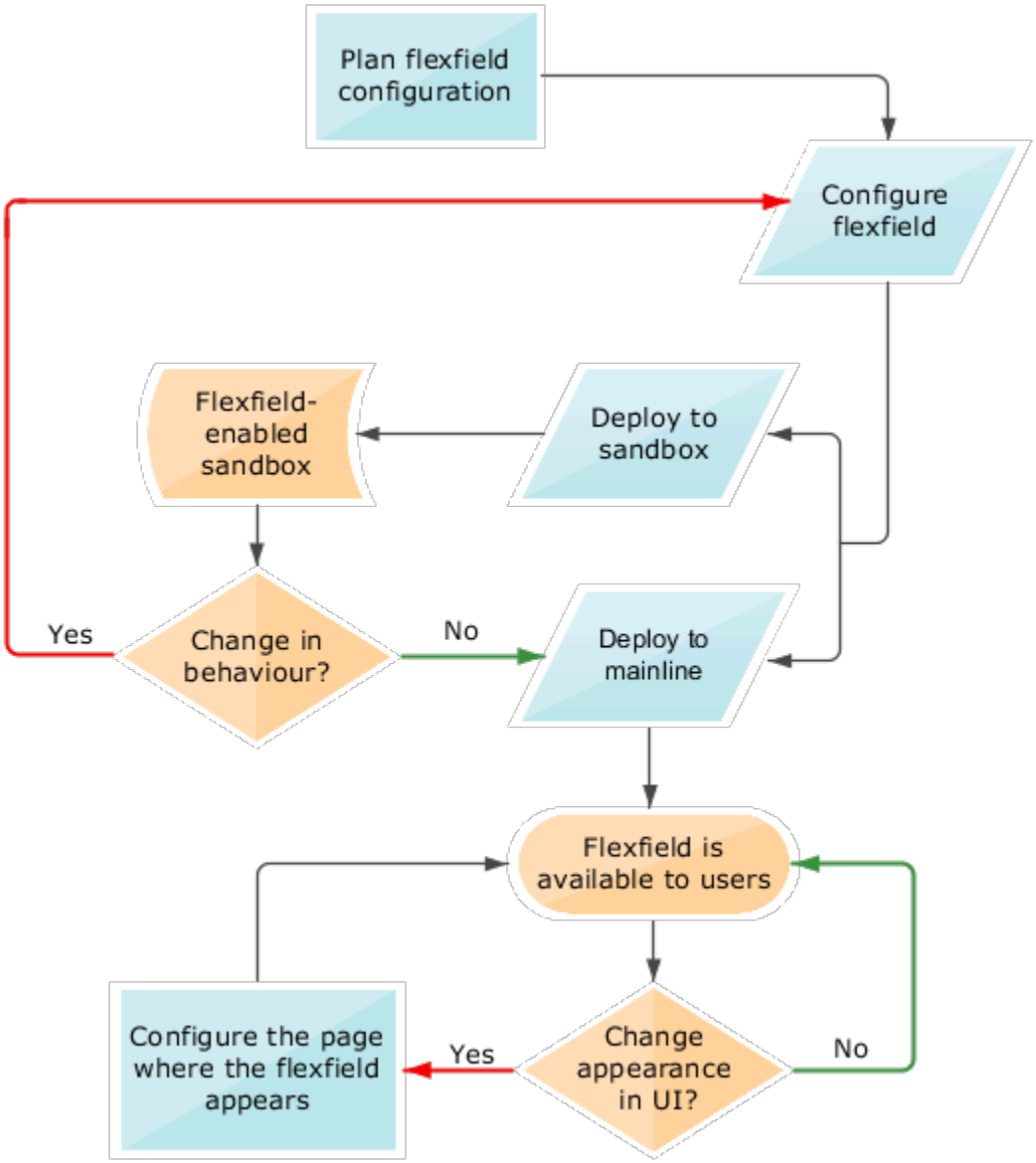
Flexfield Management

Considerations for Managing Flexfields

Managing flexfields involves planning and configuring flexfields.

You plan and configure the registered flexfields provided in your applications by applications developers. How you configure flexfield segments determines how the flexfield segments appear to users. Optionally, you can modify the UI page to change how the flexfield segments appear to users on that page.

The following figure shows the processes involved in making flexfields available to users. The tasks in the Define Flexfields activity let administrators configure and deploy flexfields. After you configure and deploy a flexfield to a sandbox, deploy it again to the mainline metadata so that it's available to the users.



Consider the following aspects of managing flexfields:

- Planning flexfields
- Configuring flexfields
- Enabling a flexfields segment for business intelligence
- Deploying flexfields
- Optionally changing a flexfield segment's appearance in a user interface page
- Identifying flexfields on a page and troubleshooting

Planning Flexfields

Before you begin planning flexfields, determine what type is appropriate to your needs, and which business objects are available for modifying flexfields. All flexfields consist of segments which represent attributes of an entity. The value a user enters for an attribute is stored in a column of the entity table. Carefully plan flexfields before configuring them. Before configuring new segments for your flexfields, be sure to plan their implementation carefully.

If you have determined that a business object supports flexfields, and those flexfields have been registered, you can begin planning their configuration. Note the code name of the flexfield you intend to configure so that you can find it easily in the Define Flexfield activity. In some cases you can determine and configure how the flexfield appears on the page. See Oracle Fusion Cloud Applications Help for specific products to determine any restrictions on using product-specific flexfields.

Configuring Flexfields

Administrators or implementors configure flexfields so they meet the needs of the enterprise. Some flexfields require configuration to make an application operate correctly. You can configure flexfields using the following methods:

- Use the manage flexfield tasks in the Setup and Maintenance work area.
- Use the Highlight Flexfields command in the Administration menu while viewing a page.
    - Use the **Configure Flexfield** icon button to manage all aspects of a flexfield, such as change a segment's sequence number or configure a flexfield segment's business intelligence label.
    - Use the **Add Segment** and **Edit Segment** icon buttons to add and edit descriptive or extensible flexfield segments with simple configurations.
    - Use the **Add Context** icon button to add descriptive or extensible flexfield context values.

Configuring a flexfield includes the following:

- Defining value sets against which the values entered by users are validated
- Defining the structure or context of the segments in the flexfield
- Specifying the identifying information for each segment
- Specifying the display properties such as prompt, length and data type of each flexfield segment
- Specifying valid values for each segment, and the meaning of each value within the application

> **Tip:** You can create value sets while creating descriptive and extensible flexfield segments. However, define value sets before configuring key flexfield segments that use them, because you assign existing value sets while configuring key flexfield segments.

When creating table-validated, independent, dependent, or subset value sets while creating descriptive and extensible flexfield segments, you can optionally specify to display the description of the selected value next to the segment. You can assign sequence order numbers to global segments and to context-sensitive segments in each context. Segment display is always in a fixed order based on the segments' sequence numbers. You can't enter a number for one segment that is already in use for a different segment. Therefore, you may consider numbering the segments in multiples, such as 4, 5, or 10, to make it easy to insert new attributes.

A flexfield column is assigned to a new segment automatically, but you can change the assignment before saving the segment. If you must set a specific column assignment for a segment, create that segment first to ensure that the intended column isn't automatically assigned to a different segment.

Enabling a Flexfield Segment for Business Intelligence

You can enable flexfield segments for business intelligence if the flexfield is registered in the database as an Oracle Transactional Business Intelligence-enabled flexfield. For more information about enabling segments for business intelligence, see points to consider when enabling descriptive, extensible, and key flexfield segments for business intelligence. For extensible flexfield segments, you can't assign labels to equalize segments across contexts that are semantically equivalent.

Deploying Flexfields

Once you have configured a flexfield, you must deploy it to make the latest definition available to users. In the Define Flexfields tasks, you can deploy a flexfield using either of the following commands:

- The Deploy Flexfield command deploys a flexfield to the mainline metadata. This command is for general use in a test or production environment.
- The Deploy to Sandbox command deploys a flexfield to sandbox. This command is for confirming that the flexfield is correctly configured before deploying it to the mainline metadata.

> **Note:** You can't deploy your changes in value sets, key flexfields, and extensible flexfields to your sandbox. You must deploy them directly to the mainline environment. However, if you're making changes to any descriptive flexfields, you must deploy your flexfield to the sandbox and test your changes before publishing your sandbox.

In Highlight Flexfields mode, when using the:

- **Add Context**, **Add Segment**, and **Edit Segment** tools for extensible flexfields, use the Save command to save your changes. Then use the Deploy command to deploy the flexfield to the mainline metadata
- **Add Segment** and **Edit Segment** tools for descriptive flexfields, use the Save and Deploy command to save your changes. Then deploy the flexfield to the mainline metadata

Once deployed, the deployment status indicates the state of the currently configured flexfield relative to the last deployed definition.

Optionally Changing a Flexfield Segment Appearance

The flexfield attributes that you define integrate with the user interface pages where users access the attributes' business object. Application development determines the UI pages where business objects appear and the display patterns used by default to render flexfield segments.

After a flexfield has been deployed to the mainline MDS repository so that it appears on application pages, you can modify it on a per-page basis using Page Composer. For example, you can hide a segment, change its prompt or other properties, or reorder the user-defined global attributes so that they're interspersed with the core attributes in the same parent layout. You can modify the appearance of descriptive and extensible flexfield segments in the UI page using Page Composer, once the flexfield is deployed to the mainline metadata.

If the applications are running in different locales, you can provide different translations for translatable text, such as prompts and descriptions. Enter translations using the locale that requires the translated text. Click your user image or name in the global header to open the **Settings and Actions** menu, and select **Set Preferences**. Then change the text to the translated text for that locale.

Identifying Flexfields on a Page

The **Highlight Flexfields** command in the Administration menu of the Setup and Maintenance work area identifies the location of flexfields on the page by displaying an **Information** icon button for accessing details about each flexfield.

Even if a descriptive or extensible flexfield isn't yet deployed and no segments appear on the page in normal view, the flexfield appears in the Highlight Flexfield view for that page. For descriptive flexfields, the segments as of the last deployment appear. For extensible flexfields, any segments and contexts that have been saved but not yet deployed also appear as disabled.

Highlight Flexfields accesses the current flexfield metadata definition. Use the highlighted flexfield's **Configure Flexfield** icon button to manage flexfields directly. Alternatively, note a highlighted flexfield's name to search for it in the tasks for managing flexfields.

Related Topics

- Modify Flexfields Using Page Composer
- Overview of Value Sets
- Considerations for Managing Descriptive Flexfields
- Considerations for Managing Extensible Flexfields
- Considerations for Managing Key Flexfields

Flexfield Segment Properties

Independent of the value set assigned to a segment, segments may have properties that affect how they're displayed and how they function.

The following aspects are important in understanding

- Display properties
- Properties related to segment values
- Properties related to search
- Range validation segments
- Rule validation of segment values
- Naming conventions

Display Properties

The following table summarizes display properties.

Property	Description
Enabled	Whether the segment can be used.
Sequence	The order the segment appears in relation to the other configured segments.
Prompt	The string to be used for the segment's label in the user interface.
Display type	The type of field in which to display the segment.
Selected and deselected values	If the display type is check box, the actual values to save. For example, Y and N or 0 and 1.
Display size	The character width of the field.

Property	Description
Display height	The height of the field as measured in visible number of lines when the display type is a text area.
Read only	Whether the field should display as read-only, not editable text.
Description help text	The field-level description help text to display for the field. Use description help text to display a field-level description that expands on or clarifies the prompt provided for the field. If description help text is specified, a Help icon button is displayed next to the field in the application. The description help text is displayed when the user hovers over the Help icon button.
Instruction help text	The field-level instruction help text to display for the field. Use instruction help text to provide directions on using the field. If instruction help text is specified, it's appears in an in-field help note window when users move the cursor over the field.

Properties Related to Search

Extensible flexfield segments can be marked as selectively required in search using the indexed property. The indexed property requires users to enter a value before conducting a search on the attribute represented by the indexed segment. A database administrator must create an index on the segment column representing the indexed attribute.

Range Validation of Segments

Range validation enables you to enforce an arithmetic inequality between two segments of a flexfield. For example, a product must be ordered before it can be shipped. Therefore, the order date must be on or before the ship date. Also, the order date segment value must be less than or equal to the ship date segment value. You can use range validation to ensure this relationship.

The conditions for range validation are as follows:

- Segments must be configured for range validation in pairs, one with the low value and one with the high value.
- Both segments must be of the same data type.
- Both segments must be parts of the same structure in a key flexfield or parts of the same context in a descriptive flexfield or extensible flexfield.
- The low value segment must have a sequence number that's lesser than that of the high value segment.
- Non-range validated segments can exist between a range validated pair, but range validated pairs can't overlap or be nested.

You can configure as many range validated pairs as you want within the same flexfield. Your application automatically detects and applies range validation to the segment pairs that you define, in sequence order. It must detect a low value segment first, and the next range validated segment that it detects must be a high value segment. These two segments are assumed to be a matching pair. The low value and the high value can be equal.

Rule Validation of Segment Values

Validation rules on descriptive and extensible flexfield segments determine how an attribute is validated. The value entered for an attribute on a business object must match a specified format or be restricted to a list of values. You can use a value set or a Groovy validator to specify the validation rules.

Value set validation is required for global segments and context-sensitive segments, and optional for context segments. In the case of context segments, the application may validate a value instead of the value set validating the value against the context segment. However the application entered values must match exactly the valid context segment values. If the context segment values are a superset or subset of the input values, you must assign a table-validated value set or independent value set to validate context values.

You can also use Groovy validation to set additional restrictions or requirements for what values are allowed for certain attributes of business objects. This is useful when you need to use the same value set to validate multiple segments, but the exact validation requirement changes with each case. These validators can be defined at the global segment level, or at the context level, based on your business needs. They have a validator code, validation expression, error message, and description. After adding a new validator, click the **Groovy Expression Builder** icon to open the expression builder window where you define your validation expression. Groovy validation is done when a user tries to save their values to an attribute that has a Groovy validator. If the value for this attribute fails validation against the Groovy expression, the text defined in the **Error Message** column is displayed as an error message.

When you configure a descriptive flexfield segment, you can specify a constant to use for setting the initial value. The initial value can be an available parameter. For every planned segment, list the constant value or parameter, if any, to use for the initial value.

Naming Conventions

Enter a unique code, name, and description for the segment. These properties are for internal use and not displayed to end users. You can't change the code after the segment is created.

The Application Programming Interface (API) name is a name for the segment that isn't exposed to users. The API name is used to identify the segment in various integration points including web services, rules, and business intelligence. Use alphanumeric characters only with a leading character. For example, enter a code consisting of the characters A-Z, a-z, 0-9 with a non-numeric leading character. The use of spaces, underscores, multi-byte characters, and leading numeric characters isn't permitted. You can't change the API name after the segment has been created.

Related Topics

- Considerations for Managing Extensible Flexfields

Naming Conventions for Flexfield APIs

Application Programming Interface (API) name is a name for your flexfield component, which isn't exposed to users. These names are used to identify flexfield components in various integration points, including web services, rules, and business intelligence.

How to Frame API Names

You must use only alphanumeric characters for API names. For example, enter a name with the characters A-Z, a-z, or 0-9, with a non-numeric leading character. Don't use spaces, underscores, multi-byte characters, or leading numeric characters in your API names.

CAUTION: Do not change API names after they're created. Doing so could break integration points.

Words You Can't Use for API Names

You can't use certain words for API names when configuring flexfields because they're reserved words in ADF, SQL, PL/SQL, Java, Groovy, and so on.

This table lists some of the reserved words that can't be used as API names. This list isn't exhaustive.

Letter	Reserved Words
A	ABORT, ABSTRACT, ACCEPT, ACCESS, ACTIONENABLED, ADD, ALL, ALLROWSINRANGE, ALTER, AND, ANY, ARRAY, ARRAYLEN, AS, ASC, ASSERT, ASSIGN, AT, ATTRIBUTEDEF, ATTRIBUTEDEFS, ATTRIBUTEVALUE, ATTRIBUTEVALUES, AUDIT, AUTHORIZATION, AVG
B	BEGIN, BETWEEN, BINDINGS, BODY, BOOLEAN, BREAK, BY, BYTE, BYVALUE
C	CASCADE, CASE, CAST, CATCH, CATEGORY, CHAR, CHECK, CHILDREN, CLASS, CLONE, CLOSE, CLUSTER, CLUSTERS, COALESCE, COLAUTH, COLUMN, COLUMNS, COMMENT, COMMIT, COMPRESS, CONNECT, CONST, CONSTANT, CONSTRIANT, CONTAINS, CONTINUE, COUNT, CRASH, CREATE, CURRENT, CURRENTROW, CURRVAL, CURSOR
D	DATABASE, DATACONTROL, DATE, DBA, DEBUGOFF, DEBUGON, DECIMAL, DECLARE, DEFAULT, DEFINITION, DELAY, DELETE, DELTA, DESC, DESCRIPTION, DIGITS, DISPLAY, DISPLAYDATA, DISPLAYHINT, DISPLAYHINTS, DISPOSE, DISTINCT, DIV, DO, DOUBLE, DROP
E	ELSE, ELSIF, EMPTY, ENABLED, ENABLEDSTRING, END, ENTRY, EQ, EQUALS, ERROR, ESTIMATEDROWCOUNT, EXCEPTION, EXCLUSIVE, EXISTS, EXIT, EXTENDS
F	FALSE, FETCH, FILE, FINAL, FINALIZE, FINALLY, FINDMODE, FLOAT, FOR, FORM, FROM, FULLNAME, FUNCTION, FUTURE
G	GE, GENERIC, GETCLASS, GOTO, GRANT, GROUP, GROUPBY, GT
H	HASHCODE, HAVING, HINTS
I	IDENTIFIED, IF, IMMEDIATE, IMPLEMENTS, IMPORT, IN, INCREMENT, INDEX, INDEXES, INDICATOR, INITIAL, INNER, INPUTVALUE, INSERT, INSTANCEOF, INT, INTEGER, INTERFACE, INTERSECT, INTO, IS, ITERATORBINDING
J	JAVA
K	KEY
L	LABEL, LABELS, LABELSET, LE, LEVEL, LIKE, LIMITED, LOCK, LONG, LOOP, LT
M	MANDATORY, MAX, MAXEXTENTS, MIN, MINUS, MLSLABEL, MOD, MODE, MODIFY
N	NAME, NATIVE, NATURAL, NE, NEW, NEXTVAL, NOAUDIT, NOCOMPRESS, NOT, NOTFOUND, NOTIFY, NOTIFYALL, NOWAIT, NULL, NULLIF, NUMBER
O	OF, OFFLINE, ON, ONLINE, OPEN, OPERATIONENABLED, OPERATOR, OPTION, OR, ORDER, ORDERBY, OTHERS, OUT, OUTER, OVERLAPS
P	PACKAGE, PARTITION, PCTFREE, POSITIVE, PRAGMA, PRIMARY, PRIOR, PRIVATE, PRIVILEGES, PROCEDURE, PROTECTED, PUBLIC

Letter	Reserved Words
R	RAISE, RANGE, RANGESET, RANGESIZE, RANGESTART, RAW, REAL, RECORD, REFERENCES, RELEASE, REMR, RENAME, RESOURCE, REST, RESULT, RETURN, REVERSE, REVOKE, ROLLBACK, ROOTNODEBINDING, ROW, ROWID, ROWLABEL, ROWNUM, ROWS, ROWTYPE, RUN
S	SAVEPOINT, SCHEMA, SELECT, SELECTEDVALUE, SEPARATE, SESSION, SET, SHARE, SHORT, SIZE, SMALLINT, SPACE, SQL, SQLBUF, SQLCODE, SQLERRM, START, STATEMENT, STATIC, STDDEV, SUBTYPE, SUCCESSFUL, SUM, SUPER, SWITCH, SYNCHRONIZED, SYNONYM, SYSDATE
T	TABAUTH, TABLE, TABLES, TASK, TERMINATE, THEN, THIS, THROW, THROWS, TO, TOOLTIP, TOSTRING, TRANSIENT, TRIGGER, TRUE, TRY, TYPE
U	UID, UNION, UNIQUE, UPDATE, UPDATEABLE, USE, USER
V	VALIDATE, VALUES, VAR, VARCHAR, VARCHAR2, VARIANCE, VIEW, VIEWS, VOID, VOLATILE
W	WAIT, WHEN, WHENEVER, WHERE, WHILE, WITH, WORK
X	XOR

Related Topics

- Flexfield Segment Properties
- Considerations for Managing Flexfields

How Flexfield Segments are Rendered on Pages

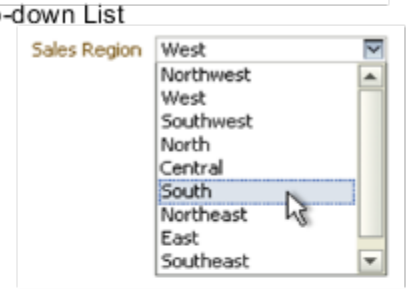
Flexfield segments appear on pages as attributes of business objects. When you create or edit flexfield segments, the value you enter for the display type determines how the segment appears on a page.

How Display Type Values Appear

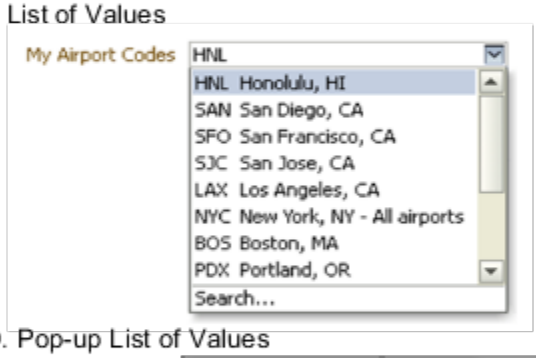
The series of figures (A to L) represent how the display types render on the UI. Each display type screenshot is assigned an alphabetic character that maps to the display type and its description in the table.

A. Check Box

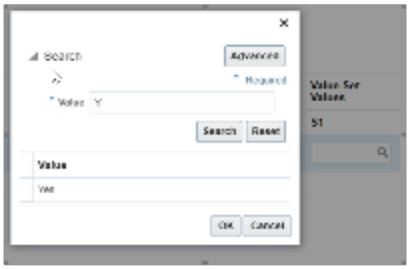
B. Drop-down List



C. List of Values



D. Pop-up List of Values

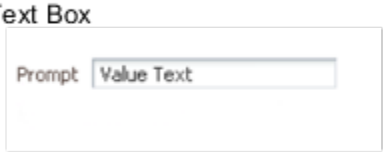


E. Search Enabled List of Values

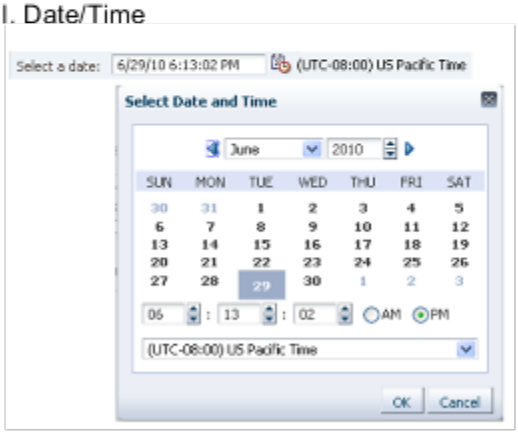
F. Radio Button Group

G. Text Area

H. Text Box



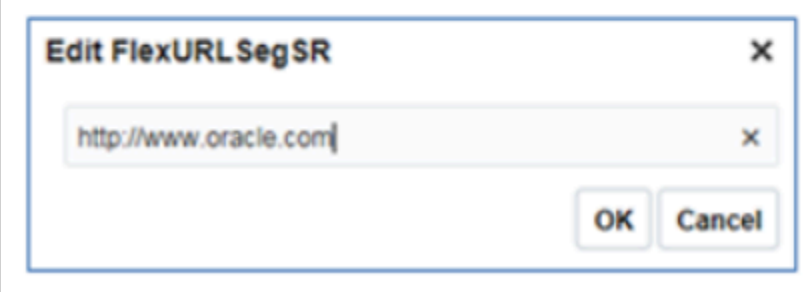
I. Date/Time



J. Rich Text Editor

K. Color

L. Static URL



The table describes each display type:

Figure Reference	Display Type	Description
A	Check Box	The field appears as a check box. If you select the check box, the checked value is used. Otherwise, the deselected value is used.
B	Drop-down List	The field appears as a list of values from which you can select. It supports a smaller number of values.
C	List of Values	The field appears as a list of values from which you can select.

Figure Reference	Display Type	Description
D	Pop-up List of Values	The field appears as a list of values from which you can select. It supports large volumes of values.
E	Search Enabled List of Values	The field appears as a text field with a **Search** icon. You can type a value in the text field. You can also click the Search icon that opens another window for searching.
F	Radio Button Group	The field appears as a set of radio buttons. You can click a button to select an option. When you select an option, previously selected option is automatically deselected.
G	Text Area	The field appears as a text area where you can enter multiple lines of text. The display width and height specify the visible width and number of lines in the text area.
H	Text Box	The field appears as a text field where you can enter a single line of text. The display width controls the width of the text box.
I	Date Time	The field enables you to enter a date if the data type is Date. You can enter a date and time if the data type is Date Time. You can select the date in a calendar. If the data type is Date Time, you can also specify the hour, minutes, seconds, AM or PM, and the time zone.
J	Rich Text Editor	The field appears as a text area where you can enter and edit multiple lines of formatted text. The display width and height specify the visible width and number of lines in the rich text editor. **Note:** This display type is available for extensible flexfields only.
K	Color	The field displays a color palette. You can select a color and assign it to the segment. You can select the display type only if the value set for the segment is set to ORA_FND_COLOR_#RRGGBB.
L	Static URL	The field appears as a text field where you can enter a fixed URL that opens the web page when clicked.

Figure Reference	Display Type	Description
		Note: The length of the URL must not exceed 255 characters.

Note: If you select the display type as Hidden, the field isn't displayed.

How Flexfields and Value Sets Work Together

Value sets are specific to your enterprise. When gathering information using flexfields, your enterprise's value sets validate the values that your users enter based on how you defined the value set.

You can assign a value set to any number of flexfield segments in the same or different flexfields. Value set usage information indicates which flexfields use the value set.

The following aspects are important in understanding how flexfields and value sets work together:

- Defining value sets
- Shared value sets
- Deployment

Defining Value Sets

As a key flexfield guideline, define value sets before configuring the flexfield, because you assign value sets to each segment as you configure a flexfield. With descriptive and extensible flexfields, you can define value sets when adding or editing a segment.

Note: Ensure that changes to a shared value set are compatible with all flexfield segments that use the value set.

Shared Value Sets

When you change a value in a shared value set, the change affects the value set for all flexfields that use that value set. The advantage of a shared value set is that a single change propagates to all usages. The drawback is that the change shared across usages may not be appropriate in every case.

Value Set Values

To configure user-defined attributes to be captured on the value set values in the *Manage Value Sets* task, configure the Value Set Values descriptive flexfield. The object's code is FND_VS_VALUES_B.This flexfield expects the context code to correspond to the value set code. For each value set, you can define a context whose code is the value set code, and whose context-sensitive segments are shown for the values of that value set. By default, the context segment is hidden since it maps to the value set code and is not expected to be changed.

You can also define global segments that are shown for all value sets. However, this would be quite unusual since it would mean that you want to capture that attribute for all values for all value sets.

Deployment

When you deploy a flexfield, the value sets assigned to the segments of the flexfield provide users with the valid values for the attributes represented by the segments.

Related Topics

- Overview of Flexfield Deployment
- How Flexfields Work with Oracle Application Cloud Architecture
- Validation Type Options for Value Sets

Default Segment Values

To populate a flexfield segment with a default value when a row is created, specify a default type of constant, parameter, or Groovy, and a default value or expression.

> **Note:** Default values for global, context, and context-sensitive segments are shown only when a descriptive flexfield row is created. Also, when a context segment value is changed on a UI that renders new context-sensitive segments, these segments display default values for both new and existing rows.

To synchronize a segment's value with another field's value whenever it changes, specify the derivation value to be the flexfield parameter from which to derive the attribute's value. Whenever the parameter value changes, the attribute's value is changed to match. If you derive an attribute from a parameter, consider making the attribute read-only, as values entered by users are lost whenever the parameter value changes. When setting a default value or deriving a default value from a parameter, only those attributes designated by development as parameters are available for selection. Different combinations of making the segments read only or editable in combination with the default or derivation value or both, have different effects.

If your segment's default type is Groovy, you can set the Groovy expression you need using the expression builder. To open the expression builder, select **Groovy Expression** as your **Default Type** and click the **Groovy Expression Builder** icon. But you should know that Groovy defaulting doesn't support derivation when a dependent parameter changes. The expression is evaluated only at segment creation.

> **Note:** New usages of Groovy default values and validators in flexfields are deprecated because they won't be automatically upgraded in future releases. However, flexfields already using Groovy will continue to work. If you want to add Groovy expression to new flexfields, you must set the **Flexfield Groovy Usage Support Restricted** (ORA_FND_FLEX_GROOVY_RESTRICTED) profile option to **N**.

The following table maps these different combinations. Initial action corresponds to the row for the attribute value being created in the entity table. If the default value is read only, it can't subsequently be changed through the user interface. If the default value isn't read only, users can modify it. However, if the segment value is a derived value, a user-modified segment value is overwritten when the derivation value changes.

Default Type	Default value specified?	Derivation value specified?	Initial action	Action after parameter changes
None	No	Yes	No initial segment value	The changed parameter derivation value updates segment value

Default Type	Default value specified?	Derivation value specified?	Initial action	Action after parameter changes
Constant	Yes	No	Default segment value	N/A
Constant	Yes	Yes	Default segment value	The changed parameter derivation value updates segment value
Parameter	Yes	No	The default segment value is the parameter's default value	N/A
Parameter	Yes	Yes, and same as default value	The default segment value is the parameter's default and derivation value	The changed parameter derivation value updates segment value
Parameter	Yes	Yes, and different from default value	The default segment value is the parameter's default value	The changed parameter default value doesn't update segment value. Only the changed derivation value updates the segment value.
Groovy Expression	Yes	N/A	The default value of the segment is determined by evaluating the groovy expression.	Groovy expressions are evaluated only at segment creation. They're not evaluated when a dependent parameter is modified.
SQL	Yes	No	The default segment value is the value returned by executing SQL statement	N/A
SQL	Yes	Yes	The default segment value is the value returned by executing SQL statement	The changed parameter derivation value updates segment value

Note: For Descriptive Flexfield, only the `PARAMETER` bind variable is supported as the default type in a SQL statement in the specified format: `#{PARAMETER.<PARAMETER_NAME>}` Other bind variables, such as `SEGMENT`, `CONTEXT`, and `VALUESET` aren't supported in a SQL statement. Also, the default type in a SQL statement is evaluated only when you create a segment. They aren't evaluated when a dependent parameter is modified.

Related Topics

- How can I set a default value for a flexfield segment?
- Groovy Scripting Reference

Flexfield Usages

The flexfield usage specifies the table with which the flexfield and its segments are associated. A flexfield can have multiple usages. However, the first table registered for a flexfield indicates the primary usage. Segments are based on the primary usage.

Other usages of the same table for the same flexfield use the same segment setup, though the column names may have a differentiating prefix.

On the Manage Descriptive Flexfields and Manage Extensible Flexfields pages, click the **Show Entity Usages** icon for a specific flexfield to view its entity usage. On the Manage Value Sets page, you can view the flexfield usages for a selected value set.

Extensible Flexfields

For extensible flexfield contexts, you can configure a different usage. The use of an extensible flexfield context determines the scenarios or user interfaces in which the segments of a context appear to users. For example, the Supplier page displays an extensible flexfield's supplier usage and the Buyer page for the same flexfield displays the buyer usage. Then, a context that's associated only with the supplier usage appears only on the Supplier page and not on the Buyer page.

Value Sets

The use of value sets specifies the flexfields having segments where the identified value set is assigned.

FAQs for Flexfield Management

How can I access predefined flexfields?

Search for predefined flexfields using the manage flexfields tasks.

1. In the Setup and Maintenance work area, go to any of the following tasks:
    - Manage Descriptive Flexfields
    - Manage Extensible Flexfields
    - Manage Key Flexfields
2. On the page for the type of flexfield you're looking for, enter any of the search parameters and click **Search**.

    Tip: If you don't know the flexfield name or the code, use the **Module** field to filter search results.
3. Click a flexfield to view its details.

For configuration that's not available through the manage flexfields tasks and the UI, ask your help desk to log a service request.

Related Topics

- How do I update existing setup data?

Why can't I edit my flexfield or value set configuration?

Your flexfield or value set configuration may be protected. Application developers mark some configurations as protected, indicating that you can't edit them.

Some examples of configurations that may be protected are:

- Descriptive flexfields
- Extensible flexfield contexts
- Extensible flexfield pages
- Value sets

Why did my page not display any flexfield?

For a flexfield to be available on the page, it must be registered by developers and also deployed. The segments appear on the page only after you have successfully deployed the flexfield.

A flexfield's deployment status indicates whether the flexfield segments are available to users. The flexfield segments that users see correspond to the flexfield definition last deployed successfully.

Note: Oracle Fusion Cloud Sales Automation and Oracle Fusion Cloud Fusion Service don't support flexfields.

To add attributes to these applications, you may use Application Composer. For more information, see the product-specific documentation.

Related Topics

- How Flexfield Deployment Status is Calculated

Why did my flexfield changes not appear in the UI?

The ADF business components or artifacts of a flexfield, which are generated into an Oracle Metadata Services (MDS) Repository when the flexfield is deployed, are cached within a user session.

You must sign out and sign back in to view flexfield definition changes reflected in the application user interface page.

Related Topics

- How Flexfield Deployment Status is Calculated

Flexfield Deployment

Overview of Flexfield Deployment

Deployment generates or refreshes the Application Development Framework (ADF) business component objects that render flexfields on the UI. Deployment adds user-defined attributes to the Web Services Description Language (WSDL) schemas exposed by Oracle Fusion Cloud ADF services and used by SOA composites.

Flexfields are deployed for the first time when the application is provisioned. After you configure a flexfield, you must deploy it to make the changes available to users.

If a descriptive flexfield is enabled for business intelligence, the deployment process redeploys the flexfield's business intelligence artifacts.

You can deploy a flexfield to a sandbox for testing or to the mainline metadata for use in a test or production environment. You can deploy extensible flexfields as a background process.

After deployment, the user-defined attributes are available for incorporating into the SOA infrastructure, such as business process and business rule integration. For example, you can now write business rules that depend on the user-defined attributes. You must sign out and sign back in to Oracle Fusion Cloud Applications to see the changes you deployed in the production environment.

The following aspects are important in understanding flexfield deployment:

- Deployment Status
- Initial Deployment Status
- Metadata Validations
- Metadata Synchronization
- Deployment as a Background Process
- Export of Artifacts from Flexfield MDS

Deployment Status

Every flexfield has a deployment status. Check the deployment status of your flexfield after patching. The following table lists the different deployment statuses a flexfield can have.

Deployment Status	Meaning
Edited	The flexfield metadata definition hasn't been deployed yet. Updates of the metadata definition aren't applied in the production environment yet.
Patched	The flexfield metadata definition has been modified through a patch or a data migration action, but the flexfield hasn't yet been deployed. So, the updated definition isn't reflected in the production environment.
Deployed to Sandbox	The current metadata for the flexfield is deployed in ADF artifacts and available as a flexfield-enabled sandbox.
Deployed	The current metadata for the flexfield is deployed in ADF artifacts and available to users. No changes have been made to the flexfield after being deployed to the mainline metadata.
Error	The deployment attempt in the mainline metadata failed.

Note: Whenever a value set definition changes, the deployment status of a flexfield that uses that value set changes to edited. If the change results from a patch, the deployment status of the flexfield changes to patched.

Initial Deployment Status of Flexfields

The Oracle Fusion Cloud Applications implementation loads flexfield metadata into the database. This initial load sets the flexfield status to Edited. During installation, the application provisioning process deploys the flexfields of the provisioned applications, setting their status to Deployed if no errors occur.

In a provisioned application, deployed flexfields are ready to use. In some cases, flexfield availability at production environment requires setup, such as defining key flexfields.

Metadata Validation

Use the Validate Metadata command to view possible metadata errors before attempting to deploy the flexfield. Metadata validation is the initial phase of all flexfield deployment commands. By successfully validating metadata before running the deployment commands, you can avoid failures in the metadata validation phase of a deployment attempt. The deployment process ends if an error occurs during the metadata validation phase. Metadata validation results don't affect the deployment status of a flexfield.

Metadata Synchronization

When an extensible or descriptive flexfield is deployed, the deployment process regenerates the XML schema definition (XSD). As a result, the user-defined attributes are available to web services and the SOA infrastructure.

After deploying a flexfield configuration, you must synchronize the updated XML schema definition (XSD) files in the MDS repositories for each SOA application.

> **Note:** To synchronize the updated XSD files in the MDS repositories in Oracle Cloud implementations, log a service request using My Oracle Support at *https://support.oracle.com*.

Deployment as a Background Process

You can deploy extensible flexfields offline as a background process and continue working in the session without having to wait for the deployment to complete. You can queue up several extensible flexfields and deploy as a background process. The flexfields are deployed, one at a time, in the order that you deploy them to the queue. You must deploy extensible flexfields with more than 30 categories as a background process.

You can remove an extensible flexfield from the deployment queue with the Cancel Background Deployment command. When an extensible flexfield is deployed in a background process, its offline status indicates that the flexfield is in a background deployment process. A flexfield's offline status is cleared and its deployment status updated when the background deployment process has completed.

Export of Artifacts from Flexfield MDS

You can export business components from MDS for descriptive, extensible, or key flexfields, mainly for use in troubleshooting issues with flexfields. Use **Download Flexfield Archive** on the Manage Flexfields page to export MDS artifacts of the selected flexfield, and import them to an archive on your local computer. You can use these archived business components of flexfields for troubleshooting purposes.

Alternatively, export the deployed artifacts using `exportMetadata WLST`.

Related Topics

- How Flexfield Deployment Status is Calculated
- How Flexfields Work with Oracle Application Cloud Architecture
- Considerations for Deploying a Descriptive Flexfield to a Sandbox
- Why did my flexfield changes not appear in the UI?

How Flexfield Deployment Status is Calculated

Flexfield deployment status indicates how the flexfield metadata definition in the Oracle Fusion Cloud Applications database relates to the Application Development Framework (ADF) business components residing in an Oracle Metadata Services (MDS) Repository.

The following aspects are important in understanding how flexfield deployment status is calculated:

- Settings that affect flexfield deployment status
- How deployment status is calculated

Settings That Affect Flexfield Deployment Status

If you have made a change to a flexfield and expect a changed deployment status, ensure that you have saved your changes. No settings affect flexfield deployment status.

How Deployment Status Is Calculated

If the flexfield definition has been edited through the Define Flexfields activity task flows, the status is Edited. The latest flexfield metadata definition diverges from the latest deployed flexfield definition. Any change, including if a value set used in a flexfield changes, changes the deployment status to Edited. If a flexfield has never been deployed, its status is Edited.

> **Note:** When an application is provisioned, the provisioning framework attempts to deploy all flexfields in that application.

If you deploy the flexfield to a sandbox successfully, the status is Deployed to Sandbox. The latest flexfield metadata definition in the application matches with the metadata definition that generated ADF business components in a sandbox MDS Repository. Whether the sandbox is active or not doesn't affect the deployment status. If the flexfield was deployed to a sandbox and hasn't been edited or redeployed to the mainline metadata since then, the status remains Deployed to Sandbox independent of whether the sandbox is active, or who's viewing the status.

If you deploy the flexfield successfully to the mainline metadata, the status is Deployed. The latest flexfield metadata definition in the application matches the metadata definition that generated ADF business components in a mainline MDS Repository. Change notifications are sent when a flexfield is deployed successfully to the mainline metadata.
If either type of deployment fails and that the current flexfield definition isn't deployed, the status is Error. The deployment error message gives details about the error. The latest flexfield metadata definition in the application likely diverges from the latest successfully deployed flexfield definition.

If the flexfield definition has been modified by a patch, the status is Patched. The latest flexfield metadata definition in the application diverges from the latest deployed flexfield definition. If the flexfield definition was Deployed before the patch and then a patch was applied, the status changes to Patched. If the flexfield definition was Edited before the patch and then a patch was applied, the status remains at Edited to reflect that there are still changes (outside of the patch) that aren't yet in effect.

When a deployment attempt fails, you can access the Deployment Error Message for details.

Related Topics

- How Flexfields Work with Oracle Application Cloud Architecture
- Considerations for Managing Extensible Flexfields

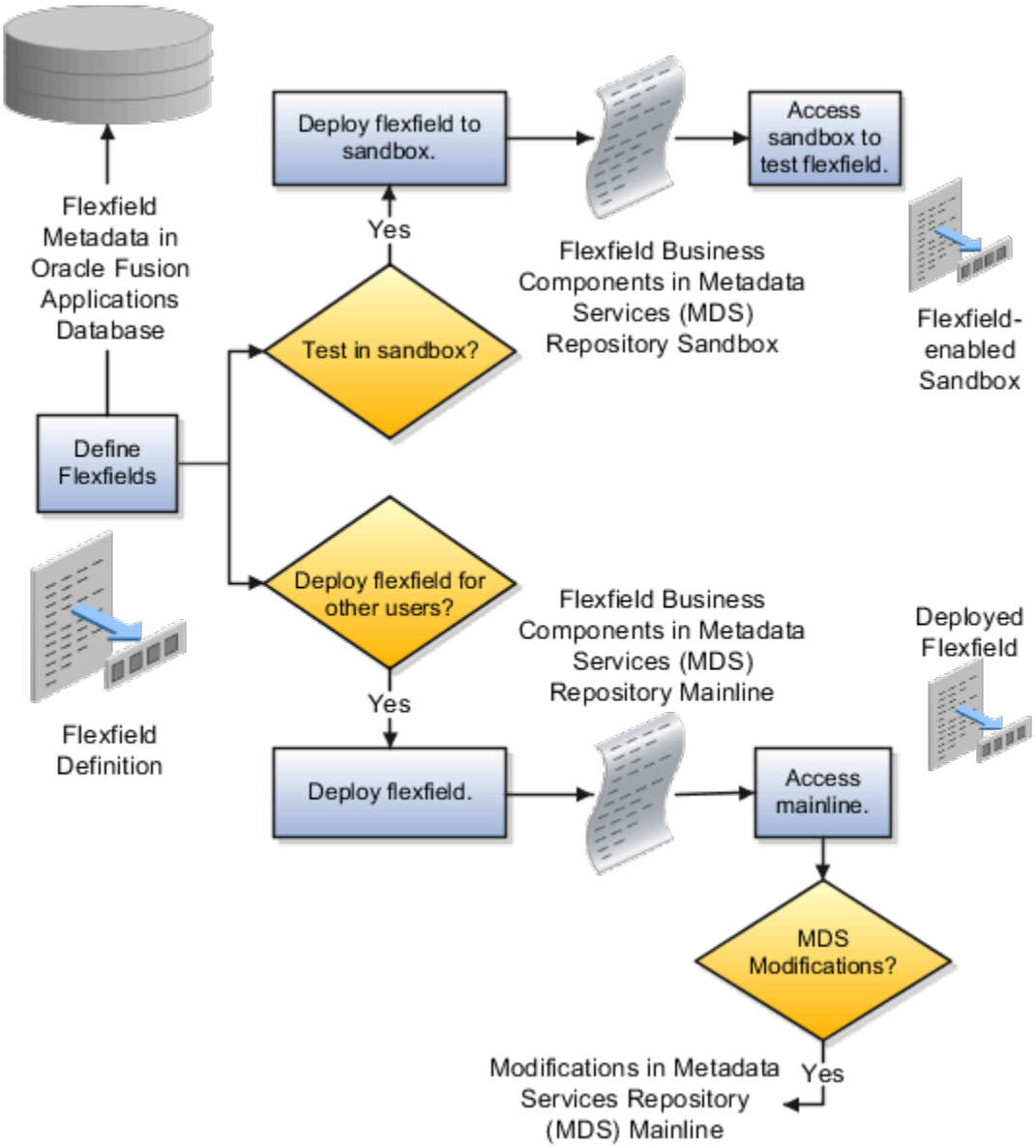
How Deploying a Flexfield-Enabled Sandbox Works with Mainline Metadata

When you deploy a flexfield to a sandbox, the flexfield definition corresponds to the flexfield metadata definition in the Oracle Fusion Cloud Applications database. When the flexfield is ready for use, it must be deployed to the mainline metadata.

A flexfield-enabled sandbox uses the following components.

- Flexfield metadata in the Fusion Applications database

- Flexfield business components in a sandbox Oracle Metadata Services (MDS) repository
- User interface modifications for the flexfield in the mainline MDS repository



Sandbox Metadata Services Repository Data

Deploying the flexfield to a sandbox generates the Application Development Framework (ADF) business components of a flexfield in a sandbox MDS Repository for testing in isolation.

CAUTION: Don't modify flexfield segment display properties using Page Composer in a flexfield sandbox as these changes are lost when you deploy your flexfield to the mainline metadata.

Mainline Metadata Services Repository Data

The Oracle Fusion Cloud Applications database stores the single source of truth about a flexfield. When the flexfield is deployed, the ADF business component objects that implement the flexfield in the run time user interface are generated in the mainline MDS Repository from this source.

Related Topics

- How Flexfield Deployment Status is Calculated

Considerations for Deploying a Descriptive Flexfield to a Sandbox

You can deploy and test the behavior of a descriptive flexfield in the flexfield-enabled sandbox. Use the **Manage Descriptive Flexfields** task to change the flexfield definition, if required.

When you deploy a descriptive flexfield to a sandbox, the process reads the metadata about the segments from the database. It generates ADF Business Components artifacts for flexfields based on the definition, and stores the generated artifacts in the sandbox.

You can't deploy your changes in value sets, key flexfields, and extensible flexfields to your sandbox. You must deploy them directly to the mainline environment. However, if you're making changes to any descriptive flexfield, you must deploy your flexfield to the sandbox and test your changes before publishing your sandbox. After you deploy a descriptive flexfield to a sandbox, you must sign out and sign back in to the application to see your changes.

Note: You can deploy a descriptive flexfield to a sandbox using the **Manage Descriptive Flexfields** task only.

Manage Value Sets

Overview of Value Sets

A value set is a group of valid values that you assign to a flexfield segment to control the values that are stored for business object attributes.

A user enters a value for an attribute of a business object while using the application. The flexfield validates the value against the set of valid values that you configured as a value set and assigned to the segment.

For example, you can define a required format, such as a five-digit number, or a list of valid values, such as green, red, and blue.

Flexfield segments are usually validated, and typically each segment in a given flexfield uses a different value set. You can assign a single value set to more than one segment, and you can share value sets among different flexfields.

Note: Ensure that changes to a shared value set are compatible with all flexfields segments using the value set.

The following aspects are important in understanding value sets:

- Managing value sets
- Validation

- Security
- Precision and scale
- Usage and deployment
- Protected value set data

Managing Value Sets

To open the Manage Value Sets page, use the Manage Value Sets task. You can also use the Manage Descriptive Flexfields and Manage Extensible Flexfields tasks for configuring a segment, including its value set. To open the Manage Values page, select the value set from the Manage Value Sets page, and click **Manage Values**. Alternatively, click **Manage Values** from the Edit Value Set page.

Validation

The following types of validation are available for value sets:

- Format only, where users enter data instead of selecting values from a list
- Independent, a list of values consisting of valid values you specify
- Dependent, a list of values where a valid value derives from the independent value of another segment
- Subset, where the list of values is a subset of the values in an existing independent value set
- Table, where the values derive from a column in an application table and the list of values is limited by a WHERE clause

A segment that uses a format only value set doesn't present a list of valid values to users. If required, you may add table validated value sets to the list of available value sets available for configuration.

For a dependent value set, you must assign an existing independent value set to it. You can’t assign a value set whose validation type is Dependent.

> **Note:** For the Accounting Key Flexfield value sets, you must use independent validation only. If you use other validations, you can't use the full chart of accounts functionality, such as data security, reporting, and account hierarchy integration.

Security

Value set security only works in conjunction with usage within flexfield segments. You can specify that data security be applied to the values in flexfield segments that use a value set. Based on the roles provisioned to users, data security policies determine which values of the flexfield segment users can view or modify.

The application of value set security has the following conditions:

- At the value set level: The value set is the resource secured by data security policies. If a value set is secured, every usage of it in any flexfield is secured. Disabling security for individual usages of the same value set isn't possible.
- Applies to independent, dependent, or table-validated value sets.
- Applies mainly when data is being created or updated, and to key flexfield combinations tables for query purposes. Value set security doesn't determine which descriptive flexfield data is shown upon querying.
- Security conditions defined on value sets always use table aliases. When filters are used, table aliases are always used by default. When predicates are defined for data security conditions, make sure that the predicates also use table aliases.

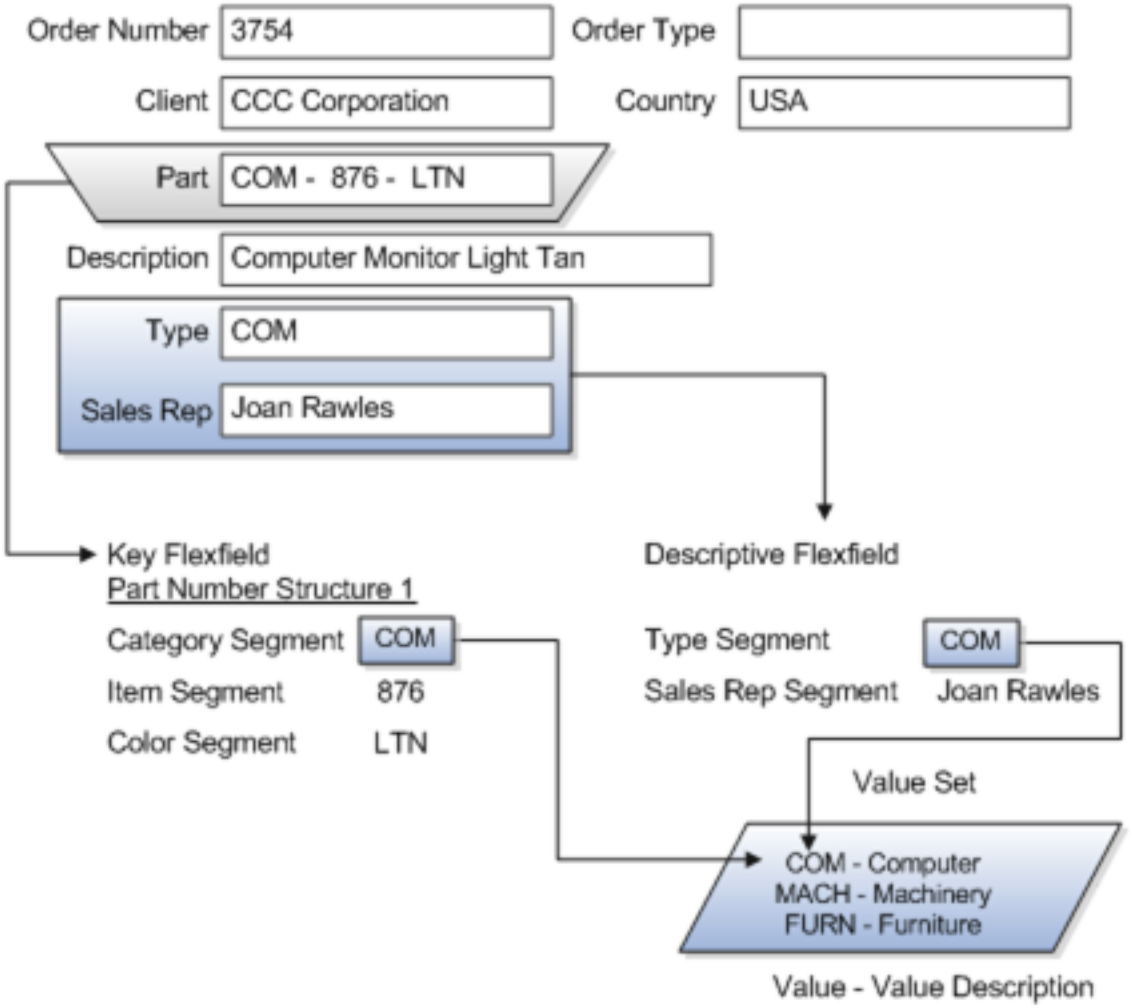
For key flexfields, the attributes in the view object corresponding to the account combination ID, structure instance number (SIN), and data set number (DSN) can't be transient. They must exist in the database table. For key flexfields, the SIN segment is the discriminator attribute, and the account combination segment is the common attribute.

Precision and Scale

If the data type of a value set is Number, you can specify the precision (maximum number of digits user can enter) or scale (maximum number of digits following the decimal point).

Usage and Deployment

The usage of a value set is the flexfields where that value set is used. The deployment status of flexfields in which the value set is used indicates the deployment status of the value set instance.



For most value sets, when you enter values into a flexfield segment, you can enter only values that already exist in the value set assigned to that segment.

Global and context-sensitive segment require a value set. You can assign a value set to a descriptive flexfield context segment. If you specify only context values, not value sets for contexts, the set of valid values is equal to the set of context values.

Protected Value Set Data

Application developers may mark some value sets as protected, indicating that you can't edit them.

You can edit only value sets that are not marked as protected. You can't edit or delete protected value sets. If the value set type supports values (such as independent, dependent or subset value sets), then you can't add, edit, or delete values.

> **Note:** References to protected value sets aren't restricted. Value sets, protected or not, may be assigned to any flexfield segment. Likewise, other value sets may reference protected value sets; for example, an unprotected dependent value set may reference a protected independent value set.

Related Topics

- How Flexfields and Value Sets Work Together
- Why can't I edit my flexfield or value set configuration?
- What's the difference between a lookup type and a value set?
- Default Segment Values
- Chart of Accounts Components

Validation Type Options for Value Sets

Validation and usage of value sets determine where and how users access valid values for attributes represented by flexfield segments.

> **Tip:** As a flexfield guideline, define value sets before configuring the flexfield, because you can assign value sets to each segment as you configure a flexfield. With descriptive and extensible flexfield segments, you can create value sets when adding or editing a segment on the UI where the flexfield appears.

The following aspects are important in defining value sets:

- Value sets for context segments
- Format-only validation
- Interdependent value sets
- Table validation
- Range
- Security
- Testing and maintenance

Value Sets for Context Segments

When assigning a value set to a context segment, you can only use table-validated or independent value sets.

You can use only table and independent value sets to validate context values. The data type must be character and the maximum length of the values being stored must not be larger than the context's column length. If you use a table value set, the value set can't reference flexfield segments in the value set's WHERE clause, other than the flexfield segment to which the value set is assigned.

Format Only Validation

You can use the format only validation type to enter any value as long as it meets your specified formatting rules. The value must not exceed the maximum length specified for that value set, and it must meet any format requirements for that value set. For example, if the value set permits only numbers, you can enter the value 456 for a value set with a maximum length of three or more, but not the value ABC.

You can also define a range of valid values for your value set by using the Minimum Value and Maximum Value fields. After you've defined a range of values, you can't define a new valid value that falls outside this range. For example, you might create a value set with a number type format where the user can enter only the values between 0 and 100.

> **Note:** For value sets with the value data type of Character, you can enforce minimum and maximum values only if the value set code ends with `_VALIDATE_CHAR_MINMAX`.

Interdependent Value Sets

Use an independent value set to validate data against a list that isn't stored in an application table, and not dependent on a subset of another independent value set. You can't specify a dependent value set for a given segment without having first defined an independent value set that you apply to another segment in the same flexfield. Use a dependent value set to limit the list of values for a given segment based on the value that the user has defined for a related independent segment. The available values in a dependent list and the meaning of a given value depend on which value was selected for the independently validated segment.

For example, you could define an independent value set of the states in the USA with values such as CA, NY, and so on. Then you define a dependent value set of cities in the USA with values such as San Francisco and Los Angeles that are valid for the independent value CA. Similarly, New York City and Albany are valid for the independent value NY. In the UI, only the valid cities can be selected for a given state.

Because you define a subset value set from an existing independent value set, you must define the independent value set first. Users don't have to select a value for another segment first to have access to the subset value set.

Independent, dependent, and subset value sets require a user-defined list of valid values. Use the Manage Values page to create and manage a value set's valid values and the order in which they appear.

> **Tip:** You can configure the Manage Value Sets page to capture additional attributes for each valid value by adding context-sensitive segments in a new context for FND_VS_VALUES_B descriptive field.

Table Validation

Typically, you use a table-validated set when the values you want to use are already maintained in an application table, such as a table of supplier names. Specify the table column that contains the valid value. You can optionally specify the description and ID columns, a WHERE clause to limit the values to use for your set, and an ORDER BY clause.

If you specify an ID column, then the flexfield saves the ID value, instead of the value from the value column, in the associated flexfield segment. If the underlying table supports translations, you can enable the display of translated text by basing the value set's value column on a translated attribute of the underlying table. You should also define an ID column that's based on an attribute that isn't language-dependent so that the value's invariant ID (an ID that doesn't change) is saved in the transaction table. The run time displays the corresponding translated text from the value column for the run time session's locale.

Table validation lets you enable a segment to depend on multiple prior segments in the same context structure. You can't reference other flexfield segments in the table-validated value set's WHERE clause. Which means, the WHERE clause can't reference SEGMENT.segment_code or VALUESET.value_set_code.

Table-validated value sets have unique values across the table, irrespective of bind variables. The WHERE clause fragment of the value set is considered if it doesn't have bind variables. If it has bind variables, the assumption is that the values are unique in the value set. If you use table validated value sets for key flexfields, then you can't use all integration options supported for key flexfields, such as:

- Data security
- Oracle Transactional Business Intelligence (OTBI)
- Extended Spread Sheet Database (ESSbase)
- Tree or hierarchy integration

To use these integration options for key flexfields, you must use independent value sets only.

Range

In the case of format, independent, or dependent value sets, you can specify a range to limit which values are valid. You can specify a range of values that are valid within a value set. You can also specify a range validated pair of segments where one segment represents the low end of the range and another segment represents the high end of the range.

For example, you might specify a range for a format-only value set with format type Number where the user can enter only values between 0 and 100.

Security

In the case of independent and dependent values, you can specify that data security be applied to the values in segments that use a value set. Based on the roles provisioned to users, data security policies determine which values of the flexfield segment users can view or modify.

To enable security on a value set, specify a database resource, typically the code value for the value set. Using the Manage Database Security Policies task, specify conditions, such as filters or SQL predicates, and policies that associate roles with conditions. You can use a filter for simple conditions. For more complex conditions, use a SQL predicate.

Value set data security policies and conditions differ from data security conditions and policies for business objects in the following ways:

- You can grant only read access to users. You can't specify any other action.
- When defining a condition that's based on a SQL predicate, use VALUE, VALUE_NUMBER, VALUE_DATE, VALUE_TIMESTAMP, or VALUE_ID to reference the value from a dependent, independent, or subset value set. For table value sets, use a table alias to define the table, such as &TABLE_ALIAS category=70.

When you enable security on table-validated value sets, the security rule that's defined is absolute and not contingent upon the bind variables (if any) that may be used by the WHERE clause of the value set. For example, suppose a table-validated value set has a bind variable to further filter the value list to x, y and z from a list of x, y, z, xx, yy, zz. The data security rule or filter written against the value set must not assume anything about the bind variables. Instead the whole list of values must be available and you write the rule, for example, to permit x, or to permit y and z. By default in data security, all values are denied and show only rows to which access has been provided.

Testing and Maintenance

You don't have to define or maintain values for a table-validated value set, as the values are managed as part of the referenced table or independent value set, respectively.

You can't manage value sets in a sandbox.

When you change an existing value set, the deployment status for all affected flexfields changes to Edited. You must redeploy all flexfields that use that value set to make the flexfields reflect the changes. In the UI pages for managing value sets, the value set's usages show which flexfields are affected by the value set changes.

If your application has more than one language installed, or there is any possibility that you might install one or more additional languages for your application in the future, select **Translatable**. This doesn't require you to provide translated values now, but you can't change this option if you decide to provide them later.

Related Topics

- Considerations for Bind Variables in Table-Validated Value Sets
- What happens if a value set is security enabled?
- Add Attributes to the Manage Value Sets Page

Considerations for Planning Value Sets

The value sets you create and configure depend on the valid values of the business object attributes that use the value sets. When creating value sets, you first provide a name and description, and then define the valid values.

The following aspects are important in planning value sets:

- List of values
- Plain text
- Value ranges
- Value format specification
- Security

List of Values

You can use one of the following types of lists to specify the valid values for a segment:

- Table column
- User-defined list. Also include a sub list.
- Dependent user-defined list

If the valid values exist in a table column, use a table value set to specify the list of values. To limit the valid values to a subset of the values in the table, use a SQL WHERE clause. Table value sets also provide some advanced features, such as enabling validation depending on other segments in the same structure.

Use an independent value set to specify a user-defined set of valid values. For example, you can use an independent value set of Mon, Tue, Wed, and so forth to validate the day of the week. You can also specify a subset of an existing independent value set as the valid values for a segment. For example, if you have an independent value set for the days of the week, then a weekend subset can comprise entries for Saturday and Sunday.

Use a dependent value set when the available values in the list and the meaning of a given value depend on which independent value was selected for a previously selected segment value. For example, the valid holidays depend on which country you're in. A dependent value set is a collection of value subsets, with one subset for each value in a corresponding independent value set.

For lists of values type value sets, you can additionally limit the valid values that an end user can select or enter by specifying format, minimum value, and maximum value. For list of values type value sets, you can optionally implement value set data security. If the applications are running in different locales, you might need to provide different translations for the values and descriptions.

Plain Text

Use a format-only value set when you want to allow users to enter any value, as long as that value conforms to formatting rules. For example, if you specify a maximum length of 3 and numeric-only, then end users can enter 456, but not 4567 or 45A. You can also specify the minimum and maximum values, whether to align the text to either side, and whether to zero-fill. With a format-only value set, no other types of validation are applied.

Value Ranges

You can use either a format-only, independent, or dependent value set to specify a range of values. For example, you might create a format-only value set with Number as the format type where the end user can enter only the values between 0 and 100. Or, you might create a format-only value set with Date as the format type where the end user can enter only dates for a specific year, such as a range of 01-JAN-93 to 31-DEC-93. Because the minimum and maximum values enforce these limits, you need not define a value set that contains each of these individual numbers or dates.

Value Format

Flexfield segments commonly require some kind of format specification, regardless of validation type. Before creating a value set, consider how you will specify the required format.

The following table shows options for validation type and value data type.

Option	Description
Value data type	Character, Number, Date, Date Time.
Value subtype	Text, Translated text, Numeric digits only, Time (20:08), Time (20:08:08). An additional data type specification for the Character data type for the Dependent, Independent, and Format validation types.
Maximum length	Maximum number of characters or digits for Character data type.
Precision	Maximum number of digits the user can enter.
Scale	Maximum number of digits that can follow the decimal point.
Uppercase only	Lowercase characters automatically changed to uppercase.
Zero fill	Automatic text alignment and zero-filling of entered numbers (affects values that include only the digits 0-9).

Note: You can't change the text value data type to a translated text value subtype after creating a value set. If there is any chance you may need to translate displayed values into other languages, choose Translated text. Selecting the Translated text subtype doesn't require you to provide translated values.

Value Sets for Context Segments

You can use only table and independent value sets to validate context values. The data type must be character and the maximum length of the values being stored must not be larger than the context's column length. If you use a table value set, the value set can't reference flexfield segments in the value set's WHERE clause other than the flexfield segment to which the value set is assigned.

Security

When enabling security on a value set, the data security resource name is an existing value set or one that you want to create. The name typically matches the code value for the value set. You can't edit the data security resource name after you save your changes.

Related Topics

- Overview of Value Sets
- How Flexfields and Value Sets Work Together
- Validation Type Options for Value Sets
- Default Segment Values
- What's the difference between a lookup type and a value set?

Considerations for Bind Variables in Table-Validated Value Sets

After you assign a value set to a flexfield, you can use bind variables in the WHERE clause.

These bind variables refer to flexfield elements:

- `:{SEGMENT.<segment_code>}`
- `:{CONTEXT.<context_code>;SEGMENT.<segment_code>}`
- `:{VALUESET.<value_set_code>}`
- `:{FLEXFIELD.<internal_code>}`
- `:{PARAMETER.<parameter_code>}`

Segment Code

`:{SEGMENT.<segment_code>}`

This bind variable refers to the ID or value of a segment where `<segment_code>` identifies the segment. Where referring to the ID, the value set is ID-validated. Where referring to the value, the value set isn't ID-validated. The data type of the bind value is the same as the data type of the segment's column.

For both descriptive and extensible flexfields, the segment must be in the same context as the source segment. The source segment contains the WHERE clause. For descriptive flexfields, if the segment is global, then the source segment must be global.

The segment must have a sequence number that's less than the sequence number of the target segment with this bind variable. A matching segment must exist in the current flexfield context.

This bind variable is useful when the set of valid values depends on the value in another segment. For example, the values to select from a CITIES table might depend upon the selected country. If SEGMENT1 contains the country value, then the WHERE clause for the CITIES table might be `<country_code> = :{SEGMENT.SEGMENT1}`.

Context Code

`:{CONTEXT.<context_code>;SEGMENT.<segment_code>}`

This bind variable, which is valid only for extensible flexfields, refers to the ID (if the value set is ID-validated) or value (if not ID-validated) of a segment that's in a different context than the target segment (the segment with the WHERE clause).

- The `<context_code>` identifies the context and must be in the same category or in an ancestor category. It can't be a multiple-row context.
- The `<segment_code>` identifies the segment. The data type of the bind value is the same as the data type of the segment's column.

Note: The target segment should appear in the UI after the source segment to ensure the source segment has a value. If the target segment's context is a single-row context, the source and target segments must be on separate pages and the target page must follow the source page.

The framework of extensible flexfields doesn't perform any additional validation related to mismatched values for segments defined with cross context bind parameters. Administrators must populate the correct pair of segment values.

This bind variable is useful when the set of valid values depends on the value of a segment in another context. For example, the values to select from a CERTIFICATION table for a segment in the Compliance and Certification context might depend on the value of the country segment in the Manufacturing context.

Value Set Code

`:{VALUESET.<value_set_code>}`

This bind variable refers to the ID (if the value set is ID-validated) or value (if not ID-validated) of the segment that's assigned to the value set that's identified by the `value_set_code`. The data type of the bind value is the same as the data type of the segment's column.

The segment must have a sequence number that's less than the sequence number of the segment with this bind variable. If more than one segment is assigned to the value set, the closest prior matching segment will be used to resolve the bind expression. A matching segment must exist in the current flexfield context.

This bind variable is useful when the set of valid values depends on the value in another segment and that segment code can vary, such as when the value set is used for more than one context or flexfield. For example, the values to select from a CITIES table might depend upon the selected country. If the value set for the segment that contains the country value is COUNTRIES, then the WHERE clause for the CITIES table might be `<country_code> = :{VALUESET.COUNTRIES}`.

Flexfield Internal Code

`:{FLEXFIELD.<internal_code>}`

This bind variable refers to an internal code of the flexfield in which the value set is used, or to a validation date. The internal_code must be one of the following:

- APPLICATION_ID - the application ID of the flexfield in which this value set is used. The data type of APPLICATION_ID and its resulting bind value is NUMBER.
- DESCRIPTIVE_FLEXFIELD_CODE - the identifying code of the flexfield in which this value set is used. The data type of DESCRIPTIVE_FLEXFIELD_CODE and its resulting bind value is VARCHAR2. Note that you use this string for both descriptive and extensible flexfields.

- CONTEXT_CODE - the context code of the flexfield context in which this value set is used. The data type of CONTEXT_CODE and its resulting bind value is VARCHAR2.
- SEGMENT_CODE - the identifying code of the flexfield segment in which this value set is used. The data type of SEGMENT_CODE and its resulting bind value is VARCHAR2.
- VALIDATION_DATE - the current database date. The data type of VALIDATION_DATE and its resulting bind value is DATE.

Flexfield Parameters

`:{PARAMETER.<parameter_code>}`

This bind variable refers to the value of a flexfield parameter where parameter_code identifies the parameter. The data type of the resulting bind value is the same as the parameter's data type.

> **Note:** You can't assign a table value set to a context segment if the WHERE clause uses VALUESET.value_set_code or SEGMENT.segment_code bind variables.

Related Topics

- Create and Edit Table-Validated Value Sets Based on Lookups

Create and Edit Table-Validated Value Sets Based on Lookups

While creating and editing value sets, use a predefined list of values that are stored in an application table.

You can specify which table you want to use, along with a WHERE clause to limit the values you want to use for your set. For example, let's use the FND_LOOKUPS view as the basis for a table-validated value set. The lookup meaning corresponds to the **Value Column Name** field and the lookup description corresponds to the **Description Column Name** field.

Create a Value Set Based on a Lookup

1. In the Setup and Maintenance work area, go to the **Manage Value Sets** task.
2. On the Manage Value Sets page, click the **Create** icon.
3. On the Create Value Set page, enter these values:

Field	Value
Value Set Code	SAMPLE_VALUE_SET_CODE
Description	Sample lookup-based table validated value set
Module	Oracle Middleware Extensions for Applications
Validation Type	Table
Value Data Type	Character

4. In the Definition section, enter these values:

Field	Value
FROM Clause	FND_LOOKUPS
Value Column Name	Meaning
Description Column Name	Description
Start Date Column Name	start_date_active
End Date Column Name	end_date_active
Enabled Flag Column Name	'Y'
ID Column Name	lookup_code
WHERE Clause	lookup_type = 'SAMPLE_LOOKUP_TYPE'
ORDER BY Clause	display_sequence, meaning

5. Click **Save and Close**.

Edit a Value Set Based on a Lookup

1. In the Setup and Maintenance work area, go to the **Manage Value Sets** task.
2. On the Manage Value Sets page, use the Search text field to search for a value set.
3. Select a value set and click the **Edit** icon.
4. On the Edit Value Set page, modify the existing values.
5. Click **Save and Close**.

Related Topics

- How do I update existing setup data?

Add Attributes to the Manage Value Sets Page

You can add attributes to independent, dependent, and subset value sets. The attributes appear on the Manage Value Sets page where you can store additional information about each valid value. To display attributes, you must programmatically modify the application.

To add attributes and subsequently view them on the Manage Value Sets page, perform the following steps:

1. Using the Manage Descriptive Flexfields task, find the FND_VS_VALUES_B flexfield and open it for editing.
2. Click **Manage Contexts**.

3. Create a new context and use the value set code for the context code.
4. Add new attributes as context-sensitive segments and save the changes.
5. Deploy FND_VS_VALUES_B to run time.
6. Sign out and sign back in.
7. Open the Manage Value Sets page to view the new attributes.

Import Value Set Values

You can import a file containing values that you want to edit or add to a given independent or dependent value set.

For example, uploading hundreds of values might be more efficient than creating them individually using the **Manage Value Sets** task. However, for just a few values, it might be quicker to perform the relevant tasks. Here are a few things you need to keep in mind while creating these files:

- Use a vertical bar or pipe (|) as a delimiter between fields for both the header and the value rows.
- As per the Oracle Fusion Cloud WebCenter Content specification, set the file encoding to UTF-8 without the Byte Order Mark (BOM).
- Make sure that the first line in the file is a header line, and the files look exactly the same as shown in the sample file.

Here's a sample file for value set value. You can see the header values at the beginning of the file, followed by the line entries of the two value set codes that are to be imported.

```
VALUESETCODE|VALUE|ENABLEDFLAG
FLEX_KFF1_IND_CHR_L10_ZEROFILL|5000|Y
FLEX_KFF1_IND_CHR_L10_ZEROFILL1|5001|N
```

To import value set values, do these tasks:

1. Create a flat file containing the values in the value set that you want to add or update.

   When creating the file, you must specify an existing value set code to which you want to add values or edit existing values. If the value set does not exist, add the value set using the appropriate **Manage Value Sets** task in the Setup and Maintenance work area.
2. Upload the flat file to the content repository using the File Import and Export page.
3. Import the file using the appropriate **Manage Value Sets** task in the Setup and Maintenance work area. To import the file, do these tasks:
   a. In the Manage Value Sets page, click **Actions** > **Import Related Values**.
   b. In the **Account** field, select the user account containing the flat file.
   c. In the **Related Value Set File Name** field, enter the name of the related value set file you uploaded using the File Import and Export page.
   d. In the **Related Values File Name** field, enter the name of the related values file you uploaded using the File Import and Export page.
   e. Click **Upload**.

Note: Alternatively, you can import the file using either of the following methods:
- Run the Upload Value Set Values scheduled process.
- Use the Applications Core Metadata Import web service. For more information on the Applications Core Metadata Import web service, see the SOAP Web Services guide for your cloud services.

Related Topics

- Requirements for Flat Files to Upload Value Set Values
- Overview of Files for Import and Export
- Upload Value Set Values Process

Import Related Value Sets

You can import related value sets to your application by creating separate text files containing the related value set and related values. You can then upload these files to the Oracle Fusion Cloud WebCenter Content document repository.

Here are a few things you need to keep in mind while creating these files:

- Use a vertical bar or pipe (|) as a delimiter between fields for both the header and the value rows.
- As per the Oracle WebCenter Content specification, set the file encoding to UTF-8 without the Byte Order Mark (BOM).
- Make sure that the first line in the file is a header line, and the files look exactly the same as shown in the sample file.

Here's a sample file for related value set. You can see the header values at the beginning of the file, followed by the line entries of the two value set codes to be imported.

```
VALUE_SET_CODE1|VALUE_SET_CODE2|ENABLED_FLAG
FLEX_KFF1_IND_CHR_L10_ZEROFILL|FLEX_KFF1_IND_NUM_P6_S0|Y
FLEX_KFF1_IND_CHR_L10_ZEROFILL|FLEX_KFF1_IND_CHR_L2_STATES|N
```

Here's a sample file for related values. You can see the header values at the beginning of the file, followed by the line entries of the two value set codes to be imported.

```
VALUE_SET_CODE1|VALUE_SET_CODE2|VALUE1|VALUE2|ENABLED_FLAG
FLEX_KFF1_IND_CHR_L10_ZEROFILL|FLEX_KFF1_IND_NUM_P6_S0|1234567890|0|Y
FLEX_KFF1_IND_CHR_L10_ZEROFILL|FLEX_KFF1_IND_CHR_L2_STATES|1234567890|AK|Y
```

To import related value sets, do these tasks:

1. Create flat files containing the values and the related values in the value set that you want to add or update.

   When creating the files, you must specify an existing value set code and values. If the related value sets don't exist, add the related value sets using the appropriate **Manage Value Sets** task in the Setup and Maintenance work area.
2. Upload the flat files to the content repository using the File Import and Export page.
3. Import the files using the appropriate **Manage Value Sets** task in the Setup and Maintenance work area. To import the file, do these tasks:

   a. In the Manage Value Sets page, click **Actions** > **Import Related Values**.
   b. In the **Account** field, select the user account containing the flat file.
   c. In the **Related Value Set File Name** field, enter the name of the related value set file you uploaded using the File Import and Export page.
   d. In the **Related Values File Name** field, enter the name of the related values file you uploaded using the File Import and Export page.
   e. Click **Upload**.

If you upload the related value set file along with the related values file, first the related value set file is processed and then the related value file is processed. If the relationship between two value sets doesn't exist then a new relationship is created in the FND_VS_RELATED_VALUES table. Otherwise, the Enabled column is updated.

Related Topics

- Overview of Files for Import and Export

Requirements for Flat Files to Upload Value Set Values

You can import large volumes of value set value data from the content repository.

To upload value set values to the content repository, create a flat file containing values in the value set you want to add or update. You upload these flat files using the File Import and Export page.

General Requirements

The first line of the flat file must contain the column names for the value set value data, including all mandatory columns, and separated by the '|' (pipe) character. Each subsequent line should contain a row of data specified in the same order as the column names, also separated by the '|' character.

The requirements for creating flat files vary with the type of value sets:

- Independent value sets
- Dependent value sets

Independent Value Set

A flat file for uploading values for independent value sets must contain the mandatory columns. The following table lists the three mandatory columns and their data types.

Column Name	Data Type
`ValueSetCode`	VARCHAR2(60)
`Value`	VARCHAR2(150)
`Enabled Flag`	VARCHAR2(1), Y or N

Note: You can also specify optional columns.

Examples:

- To upload values to a COLORS independent value set with the minimum columns, you can use the following flat file:

```
ValueSetCode | Value | EnabledFlag
COLORS | Red | Y
COLORS | Orange | Y
COLORS | Yellow | Y
```

- To upload values to a STATES independent value set with more (optional) columns, you can use the following flat file:

```
ValueSetCode | Value | Description | EnabledFlag
STATES | AK | Alaska | Y
STATES | CA | California | Y
STATES | WA | Washington | Y
```

Dependent Value Sets

A flat file for uploading values for dependent value sets must contain the mandatory columns. The following table lists the four mandatory columns and their data types.

Column Name	Data Type
`Value Set Code`	VARCHAR2(60)
`Independent Value`	VARCHAR2(150)
`Value`	VARCHAR2(150)
`Enabled Flag`	VARCHAR2(1), Y or N

Note: You can also specify optional columns.

Example:

To upload values to a CITIES dependent value set (dependent on the STATES independent value set), you can use the following flat file:

```
ValueSetCode | IndependentValue | Value | EnabledFlag
CITIES | AK | Juneau | Y
CITIES | AK | Anchorage | Y
CITIES | CA | San Francisco | Y
CITIES | CA | Sacramento | Y
CITIES | CA | Los Angeles | Y
CITIES | CA | Oakland | Y
```

Additional Optional Columns

In addition to the mandatory columns, you can add optional columns. The following table lists the optional columns for both dependent and independent value sets.

Column Name	Type
`Translated Value`	VARCHAR2(150), for use in value sets that are translatable
`Description`	VARCHAR2(240)
`Start Date Active`	DATE, formatted as YYYY-MM-DD

Column Name	Type
`End Date Active`	DATE, formatted as YYYY-MM-DD
`Sort Order`	NUMBER(18)
`Summary Flag`	VARCHAR2(30)
`Flex Value Attribute1 ... Flex Value Attribute20`	VARCHAR2(30)
`User-defined Value Attribute1 ... User-defined Value Attribute10`	VARCHAR2(30)

Optional Columns to Support Descriptive Flexfields

You can also capture these additional columns on the value set values in the Manage Value Sets page. To capture these additional columns, you must configure the FND_VS_VALUES descriptive flexfield. This descriptive flexfield expects the context code to correspond to the value set code.

Column Name	Description
`globalSegment1ApiName`	This column corresponds to the API Name for a global segment defined in the FND_VS_VALUES descriptive flexfield.
`contextSensitiveSegment1ApiName`	This column corresponds to the API Name for a context sensitive segment defined in the FND_VS_VALUES descriptive flexfield.

Here's a sample file that contains the value set codes:

```
ValueSetCode|IndependentValue|IndependentValueNumber|IndependentValueDate|IndependentValueTimestamp|Value|
ValueNumber|ValueDate|ValueTimestamp|TranslatedValue|Description|EnabledFlag|StartDateActive|EndDateActive|
SortOrder|SummaryFlag| globalSegment1ApiName | contextSensitiveSegment1ApiName
VS1|||||DFF|||||Testing for WS updated|Y|2000-01-11|2000-01-2|1||seg1v1|ndseg1vs3
VS1|||||KFF|||||Testing for WS updated without segments|Y|2000-1-11|2000-01-22|1|seg1v2|nd1seg1vs4
```

Related Topics

- Import Value Set Values
- Overview of Files for Import and Export

Manage Values

Independent, dependent, and subset value sets require a user-defined list of valid values. Use the Manage Values page to create and manage values for a value set. You can also manage the order in which the value appears.

Create Values for a Value Set

1. In the Setup and Maintenance work area, go to the **Manage Value Sets** task.
2. Use the Search text field to search for a value set.
3. Select a value set and click **Manage Values**.
4. On the Manage Values page, click the **Create** icon and enter new values for the value set.
5. Click **Save and Close**.

Delete Values from a Value Set

1. In the Setup and Maintenance work area, go to the **Manage Value Sets** task.
2. Use the Search text field to search for a value set.
3. Select a value set and click **Manage Values**.
4. On the Manage Values page, click the **Delete** icon to delete a value from the value set.
5. Click **Save and Close**.

Upload Value Set Values Process

This process uploads a flat file containing value set values for flexfields. You can use the scheduled process to upload a file containing values you want to edit or add to an existing independent or dependent value set.

This process is useful for adding or updating large volumes of value set value data in an automated or recurring fashion. For example, you can upload a hundred values on a recurring basis when scheduled as a recurring process. This method could be more efficient than using the Import action in the Manage Value Sets tasks in the Setup and Maintenance work area. However, for a task of uploading a hundred values, it may be quicker to use the Import action in the relevant tasks.

Run this process from the Scheduled Processes Overview page. You can run it on a recurring basis whenever the flat file in the content repository account is updated.

You must create the flat file containing the values data, and upload the flat file to the content repository using the File Import and Export page.

> **Note:** Here are some alternate ways of doing this task:
>
> - Using the File Import and Export page. For more information, see *Export and Import of CSV File Packages*.
> - Using the SOAP web services or REST APIs. For more information, see the Value Sets REST Endpoints section in the *REST API for Common Features in Oracle Fusion Cloud Applications* guide.

Parameters

Flat File Name

Enter the name of the flat file you uploaded using the File Import and Export page.

Account

Select the user account containing the flat file in the content repository to upload.

Related Topics

- Import Value Set Values
- What are scheduled processes?
- Export and Import of CSV File Packages
- REST API for Common Features in Oracle Fusion Cloud Applications

Upload Comma-Separated Values File for Import Process

This process uploads a flat file containing comma-separated values for various artifacts, such as flexfields, messages, lookups, and so on. You can use this process to add setup data for these artifacts or update existing ones.

Before running this process, you must create the flat file in the given format and upload it to the content repository using the File Import and Export work area. To run this process, use the Scheduled Processes work area and specify the required parameters.

Note: Here are some alternate ways of doing this task:

- Using the File Import and Export page. For more information, see *Export and Import of CSV File Packages*.
- Using the SOAP web services or REST APIs. For more information, see the Value Sets REST Endpoints section in the *REST API for Common Features in Oracle Fusion Cloud Applications* guide.

Parameters

Flat File Name

Enter the name of the file you uploaded using the File Import and Export page.

Account

Enter the user account containing the file in the content repository to upload.

File Type

Select the file type for the file you uploaded using the File Import and Export page.

Here are the supported file types and the corresponding file formats and examples for various application artifacts.

Artifact	File Type	File Formats and Examples
`ValueSet`	VALUE_SET	*File Format for Importing Value Set and Value Set Values*
`Value Set Values`	VALUESET_VALUES	
`Related Value Set`	RELATEDVALUESET	*File Format for Importing Related Value Sets*
	RELATEDVALUESETVALUES	
`Messages`	MESSAGES	*File Format for Importing Messages*

Artifact	File Type	File Formats and Examples
	MESSAGE_TOKENS	
Lookups	STANDARD_TYPE	*File Format for Importing Lookups*
	COMMON_TYPE	
	SETID_TYPE	
	COMMON_CODE	
	STANDARD_CODE	
	SETID_CODE	
Profiles	PROFILE_OPTIONS	*File Format for Importing Profile Values*
	PROFILE_CATEGORIES	
	PROFILE_CATEGORY_OPTIONS	
	USER_PROFILE_VALUES	
Descriptive Flexfields	DFF_CONTEXT	*File Format for Importing Descriptive Flexfields*
	DFF_LABELED_SEGMENT	
	DFF_SEGMENT	
Extensible Flexfields	EFF_CONTEXT	*File Format for Importing Extensible Flexfields*
	FileEFF_CONTEXT_SEGMENT	
Data Security Objects Data	DS_OBJECTS	*File Format for Importing Data Security Instance Sets and Grants*
	DS_CONDITIONS	
	DS_ACTIONS	
	DS_GRANTS	
Document Sequence Data Loaders	DOCUMENT_SEQUENCE_CATEGORY	*File Format for Importing Document Sequences*

Artifact	File Type	File Formats and Examples
	DOCUMENT_SEQUENCE	
	DOCUMENT_SEQUENCE_ASSIGNMENT	
`Hierarchies Data Loaders`	HIERARCHYNODE	

Related Topics

- What are scheduled processes?
- Submit Scheduled Processes and Process Sets
- Export and Import of CSV File Packages
- REST API for Common Features in Oracle Fusion Cloud Applications

Translation of Flexfield and Value Set Configurations

When you first configure a flexfield or segment, the **translatable** text you enter, such as prompts and descriptions, is stored as the text for all installed locales. You may then provide a translation for a particular locale.

If you don't provide a translation for a given locale, then the value that was first entered is used for that locale.

To translate the text for a particular locale, sign in with that locale, or use the **Settings and Actions** menu. Click your user image or name in the global header to open this menu, and select **Set Preferences** to translate the text for a particular locale. Then, update the translatable text in the flexfield using the Manage Descriptive Flexfields task, Manage Key Flexfields task, or Manage Extensible Flexfields task. Your modifications change the translated values only for the current session's locale.

After you complete the translations, deploy the flexfield.

You can define translations for a dependent value set or an independent value set, if the value set is of type Character with a subtype Translated text. You define the translations by setting the current session to the locale for which you want to define the translation. Then use the Manage Value Sets task to enter the translated values and descriptions for that locale.

For table-validated value sets, if the underlying table supports translations, use a translation view as the basis for a table-validated value set. You can set the **ID Column Name** field to the non-translated primary key and the **Value Column Name** field to the translated key.

Related Topics

- Considerations for Planning Value Sets
- Create and Edit Table-Validated Value Sets Based on Lookups

FAQs for Manage Value Sets

What happens if a value set is security enabled?

Value set security is a feature that enables you to secure access to value set values based on the role of the user in the application.

As an example, suppose you have a value set of US state names. When this value set is used to validate a flexfield segment, and users can select a value for the segment, you can use value set security to restrict them to selecting only a certain state or subset of states based on their assigned roles in the application.

For example, Western-region employees may choose only California, Nevada, Oregon, and so on as valid values. They can't select non-Western-region states. Eastern-region employees may choose only New York, New Jersey, Virginia, and so on as valid values, but can't select non-Eastern-region states. Value set security is implemented using Oracle Fusion Cloud Applications data security.

How can I set a default value for a flexfield segment?

When you define or edit a flexfield segment, you pick a value from the assigned value set and set it as default.

You can set the default value for a descriptive flexfield segment to be a parameter. The mapped entity object attribute provides the initial default value for the segment.

You can set the default value to be a constant, if appropriate to the data type of the value set assigned to the segment.

In addition to an initial default value, you can set a derivation value for updating the attribute's value every time the parameter value changes. The parameter you select identifies the entity object source attribute. Any changes in the value of the source attribute during run time are reflected in the value of the segment.

If the display type of the segment is a check box, you can set whether the default value of the segment is checked or unchecked.

Related Topics

- Default Segment Values

Manage Descriptive Flexfields

Overview of Descriptive Flexfields

Use descriptive flexfields to add attributes to business object entities, and define validation for them. All the business object entities that you can use in the application are enabled for descriptive flexfields. However, configuring descriptive flexfields is an optional task. See the Overview of Descriptive Flexfields topic in *Configuring and Extending Applications* for more information.

Considerations for Planning Descriptive Flexfields

Once you have identified a flexfield to configure, plan the configuration. Make a list of UI pages and other artifacts that are affected by the configuration. Verify that you have the appropriate roles to view and configure the flexfields.

You can locate flexfields on a page using the **Settings and Actions** menu. Click your user image or name in the global header to open this menu, and select **Highlight Flexfields** to locate flexfields on a page. Once you have configured the flexfields, plan to deploy them for test and production users. Review the tools and tasks available for managing flexfields to add and edit flexfield segments.

Planning a descriptive flexfield can involve the following tasks:

1. Identify existing parameters.
2. Identify existing context values and whether the context value is derived.
3. Identify user-defined attributes and plan the descriptive flexfield segments, segment properties, and structure.
4. Plan validation rules.
5. Plan initial values.
6. Plan attribute mapping to Oracle Transactional Business Intelligence objects.

Identify Existing Descriptive Flexfield Parameters

Some descriptive flexfields provide parameters that can be used to specify the initial value of a descriptive flexfield segment. The parameter is external reference data, such as a column value or a session variable. For example, if a flexfield has a user email parameter, you can configure the initial value for a customer email attribute to be derived from that parameter.

Review the list of available parameters in the **Derivation Value** field in the Create Segment page for a descriptive flexfield. If you decide to use one of the parameters to set an initial value, select that parameter from the **Derivation Value** drop-down list when you add the descriptive flexfield segment.

Evaluate Whether the Context Value Is Derived

The context value for a descriptive flexfield might have been preconfigured to be derived from an external reference. For example, if the context is Marriage Status, then the value might be derived from an attribute in the employee business object. When the context value is derived, you might need to take the derived values and their source into consideration in your plan.

To determine whether the context value is derived, access the Edit Descriptive Flexfield task to view the list of configured context values for the flexfield. The Derivation Value field in the Context Segment region displays a list of available parameters. If context values have been preconfigured, see Oracle Fusion Cloud Applications Help for product-specific information about the use of those values.

Plan the Segments, Segment Properties, and Structure

Identify the user-defined attributes you need for a business object to determine the segments of the descriptive flexfield. Determine the segment properties such as the prompt, display type, or initial value.

The structure of the descriptive flexfield is determined by its global, context, and context-sensitive segments. Plan a global segment that captures an attribute for every instance of the business object. Plan a context for segments that depend on a condition of situation applying to a particular instance of the business object. Plan context-sensitive segments to capture attributes that are relevant in the context.

There's only one context segment available for descriptive flexfields. If you have more than one group of user-defined attributes where you could use the context segment, you will have to pick one group over the others, based on your company's needs and priorities, and add the other user-defined attributes as global segments.

Plan Validation Rules

Define each segment's validation rules and check if value sets exist for those rules or you must create new ones. If you must create a value set, you can create it either before configuring the flexfield or while creating or editing a segment.

When determining a segment's validation rules, consider the following questions:

- What is the data type - character, date, date and time, or number?
- Does the segment require any validation beyond data type and maximum length?
- Should a character type value be restricted to digits, or are alphabetic characters allowed?
- Should alphabetic characters automatically be changed to uppercase?
- Should numeric values be zero-filled?
- How many digits can follow the radix separator of a numeric value? In base ten numeric systems, the radix separator is decimal point.
- Does the value need to fall within a range?
- Should the value be selected from a list of valid values? If so, consider the following questions:
    - Can you use an existing application table from which to obtain the list of valid values, or do you need to create a list?
    - If you're using an existing table, do you need to limit the list of values using a WHERE clause?
    - Does the list of valid values depend on the value in another flexfield segment?
    - Is the list of valid values a subset of another flexfield segment's list of values?

Plan Initial Values

For every segment, list the constant value or SQL statement, if any, to use for the initial value of the user-defined attribute.

Plan How Segments Map to Oracle Transactional Business Intelligence Objects

You can extend descriptive flexfields into Oracle Transactional Business Intelligence (OTBI) for ad hoc reporting purposes. Determine the descriptive flexfield segments to be made available for reporting, and select the **BI Enabled** check box accordingly on the Manage Descriptive Flexfields page. You must run a process to extend the BI enabled segments into OTBI.

Depending on the reporting needs, you may map similar context-sensitive attributes from different contexts to the same attribute in OTBI. For example, there may be a segment tracking the Product Color attribute in different contexts of a context sensitive descriptive flexfield. You can use segment labels to map these context-sensitive attributes together by defining a segment label and updating the BI Label list accordingly.

Related Topics

- Flexfield Segment Properties
- Overview of Value Sets
- Considerations for Enabling Descriptive Flexfield Segments for Business Intelligence
- Default Segment Values
- Overview of Transactional Business Intelligence Configuration of Descriptive Flexfields

Considerations for Managing Descriptive Flexfields

Configuring descriptive flexfields involves managing the available flexfields registered with your Oracle Fusion Cloud Applications database and configuring their flexfield-level properties, defining and managing descriptive flexfield contexts, and configuring global and context-sensitive segments.

Every descriptive flexfield is registered to include a context segment, which you may choose to use or not.

In general, configuring descriptive flexfields involves:

1. Creating segment labels for business intelligence enabled flexfields.
2. Configuring global segments by providing identity information, the initial default value, and the display properties.
3. Configuring the context segment by specifying the prompt, whether the context segment should be displayed, and whether a value is required.
4. Configuring contexts by specifying a context code, description, and name for each context value, and adding its context-sensitive segments, each of which is configured to include identifying information, the column assignment, the initial default value, and the display properties.

The following aspects are important in understanding descriptive flexfield management:

- Segments
- Adding segments to highlighted descriptive flexfields
- Usages
- Parameters
- Delimiters
- Initial Values
- Business Intelligence

Segments

You can assign sequence order numbers to global segments and to context-sensitive segments in each context. Segment display is always in a fixed order. You can't enter a number for a segment if that number is already in use for a different segment.

Value sets are optional for context segments and follow specific guidelines:

- The value set that you specify for a context segment consists of a set of context codes.
- Each context code corresponds to a context that's appropriate for the descriptive flexfield.
- The value set must be independent or table-validated.
- If table-validated, the WHERE clause must not use the VALUESET.value_set_code or SEGMENT.segment_code bind variables.
- The value set must be of data type Character with the maximum length of values being stored no larger than the context's column length.
- If you don't specify a value set for a context segment, the valid values for that context segment are derived from the context codes. The definition of each context segment specifies the set of context-sensitive segments that can be presented when that context code is selected by the end user.
- For reasons of data integrity, you can't delete an existing context. Instead, you can disable the associated context value in its own value set by setting its end date to a date in the past.

- You can configure the individual global segments and context-sensitive segments in a descriptive flexfield. These segment types are differentiated by their usage, but they're configured on application pages that use most of the same properties.

Adding Segments to Highlighted Descriptive Flexfields

When you highlight flexfields on a run time page and use an **Add Segment** icon button to create a segment, the segment code, name, description, table column, and sequence number are set automatically. If you use an **Add Segment** icon button to configure descriptive flexfield segments, you can't use an existing value set. Value sets are created automatically when you add the segments. You can enter the valid values, their descriptions, and the default value or specify the formatting constraints for the value set, such as minimum and maximum values.

Depending on display type, the value set you create using the **Add Segment** icon button is either an independent value set or a format-only value set. The following table shows which type of value set is created depending on the segment display component you select.

Display Component	Value Set Created Using Add Segment
Check Box	Independent
Drop-down List	Independent
List of Values	Independent
Radio Button Group	Independent
Text Field With Search	Independent
Text box	Format Only
Text area	Format Only
Date/Time	Format Only

Tip: After you add a context value, refresh the page to see the new value.

Usages

Descriptive flexfield usages allow for the same definition to be applied to multiple entities or application tables, such as a USER table and a USER_HISTORY table. Descriptive flexfield tables define the placeholder entity where the flexfield segment values are stored once you have configured the descriptive flexfield. When you configure a flexfield, the configuration applies to all its usages.

Parameters

Some descriptive flexfields provide parameters, which are attributes of the same or related entity objects. Parameters are public arguments to a descriptive flexfield. Parameters provide outside values in descriptive flexfield validation. You use parameters to set the initial value or derivation value of an attribute from external reference data, such as a

column value or a session variable, rather than from user input. Parameters can be referenced by the logic that derives the default segment value, and by table-validated value set WHERE clauses.

Delimiters

A segment delimiter or separator visually separates segment values when the flexfield is displayed as a string of concatenated segments.

Initial Values

The SQL statement defining an initial value must be a valid statement that returns only one row and a value of the correct type.

You can use two types of SQL statements:

- SQL statement with no binding. For example, select MIN(SALARY) from EMPLOYEES.
- SQL statement with bind variables. You can use the `PARAMETER` bind variable in the WHERE clause of the SQL statement.
    - `:{PARAMETER.<parameter_code>}`: Identifies a parameter.

Business Intelligence

Selecting a global, context, or context-sensitive segment's BI Enabled check box specifies that the segment is available for use in Oracle Business Intelligence.

When the flexfield is imported into Oracle Business Intelligence, the label you selected from the BI Label drop-down list equalizes the segment with segments in other contexts, and maps the segment to the logical object represented by the label.

Related Topics

- Validation Type Options for Value Sets
- Default Segment Values
- Considerations for Enabling Descriptive Flexfield Segments for Business Intelligence
- Flexfield Segment Properties
- Why can't I edit my flexfield or value set configuration?

Edit Descriptive Flexfields

You can edit your descriptive flexfield by changing its values.

Here are the steps:

1. In the Setup and Maintenance work area, go to the **Manage Descriptive Flexfields** task in the Application Extensions functional area.
2. On the Manage Descriptive Flexfields page, use the text fields in the Search section to search for a descriptive flexfield.
3. Select a descriptive flexfield and click the **Edit** icon.
4. Edit the descriptive flexfield values and click **Save and Close**.

Related Topics

- How do I update existing setup data?

Validate Descriptive Flexfields

Before deploying your descriptive flexfields, you can validate their values to identify and fix errors in advance.

Here are the steps:

1. In the Setup and Maintenance work area, go to the **Manage Descriptive Flexfields** task in the Application Extensions functional area.
2. On the Manage Descriptive Flexfields page, use the text fields in the Search section to search for a descriptive flexfield.
3. Select the descriptive flexfield and click **Actions Validate Flexfield**.
4. In the confirmation dialog box, click **OK**.

Related Topics

- How do I update existing setup data?

Deploy Descriptive Flexfields

After editing the descriptive flexfield, you can deploy your changes. After you deploy the flexfield, you can view your changes in the UI.

To deploy the descriptive flexfield, do these steps:

1. In the Setup and Maintenance work area, go to the **Manage Descriptive Flexfields** task in the Application Extensions functional area.
2. On the Manage Descriptive Flexfields page, use the text fields in the Search section to search for a descriptive flexfield.
3. Select the descriptive flexfield and click **Actions Deploy Flexfield**.
4. In the confirmation dialog box, click **OK**.

Related Topics

- How do I update existing setup data?

Manage Global Segments

Global segments are those segments in a descriptive flexfield that are available throughout the enterprise. These segments always appear regardless of the context. You can create, edit, and delete global segments for a descriptive flexfield.

Note: Once you delete a segment, you can never recover it. So, you should delete only unwanted segments.

Create Global Segments

1. In the Setup and Maintenance work area, go to the **Manage Descriptive Flexfields** task in the Application Extensions functional area.
2. On the Manage Descriptive Flexfields page, use the text fields in the Search section to search for a descriptive flexfield.
3. Select the descriptive flexfield and click the **Edit** icon.
4. On the Edit Descriptive Flexfield page, click the **Create** icon in the Global Segments section.
5. On the Create Segment page, enter the values for the segment.
6. Click **Save and Close**.

Edit Global Segments

1. In the Setup and Maintenance work area, go to the **Manage Descriptive Flexfields** task in the Application Extensions functional area.
2. On the Manage Descriptive Flexfields page, use the text fields in the Search section to search for a descriptive flexfield.
3. Select the descriptive flexfield and click the **Edit** icon.
4. On the Edit Descriptive Flexfield page, select a segment and click the **Edit** icon in the Global Segments section.
5. On the Edit Segment page, edit the segment values.
6. Click **Save and Close**.

Delete Global Segments

1. In the Setup and Maintenance work area, go to the **Manage Descriptive Flexfields** task in the Application Extensions functional area.
2. On the Manage Descriptive Flexfields page, use the Search text field to search for a descriptive flexfield.
3. Select the descriptive flexfield and click the **Edit** icon.
4. On the Edit Descriptive Flexfield page, select a segment and click the **Delete** icon in the Global segments section.
5. In the confirmation dialog box, click **Yes**.

Related Topics

- How do I update existing setup data?

Manage Contexts

A descriptive flexfield may have a context segment to provide context sensitivity. You can create, edit, and delete context segments for a descriptive flexfield.

Create Context

1. In the Setup and Maintenance work area, go to the **Manage Descriptive Flexfields** task in the Application Extensions functional area.
2. On the Manage Descriptive Flexfields page, use the text fields in the Search section to search for a descriptive flexfield.
3. Select the descriptive flexfield and click the Edit icon.
4. On the Edit Descriptive Flexfield page, click **Manage Contexts**.
5. On the Manage Contexts page, click the **Create** icon.
6. On the Create Context page, enter the values for the context.
7. Click **Save and Close**.

Edit Context

1. In the Setup and Maintenance work area, go to the **Manage Descriptive Flexfields** task in the Application Extensions functional area.
2. On the Manage Descriptive Flexfields page, use the text fields in the Search section to search for a descriptive flexfield.
3. Select the descriptive flexfield and click the **Edit** icon.

4. On the Edit Descriptive Flexfield page, click **Manage Contexts**.
5. On the Manage Contexts page, use the Search text field to search for a context.
6. Select the context and click the **Edit** icon.
7. On the Edit Context page, edit the values for the context.
8. Click **Save and Close**.

Delete Context

You can delete unwanted contexts, but once you delete a context, you can never recover it. So, before you delete, be sure that you don't need it anymore.

1. In the Setup and Maintenance work area, go to the **Manage Descriptive Flexfields** task in the Application Extensions functional area.
2. On the Manage Descriptive Flexfields page, use the text fields in the Search section to search for a descriptive flexfield.
3. Select the descriptive flexfield and click the **Edit** icon.
4. On the Edit Descriptive Flexfield page, click **Manage Contexts**.
5. On the Manage Contexts page, use the Search text field to search for a context.
6. Select the context and click the **Delete** icon.
7. In the confirmation dialog box, click **Yes**.

Related Topics

- How do I update existing setup data?

Manage Context-Sensitive Segments

A context-sensitive segment is available based on the context value. Once you define the context value, you can create a context-sensitive segment for the defined context value. You can also edit and delete a context-sensitive segment.

Create Context-Sensitive Segment

1. In the Setup and Maintenance work area, go to the **Manage Descriptive Flexfields** task in the Application Extensions functional area.
2. On the Manage Descriptive Flexfields page, use the text fields in the Search section to search for a descriptive flexfield.
3. Select the descriptive flexfield and click the **Edit** icon.
4. In the Context Sensitive Segments section, select the context from the **Context** list.
5. Click the **Create** icon.
6. On the Create Segment page, enter the values for the segment.
7. Click **Save and Close**.

Edit Context-Sensitive Segment

1. In the Setup and Maintenance work area, go to the **Manage Descriptive Flexfields** task in the Application Extensions functional area.
2. On the Manage Descriptive Flexfields page, use the text fields in the Search section to search for a descriptive flexfield.
3. Select a descriptive flexfield and click the **Edit** icon.
4. On the Edit Descriptive Flexfield page, select a segment and click the **Edit** icon under the Context-Sensitive Segments section.

5. On the Edit Segment page, edit the segment values.
6. Click **Save and Close**.

Related Topics

- How do I update existing setup data?

Configure Descriptive Flexfield Segments for a Lookup Type

Depending on the configuration level of a lookup type, you can configure the lookup codes or their meanings.

To capture more information for the lookup type, you can also configure the descriptive flexfield segments for the lookup type. For example, let's configure the descriptive flexfield segments for the US_STATE lookup type. Here are the tasks we need to do:

- Create the US_STATE context code
- Create the context-sensitive segments
- Deploy the changes
- Add a context segment value for the lookup type

Create the US_STATE Context Code

1. In the Setup and Maintenance work area, go to the **Manage Descriptive Flexfields** task in the Application Extensions functional area.
2. On the Manage Descriptive Flexfield page, use the Search text field to search for FND_LOOKUP_VALUES_B descriptive flexfield.
3. Select the descriptive flexfield and click the **Edit** icon.
4. On the Edit Descriptive Flexfield page, go to the Context Segment section and specify these values:

Field	Value
Default Type	Parameter
Default Value	LookupType
Derivation Value	LookupType
Display Type	List of Values

5. Click **Manage Contexts**.
6. On the Manage Contexts page, go to the Search Results section and click the **Create** icon.
7. On the Create Context page, enter the context code as **US_STATE**.
8. Click **Save and Close**.

Create the Context Sensitive Segments

1. On the Manage Contexts page, go to the Search Results section and select the **US_STATE** context code.
2. Click the **Edit** icon.

3. On the Edit Context page, go to the Context Sensitive Segments section and click the **Create** icon.
4. On the Create Segment page, specify these values:

Field	Value
Code	Capital
Data type	Character
Value Set	GL_100_CHARACTERS
Default Type	Parameter
Default Value	LookupType
Derivation Value	LookupType
Display Type	List of Values

5. Click **Save and Close**.
6. On the Manage Contexts page, click **Save and Close**.
7. On the Edit Descriptive Flexfield page, click **Save and Close**.

Deploy the Changes

1. On the Manage Descriptive Flexfield page, click **Deploy Flexfield** to deploy the changes made in the FND_LOOKUP_VALUES_B descriptive flexfield.
2. In the confirmation window, click **OK**.
3. Sign out and sign back in to see the changes.

Add a Context Segment Value for the Existing Lookup Type

After you add a new lookup code for the US_STATE lookup type, the context segment appears for the new lookup code. You can add value to the context segment.

1. In the Setup and Maintenance work area, go to the **Manage Common Lookups** task in the Application Extensions functional area.
2. On the Manage Common Lookups page, use the Search text field to search for the US_STATE lookup type.
3. Select the **US_STATE** lookup type.
4. Go to the Lookup Codes section and click the **New** icon.
5. In the **Lookup Code** field, enter **AZ**.
6. In the **Meaning** field, enter the meaning of the lookup code as **Arizona**.
7. Click **Save**.
8. Click the **Expand** icon to the left of the newly added lookup code.
9. In the **Capital** field, enter **Phoenix**.

10. Click **Save and Close**.

Considerations for Enabling Descriptive Flexfield Segments for Business Intelligence

A descriptive flexfield that's registered in the database as enabled for Oracle Transactional Business Intelligence (OTBI) includes a BI-enabled setting for each of its segments. When a global, context, or context-sensitive segment is BI-enabled, it's available for use in Oracle BI.

The following aspects are important in understanding BI-enabled flexfield segments:

- Flattening business components to use BI-enabled segments in Oracle BI
- Equalizing segments to prevent duplication and complexity in the flattened component
- Mapping attributes of flattened business components to logical objects in Oracle BI
- Managing the labels that map segments to logical objects in Oracle BI

After you deploy a business intelligence-enabled flexfield, use the Import Oracle Data Extensions for Oracle Transactional Business Intelligence process to import the flexfield changes into the Oracle Transactional Business Intelligence repository. Users can make use of the newly-generated attributes in business intelligence applications. For example, a user can generate a report that includes attributes added by the descriptive flexfield. For information about logical objects and import, see the Creating and Administering Analytics and Reports guide for your products.

Flattening

When you deploy a BI-enabled descriptive flexfield, the deployment process generates an additional set of flattened Application Development Framework (ADF) business components. The ADF business component is generated in addition to the usual ADF business components and the ADF faces artifacts. The flattened business components include attributes for BI-enabled segments only. Flattening means each user-defined column in each context shows up as an attribute in the Oracle Business Intelligence folder.

Flattened components include one attribute for the BI-enabled context-segment, and one attribute for each business intelligence-enabled global segment. For BI-enabled context-sensitive segments, what's included as part of the flattened components depend on whether you assign a label to the segment or not:

- If you assigned a label to the segment, the flattened components include an additional single attribute representing segments with that label.
- If you didn't assign a label, the flattened components include a discrete attribute for each BI-enabled context-sensitive segment in each context.

Mapping to Logical Objects in Business Intelligence

You can simplify reporting by representing similar segments as a single logical object in Business Intelligence.

If you assign a label to any set of context-sensitive segments that serve the same purpose in different contexts, you can consolidate or equalize the segments into a single attribute. This prevents duplication and the extra workload and complexity that result from the flattening process. For example, a United States context might have a Passport segment and a Canada context might have Visa segment. If you assign the NationalID segment label to both the Passport and Visa segments, they're equalized into the same NationalID attribute in the flattened business component.

Non-labeled context-sensitive segments aren't equalized across context values, so the flattened components include a separate attribute for each context-sensitive segment for each context value. It may not be possible to equalize similarly labeled segments if they have incompatible data types or value set types.

Assign a label to a global segment, context segment, or context-sensitive segment to map the corresponding attribute in the flattened components to a logical object in Oracle Business Intelligence. Using labels to map segments to BI logical objects minimizes the steps for importing the flexfield into Oracle Business Intelligence.

Note: Assigning a label to a context-sensitive segment serves to equalize the attribute across contexts, as well as map the equalized attribute to business intelligence.

Managing Labels

You may assign a predefined label (if available) to segments or create new labels for assignment, as needed. Specify a code, name, and description to identify each label. In the BI Object Name field, enter the name of the logical object in Oracle Business Intelligence to which the segment label should map during import. Specifying the BI logical object minimizes the steps for importing the flexfield into Oracle Business Intelligence and helps to equalize context-sensitive segments across contexts.

If no labels are assigned to a BI-enabled segment, or the BI Object Name on the assigned label doesn't exist in business intelligence, you must manually map the segment to the desired logical object when importing into Oracle Business Intelligence.

In addition, context-sensitive segments without labels can't be equalized across context values. The flattened components include a separate attribute for each non-labeled context-sensitive segment in each context.

Importing to Oracle Business Intelligence Repository

After you deploy a business intelligence-enabled flexfield, import the flexfield changes into the Oracle Business Intelligence repository to make use of the newly flattened business components in business intelligence and then propagate the flexfield object changes. When you import the metadata into the Oracle Business Intelligence repository, you must do so as the FUSION_APPS_BI_APPID user.

To import flexfield changes into the Oracle Transactional Business Intelligence repository in Oracle Cloud implementations, run the Import Oracle Data Extensions for Oracle Transactional Business Intelligence process. For information about logical objects and import, see the Creating and Administering Analytics and Reports guide for your products.

Note: When you import a flexfield into the Oracle Transactional Business Intelligence repository, you see both `<name>_` and `<name>_c` attributes for each segment, along with some other optional attributes. The `<name>` attribute contains the value. The `<name>_c` attribute contains the code of the value set that the value comes from, and is used for linking to the value dimension. You must import both attributes.

Related Topics

- Considerations for Enabling Key Flexfield Segments for Business Intelligence
- Overview of Transactional Business Intelligence Configuration of Descriptive Flexfields
- Overview of Flexfield Change Import

File Format for Importing Descriptive Flexfields

You can import descriptive flexfields to your application by creating separate text files containing contexts and segments. You can then upload these files to the Oracle WebCenter Content document repository.

Here are a few things that you need to keep in mind while creating these files:

- Use a vertical bar or pipe (|) as a delimiter between fields for both the header and the value rows.
- According to the Oracle WebCenter Content specification, set the file encoding to UTF-8 without the Byte Order Mark (BOM).

- Make sure the first line in the file is a header line, and the files look exactly the same as shown in the sample file.

The following sections contain specific details about each file format.

Context

To create a file containing the contexts, include the headers specified in this table:

Header	Data Type	Data Size	Description	Required or Optional
`ApplicationId`	Long	-	This value determines the application your flexfield and context belong to.	Required
`DFFCode`	String	40	This value is the code of the descriptive flexfield where you're adding your context. The value should match the code of a descriptive flexfield that's already in the application.	Required
`ContextCode`	String	80	This value is the code for your context.	Required
`Name`	String	80	This value determines the display name of your context.	Required
`EnabledFlag`	String	1	This value lets you enable or disable your context: • Y: Enable context • N: Disable context	Required
`Description`	String	240	This value describes your context.	Optional
`ContextIdentifier`	String	30	This value determines the API name for your context. While naming APIs, follow the naming conventions.	Optional

Here's a sample file for contexts. You can see the header values at the beginning of the file, followed by the line entries of the two value set codes to be imported. For importing several contexts, add more entries in the same format.

```
ApplicationId|DFFCode|ContextCode|Name|EnabledFlag|Description
0|TEST_DEPLOY_DFF1|LOADER_Con1|Loader con Name|Y|Description
```

Segment Label

To create a file containing context segments, include the headers specified in this table:

Header	Data Type	Data Size	Description	Required or Optional
ApplicationId	Long	-	This value determines the application your flexfield, context, and segment belong to.	Required
DFFCode	String	40	This value is the code of the descriptive flexfield where you're adding your segment. The value should match the code of a descriptive flexfield that's already in the application.	Required
SegmentLabelCode	String	30	This value is the code for your segment.	Required
Name	String	80	This value is the name of your segment.	Required
Description	String	240	This value describes your segment.	Optional
BIObjectName	String	128	This value provides the name for the BI-enabled segment.	Optional

Here's a sample file for the segment label. You can see the header values at the beginning of the file, followed by the line entries of the two value set codes to be imported. For importing several segment labels, add more entries in the same format.

```
ApplicationId|DFFCode|SegmentLabelCode|Name|Description|BIObjectName
0|FLEX_DFF1|Label Code 1|Label name 1|Description 1| BIObJ1
```

Segment

To create a file containing context segments, include the headers specified in this table:

Header	Data Type	Data Size	Description	Required or Optional
ApplicationId	Long	-	This value determines the application your flexfield, context, and segment belong to.	Required
DFFCode	String	40	This value is the code of the descriptive flexfield where you're adding your segment. The value should match the code of a descriptive flexfield that's already in the application.	Required

Header	Data Type	Data Size	Description	Required or Optional
`ContextCode`	String	80	This value is the code for the context where you're adding your segment. The value should match a context code that's in the application. For Global Segments, use the value for the field as Global Data Elements.	Required
`SegmentCode`	String	30	This value is the code for your segment.	Required
`Name`	String	60	This value is the name of your segment.	Required
`ColumnName`	String	30	This value determines the table column that your segment uses to save data. The value must match a column that's in the application.	Required
`ValueSetCode`	String	60	This value is the code for the value set you want to use in your segment. The value must match a value set code in the application.	Required
`DisplayType`	String	30	This value determines the display type of the segment. Here are the valid values for this attribute: • `INPUT_SEARCH` • `TEXT_BOX` • `TEXT_AREA` • `HIDDEN,LOV` • `POP_UP_LIST` • `DROP_DOWN_LIST` • `RADIO_BUTTON_GROUP` • `CHECKBOX` • `DATE_TIME`	Required
`Prompt`	String	80	This value determines the display name of the segment.	Required

Header	Data Type	Data Size	Description	Required or Optional
`ShortPrompt`	String	80	This value determines the shortened display name of the segment.	Required
`EnabledFlag`	String	1	This value lets you enable or disable your segment: • Y: Enable segment • N: Disable Segment	Required
`RequiredFlag`	String	1	This value indicates whether you must specify the segment: • Y: You must specify the segment. • N: You may not specify the segment.	Required
`ReadOnlyFlag`	String	1	This value lets you set your segment to be read-only: • Y: The segment is set to read-only. • N: The segment isn't set to read-only.	Required
`Description`	String	240	This value describes your segment.	Optional
`UOMclass`	String	20	This value specifies the unit for the data that you add to your segment.	Optional
`TerminologyHelpText`	String	80	This value describes the segment.	Optional
`InFieldHelpText`	String	160	This value provides instructions on how to use the segment.	Optional
`SequenceNumber`	Integer	-	This value specifies the order in which your segments display in your context.	Optional
`DefaultType`	String	30	This value specifies the type of default value for your segment. Here are the types of default values: • `CONSTANT`	Optional

Header	Data Type	Data Size	Description	Required or Optional
			• SQL • GROOVY_EXPRESSION	
DefaultValue	String	4000	This value provides the default values for your segment.	Optional
DisplayWidth	Integer	-	This value specifies the maximum number of characters that can display in a line.	Optional
DisplayHeight	Integer	-	This value specifies the maximum number of lines that can display in the segment.	Optional
RangeType	String	30	This value specifies the range of values for the low-end and high-end fields. You can set the respective field value as LOW or HIGH.	Optional
BIEnabledFlag	String	1	This value indicates whether your segment is BI enabled: • Y: Your segment is BI enabled. • N: Your segment isn't BI enabled.	Optional
SegmentIdentifier	String	30	This value determines the API name for your segment. While naming APIs, follow the naming conventions.	Optional

Here's a sample file for a segment. You can see the header values at the beginning of the file, followed by the line entries of the two value set codes to be imported. For importing several segment labels, add more entries in the same format.

```
ApplicationId|DFFCode|ContextCode|SegmentCode|Name|ColumnName|ValueSetCode|DisplayType|Prompt|ShortPrompt|
EnabledFlag|RequiredFlag|ReadOnlyFlag|Description|UomClass|BIEnabledFlag|BIEqualizationTag
0|FLEX_DFF1|Global Data Elements|SWAMY_TEST_GSEG1|Global seg 1|ATTRIBUTE10_VARCHAR2|EFF_BASIC_FMT_CHR|
TEXT_BOX|Prompt|Short Prompt|Y|N|N|TEST desc aug LABEL TAG 1NOV LOAD && ||Y|LabelC1
```

Related Topics

- Overview of Files for Import and Export
- Overview of Descriptive Flexfields
- Naming Conventions for Flexfield APIs

Enable Auditing for Descriptive Flexfields

You can enable auditing for your descriptive flexfield to keep a track of all the changes made on various objects and attributes in the application.

1. In the Setup and Maintenance work area, go to the **Manage Audit Policies** task.
2. Go to the Oracle Fusion Applications section and click **Configure Business Object Attributes**.
3. Click **Product** and select the product area for which you want to enable audit. The business objects associated with that product appear in the Objects section.
4. Click the check boxes next to the listed business objects to select them. If the selected object has attributes, they appear in the Audited Attributes area.
5. Click the **Add** icon to add attributes from the Select and Add Audit Attributes page.
6. On the Select and Add Audit Attributes page, click the Flexfields (Additional Attributes) check box to add the flexfields attribute.
7. Click **OK**.
8. Click **Save and Close**. You return to the Manage Audit Policies page.
9. In the Oracle Fusion Applications section, select **Auditing** from the **Audit Level** drop-down. This setting enables auditing for descriptive flexfields.
10. Click **Save and Close**.

Manage Extensible Flexfields

Overview of Extensible Flexfields

Extensible flexfields are like descriptive flexfields, with some additional features.

- You can add as many context-sensitive segments to the flexfield as you need. You aren't restricted by the number of columns predefined and registered for the flexfield.
- You can configure a one-to-many relationship between the entity and its extended attribute rows.
    - A row of data can have multiple contexts associated with it.
    - A row of data can have multiple occurrences of the same context.
- You can configure attributes in groups to form a context so that the attributes in the context always appear together in the user interface.
- You can use existing hierarchical categories so that entities inherit the contexts that are configured for their parents. Contexts are reusable throughout categories.
- Application development has registered some extensible flexfields to support view and edit privileges. For such flexfields, you can specify view and edit privileges at the context level to control who sees the attributes and who can change the attributes' values.

When you configure a context for multiple rows per entity, the segments are displayed as a table.

Unlike descriptive flexfields, the extension columns corresponding to extensible flexfields segments are part of extension tables, separate from the base application table. Unlike descriptive flexfield contexts, the set of attributes in an extensible flexfield context remains constant and doesn't differ by context value. An extensible flexfield describes an application entity, with the run time ability to expand the database that implementation consultants can use to define the data structure that appears in the application. Extensible flexfields support one-to-many relationships between

the entity and the extended attribute rows. To get a list of predefined extensible flexfields, use the Manage Extensible Flexfields task in the Setup and Maintenance work area.

The following aspects are important in understanding extensible flexfields:

- Usages
- Categories
- Pages
- Security
- Protected Extensible Flexfield Data

Usages

Similar to the descriptive flexfields, you can define multiple usages for an extensible flexfield, which enables several application tables to share the same flexfield.

For example, a flexfield for shipping options can be used by both a Supplier table and a Buyer table. In addition, you can associate a context with one, some, or all of the flexfield's usages. Thus, with the shipping information example, you can associate a warehouse context with the Supplier usage, a delivery location context with the Buyer usage, and a ship-via context with all usages.

Usages include security information for applying no security to user access or enforcing view and edit privileges. Some product-specific extensible flexfields have specialized usage fields beyond those for security.

Categories

You can configure multiple extensible flexfield contexts and group the contexts into categories. All extensible flexfields have at least one category. For some extensible flexfields, you can configure a hierarchy of categories. A child category in the hierarchy can inherit contexts from its parent category.

You can define categories for extensible flexfields, and you can associate any combination of contexts with a given category.

For example, the Electronics and Computers category hierarchy might include a Home Entertainment category, which in turn might include an Audio category and a TV category, and so on. The Home Entertainment product might have contexts that specify voltage, dimensions, inputs and outputs. Contexts are reusable within a given extensible flexfield. For example, the dimensions context could be assigned to any category that needs to include dimensional information.

Pages

Extensible flexfields let you combine contexts into groups known as pages, which serve to connect the contexts so they will always be presented together in the application user interface.

Each application page corresponds to one extensible flexfield category, with a separate region of the page for each associated context.

Security

When you configure a flexfield, you set the privileges for a context at the usage level by selecting actions for the view and edit privileges of a context usage.

When an end user performs a search, the user interface displays only the attribute values of the contexts for which the user has view privileges. The user can perform a search using all attributes for all contexts, regardless of view privileges.

If end users access a context through a web service, an exception is thrown if they perform an action for which they don't have privileges.

All extensible flexfields have a base data security resource. Some data security resources for extensible flexfields are preconfigured with actions that you can use to specify access privileges. If no action is preconfigured, a security administrator can create actions and policies to support access control on the extensible flexfield attributes.

Some extensible flexfields have a translatable option; these flexfields also have a translation data security resource.

Protected Extensible Flexfield Data

Application developers may mark some data configurations in an extensible flexfield as protected, indicating that you can't edit them.

If an extensible flexfield is partially protected, then you can't edit the protected portions of the flexfield's configuration. For example:

- If an extensible flexfield context is protected, you can't edit its:
  - Context details
  - Context segments
  - Context usages
- If an extensible flexfield page is protected, you can't:
  - Edit the page details or delete the page
  - Edit the contexts associated with the page

Note:

- There's no restriction on page references to protected contexts. The pages you create may contain any context, whether protected or not.
- There's a restriction on category references to protected contexts. If a context is protected, you can't add it to or delete it from any category.

Related Topics

- Overview of Flexfield Deployment
- Considerations for Managing Flexfields
- Considerations for Managing Extensible Flexfields
- How can I access predefined flexfields?
- How do I update existing setup data?

Considerations for Planning Extensible Flexfields

Once you have identified a flexfield, plan the configuration. Make a list of the UI pages and other artifacts that are affected by the configuration. Verify that you have the appropriate roles to view and configure the flexfields.

You can locate flexfields on a page using the **Settings and Actions** menu. Click your user image or name in the global header to open this menu, and select **Highlight Flexfields** to locate flexfields on a page. After you configure

the flexfields, plan to deploy them for test and production users. Review the tools and tasks available for managing flexfields to add and edit flexfield segments.

Planning an extensible flexfield involves:

1. Identifying the following:
    - A hierarchical structure of categories
    - Existing context values
    - User-defined attributes, the relevant extensible flexfield segments, segment properties, and the structure
2. Planning the following:
    - Validation rules
    - Initial values
    - Security
    - Attribute mapping to Oracle Business Intelligence objects.

Category Hierarchy Structure

Existing category hierarchy structures provide the framework for planning what segments to add to an extensible flexfield as user-defined attributes of an entity. Some applications provide user interfaces to create and manage an extensible flexfield's category hierarchy.

Contexts and Existing Context Values

If related attributes can be grouped together, plan adding the attributes as a context of segments, and plan the order in which the attributes should appear. Some extensible flexfields have preconfigured context values. Region headers displayed in the user interface page or pages that contain the flexfield segments identify existing contexts. Using the Manage Extensible Flexfields task, find and open the flexfield for editing to view the list of configured context values.

See product-specific information for guidance in using preconfigured context values.

Plan the Segments and Segment Properties

List all the user-defined attributes that you want to add as extensible flexfield segments. For each segment, define properties, including the indexed property.

Plan Validation Rules

Define each segment's validation rules and check if value sets exist for those rules or you must create. If you must create a value set, you can create it either before you configure the flexfield or at the same time that you create or edit a segment.

When determining a segment's validation rules, consider the following questions:

- What is the data type: character, date, date and time, or number?
- Does the segment require any validation beyond data type and maximum length?
- Should a character type value be restricted to digits, or are alphabetic characters permitted?
- Should alphabetic characters automatically be changed to uppercase?
- Should numeric values be zero-filled?

- How many digits can follow the radix separator of a numeric value? In base ten numeric systems, the radix separator is a decimal point.
- Should the value be within a range?
- Should the value be selected from a list of valid values? If yes, consider the following questions:
    - Can you use an existing application table from which to obtain the list of valid values, or do you have to create a list?
    - If you're using an existing table, do you have to limit the list of values using a WHERE clause?
    - Does the list of valid values depend on the value in another flexfield segment?
    - Is the list of valid values a subset of another flexfield segment's list of values?

Plan Initial Values

For every segment, list the constant value or SQL statement, if any, to use for the initial value of the user-defined attribute.

Plan Security

Determine what privileges to set for view and edit access to context attributes, such as providing all users with view access but only managers with edit access.

If your security restrictions apply to several contexts, you can create generic actions. At a minimum, create the generic actions for the base data security resource. If the flexfield has a translatable option and you plan to use translatable contexts, then also create the generic actions for the translation data security resource. For example, the Item flexfield supports the translatable option and has a data security resource ITEM_EFF_VL in addition to the base data security resource ITEM_EFF_B. Then, create actions for both data security resources, such as EDIT_NONTRANS_ATTRS for ITEM_EFF_B and EDIT_TRANS_ATTRS for ITEM_EFF_VL.

If your security restrictions are more fine-grained, such as having to secure each context with a different privilege, then you can create more fine-grained actions.

Plan Which Segments Map to Oracle Business Intelligence Objects

If an extensible flexfield has been enabled for Oracle Business Intelligence, you can make the attributes available for use in Oracle Business Intelligence Applications.

Related Topics

- Considerations for Managing Extensible Flexfields
- Flexfield Segment Properties

Considerations for Managing Extensible Flexfields

Configuring extensible flexfields involves managing the available flexfields registered with your application database.

The following sequence describes how to configure extensible flexfields:

1. Configuring contexts by creating each context segment and the context-sensitive segments for each context segment, and providing the following for each segments:
    a. Identifying information
    b. Column assignment
    c. Initial default value

    d. Display properties
2. Configuring context usages and usage security by selecting actions to which users should have access:
    - View
    - Edit
    - None, if no special privileges should be enforced.
3. Configuring categories and category details.
4. Associating contexts with a category.
5. Creating logical pages for a category.

The following aspects are important in understanding extensible flexfield management:

- Contexts and pages
- Categories
- Initial values
- Adding segments to highlighted extensible flexfields
- Indexed segments
- Security
- Deployment

Contexts and Pages

Each context is displayed to end users as a region containing its context-sensitive segments. You can specify instruction help text to display instructions that explain how to use the region and its attributes to end users. Instruction help text is displayed at the beginning of the context region. A context can be defined as single row or multi-row. Single row contexts are the same as descriptive flexfields contexts. A single row context has only one set of context-sensitive segments. A multi-row context enables you to associate multiple sets of values with the same object instance.

For example, for a BOOK table, you could create a multi-row context named chapters that contains a segment for chapter and a segment for number of pages. Multiple chapters can then be associated with each book in the BOOK table.

For contexts that store multiple rows, you can uniquely identify each row by having the values in each row form a unique key.

If flexfield has a category hierarchy, then you can leverage the hierarchy to reuse contexts for similar entities, such as similar items in a product catalog.

Set the context to translatable so that free-form text entered by end users is stored in the language of the user's locale, and different translations of that text can be stored in other languages. Segments in the translated contexts should use format-only value sets for storing free-form, user-entered text.

Set the context security to give an end user view or edit access to a context. The context's task flow and region appear in the user interface only for users with view access. With edit access, an end user can edit the context's attribute values. With no action specified for a usage, no special privileges are enforced through the context's configuration.

Define logical pages to group contexts together in the user interface. For a given category, you may create one or more logical pages. You may add one or more of the category's associated contexts to each of the category's logical pages.

You can specify:

- The sequence of the contexts within each page.

- The sequence in which the logical pages appear.
- Instruction help text to display instructions that explain how to use the page to end users. Instruction help text is displayed at the beginning of the logical page, preceding all of its context regions.

Categories

A category is a grouping of related data items that can be considered to belong together. You can associate any combination of contexts with a given category. Extensible flexfields with more than 30 categories must be deployed as a background process.

A category hierarchy logically organizes a set of categories. For example, the Electronics and Computers category hierarchy might include a Computer category and a Home Entertainment category, which in turn might include an Audio category and a TV category, and so on.

A category can be a child or sibling of an existing category. The hierarchy can be as simple or as complex as desired, with any combination of zero or more sibling categories and zero or more child categories. If no category is defined, the data items are grouped in a single predefined default category.

Each category has associated contexts that store relevant information about a data item in that category. For example, a Home Entertainment product has contexts that specify Voltage, Dimensions, Inputs and Outputs. Contexts are reusable within a given extensible flexfield. Then, the Dimensions context could be assigned to any category that needs to include dimensional information.

If a hierarchy includes child categories, each child category inherits the contexts from its parent category; for example, the Home Entertainment category inherits Voltage and Dimensions from the Electronics and Computers category.

Each extensible flexfield is associated with a particular category hierarchy. Consider category hierarchies to be defining framework for extensible flexfields and their contexts. A category hierarchy specifies which contexts are valid for each category.

An extensible flexfield can include multiple contexts which you define to support a given category. These contexts can be suitable for various purposes, but within a particular category, some contexts might be considered to be related to, or dependent on, each other. You can combine these contexts into groups known as logical pages, and determine the sequence in which the pages appear. This serves to connect the contexts so they will always be presented together and in a particular order in the application user interface.

For example, the Home Entertainment category might have an Electrical Specifications page that contains the Voltage, Inputs and Outputs contexts, and a Physical Specifications page that contains the Dimensions and Form Factor contexts.

Initial Values

The SQL statement defining an initial value must be a valid statement that returns only one row and a value of the correct type.

You can use two types of SQL statements:

- SQL statement with no binding. For example, select MIN(SALARY) from EMPLOYEES.
- SQL statement with bind variables. You can use these bind variables in the WHERE clause of the SQL statement.
    - `:{SEGMENT.<segment_code>}`: Identifies a segment in the same context.
    - `:{PARAMETER.<parameter_code>}`: Identifies a parameter.
    - `:{CONTEXT.<context_code>;SEGMENT.<segment_code>}`: Identifies a segment in a different context. The context must be in the same category or in an ancestor category, and it can't be a multiple-row context.

- `:{VALUESET.<value_set_code>}`: Identifies the closest prior segment in the same context that's assigned to the specified value set.
- `:{FLEXFIELD.<internal_code>}`: Identifies a flexfield.

Adding Segments to Highlighted Extensible Flexfields

When you highlight flexfields on a run time page and use an **Add Segment** icon button to create a segment, the segment code, name, description, table column, and sequence number are set automatically. If you use an **Add Segment** icon button to configure extensible flexfield segments, you can't use an existing value set. Value sets are created automatically when you add segments. You can enter the valid values, their descriptions, and the default value or specify the formatting constraints for the value set, such as minimum and maximum values.

Depending on display type, the value set you create with the **Add Segment** icon button is either an independent value set or a format-only value set. The following table shows which type of value set is created depending on the segment display component you select.

Display Component	Value Set Created Using Add Segment
Check Box	Independent
Drop-down List	Independent
List of Values	Independent
Radio Button Group	Independent
Text Field With Search	Independent
Text box	Format Only
Text area	Format Only
Rich Text Editor	Format Only
Date/Time	Format Only

Tip: After you add a context value, refresh the page to see the new value.

Indexed Segments

You can designate an extensible flexfield segment as indexed so that it's one of the selectively required attributes a user can use in an attribute search. If you indicate in the Manage Extensible Flexfield UI page that a segment should be indexed, the column representing the segment must be added to the database index. Commonly, a database administrator (DBA) adds columns to the database index.

When an extensible flexfield with indexed segments is deployed, search task flows are generated along with the other flexfield artifacts and specify the indexed attributes as selectively required. In the deployed extensible flexfield's search

task flow, an end user must specify at least one of the indexed attributes in the search criteria. This prevents non-selective searches, which could cause performance issues.

For example, if you index the memory and processor attributes and ensure that the corresponding columns in the database are indexed, a user can search an item catalog for computers by entering processor or memory or both as a search criteria. No search is performed if an end user enters an attribute that isn't indexed as a search criterion.

Security

An extensible flexfield's base data security resource typically has a name with an _B suffix. The translation data security resource is a view of a translation table that typically has a name with an _VL suffix.

If a flexfield supports the translatable option and has a translation data security resource, make sure that you create the action for the appropriate data security resource.

- If you create a context-specific action for a nontranslatable context, add it to the base data security resource.
- If you create a context-specific action for a translatable context, add it to the translation data security resource.

Deployment

You can only deploy extensible flexfields using the Manage Extensible Flexfields task. You can deploy extensible flexfields offline as a background process and continue working in the session without having to wait for the deployment to complete. You can queue up several extensible flexfields and deploy as a background process. The flexfields are deployed, one at a time, in the order that you deploy them to the queue. You must deploy extensible flexfields with more than 30 categories as a background process.

You can remove an extensible flexfield from the deployment queue with the Cancel Background Deployment command. When an extensible flexfield is deployed in a background process, its offline status indicates that the flexfield is in a background deployment process. A flexfield's offline status is cleared and it's deployment status updated when the background deployment process has completed.

Note: The **Offline Status** column refreshes when you perform a new search in the Manage Extensible Flexfields task.

Related Topics

- Why did my flexfield changes not appear in the UI?
- Flexfield Usages
- Why can't I edit my flexfield or value set configuration?

Considerations for Enabling Extensible Flexfield Segments for Business Intelligence

An extensible flexfield that's registered in the database as enabled for Oracle Transactional Business Intelligence (OTBI) includes a BI Enabled setting for each of its segment instances. When a segment instance is BI-enabled, it's available for use in OTBI.

The following aspects are important in understanding BI-enabled extensible flexfield segments.

- Flattening business components to use BI-enabled segments in Oracle BI
- Mapping attributes of flattened business components to logical objects in OTBI

After you deploy a business intelligence-enabled flexfield, use the Import Oracle Data Extensions for OTBI process to import the flexfield changes into the Oracle Transactional Business Intelligence repository. Users can make use of the

newly-generated attributes in business intelligence applications. For information about logical objects and import, see the Creating and Administering Analytics and Reports guide for your products.

Flattening

When you deploy a business intelligence-enabled extensible flexfield, the deployment process generates an additional set of flattened business components for use in business intelligence. The flattened business components include attributes for business intelligence-enabled segment instances only.

If you assigned a label to a segment, the flattened components include a single attribute representing all segment instances with that label. If you didn't assign a label, the flattened components include a discrete attribute for each BI-enabled segment instance in each structure.

Importing to Oracle Transactional Business Intelligence Repository

After you deploy a business intelligence-enabled flexfield, import the flexfield changes into the Oracle Transactional Business Intelligence repository to make use of the newly flattened business components in business intelligence and then propagate the flexfield object changes. When you import the metadata into the Oracle Transactional Business Intelligence repository, you must do so as the FUSION_APPS_BI_APPID user. To import flexfield changes into the Oracle Business Intelligence repository in Oracle Cloud implementations, run the Import Oracle Data Extensions for Transactional Business Intelligence process. For information about logical objects and import, see the Creating and Administering Analytics and Reports guide for your products.

> **Tip:** When you import a flexfield into the Oracle Transactional Business Intelligence repository, you see both `<name>_` and `<name>_c` attributes for each segment, along with some other optional attributes. The `<name>_` attribute contains the value. The `<name>_c` attribute contains the code of the value set that the value comes from, and is used for linking to the value dimension. You must import both attributes.

Related Topics

- Considerations for Enabling Descriptive Flexfield Segments for Business Intelligence
- Overview of Extensible Flexfields
- Set Extensible Flexfields as BI-Enabled
- Overview of Flexfield Change Import

Considerations for Managing Extensible Flexfield Categories

Categories are a way of extending the number of context-sensitive segments for a flexfield beyond the columns reserved for flexfield segments.

For example, an Items extensible flexfield has a category for each item and each category can have one or more contexts. The laptop item belongs to the Computers category. Since extensible flexfields are mapped to separate extension tables, not just to columns as with descriptive flexfields, the thirty reserved columns on the extensible flexfield table let you define up to thirty context-sensitive segments for each context.

If you add a Dimensions context to the Computers category, thirty segments are available. But if you need to add more than thirty attributes, create another context and associate it to the same category. You could now add an Electronics Attributes context to the same Computers category in which you create another thirty segments. You can continue creating more contexts and adding them to the Computers category. In this way your laptop computer item can be extended with as many attributes as you need, because it's mapped to a category and you can keep adding contexts to that category.

A descriptive flexfield on an items table with thirty columns reserved for segments can only have a single context. Once you configure the columns for that one context, you can't create any more segments.

Predefined and Preconfigured Categories

How you structure the flexfield configuration depends on how categories are defined for the flexfield. If the extensible flexfield is preconfigured with one category, associate all your contexts and pages with that category. If a product-specific extensible flexfield is preconfigured with several categories, associate your contexts and pages with those categories. If the extensible flexfields provide user interfaces for configuring multiple categories, associate a context with more than one category using inheritance.

Some products provide an activity or task for creating and maintaining categories for an extensible flexfield. See product-specific information to determine if you can create categories for the flexfield.

You can view a flexfield's category hierarchies by using either the Highlight Flexfields feature or the Manage Extensible Flexfields task to find and open the flexfield for editing.

Disabling Categories

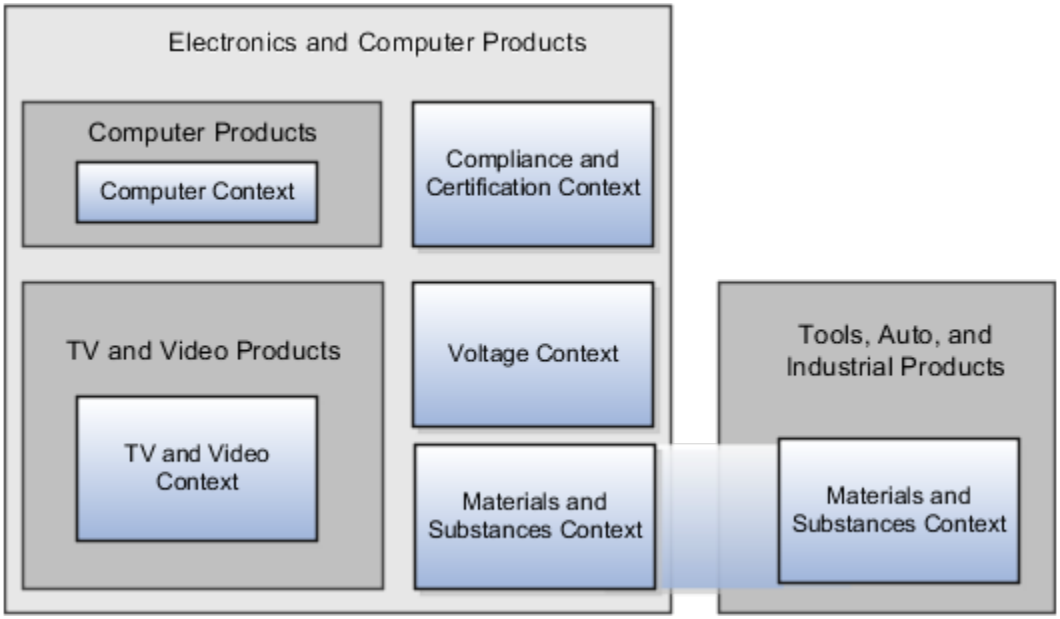
While configuring an extensible flexfield, you can disable a category. The Enabled column in the Category table of the Edit Extensible Flexfield page, indicates which categories are enabled.

> **Note:** When you deploy an extensible flexfield that has a disabled category, that category and its descendant categories aren't deployed. Contexts and their segments are deployed only if they belong to at least one enabled category.

Contexts

Group similar attributes into contexts. The group is displayed together in a region. The region's header is the context value.

If a category hierarchy exists for the flexfield, then you can leverage the hierarchy to reuse contexts for similar entities, such as similar items in a product catalog.



The following table shows an example of category hierarchy for an extensible flexfield. To store voltage information for all electronic and computer items, associate a Voltage context with the Electronics and Computers category. Both the TV and Video subcategory and the Computers subcategory then inherit the Voltage context from the parent Electronics and Computers category.

Display Name	Code	Description
Electronics and Computers	PROD_ELECTRONICS	Electronics and Computers
TV and Video	PROD_TV_VIDEO	Television and Video
Computers	PROD_COMPUTERS	Computers
Office Products and Supplies	PROD_OFFICE_PRODUCTS_SUPPLIES	Office Products and Supplies
Tools, Auto, and Industrial	PROD_TOOLS_AUTO_INDUSTRIAL	Tools, Automotive, and Industrial
Sports and Outdoors	PROD_SPORTS_OUTDOORS	Sports and Outdoors

Example of Configuring an Item Extended Attributes Flexfield

The Item Extended Attributes flexfield provides segments for extending the Item business object. In the Manage Extensible Flexfields task, configure your product business object to include a technical specifications logical page on the UI for the Electronics and Computers category.

In this example, your configuration of this flexfield groups attributes into the following contexts:

- Materials and Substances
- Compliance and Certification
- Voltage

Scenario

The following list shows an example plan for computer attributes for the Item Extended Attributes flexfield. In this example, the Electronics Information page is inherited from the parent Electronics and Computers category.

- Page: Electronics Information
    - Context: Compliance and Certification, single row
        - ISO 14001 (International Organization for Standardization for an Environmental Management System)
        - ENERGY STAR (energy efficiency guidelines)
        - ROHS (Restriction of the use of certain hazardous substances in electrical and electronic equipment)
    - Context: Voltage, single row
        - Minimum voltage
        - Maximum voltage

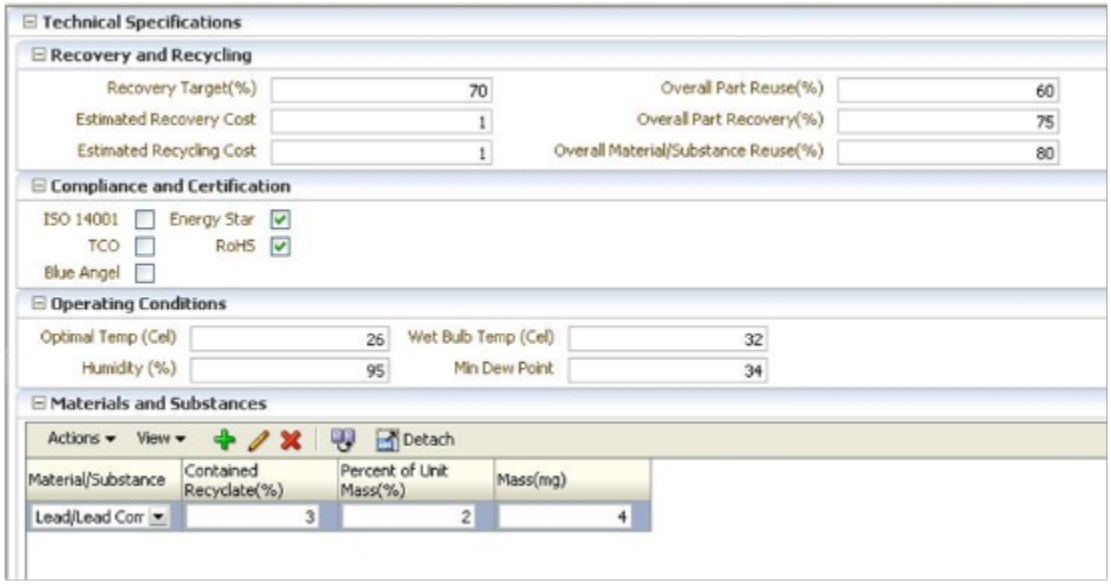
        - Current type
    - Context: Materials and Substances, multiple rows
        - Material
        - Contain recyclate
        - Percent unit mass
- Page: Computer Information
    - Context: Processor Specifications, single row
        - Manufacturer
        - CPU type
        - Processor interface
        - Processor class
        - Processor speed
        - Cores

The following table summarizes key decisions for this scenario.

Decisions to Consider	In This Example
Which extensible flexfield is available for configuring a hierarchy of categories?	Item Extended Attributes flexfield

Collecting Technical Specifications

Your product inventory pages for electronics and computers require a technical specifications page. Your product inventory pages for furniture require a furniture specifications page and an assembly instructions page. Items in both the electronics and computer category, and in the furniture category, share attributes for specifying materials and substances.

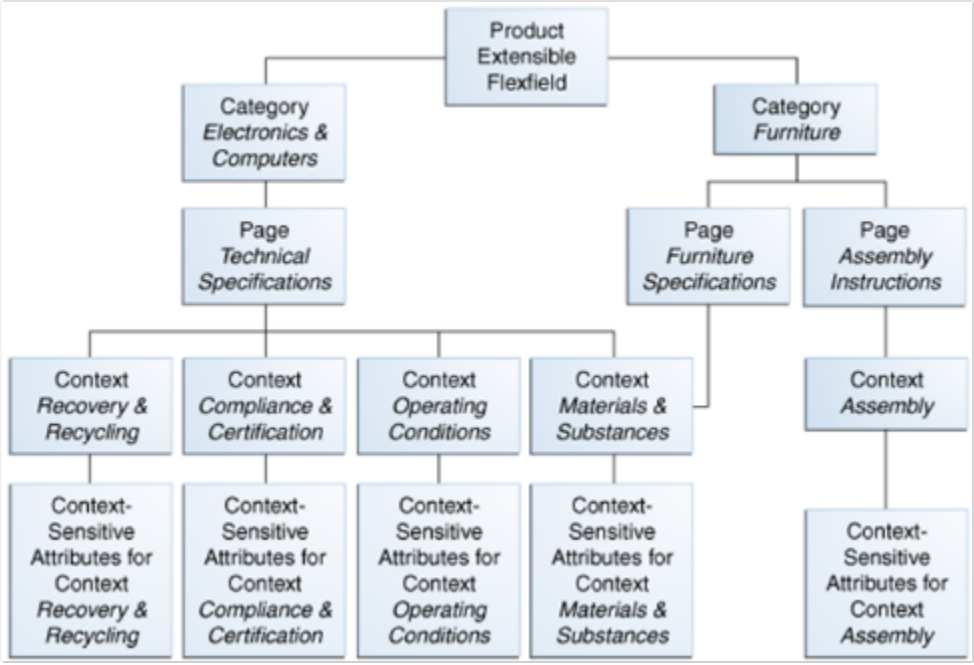


Use logical pages to determine how the contexts appear on the user interface. Use a context to store all the materials and substances required to make a single product. You can configure a context to store multiple rows per entity. The multiple rows are displayed in a table, like the Materials and Substances context.

The Technical Specifications logical page contains the attributes for the four contexts.

- Recovery and Recycling
- Compliance and Certification
- Operating Conditions
- Materials and Substances

The following figure is an example, where the Furniture category is configured to include a Furniture Specifications logical page and an Assembly Instructions logical page. The two categories (Electronics and Computers and Furniture) share the Materials and Substances context.



Configure Security for the Item Flexfield Configuration

The following table shows an example of data security policies for the Item flexfield.

Data Security Resource	Policy	Role	Action	Condition
ITEM_EFF_B	A	VOLTAGE_SPEC	edit_nontrans_voltage_ctx	All values
ITEM_EFF_VL	B	COMPLIANCE_SPEC	edit_trans_compliance_ctx	All values
ITEM_EFF_VL	C	COMPUTER_SPEC	edit_trans_attrs	ComputerCategoryFilter
ITEM_EFF_VL	D	TELEVISION_SPEC	edit_trans_attrs	TVCategoryFilter

The following table shows the privileges for the three flexfield contexts.

Context	Edit Privilege	View Privilege
Voltage	edit_nontrans_voltage_ctx	NONE
Compliance and Certification	edit_trans_compliance_ctx	NONE
Materials and Substances	edit_trans_attrs	NONE

In this example, anyone can view the contexts' attributes, but the edit privileges are restricted as follows:

- Voltage: Only voltage specialists can edit this value.
- Compliance and Certification: Only compliance specialists can edit this value.
- Materials and Substances: Only computer specialists can edit these attributes for items in the computer category. Only television specialists can edit these attributes for items in the TV category.

To sum up, in this entire example, the Materials and Substances context is secured by a generic action with a condition applied to restrict access by category. Voltage and Compliance and Certification are secured by actions specific to each context.

File Format for Importing Extensible Flexfields

You can import extensible flexfields to your application by creating separate text files containing value sets, contexts, and context segments. You can then upload these files to the Oracle WebCenter Content document repository.

Here are a few things that you need to keep in mind while creating these files:

- Use a vertical bar or pipe (|) as a delimiter between fields for both the header and the value rows.
- According to the Oracle WebCenter Content specification, set the file encoding to UTF-8 without the Byte Order Mark (BOM).
- Make sure the first line in the file is a header line, and the files look exactly the same as shown in the sample file.

The following sections contain specific details about each file format.

Value Sets

To create a file containing value sets, include the headers specified in this table:

Header	Data Type	Data Size	Description	Required or Optional
`ValueSetCode`	String	60	This value identifies your value set across components.	Required
`ModuleType`	String	60	This value determines the module type of your value set.	Required

Header	Data Type	Data Size	Description	Required or Optional
ModuleKey	String	60	This value determines the specific module of your value set.	Required
ValidationType	String	30	This value determines your value set type. Here are the types of value set: • **DEP** • **INDEP** • **FORMAT** • **SUBSET** • **RELATED**	Required
ValueDataType	String	30	This value determines the data type that your value set uses. Here are the supported data types: • **VARCHAR2** • **NUMBER** • **DATE** • **TIMESTAMP**	Required
ValueSubType	String	30	This value determines the data subtype that your value set uses. Here are the supported data subtypes: • **TEXT** • **TIME_HM** • **NUMERIC** • **TIME_HMS** • **TRANSLATED**	Required for **ValueDataType VARCHAR2**
MaximumLength	Integer	-	This value determines the maximum length of values in your value set.	Required for **ValueDataType VARCHAR2**
Description	String	240	This value describes your value set.	Optional
Precision	Integer	-	This value determines the number of digits in the number data that you add to your value set.	Optional Use this header only for **ValueDataType NUMBER**
Scale	Integer	-	This value determines the number of digits after the decimal point in the	Optional

Header	Data Type	Data Size	Description	Required or Optional
			number data that you add to your value set.	Use this header only for **ValueDataType NUMBER**
UppercaseOnlyFlag	String	1	This value indicates whether only uppercase characters are supported for your value sets: • Y: Supports only uppercase characters. • N: Supports both uppercase and lowercase characters.	Optional Use this header only for **ValueDataType VARCHAR2**
ZeroFillFlag	String	1	This value lets you add zeroes to the left of the text you add in your value set till the text length matches the value in the **MaximumLength** header: • Y: Zeroes are added. • N: Zeroes aren't added.	Optional Use this header only for **ValueDataType VARCHAR2**.
SecurityEnabledFlag	String	1	This value indicates whether data security resource is added to your value set: • Y: Data security resource is added to your value set. • N: Data security resource isn't added to your value set.	Optional
DataSecurityObjectNam	String	60	This value selects the data security resource that you want to add to your value set. The value must match a data security resource in the application.	Required if **SecurityEnabledFlag** is set to Y.
MinimumValue	String	150	This value specifies the minimum value for the values in your value set.	Optional
MaximumValue	String	150	This value specifies the maximum value for the values in your value set.	Optional
IndependentValueSetCo	String	60	This value determines the independent value set your	Required for only **ValidationType**, **DEP**,

Header	Data Type	Data Size	Description	Required or Optional
			dependent or subset value set is linked to.	and **SUBSET** validation types. Don't use this header for any other validation types.

Here's a sample file for value sets. You can see the header values at the beginning of the file, followed by the line entries of the three value sets that are to be imported. For importing several value sets, add more entries in the same format.

```
ValueSetCode|ModuleType|ModuleKey|ValidationType|ValueDataType|ValueSubtype|MaximumLength|Description
VS_TEST_91|APPLICATION|FND|INDEP|VARCHAR2|TEXT|2|desc1
VS_TEST_92|APPLICATION|FND|INDEP|VARCHAR2|TEXT|3|
VS_TEST_93|APPLICATION|FND|INDEP|VARCHAR2|TEXT|3|desc3
```

Context

To create a file containing the contexts, include the headers specified in this table:

Header	Data Type	Data Size	Description	Required or Optional
ApplicationId	Long	-	This value determines the application your flexfield and context belong to.	Required
EFFCode	String	40	This value is the code of the extensible flexfield where you're adding your context. The value should match the code of an extensible flexfield that's already in the application.	Required
ContextCode	String	80	This value is the code for your context.	Required
Name	String	80	This value determines the display name of your context.	Required
MultirowFlag	String	1	This value indicates whether multiple rows are supported for your context: • Y: Your context supports multiple rows. • N: Your context supports only single row.	Required
EnabledFlag	String	1	This value lets you enable or disable your context: • Y - Enable context	Required

Header	Data Type	Data Size	Description	Required or Optional
			• N - Disable context	
`Description`	String	240	This value describes your context.	Optional
`TranslatableFlag`	String	1	This value indicates whether the segments in your context are translatable: • Y: Segments in your context are translatable. • N: Segments in your context aren't translatable.	Optional
`ContextIdentifier`	String	30	This value determines the API name for your context. While naming APIs, follow the naming conventions.	Optional
`InstructionHelpText`	String	400	This value provides user instructions on how to use the context region.	Optional
`FlexfieldUsageCode`	String	30	This value determines the usage code for your context. The value should match a usage code in the application.	Required
`ViewPrivilegeName`	String	400	This value determines the privileges that can view this context usage. The value should match a privilege in the application.	Optional
`EditPrivilegeName`	String	400	This value determines the privileges that can edit this context usage. The value should match a privilege in the application.	Optional
`CExtAttribute1`	String	150	This value adds a user-defined attribute to a context usage. To add your user-defined attributes, you can use up to 5 headers of this type, `CExtAttribute1` to `CExtAttribute5`.	Optional

Header	Data Type	Data Size	Description	Required or Optional
CONTEXT_ CExtAttribute1	String	150	This value adds a user-defined attribute to a context. You can use up to 5 headers of this type, CONTEXT_ CExtAttribute1 to CONTEXT_ CExtAttribute5 to add your user-defined attributes.	Optional
DatabaseViewNamePrefi:	String	15	This value is used as a prefix for the database view name for a given context. While entering this value, follow the naming conventions similar to that of flexfield API names.	Optional

Here's a sample file that contains the header values at the beginning and lists three contexts to be imported. For importing several contexts, add more entries in the same format.

```
ApplicationId|EFFCode|ContextCode|Name|EnabledFlag|MultirowFlag|Description|FlexfieldUsageCode|
ViewPrivilegeName|CExtAttribute1|CExtAttribute2|CExtAttribute3|CExtAttribute4|CExtAttribute5
0|FLEX_SN_EFF1|OBJ_TEST_4|Object test 44|Y|N|desc 44 3363|FLEX_SN_EFF1_USAGE2|flex_sn_sitems_view|||||
0|FLEX_SN_EFF1|OBJ_TEST_3|Object test 33|Y|N||FLEX_SN_EFF1_USAGE1|flex_sn_view|||||NEW_TEST11
0|FLEX_SN_EFF1|OBJ_TEST_3|Object test 33|Y|N|new desc aug 14|FLEX_SN_EFF1_USAGE2|flex_sn_sitems_edit|
CE1_TESTupd_aug15||||
```

Context Segment

To create a file containing context segments, include the headers specified in this table:

Header	Data Type	Data Size	Description	Required or Optional
ApplicationId	Long	-	This value determines the application your flexfield, context, and segment belong to.	Required
EFFCode	String	40	This value is the code of the extensible flexfield where you're adding your context segment. The value should match the code of an extensible flexfield that's already in the application.	Required
ContextCode	String	80	This value is the code of the context where you're adding your segment. The value should match a context code that's in the application.	Required

Header	Data Type	Data Size	Description	Required or Optional
`SegmentCode`	String	30	This value is the code for your segment.	Required
`Name`	String	60	This value is the name for your segment.	Required
`ColumnName`	String	30	This value determines the table column that your segment uses to save data. The value must match a column that's in the application.	Required
`ValueSetCode`	String	60	This value is the code for the value set you want to use in your segment. The value must match a value set code in the application.	Required
`DisplayType`	String	30	This value determines the display type of the segment. Here are the valid values for this attribute: • `TEXT_BOX` • `TEXT_AREA` • `RICH_TEXT_EDITOR` • `HIDDEN,LOV` • `POP_UP_LIST` • `DROP_DOWN_LIST` • `RADIO_BUTTON_GROUP` • `STATIC_URL` • `CHECKBOX` • `COLOR` • `DATE_TIME`	Required
`Prompt`	String	80	This value determines the display name of the segment.	Required
`ShortPrompt`	String	80	This value determines the shortened display name of the segment.	Required

Header	Data Type	Data Size	Description	Required or Optional
`EnabledFlag`	String	1	This value lets you enable or disable your segment: • Y - Segment is enabled • N - Segment is disabled	Required
`RequiredFlag`	String	1	This value indicates whether you must specify the segment. • Y: You must specify the segment. • N: You may not specify the segment.	Required
`ReadOnlyFlag`	String	1	This value lets you set your segment to be read-only. • Y: The segment is set to read-only. • N: The segment isn't set to read-only.	Required
`Description`	String	240	This value describes your segment.	Optional
`UOMclass`	String	20	This value determines the unit for the data you add to your segment.	Optional
`TerminologyHelpText`	String	80	This value provides a description for the segment.	Optional
`InFieldHelpText`	String	160	This value provides instructions on how to use the segment.	Optional
`SequenceNumber`	Integer	-	This value determines the order in which your segments are displayed in your context.	Optional
`DefaultType`	String	30	This value specifies the type of default value for your segment. Here are the types of default values: • `CONSTANT` • `SQL` • `GROOVY_EXPRESSION`	Optional

Header	Data Type	Data Size	Description	Required or Optional
`DefaultValue`	String	4000	This value provides the default values for your segment.	Optional
`DisplayWidth`	Integer	-	This value specifies the maximum number of characters that display in a line.	Optional
`DisplayHeight`	Integer	-	This value specifies the maximum number of lines that display in the segment.	Optional
`CheckboxCheckedValue`	String	30	This value determines the value of a selected check box in your segment.	Required for display type `CHECKBOX`.
`CheckboxUncheckedValu`	String	30	This value determines the value of a check box that's not selected in your segment.	Required for display type `CHECKBOX`.
`RangeType`	String	30	This value specifies the range of values for the low-end and high-end fields. You can set the value as `LOW` or `HIGH` for your low-end and high-end fields respectively.	Optional
`BIEnabledFlag`	String	1	This value indicates whether your segment is BI enabled. • Y: Your segment is BI enabled. • N: Your segment isn't BI enabled.	Optional
`MultirowUniqueKeyFlag`	String	1	This value indicates whether the segment is marked as a unique key for context with multiple rows. • Y: Segment is marked as a unique key. • N: Segment isn't marked as a unique key. This is the default value. At least one segment in a context with multiple rows	Required for contexts with multiple rows

Header	Data Type	Data Size	Description	Required or Optional
			must be marked as the unique key.	
`ShowValueDescription`	String	1	This value lets you display the value set description for the value set associated with the segment: • Y: The value set description is displayed for the value set associated with the segment. • N: The value set description isn't displayed for the value set associated with the segment.	Optional
`SegmentIdentifier`	String	30	This value determines the API name for your segment. While naming APIs, follow the naming conventions.	Optional

Here's a sample file for the context segment. You can see the header values at the beginning of the file, followed by the line entry of a context segment that's to be imported. For importing several context segments, add more entries in the same format.

```
ApplicationId|EFFCode|ContextCode|SegmentCode|Name|ColumnName|ValueSetCode|DisplayType|Prompt|ShortPrompt|
EnabledFlag|RequiredFlag|ReadOnlyFlag|Description|UomClass
0|FLEX_SN_EFF1|ColdSourceTargetContext|Cold_TEST_SEG1|cold seg 1|ATTRIBUTE_CHAR3|EFF_BASIC_FMT_CHR|TEXT_BOX|
Prompt|Short Prompt|Y|Y|N|TEST desc aug 14_3PM|
```

Related Topics

- Overview of Files for Import and Export
- Overview of Extensible Flexfields
- Import Extensible Flexfields
- Naming Conventions for Flexfield APIs

Import Extensible Flexfields

Use the Import option on the Manage Extensible Flexfield page to bulk import the flexfield data that includes value set, context, and context segment details.

Prerequisite

The files containing the flexfield details are available in the document repository of Oracle WebCenter Content.

Importing Flexfields

To import flexfields:

1. Sign in to the application as an implementation consultant or an administrator.
2. In the Setup and Maintenance work area, open the **Manage Extensible Flexfield** task or a similar task for importing flexfields.
3. In Search Results, from the Actions menu, select **Import**.
4. On the Upload Flexfield Data dialog box, select the WebCenter Content account to which the files were uploaded.
5. Enter the names of the separate files containing the value set, context, and context segment information. The names here must match with the names of the files uploaded to the selected account.
6. Click **Upload**. The flexfield details are imported.

> **Note:** If the import fails, click the link to the log file on the confirmation dialog box and examine the cause of failure.

Related Topics

- File Format for Importing Extensible Flexfields

FAQs for Manage Extensible Flexfields

Why did the extensible flexfield context not appear at run time?

If a deployed extensible flexfield context doesn't appear in the user interface, verify that the context is associated with one of the category's pages defined for the extensible flexfield.

Related Topics

- Why did my flexfield changes not appear in the UI?

Manage Key Flexfields

Overview of Key Flexfields

Key flexfields provide a means to capture a key such as a part number, a job code, or an account code. A key flexfield consists of one or more segments, where each segment can have a meaning.

For example, a part number 10-PEN-BLA-450 might correspond to a black pen from supplier #450 sold by division #10 (office supplies). Behind the scenes, the application uses a unique number, 13452, for this part, but the user always sees the 10-PEN-BLA-450 part number.

The following aspects are important to understanding key flexfields:

- Architecture
- Segments and segment labels

- How to Identify Segments
- How the Override, Visible, and Rendered Properties Work
- Structures and segment instances
- Combinations
- Dynamic combination creation
- Security

Key flexfields aren't optional. You must configure key flexfields to ensure that your applications operate correctly. You configure and maintain key flexfield definitions with the Manage Key Flexfields task. To get a list of predefined key flexfields, use the Manage Key Flexfields task in the Setup and Maintenance work area. For information about specific key flexfields, see the help for the product where the associated business component is implemented.

Architecture

Flexfield metadata is stored in the flexfield metadata tables. When you configure a key flexfield, you define metadata about the key flexfield covering aspects such as:

- Segments are in a structure
- Structures in the flexfield
- Value sets in each segment

Based on the flexfield metadata, actual part numbers are captured as a combination of segment values and stored in a combinations table. A combinations table contains all the segment columns for a flexfield, a unique ID column, and a structure instance number column. The structure instance number column differentiates multiple arrangements of the segment columns. For example, a part number containing multiple segments can be represented by a key flexfield. A part number key flexfield has a corresponding combinations table. In that table, the flexfield stores a list of the complete codes, with each segment of the code in a column, with the corresponding unique ID and structure instance number for the code. When users define a new part number or maintain existing part numbers in the parts catalog, they directly maintain rows in the combinations table.

The foreign key table contains a different business entity than the combinations table. For example, the business entity in the foreign key table is order lines or invoice lines that contain foreign key references to parts for ordering. Any number of foreign key tables can reference a particular entity represented by a key flexfield.

Segments and Segment Labels

A key flexfield contains segments. Each segment contains these details:

- A prompt
- A short prompt
- Display width
- The sequential position of the segment within the key flexfield structure
- The range type
- Column name of the attribute being stored by the segment
- A default value set
- A label for the segment

How to Identify Segments

You can identify and control a segment within a key flexfield using a segment label. Segment labels act as tags for the segments, and these labels are defined by application developers. For example, say in the accounting flexfield, you want to identify which segment contains balancing information and which one contains natural account information. A segment label identifies the segment that contains natural account information. When you define your accounting flexfield, you must specify the segment labels for each segment. Some segment labels must be unique, and can't be applied to more than one segment in each structure. Other labels are required and must be applied to at least one segment in each structure.

You can also use a segment label to search for segments, such as the Cost Center label for all segments across key flexfields that store a value for the cost center. To identify and control a segment in key flexfield, you can set several segment properties in the flexfield XML with a literal value or an EL expression. These properties are attributes of the `<flexfieldLabeledSegmentHint>` element of the flexfield. These property settings apply to all segments that have the specified segment label assigned to them.

Property	Description
SegmentLabel	Indicates the segment label for the segment being configured.
Rendered	Indicates whether the segment is available on the page. You can set the value to **True**, **False**, or **EL expression**
Required	Indicates whether users must enter some data for the component before they save. You can set the value to **True**, **False**, or **EL expression**.
Read-only	Indicates whether the users can modify the segment. You can set the value to **True**, **False**, or **EL expression**.
Visible	Indicates whether the segment is visible on the page. You can set the value to **True**, **False**, or **EL expression**.
Label	Indicates the display text for the segment.
ShortDesc	Indicates the text that appears when users hover over the component.
Columns	Indicates the width of the text control in terms of the number of characters shown. The number of columns is calculated based on the default font size of the browser. You can set this property with a literal value or **EL expression**.
Override	Indicates whether a certain child component inside a parent component is visible. You can set the value to **True**, **False**, or **EL expression**. When you use this property along with the visible property, it overrides the visible property of the parent component.

How the Override, Visible, and Rendered Properties Work

Let's look at a few scenarios:

- Here's a snippet of code without the override property:

```
<fnd:keyFlexfieldPartial value="#{bindings.Kff1PaInstanceIterator}" id="kfp1" visible="false">
 <fnd:flexfieldLabeledSegmentHint
 segmentLabel="SEGMENT_LABEL_R1" visible="true"/>
</fnd:keyFlexfieldPartial>
```

  In this case, the `visible` property of the child component is set to **true** and the `visible` property of the parent component is set to **false**. So, segments with `SEGMENT_LABEL_R1` aren't visible because the `visible` property of the child component is used in conjunction with the `visible` property of the parent component.

- Here's a snippet of code with the override property:

```
<fnd:keyFlexfieldPartial value="#{bindings.Kff1PaInstanceIterator}" id="kfp1" visible="false">
 <fnd:flexfieldLabeledSegmentHint
 segmentLabel="SEGMENT_LABEL_R1" visible="true" override="true"/>
</fnd:keyFlexfieldPartial>
```

  Here also, the `visible` property of the child component is set to **true** and the `visible` property of the parent component is set to **false**. But you're also setting the `override` property of the child component to **true**. So, segments with `SEGMENT_LABEL_R1` are visible because the `visible` property of the child component overrides the `visible` property of the parent component.

Remember, you must not use the `rendered` property along with the `override` property, because when you set the `rendered` property to **false** at the flexfield level, the Oracle ADF module ignores the rendered property at the segment level. For example, consider this snippet of code:

```
<fnd:keyFlexfieldPartial value="#{bindings.Kff1PaInstanceIterator}" id="kfp1" rendered="false">
 <fnd:flexfieldLabeledSegmentHint
 segmentLabel="SEGMENT_LABEL_R1" rendered="true" override="true"/>
</fnd:keyFlexfieldPartial>
```

Though you set the `rendered` property to **true** at the segment level, this property is ignored. That's because the `rendered` property is set to **false** at the flexfield level. So, make sure that you use the `visible` property instead of the `rendered` property along with the `override` property.

Structures and Segment Instances

A key flexfield structure definition includes the number of segments and their order.

In some applications, different users like to see different segment structures for the same flexfield. A key flexfield can have multiple structures if registered to support more than one structure.

The flexfield can display different fields for different users based on a data condition in your application data, such as the value of another field entered by the user or the user's role. For example, the correctly formatted local postal address for customer service inquiries differs based on locale. A postal address key flexfield could display different segments and prompts for different users based on a location condition in your application data, such as the user's role or a value entered by the user.

Each structure can have one or more segments. Thus a segment is a child of a structure. To store a particular segment, such as Cost Center, in two different structures, you must define the segment separately in each structure. Each structure may have one or more structure instances. Each instance of a structure shares the same number and order of segments, but differs in the values or value sets used in validating the segments.

You can define multiple configurations of a key flexfield structure. These structure instances have the same segment structure, in the same sequence order. They differ primarily in how each segment is validated. You define a structure instance for each key flexfield and each key flexfield structure instance.

The segments in a key flexfield structure instance are segment instances. A segment instance is a segment with a specific value set assigned to it. If a key flexfield is registered with a tree structure, you can specify a tree code for a segment instance.

Combinations

A combination is a complete code, or combination of segment values that makes up the code, that uniquely identifies an object.

For example, each part number is a single combination, such as PAD-YEL-11x14 or 01-COM-876-7BG-LTN. In these combinations, the hyphen is the segment separator. If you have ten parts, define ten combinations. A valid combination is an existing or new combination that can be used because it's currently active and doesn't violate cross-validation or security rules. A combination has different segments depending on the flexfield structure being used for that combination. Any combination is associated with only one particular flexfield structure.

Many applications refer to a key flexfield combination by using the name of the entity or the key flexfield itself. For example, Assets uses the asset key flexfield and refers to one of its combinations as an asset key or asset key flexfield. In another example, Oracle General Ledger refers to combinations of the accounting flexfield as account or GL account.

Each key flexfield has one corresponding table, known as the combinations table, where the flexfield stores a list of the complete codes, with one column for each segment of the code, together with the corresponding unique ID number (an account combination ID) for that code. Then, other tables in the application have a column that stores just the unique ID for the code. For example, you may have a part number code, such as PAD-YEL-11x14. The Parts combinations table stores that code along with its ID, 57494. If your application lets you take orders for parts, you might then have an Orders table that stores orders for parts. That Orders table would contain a single column that contains the part ID, 57494, instead of several columns for the complete code PAD-YEL-11x14. Typically, one combinations page maintains the key flexfield, where the key flexfield is the representation of an entity in your application. Maintain individual combinations, such as part numbers in the combinations page.

Dynamic Combination Creation

Dynamic combination creation is the insertion of a new valid combination into a combinations table from a page other than the combinations page. The following table lists the levels at which dynamic combination creation may be enabled.

Level Of Dynamic Combination Creation	Controlled By
Flexfield	Application development
Each usage or reference to the key flexfield	Application development
Structure instance	Administrators and implementation consultants
Other	Administrators and implementation consultants

If your key flexfield or certain usages or references of the key flexfield don't permit dynamic combination creation, you may control whether dynamic combination creation is enabled for each structure instance. If enabled, a user can enter a new combination of segment values using the flexfield window from a foreign key page. For example, when entering a transaction, a GL user can enter a new expense account combination for an account that doesn't yet exist.

Your application creates the new account by inserting the new combination into the combinations table behind the scenes. Assuming that the new combination satisfies any existing cross-validation rules, the flexfield inserts the new combination into the combinations table, even though the combinations table isn't the underlying table for the foreign key page.

Related Topics

- Overview of Flexfield Deployment
- Considerations for Managing Flexfields
- Key Flexfield Structures
- How can I access predefined flexfields?
- How do I update existing setup data?

Considerations for Planning Key Flexfields

Your first step in planning your key flexfields is to determine which key flexfields your application requires.

Your plan should include these tasks:

- Determine the purpose of the key flexfield.
- Identify the number and length of its available segment columns.
- Identify if your key flexfield permits more than one structure.
- Identify if more than one structure must be defined.
- Identify the number, order and length of your segments for each structure.

Before You Begin

Once you have identified a flexfield, plan its configuration in advance. Compile a list of the UI pages and other artifacts in your deployment that are affected by the configuration. Verify that you're provisioned with the roles required to view and configure the flexfield. Use the Highlight Flexfields command in the Administration menu to view the run time page where the flexfield appears. Plan how you deploy the flexfield for test and production users and review the tools and tasks available for managing flexfields.

If you plan to use value sets, create them before configuring the key flexfield. You can't create value sets for key flexfields at the time that you add and configure key flexfield segments.

Access to Flexfield-Related Tasks

To configure flexfields and value sets, you must have access to the tasks for managing flexfields. Contact your security administrator for details. For information about product-specific flexfield tasks, such as Manage Fixed Assets Key Flexfields, refer to the product-specific documentation.

Restrictions

If you plan to use value sets, create them before configuring the flexfield. Plan your key flexfield configuration to scale to your enterprise needs. For example, if you expect to disable old cost centers and enable new ones frequently, plan a larger maximum size for your cost center value set so that you can have more available values. A 3-character value set with one thousand available values provides more room for changes than a 2-character value set with 100 available values.

Note the code name of the flexfield you intend to configure so that you find it easily in the tasks for managing key flexfields. In some cases you can configure how the flexfield appears on the page. See product-specific documentation to determine any restrictions on using product-specific key flexfields.

Note: Table-validated value sets with ID columns and translated independent or dependent value sets aren't supported in key flexfields.

Reporting

To report on your data by certain criteria or sub-entities, such as account number or project or region, consider making that sub-entity a distinct segment, rather than combining it with another sub-entity. You can categorize and report on smaller discrete units of information.

Related Topics

- Considerations for Planning Value Sets

Considerations for Managing Key Flexfields

Consider the plans for a key flexfield, security, and resulting run time pages when configuring key flexfields.

Planning

Plan structures carefully and enable them for future needs. Don't change the number, order, and maximum length of segments once you have acquired flexfield data.

Structure Delimiters

A delimiter separates the segments when they appear to users. The delimiter value of a structure specifies the character used to visually separate segment values when the key flexfield is displayed as a string of concatenated segments in the UI.

Identify the delimiter value of your key flexfield carefully so that it doesn't conflict with the flexfield data. For example, if your data frequently contains periods, such as in monetary or numeric values, don't use a period as your segment separator. Any character you expect to appear frequently in your segment values or descriptions isn't a good choice for the delimiter. If you change the configuration of a key flexfield, such as the delimiter, the change affects the previously stored key flexfields with that structure.

Security

Oracle data security enforces value set security.

Within key flexfields, value set security applies to the selection of the individual segment values in the segment list of values. When selecting a key flexfield segment value from the combinations table, data security permits display of only the combinations whose segment values you have access to. Applications development controls whether or not value set security rules propagate to the foreign key table. By default they do.

Run Time Pages

Application development determines the user interface (UI) pages used to render flexfields. The types of key flexfield UI pages are as follows:

- Combinations pages where the underlying entity objects use the combinations table itself
- Foreign key pages where the underlying entity objects contain a foreign key reference to the combinations table
- Partial usage pages where some or all of the key flexfield's segment columns are in a product table

The same key flexfield can be used in different ways on different pages.

A page with a foreign key reference has a base table or view that contains a foreign key reference to a combinations table with the actual flexfield segment columns. This lets you manipulate rows containing account combination IDs (account combination).

A page with partial usage of a key flexfield presents segments that are defined on a product's transactional table in addition to being defined on a combinations table. In the case of a partial usage page, only a part of the configuration is likely to be visible. This enables the key flexfield to act more like a descriptive flexfield.

An account combination maintenance page or combinations page presents the combinations table. This enables directly creating and maintaining account combinations. The combinations table contains all key flexfield segment columns and a unique ID column.

A typical application has only one combinations page. An application might not have a combinations page if it doesn't support maintenance by administrators.

A page containing a search region enables users to select which attributes of the key flexfield view object to use as criteria to search for flexfield metadata.

For example, you can configure seven segments for the Account key flexfield. In a foreign key reference page, users see the typical key flexfield picker with all seven segments where they can search for combinations. In a partial usage page using the same key flexfield, users potentially could see only a single segment such as the Cost Center labeled segment, or they might see multiple segments but displayed as individual segments rather than options for selecting combinations.

Related Topics

- Key Flexfield Structures
- Example of a Key Flexfields
- Key Flexfield Structure Instances and Segment Instances
- Considerations for Enabling Key Flexfield Segments for Business Intelligence
- Flexfield Usages

Key Flexfield Structures

A key flexfield structure arranges the segments of a key so that you can reuse a single key flexfield in multiple combinations of the same segments or a subset of those segments.

Multiple instances of a single structure can accommodate differences in the value sets assigned to the structure's segments.

The structure determines the following aspects of a key flexfield:

- The segments to include
- The order of the segments
- Segment labels on the included segments
- Properties for each segment applied to the instances of the segments in an instance of the structure

Managing Key Flexfield Structures

All the segments defined for a key flexfield are available to be included in a key flexfield structure.

You can define as many segments as there are defined segment columns in your key flexfield combinations table. Ensure that you add segments in the order that your key requires. Once deployed, the order can't be changed.

Enable segments to indicate that they are in use. A flexfield doesn't display disabled segments in run time. To protect the integrity of your data, disable a segment if you have already used it to enter data.

Related Topics

- Key Flexfield Structure Instances and Segment Instances

Key Flexfield Structure Instances and Segment Instances

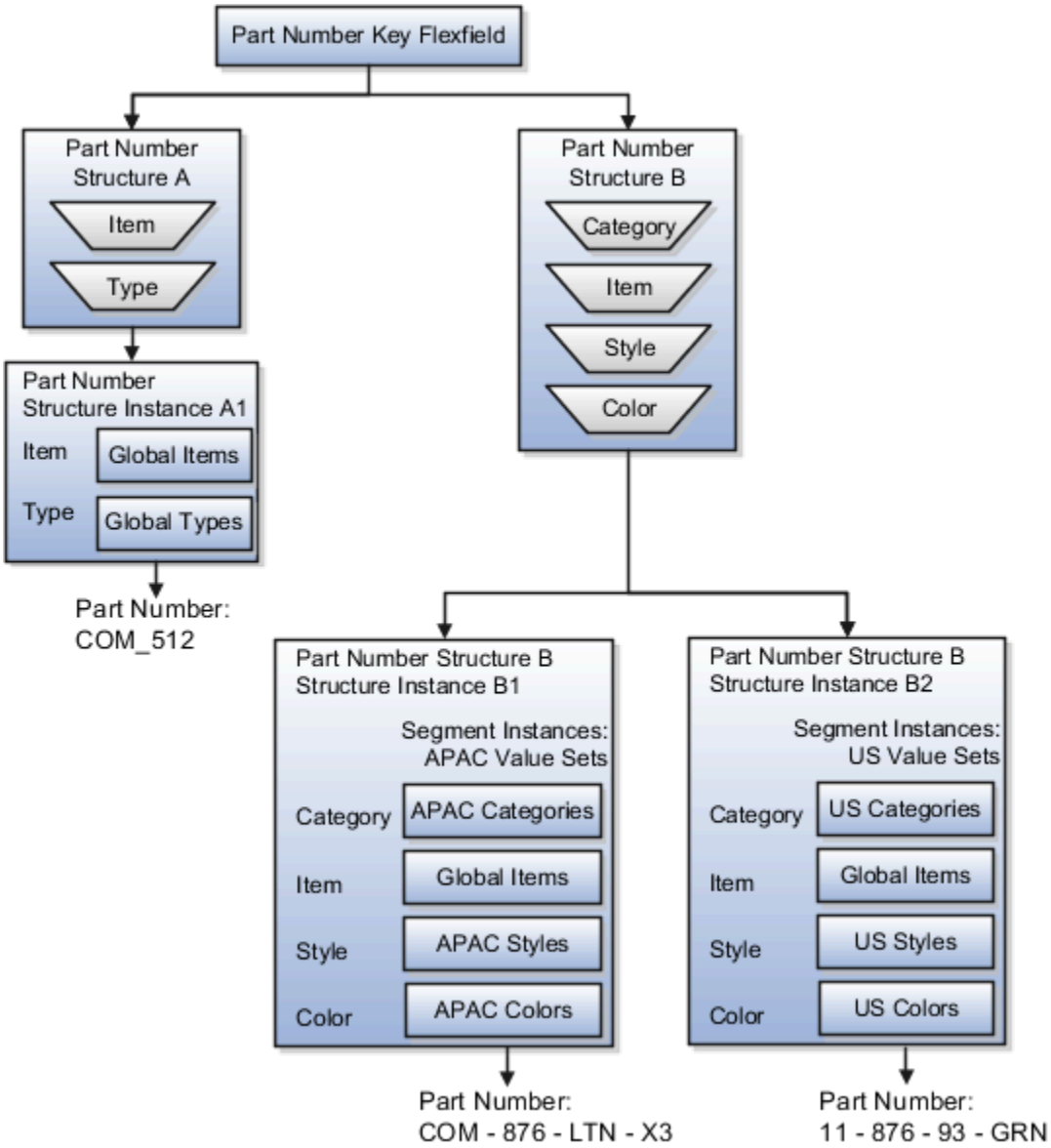
A key flexfield structure can have one or more alternate structure instances. The instances of a key flexfield structure share the following aspects of the structure.

- The same set of segments
- The same arrangement of segments
- The same properties at the segment and structure levels

The differences among structure instances include whether dynamic combination creation is permitted. Likewise, at the structure instance level, differences among segment instances are based on the following:

- Value set
- Default type and default value
- Tree code
- Whether the segment is any of the following:
    - Required
    - Displayed
    - Enabled for business intelligence
    - Optional or required as a query criterion

For example, you can use one group of value sets for the US and another for France.



The structures differ in the number of segments and the segment separators used. The structure instances share all the properties defined for that structure. However, the structure instances may vary if the properties are defined at the structure instance or segment instance level. For example, the value set assigned to the segment instances.

Query Required Segment Instances

You can designate a key flexfield segment instance as a query for making it a selectively required attribute. A user can use it as a key flexfield combination search. On the Manage Key Flexfields UI page, if you indicate that a segment instance requires indexing, add the column representing the segment to the database index. Commonly, a database administrator (DBA) adds columns to the database index.

Following deployment, the combination picker of the key flexfield displays the query required attributes as selectively required. A user must specify at least one of the query required attributes in the search criteria. This prevents unnecessary searches that could cause performance issues.

For example, you mark the cost center and account attributes as query required and ensure that the corresponding columns in the database are indexed. A user can search for combinations by entering cost center or account or both as search criteria. No search is performed if a user doesn't enter at least one query required attribute as search criteria.

Tip: Index the Structure Instance Number column on your combinations table to improve run time performance.

Dynamic Combinations

If a key flexfield supports dynamic combination creation, you can select to enable this feature by selecting **Dynamic Combination Creation Allowed**. As a result, users enter values at run time that produce new account combinations for the flexfield. If **Dynamic Combination Creation Allowed** isn't enabled, new valid combinations can only be entered using the combinations table for the flexfield.

Trees

You may define a tree code for the value set assigned to the segment instance. When you assign the tree code to the segment instance, tree hierarchy search operations are available on the segment values.

For a segment instance to be based on a tree, the following must be true.

- Application development registered the key flexfield with a tree structure. The tree structure may be fixed across all segments in the flexfield, or may vary across segments.
- A tree code for that tree structure exists.
- The tree code includes tree versions containing the values of the value set assigned to the segment instance.
- You assign the required tree code directly to the segment instance.

If these conditions are satisfied, you can assign the same or different tree codes to the different segment instances that use the same value set.

Related Topics

- Flexfield Segment Properties

Cross-Validation Rules

You can define cross-validation rules across segments to control the creation of key flexfield code combinations. These rules enforce whether a value of a particular segment can be combined with specific values of other segments to form a new combination.

The following table compares segment validation to cross-segment validation:

Type of validation	Type of control
Segment validation	Controls the values you can enter for a particular segment
Cross-segment validation	Controls the combinations of values that administrators and end users can create for key flexfields

Note: You can use cross-validation rules for any key flexfield that has cross-validation enabled. See the documentation for your key flexfield to determine if it supports cross validation.

Cross-validation rules prevent the creation of combinations with values that can't coexist in the same combination. For example, your company requires that all revenue accounts must have a specific department. Therefore, account combinations that have revenue account values, such as all values between 4000 and 5999, must have a corresponding department value other than 000, which indicates no department is specified. You can define cross-validation rules that disallow creation of combinations with incompatible segments, such as 4100-000 or 5000-000.

Alternatively, suppose your accounting key flexfield has an Organization segment with two possible values, 01 and 02. You also have a Natural Account segment with many possible values, but company policy requires that Organization 01 uses the natural account values 001 to 499 and Organization 02 uses the natural account values 500 to 999. You can create cross-validation rules to ensure that users can't create a general ledger account with combinations of values such as 02-342 or 01-750.

The following aspects are important to understanding cross-validation rules:

- Rule Definitions
- Enforcement
- Timing

Rule Definitions

The following table contains definitions used in cross-validation rules:

Rule Definition	Purpose
Name	Uniquely identifies cross-validation rules in a deployment.
Description	Helps administrators identify the purpose of the rule.
Error message	Explains why the attempted combination violates the rule.
Start Date, End Date	Indicates the period of time when the rule is in effect.
Enabled	Determines whether the rule is enforced.
Condition filter	Determines the conditions in which an enabled cross-validation rule should be evaluated.
Validation filter	Determines the validation that the rule enforces when that condition is met.

When the event specified in the condition filter is applicable, the validation filter condition must be satisfied before the combination can be created. If the event specified in the condition filter isn't applicable, then the combination is considered to pass the rule and the rule won't be evaluated even if it's enabled.

> **Note:** If you don't specify any statement in the condition filter, then the condition is always true and the rule is always evaluated.

Enforcement

Cross-validation prevents creation of invalid combinations by administrators using maintenance pages and end users using dynamic insertion in foreign key pages.

Enabled rules are enforced when there is an attempt to create a new combination of segment values. Disabled rules are ignored. Deleting the rule has the same effect, but you can re-enable a disabled rule.

Timing

When users attempt to create a new combination, the key flexfield evaluates any cross-validation rules that are enabled and in effect.

> **Note:** Cross-validation rules have no effect on combinations that already exist. The flexfield treats any existing invalid combinations that pre-date the rule as valid.

If you want to prevent users from using previously existing combinations that are no longer valid according to your cross-validation rules, manually disable those combinations using the combinations page for that key flexfield.

When defining a cross-validation rule, specify a start and end date to limit the time when the rule is in effect. The rule is valid for the time including the From and To dates.

Related Topics

- Considerations for Cross-Validation Rules

Considerations for Cross-Validation Rules

To validate the key flexfield combinations of segment values across segments, optimize your cross-validation rules to improve the experience of administrators and users.

Consider the following when defining cross-validation rules:

- Filters
- Rule Complexity
- Maintenance

Filters

A cross-validation rule includes a condition filter and a validation filter. The rule is evaluated using the following logical order: If the condition filter is satisfied, then apply the validation filter.

The condition filter describes the event when the rule is evaluated. If the event specified in the condition filter isn't applicable, then the rule isn't evaluated, even if enabled. When the event specified in the condition filter is applicable, the validation filter condition must be satisfied before the combination can be created.

For example, your organization has determined that a certain company value called Operations can't use a specific cost center called Marketing. You can define a cross-validation rule to validate your combinations.

1. The rule evaluates the company condition filter.
2. When company is equal to Operations, the rule evaluates the cost center validation filter.
3. When cost center is equal to Marketing, the rule prevents a combination from being created.
4. The error message you defined for the rule displays to inform the user that the attempted combination violates the rule.

Such a rule doesn't affect the creation of combinations with Marketing cost center and company values other than Operations.

Rule Complexity

For optimal performance and ease of understanding, define several simple validation rules instead of using one complex rule. Simple validation rules let you provide a more specific error message and are easier to maintain over time.

Avoid rules that control validation across more than two segments, where possible. While you can define cross-validation rules that span two or more segments, it becomes difficult to interpret cross-validation error messages and rectify invalid key flexfield combinations.

Maintenance

To maintain consistent validation, review existing key flexfields when you update your cross-validation rules. Regardless of your current validation rules, you can use an existing key flexfield combination if it's enabled. Therefore, to ensure accurate validation, you must review your existing combinations and disable any combinations that don't match the criteria of your new rules.

> **Tip:** To keep this type of key flexfield maintenance to a minimum, decide upon your cross-validation rules when you first set up your key flexfield structure. Define cross-validation rules before creating combinations and before combinations are used in transactions.

To prevent users from using existing combinations that are no longer valid according to your cross-validation rules, disable them using the combinations page.

Related Topics

- Cross-Validation Rules

Overview of Cross-Validation Rules in General Ledger

You can use cross-validation rules to determine the valid account combinations that can be dynamically created as users enter transactions or journal entries.

Once enabled, a cross-validation rule determines whether a selected value for a particular segment of an account combination can be combined with specific values in other segments to form a new account combination.

For example, your organization has determined that the company Operations can't use the Marketing cost center. You can define a cross-validation rule such that, if the company is Operations, then validate that the cost center isn't Marketing. New account combinations have to satisfy all of the cross-validation rules enabled for the chart of accounts before they can be created.

Entry and Maintenance

This table describes the different methods that you can use to enter and maintain cross-validation rules.

Method	Navigation	What You Can Do
Manage Cross-Validations page, Rules tab	In the Setup and Maintenance work area, use the **Manage Cross-Validation Rules** task in the Financial Reporting Structures functional area.	• Create • Edit • View

Method	Navigation	What You Can Do
	Note: As an alternative navigation, select the **Manage Cross-Validation Rules** action on the Manage Chart of Accounts Configuration page.	• Upload to the interface table • Download from the interface table • Import from the interface table into the application • Download from the application • Submit the **Manage Account Combination Validation Rules** process
Cross-Validation Rules Import file-based data import (FBDI)	Access the FBDI template from either of these locations: 1. In the Oracle Help Center (https://docs.oracle.com), open the Oracle Fusion Cloud Financials File-Based Data Import (FBDI) for Financials guide. 2. In the Setup and Maintenance work area, use the **Manage Cross-Validation Rules** task in the Financial Reporting Structures work area.	Create and edit large volumes of cross-validation rules
Create Cross-Validation Rules desktop-integrated spreadsheet	In the Setup and Maintenance work area, use the **Create Cross Validation Rules in Spreadsheet** task in the General Ledger functional area.	Create a large volume of cross-validation rules.

To edit error messages for cross-validation rules, use this task in the Setup and Maintenance work area:

- Offering: Financials
- Functional Area: Financial Reporting Structures
- Task: Manage Messages for General Ledger

Tip: When you export or import cross-validation rules to a new instance using an export or import project in the Functional Setup Manager, you must add the **Manage Messages for General Ledger** task before the **Manage Cross-Validation Rules** task. You must export or import the messages before exporting or importing the cross-validation rules.

Existing Account Combinations

If existing account combinations violate newly enabled cross-validation rules, those account combinations continue to be valid. Before you disable existing account combinations that violate your rules and that you no longer use, move the balances in those accounts to the correct accounts. Then disable the account combinations to prevent further posting. Best practice is to define and enable cross-validation rules before account combinations are created, transactions or journal entries are imported or entered, and balances are loaded.

Related Topics

- Cross-Validation Rules
- Considerations for Cross-Validation Rules
- Create Cross-Validation Rules in a Spreadsheet
- How Cross-Validation Rule Violations Are Managed
- How do I update existing setup data?

Considerations for Enabling Key Flexfield Segments for Business Intelligence

A key flexfield registered in the database as enabled for Oracle Transactional Business Intelligence (OTBI) includes a BI Enabled setting for each of its segment instances. When a segment instance is BI-enabled, it's available for use in Oracle Transactional Business Intelligence.

The following aspects are important in understanding BI-enabled key flexfield segments.

- Flattening business components to use BI-enabled segments in Oracle BI
- Equalizing segments to prevent duplication and complexity in the flattened component
- Mapping attributes of flattened business components to logical objects in Oracle BI
- Managing the labels that map segments to logical objects in Oracle BI

After you deploy a business intelligence-enabled flexfield, use the Import Oracle Data Extensions for Transactional Business Intelligence process to import the flexfield changes into the Oracle Business Intelligence repository. Users can make use of the newly-generated attributes in business intelligence applications. For information about logical objects and import, see the Creating and Administering Analytics and Reports guide for your products.

Flattening

When you deploy a business intelligence-enabled key flexfield, the deployment process generates an additional set of flattened business components for use in business intelligence. The flattened business components include attributes for business intelligence-enabled segment instances only.

If you assigned a label to a segment, the flattened components include a single attribute representing all segment instances with that label. If you didn't assign a label, the flattened components include a discrete attribute for each BI-enabled segment instance in each structure.

Mapping to Logical Objects in Business Intelligence

You can simplify reporting by representing similar segments as a single logical object in Business Intelligence. If you assign a label to segments that serve the same purpose in different structures, you can consolidate the segments into a single attribute. This prevents duplication and the extra workload and complexity that result from the flattening process. For example, an organization may have more than one definition of its key accounting flexfield to support different requirements for accounting reporting. A US Accounting Flexfield structure may have a segment called Subaccount to track project expenditures. The same type of information may be tracked in a UK accounting flexfield structure with a segment called Project. Equalize these two segments to create a single list of values for reporting.

Non-labeled segments aren't equalized across context values, so the flattened components include a separate attribute for each segment for each structure. It may not be possible to equalize similarly labeled segments if they have incompatible data types or value set types.

Assign a label to a segment to map the corresponding attribute in the flattened components to a logical object in Oracle Business Intelligence. Using labels to map segments to BI logical objects minimizes the steps for importing the flexfield into Oracle Business Intelligence. Assigning a label to a segment serves to equalize the attribute across structures, as well as map the equalized attribute to business intelligence.

Managing Labels

You may assign a predefined label (if available) to segments or create labels for assignment, as needed. Specify a code, name, and description to identify each label. In the BI Object Name field, enter the name of the logical object in Oracle Business Intelligence to which the segment label should map during import. Specifying the BI logical object minimizes the steps for importing the flexfield into Oracle Business Intelligence and helps to equalize context-sensitive segments across structures.

If no labels are assigned to a BI-enabled segment, or the BI Object Name on the assigned label doesn't exist in business intelligence, you must manually map the segment to the required logical object when importing into Oracle Business Intelligence. In addition, segments without labels can't be equalized across structures. The flattened components include a separate attribute for each non-labeled segment in each structure.

Importing to Oracle Business Intelligence Repository

After you deploy a business intelligence-enabled flexfield, import the flexfield changes into the Oracle Business Intelligence repository to make use of the newly flattened business components in business intelligence. Then propagate the flexfield object changes. When you import the metadata into the Oracle Business Intelligence repository, you must do so as the FUSION_APPS_BI_APPID user.

To import flexfield changes into the Oracle Transactional Business Intelligence repository in Oracle Cloud implementations, run the Import Oracle Data Extensions for Transactional Business Intelligence process. For information about logical objects and import, see the Creating and Administering Analytics and Reports guide for your products.

> **Note:** When you import a flexfield into the Oracle Business Intelligence repository, you see both `<name>_` and `<name>_c` attributes for each segment, along with some other optional attributes. The `<name>_` attribute contains the value. The `<name>_c` attribute contains the code of the value set that the value comes from, and is used for linking to the value dimension. You must import both attributes.

Related Topics

- Considerations for Enabling Descriptive Flexfield Segments for Business Intelligence
- Overview of Key Flexfields
- Enable Key Flexfields for Business Intelligence Reporting
- Overview of Flexfield Change Import

Example of a Key Flexfields

A key flexfield can capture expense account information.

Scenario

When entering details for each expense, the user specifies an account to which the expense is charged.

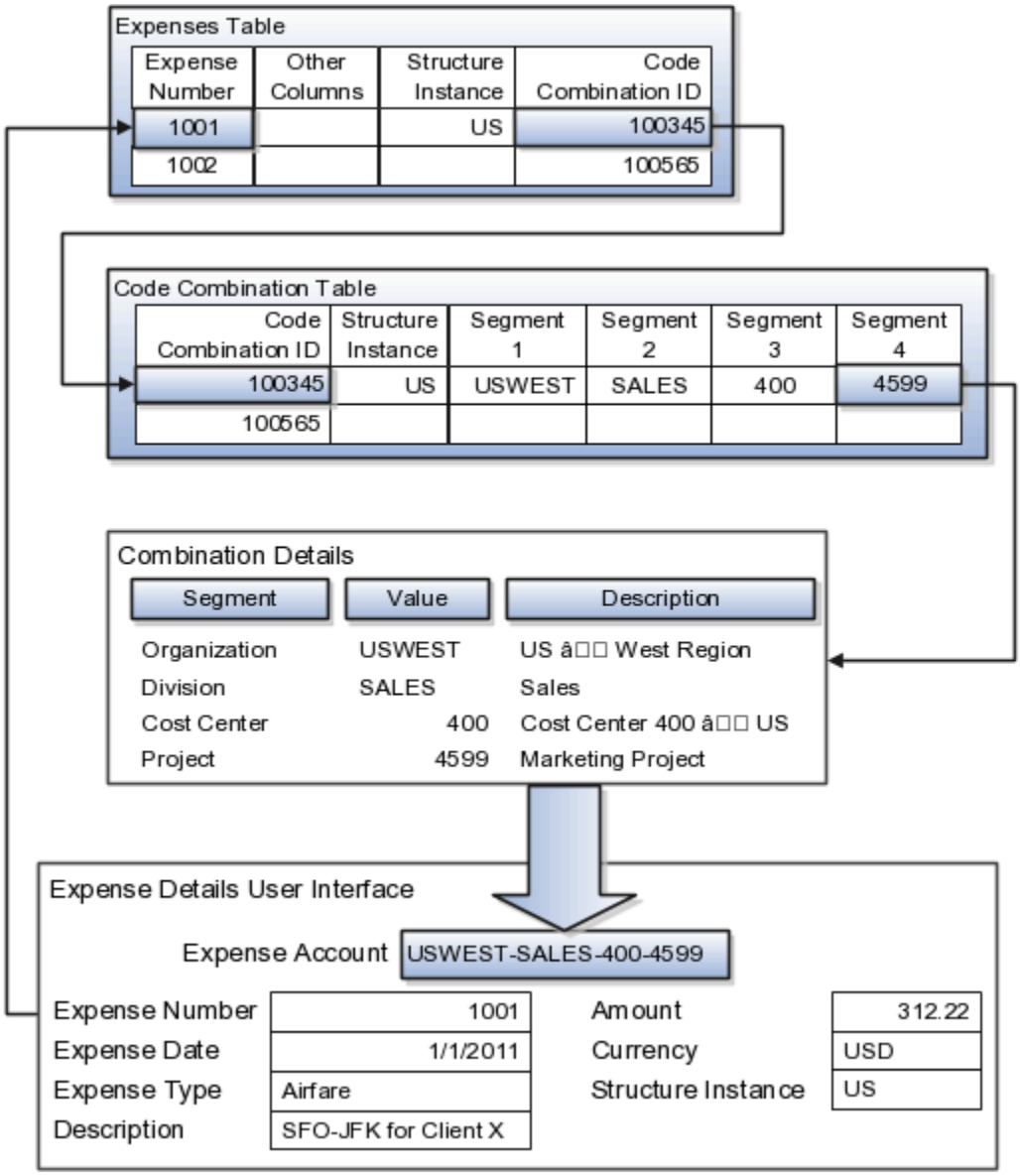
Entering Expense Accounts

A user interface for entering expenses helps the user select an expense account that identifies the cost center and other details needed for processing the expense.

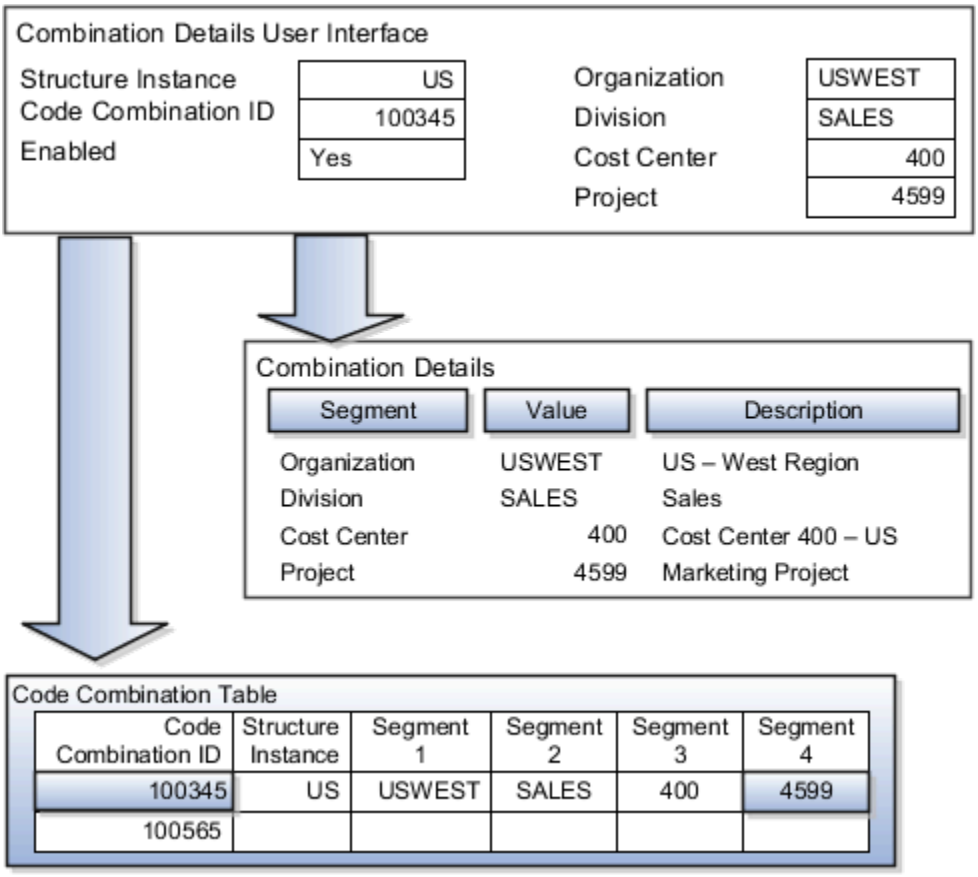
The expense account field is a foreign key reference to a account combination (EXPENSE_LINES.EXPENSE_ACCOUNT = ACCOUNT.COMBINATION).

Account combinations Table for Entering Accounts and Employees

The account combinations table supports entering account information, such as for expense accounts.



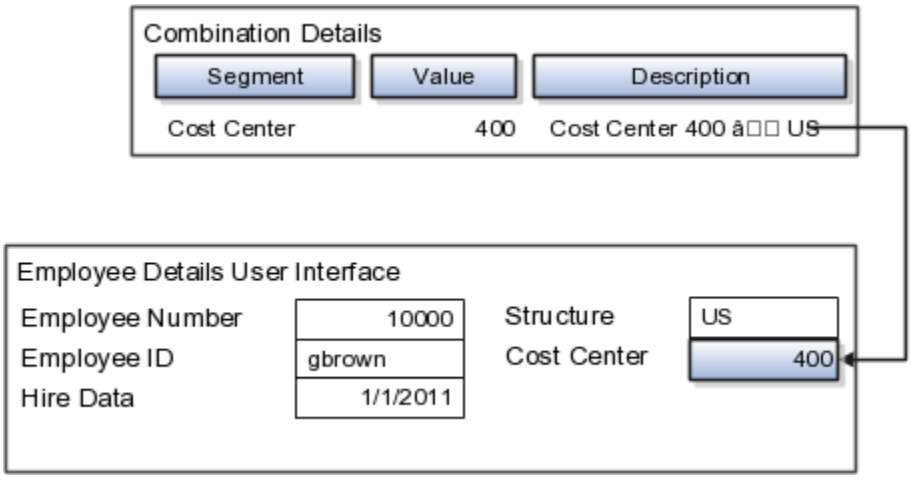
The combinations page, which is the maintenance page for the key flexfield, is for managing rows in the combinations table. In this example, managing the combinations means adding or editing account numbers that adhere to the key flexfield metadata rules.



If dynamic combination creation isn't enabled, then when entering an expense line, the user can only select an account that already exists in the ACCOUNTS (combinations) table. If they require an account that doesn't exist, they must consult with the appropriate application administrator who can add the account to the combinations table.

If dynamic combination creation is enabled, then when entering an expense line, the user can either select a preexisting account, or type in a new account that's created dynamically on the fly in the ACCOUNTS (combinations) table. Once the new combination is created, the same user can refer to it on the expense line.

When managing employee information, the user specifies the cost center that the employee belongs to. The cost center field corresponds to a single, labeled segment of the Account Key Flexfield and has metadata defined such as the allowable value set for that segment.



Related Topics

- Example of One Chart of Accounts Structure with Many Instances

Define Attachments

Attachments

You can use attachments to provide supplementary information to specific business objects. Attachments can be URLs, desktop files, text, or repository folders.

For a business object you can view, create, delete, or edit attachments, depending on your role and granted privileges.

Repository

Attachments are stored in a content management repository provided by Oracle WebCenter Content Server. Users managing attachments can't interact with the repository unless the repository mode is enabled. When enabled, users can share attachments among objects, update attachments, and perform other tasks. Access to the attachment files is controlled by a digital signing mechanism.

All attachments are scanned for viruses before they're stored on the content management repository. If a virus is detected at the time of upload, the attachment request fails and the user is notified about it.

Security

Data security applicable to a specific business object also applies to its attachments For example, if a user has no access to a specific expense report, then that user can't access its attachments. You can also use attachment categories to control access and actions on attachments, based on roles associated with that category.

Related Topics

- Attachment Entities
- What's an attachment category?

Attachment Entities

An attachment entity is usually a database entity, for example a table or view, that represents a business object with which attachments are associated. Each attachment UI must be defined with a corresponding attachment entity.

Attachment entities are used only in the context of attachments and exist separately from the database entities that they're based on.

In the Setup and Maintenance work area, use the **Manage Attachment Entities** task to edit and create attachment entities. You can either use the predefined attachment entities with attachment UIs or create entities, for example when developing your own UIs.

The entity name should match the name of the table or view that represents the business object used for attachment. The name is also used in the repository folder that's automatically created to store attachments for the entity.

The data security policies associated with the database resource defined for the attachment entity apply to attachments for that entity. However, the security setting must be enabled for that entity. The database resource value must match the value in the OBJ_NAME column in the FND_OBJECTS table for the business object that the entity represents.

Related Topics

- How Attachment Entities and Attachment Categories Work Together
- Modules in Application Taxonomy
- How Data Resources and Data Security Policies Work Together

How Attachment Entities and Attachment Categories Work Together

The association between attachment entities and categories determines the use of categories for an entity. For example, categories associated with the expense report attachment entity are available in the attachment UIs for expense reports.

You can configure the associations when managing either entities or categories. Between the Manage Attachment Entities and Manage Attachment Categories pages, any change in association on one page automatically reflects on the other page.

Managing Entities

In the Setup and Maintenance work area, go to the **Manage Attachment Entities** task. Determine the attachment categories that are relevant to a particular entity and assign it to those categories. Each entity must have at least one category. For a particular expense report page with attachments functionality, you can specify which category to use for the attachment. Accordingly, the data security defined for each category is applied to the attachments on that page if security is enabled.

Managing Categories

In the Setup and Maintenance work area, go to the **Manage Attachment Categories** task. If a category must be associated with multiple attachment entities, you can complete that association using this task. The association you define here reflects on the Manage Attachment Entities page for the respective entities.

Related Topics

- What's an attachment category?
- Attachment Entities

Attachments Troubleshooting

Attachments UIs are very user-friendly and easy to work with. You may encounter issues in certain cases such as you modify the attachments, for example create additional attachment categories, or implement data security on them.

Issue: Can't View, Add, Update, or Delete Attachments

You may encounter the following issues when trying to view attachments or perform actions such as adding attachments.

- You can no longer see specific attachments that were earlier visible.
- You can no longer update or delete attachments.
- You get an error stating that you don't have permission to add attachments.

Resolution

Use the Manage Attachment Entities page to ensure that attachment categories are associated to the relevant attachment entity. You might need to check with your system administrator or help desk to determine the exact entity used on the page with the expenses attachments or what categories to assign.

If data security is implemented on the categories for the attachment entity, verify that the Enable Security check box is selected in the Manage Attachment Entities page for that entity. Also, make sure that users have a role that has the necessary privileges. The following table lists the privileges required to view, add, update, or delete attachments with a specific attachment category.

Action	Privilege
View	Read Application Attachment (FND_READ_APPLICATION_ATTACHMENT_DATA)
Add or Update	Update Application Attachment (FND_UPDATE_APPLICATION_ATTACHMENT_DATA)
Delete	Delete Application Attachment (FND_DELETE_APPLICATION_ATTACHMENT_DATA)

For example, if users have the Read Application Attachment privilege for all categories associated with the expense report attachment entity, except the Receipts attachment category, then they can view all expense report attachments except those created with the Receipts category. Likewise, if users don't have the Update Application Attachment

privilege for any attachment categories tied to the expense report attachment entity, then they can't create any attachments for the expense reports.

Certain attachments UI have predefined restrictions for users on categories. Your developers can also introduce additional filters to determine which document categories are available for a specific page. Check with your developers or help desk.

Issue: Missing Attachment Category

You can view existing attachments but the attachments no longer have an attachment category associated with them.

Resolution

When the attachment was added, at least one category existed for the corresponding attachment entity. Since then, the entity was edited so that it no longer has any assigned categories, so the user can't see the category associated with that attachment.

Use the Manage Attachment Entities page to reassign attachment categories to the relevant attachment entity. For example, if users can no longer see the Receipts attachment category for an attachment to an expense report, then search for the expense report attachment entity and assign to it the Receipts category. You may need to check with your system administrator or help desk to determine the exact entity used on the page with the expenses attachments or any additional categories to assign.

Certain attachments UI have predefined restrictions for users on categories. Your developers can also introduce additional filters to determine which document categories are available for a specific page. Check with your developers or help desk.

Related Topics

- Attachment Entities
- How Attachment Entities and Attachment Categories Work Together
- What's an attachment category?

FAQs for Define Attachments

What's an attachment category?

You must use an attachment category to classify and secure an attachment. While adding attachments, you can view the available attachment categories and add the attachment to one of them.

For example, attachments for an expense report can be categorized as receipts, scanned invoice images, and so on.

In the Setup and Maintenance work area, use the **Manage Attachment Categories** task. You can associate roles with categories to restrict user access and actions for an attachment entity. You can also create and manage categories for your own purpose, involving specific attachments with specific security requirements.

Related Topics

- How Attachment Entities and Attachment Categories Work Together
- Modules in Application Taxonomy

11 External Integration

Web Services

Overview of Web Services

Use web services to integrate web-based applications into your Oracle Applications Cloud. Web services expose business objects and processes to other applications using open standards-based technologies.

Web services support development environments and clients that comply with these open standards:

- Extensible Markup Language (XML)
- Simple Object Access Protocol (SOAP)
- Business Process Execution Language (BPEL)
- Web Services Description Language (WSDL)
- XML Schema Definitions (XSD)

Oracle Applications Cloud has these two types of web services:

- Application Development Framework (ADF) services
- Composite services

Let's look at the web service types in detail.

Web Service Type	Description
ADF services	ADF services usually represent business objects, such as employees or purchase orders. You can use these services to expose standard operations, such as create, update, and delete. However, for locally-persisted objects, ADF services aren't limited to these operations. Here are a few examples of ADF services and what they're used for: • **`Worker.changeHireDate`** - Use to update the hire date of the worker business object. • **`ProjectTask.createTask`** - Use to adds a task to the project task business object.
Composite services	Composite services usually represent end-to-end business process flows that act on business events produced by the ADF services. You can use these services to manage multiple object-based services, rules services, and human workflows. Here are a few examples of composite services and what they're used for: • **`ProjectStatusChangeApproval.process`** - Use to accept the change in project status. • ScheduleOrchestrationOrderFulfillmentLineService.scheduleOrders - Use to schedule resources used to fulfill an order.

For more information about web services, see the SOAP Web Services guide for your cloud services.

Developer Connect

Overview of Developer Connect

The Developer Connect portal provides information about the web services deployed to your Oracle Applications Cloud instance. You can use this information to integrate with or extend Oracle Applications Cloud and develop solutions to suit your business requirements.

To use the Developer Connect portal, your job role must have the `FND_INTEGRATION_SPECIALIST_JOB`, `FND_APPLICATION_DEVELOPER_JOB`, or `ZCA_CUSTOMER_RELATIONSHIP_MANAGEMENT_APPLICATION_ADMINISTRATOR_JOB` privilege. Alternately, you can grant the `ATK_WEB_SERVICE_INFO_ACCESS_PRIV` entitlement to your custom role, and then grant the custom role to users who require access. For more information, see the security guide for the appropriate cloud service at Oracle Help Center (https://docs.oracle.com).

To open the Developer Connect portal, from the **Navigator** menu, select **Tools** > **Developer Connect**. This portal displays dynamic information of the web services, and the modifications done to web services to integrate with Oracle Applications Cloud. You can synchronize the Developer Connect portal with your cloud instance to retrieve the latest web service information such as service attributes, operations, business objects, security policies, and WSDL files.

Use the Developer Connect portal to:

- View the summary of the web service information such as the business object that the service defines, life cycle status, and security policy.
- Discover the operations available for the selected web service, and the request and response payloads for each operation.
- View the hierarchy of the service data objects and know information such as the data type and whether it's a required field for user-defined attributes.
- Review the sample payload XMLs for the operations of the web service. You can add or edit sample payloads, and also delete user-defined sample payloads.

Related Topics

- Manage Web Service Sample Payloads
- Import Value Set Values to Oracle Applications Cloud

Web Service Life Cycle

A web service goes through three phases in a life cycle:

- Active: A service is active when it's delivered the first time, until it's deprecated.
- Deprecated: A service is deprecated when it's superseded by a newer version, or if there is a planned obsolescence in a future release. A service in this state is still supported and becomes obsolete in a later release.

  > **Note:** You must use the active version of the service. If you were previously using a service that has been deprecated, then migrate to the new, active version.

- Obsolete: A service is obsolete when it's no longer shipped or supported.

Related Topics

- Overview of Web Services
- Message Patterns

Message Patterns

All operations exposed on a business object service have both synchronous and asynchronous message patterns defined. For conciseness, the service documentation includes the definition for the synchronous message pattern only.

Both synchronous and asynchronous operations have the same functional behavior, and request and response payloads. Custom object services don't have corresponding asynchronous operations.

Naming Conventions and Examples

The naming convention for the asynchronous operation is:

- Operation name: Synchronous operation name appended with `Async`
- Callback name: Synchronous operation name appended with `AsyncResponse`

Using `Help Topic Abstract` Service as an example, if the name of the synchronous operation is `getEntityList`, the asynchronous operation name and callback name would be `getEntityListAsync` and `getEntityListAsyncResponse`.

Related Topics

- Web Service Life Cycle
- Overview of Developer Connect

Manage Web Service Sample Payloads

This example demonstrates how to add and edit a sample payload XML for a web service operation. It also describes how to delete a user-defined sample payload XML.

Adding a Sample Payload XML

Follow these steps to add a sample payload XML for the `getEntityList` operation of `Help Topic Abstract` Service:

1. From the **Navigator** menu, select **Tools** > **Developer Connect**.
2. On the **Web Service** overview page, search for `Help Topic Abstract` Service, and click the service display name.
3. On the **Summary** page, click the **Sample Payloads** tab, and then click **Add Sample Payload**.
4. Select `getEntityList` operation from the list, and enter a brief description.
5. Enter the payload XML, and click **OK**.

Editing a Sample Payload XML

The Developer Connect portal displays predefined and user-defined payloads of the web services. You can edit only the user-defined payloads. Follow these steps to edit a user-defined sample payload of the `getEntityList` operation of `Help Topic Abstract` Service:

1. On the **Web Service** overview page, select `Help Topic Abstract` Service.
2. On the **Summary** page of the web service, click the **Sample Payloads** tab and select `getEntityList` operation.
3. In the **Edit Sample Payload** dialog box, edit the payload XML and click **OK**.

Deleting a Sample Payload XML

You can delete only user-defined payloads, and not predefined payloads. Follow these steps to delete a user-defined sample payload of the `getEntityList` operation of `Help Topic Abstract` Service:

1. On the **Web Service** overview page, select `Help Topic Abstract` Service.
2. On the **Summary** page of the web service, click the **Sample Payloads** tab and select `getEntityList` operation.
3. Click the delete icon for the selected operation and click **OK**.

Related Topics

- Overview of Developer Connect
- Import Value Set Values to Oracle Applications Cloud

Import Value Set Values to Oracle Applications Cloud

This example demonstrates how to use the information in the Developer Connect portal to import value set values to Oracle Applications Cloud.

Suppose a fictional partner application wants to extend it with certain functionality available in another application. Instead of creating the required business objects and attributes in this application, you can import them using a web service. Before you proceed with the import process, enable the access permissions for the web service and review the information in the Developer Connect portal:

- Synchronize the web services information
- Review the web service details
- Update the request payload

Synchronizing Web Services Information

You must synchronize the Developer Connect portal with your Oracle Applications Cloud instance to get the latest web service information. Follow these steps:

1. From the Navigator menu, select **Tools** > **Developer Connect**.
2. Click **Synchronize**.

> **Note:** The **Last Refreshed** date indicates when the Developer Connect portal was last synchronized with your cloud instance.

Searching And Reviewing Web Service Information

On the Web Services overview page, you can enter Manage File Import and Export in the Find field. You can also use Advanced Search option to find web service names that contain import, and select the relevant service from the search results.

To review the information:

1. On the Web Services overview page, select Manage File Import and Export Service. The Summary panel shows information such as the display name, business object that the service defines, life cycle status, QName, security policy used, and a brief overview of the service.
2. Click the Operations tab to view the operations supported by the web service.
3. Click the `uploadFiletoUCM` operation and review the result parameter in the response payload. This parameter holds the file ID in the WebCenter Content repository from which the value set values are imported.

4. Click the `valueSetValuesDataLoader` operation and review the `fileIdAtRepository` parameter in the request payload. This parameter holds the file ID in the WebCenter Content repository.
5. Click **WSDL File** link of the service to download the web service information.

Updating Request Payload

To add a sample payload to import the value set values:

1. Click the Sample Payloads tab and then click **Add Sample Payload**.
2. Select `uploadFiletoUCM` from the operation name list.
3. Enter a brief description of the payload in the description text box.
4. Add the payload to get the file ID from the WebCenter Content repository:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
 <soap:Body>
 <ns1:uploadFiletoUCM
xmlns:ns1="http://xmlns.oracle.com/oracle/apps/fnd/applcore/webservices/types/"
 ns2="http://xmlns.oracle.com/oracle/apps/fnd/applcore/webservices/"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">

 <ns1:document xsi:type="ns2:DocumentDetails">
 <ns2:fileName>VS123.txt</ns2:fileName>
 <ns2:contentType>plain/text</ns2:contentType> <ns2:content>
VmFsdWVTZXRDb2RlfEluZGVwZW5kZW50VmFsdWV8SW5kZXBlbmRlbnRWYWx1ZU51bWJlcnxJbmRlcGVuZGVudFZhbHVl
RGF0ZXxJbmRlcGVuZGVudFZhbHVlVGltZXN0YW1wfFZhbHVlfFZhbHVlTnVtYmVyfFZhbHVlRGF0ZXxWYWx1ZVRpbWVz
dGFtcHxUcmFuc2xhdGVkVmFsdWV8RGVzY3JpcHRpb258W5hYmxlZEZsYWd8U3RhcnREYXRlQWN0aXZlfEVuZERhdGVB
Y3RpdmV8U29ydE9yZGVyfFN1bW1hcnlGbGFnfEZsZXhWYWx1ZUF0dHJpYnV0ZTF8RmxleFZhbHVlQXR0cmlidXRlMnxG
bGV4VmFsdWVBdHRyaWJ1dGUzfEZsZXhWYWx1ZUF0dHJpYnV0ZTR8RmxleFZhbHVlQXR0cmlidXRlNXxGbGV4VmFsdWVB
dHRyaWJ1dGU2fEZsZXhWYWx1ZUF0dHJpYnV0ZTd8RmxleFZhbHVlQXR0cmlidXRlOHxGbGV4VmFsdWVBdHRyaWJ1dGU5
fEZsZXhWYWx1ZUF0dHJpYnV0ZTEwfEZsZXhWYWx1ZUF0dHJpYnV0ZTExfEZsZXhWYWx1ZUF0dHJpYnV0ZTEyfEZsZXhW
YWx1ZUF0dHJpYnV0ZTEzfEZsZXhWYWx1ZUF0dHJpYnV0ZTE0fEZsZXhWYWx1ZUF0dHJpYnV0ZTE1fEZsZXhWYWx1ZUF0
dHJpYnV0ZTE2fEZsZXhWYWx1ZUF0dHJpYnV0ZTE3fEZsZXhWYWx1ZUF0dHJpYnV0ZTE4fEZsZXhWYWx1ZUF0dHJpYnV0
ZTE5fEZsZXhWYWx1ZUF0dHJpYnV0ZTIwfEN1c3RvbVZhbHVlQXR0cmlidXRlMXxDdXN0b21WYWx1ZUF0dHJpYnV0ZTJ8
Q3VzdG9tVmFsdWVBdHRyaWJ1dGUzfEN1c3RvbVZhbHVl QX R0cmlidXRlNH xDdXN0b21WYWx1ZUF0dHJpYnV0ZTV8Q
3VzdG9tVmFsdWVBdHRyaWJ1dGU2fEN1c3RvbVZhbHVlQXR0cmlidXRlN3xDdXN0b21WYWx1ZUF0dHJpYnV0ZTh8Q3Vzd
G9tVmFsdWVBdHRyaWJ1dGU5fEN1c3RvbVZhbHVlQXR0cmlidXRlMTAKUkVMN19CNl9WU19DSEFSX0lORF9URVhUX01MM
jB8fHx8fFRyZWVzV1N8fHx8fFRlc3RpbmcgZm9yIEJ1ZyAxNzM3NTY4NHxOfDIwMDAtMTAtMDF8MjAwMC0xMC0zMHwxf
Hx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8
FdTfHx8fHxUZXN0aW5nIGZvciBCdWcgMTczNzU2ODR8WXwyMDExLTEwLTAxfHwyfHx8fHx8fHx8fHx8fHx8fHx8fHx8f
Hx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8
Hx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8
m9yIEJ1ZyAxNzM3NTY4NCB1cGRhdGVkfE58MjAwMC0wMS0xMXwyMDAwLTAxLTIyfDF8fHx8fHx8fHx8fHx8fHx8fHx8f
Hx8fHx8fHx8fHx8ClJFTDdfQjZfVlNfQ0hBUl9ERVBfVEVYVF9NTDIwfEZsZXhXU3x8fHxERkZXU3x8fHx8VGVzdGluZ
yBmb3IgQnVnIDE3Mzc1Njg0fFl8MjAwMC0wMS0wMXwyMDAwLTAxLTMwfDJ8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8f
Hx8fHx8ClJFTDdfQjZfVlNfTlVNX0lORHx8fHx8MTAwMHwxMDAwfHx8fFRlc3RpbmcgZm9yIEJ1ZyAxNzM3NTY4NHxZf
Hx8MXx8fHx8fHx8fHx8fHx8fHx8fHx8f Hx 8fHx8fHx8fHw K UkVMN19CNl9WU19OVU1fSU5EfHx8fHwyMDAwfHx8f
HxUZXN0aW5nIGZvciBCdWcgMTczNzU2ODR8WXwyMDExLTEwLTAxfDIwMTItMTAtMzB8Mnx8fHx8fHx8fHx8fHx8fHx8f
Hx8fHx8fHx8fHx8fHwKUkVMN19CNl9WU19OVU1fREVQfDEwMDB8MTAwMHx8fDEwMDAwfDEwMDAwfHx8fFRlc3RpbmcgZ
m9yIEJ1ZyAxNzM3NTY4NHxZfHx8MXx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHwKUkVMN19CNl9WU19OVU1fR
EVQfDIwMDB8fHx8MjAwMDB8fHx8fFRlc3RpbmcgZm9yIEJ1ZyAxNzM3NTY4NHxZfDIwMTEtMTAtMDF8MjAxMi0xMS0zM
HwyfHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8
FRyZWVzMVdTfHx8fFRyZWVzMSBUTFdTfFRlc3RpbmcgZm9yIEJ1ZyAxNzM3NTY4NHxOfDIwMTMtMTAtMTAtMTF8MjAxMy0xM
C0zMHwxfHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8
Hx8fEF0dGFjaG1lbnQxV1N8fHx8QXR0YWNobWVudDEgVExXU3xUZXN0aW5nIGZvciBCdWcgMTczNzU2ODR8WXwyMDEzL
TEwLTAxfDIwMTMtMTAtMzB8Mnx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHwKUkVMN19CNl9WU19EQVRFX0lOR
Hx8fHx8MjAzMC0wMS0wMXx8MjAzMC0wMS0wMXx8fFRlc3RpbmcgZm9yIEJ1ZyAxNzM3NTY4NHxZfDIwMTEtMTAtMDF8M
jAxMi0xMC0zMHwxfHx8fHx 8f Hx8fHx8fHx8f H x8fHx8fHx8fHx8fHx8fHx8fApSRUw3X0I2X1ZTX0RBVEVfSU5EfHx8f
Hx8fDIwMzAtMDEtMDJ8fHxUZXN0aW5nIGZvciBCdWcgMTczNzU2ODQtMXxZfDIwMTEtMTAtMDV8MjAxMi0xMC0zMHwyf
Hx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8
DEtMDF8fDIwMzAtMDEtMTF8fDIwMzAtMDEtMTF8fHxUZXN0aW5nIGZvciBCdWcgMTczNzU2ODR8WXwyMDExLTEwLTAxf
DIwMTItMTAtMzB8MXx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHwKUkVMN19CNl9WU19EQVRFX0RFUHwyMDMwL
TAxLTAxfHx8fDIwMzAtMDEtMjJ8fHx8fFRlc3RpbmcgZm9yIEJ1ZyAxNzM3NTY4NC0xfE58MjAxMS0xMC0wNXwyMDEyL
TEwLTMwfHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8
zEtMDMtMDEgMDE6MDA6MDAuMDB8fHwyMDMxLTAzLTAxIDAxOjAwOjAwLjAwfHxUZXN0aW5nIGZvciBCdWcgMTczNzU2O
```

```
DR8WXwyMDExLTAxLTAxfDIwMTItMDEtMzB8MXx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHwKUkVMN19CNl9WU
19EQVRFVElNRV9JTkR8fHx8fDIwMzEtMDMtMDEgMDI6MDA6MDAuMDB8fHx8fFRlc3RpbmcgZm9yIEJ1ZyAxNzM3NTY4N
C0xfE58MjAxMS0xMC0wMnwyMDEyLTEwLTMwfDJ8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8Cl1JFTDdfQjZfV
lNfREFURVRJT UV fREVQfDIwMzE t MDMtMDEgMDE6MDA6MDAuMDB8fHwyMDMxLTAzLTAxIDAxOjAwOjAwLjAwfDIwM
zEtMDMtMDEgMDE6MDE6MDAuMDB8fHwyMDMxLTAzLTAxIDAxOjAxOjAwLjAwfHxUZXN0aW5nIGZvciBCdWcgMTczNzU2O
DR8WXwyMDExLTAxLTAxfDIwMTItMDEtMzB8NHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHx8fHwKUkVMN19CNl9WU
19EQVRFVElNRV9ERVB8MjAzMS0wMy0wMSAwMTowMDowMC4wMHx8fHwyMDMxLTAzLTAxIDAxOjAyOjAwLjAwfHx8fHxUZ
XN0aW5nIGZvciBCdWcgMTczNzU2ODR8WXwyMDExLTAxLTAxfDIwMTItMDEtMzB8NHx8fHx8fHx8fHx8fHx8fHx8fHx8f
Hx8fHx8fHx8fHwK
 </ns1:content>
 <ns2:documentAccount>fin$/tax$/import$</ns2:documentAccount>
 <ns2:documentTitle>VS</ns2:documentTitle>
 </ns2:document>
 </ns1:uploadFiletoUCM>
 </soap:Body>
</soap:Envelope>
```

5. Click OK.
6. Select `valueSetValuesDataLoader` from the operation name list.
7. Enter a brief description of the payload in the description text box.
8. Add the payload to read the contents from the file and import the value set values:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
 <soap:Body>
 <ns1:valueSetValuesDataLoader
xmlns:ns1="http://xmlns.oracle.com/oracle/apps/fnd/applcore/webservices/types/">
 <ns1:fileIdAtRepository>1234</ns1:fileIdAtRepository>
 </ns1:valueSetValuesDataLoader>
 </soap:Body>
</soap:Envelope>
```

Related Topics

- Overview of Developer Connect
- Manage Web Service Sample Payloads

Cross-Origin Resource Sharing

CORS

Cross-Origin Resource Sharing (CORS) is a mechanism that allows cross-domain communication and lets a browser securely access resources from a different domain.

By default, browser-based programming languages, such as JavaScript, can access resources only from the same domain. But with CORS, you can overcome this limitation and manage resources across domains.

Here are the CORS headers you can configure to make that possible.

CORS Header	Purpose
Access-Control-Allow-Origin	Contains a comma-separated list of trusted origins, or domains, that a client application can get resources from.
Access-Control-Max-Age	Specifies how long to store the results of a request in the preflight result cache.

CORS Header	Purpose
Access-Control-Allow-Methods	Contains a comma-separated list of HTTP methods allowed in a request.
Access-Control-Allow-Headers	Contains a comma-separated list of HTTP headers allowed in a request.
Access-Control-Allow-Credentials	Specifies whether a client application can send user credentials with a request.

Example

A client application retrieves resource X from server A, which is what the application runs on. The client application then makes an HTTP request to get resource Y from server B. For this cross-server request to work, you must configure the `Access-Control-Allow-Origin` header in server B. Otherwise, the request fails and we end up with an error message.

Related Topics

- Configure CORS Headers
- Set Profile Option Values

Configure CORS Headers

To enable CORS in Oracle Applications Cloud, configure CORS headers so that client applications in one domain can use HTTP requests to get resources from another domain. Set values for profile options that correspond to the CORS headers.

To view the profile option, go to the Setup and Maintenance work area and use the Manage Applications Core Administrator Profile Values task in the Application Extensions functional area.

CORS Profile Options

This table lists the profile options you can set for CORS headers.

CORS Header	Profile Option Name (Profile Option Code)	Profile Option Values
Access-Control-Allow-Origin	Allowed Origins for Cross-Origin Resource Sharing (ORA_CORS_ORIGINS)	These are the values you can enter to indicate which origins are allowed: • URL of the specific origin. For example, **http://www.exampledomain.com**. • Space-separated list of origins. For example, **http://www.exampledomain.com http://us.example.com http://software.example.com** **CAUTION:** Asterisk (*) is no longer supported as a valid value to allow access to resources from all origins. If you have already set asterisk (*) as the value for the allowed origins, make sure to replace it with the allowed origins.

CORS Header	Profile Option Name (Profile Option Code)	Profile Option Values
		Note: These are some key points to remember while using the profile values: • You must set a value for this header to enable CORS. • Never enclose URL and asterisk in quotation marks. • Domain names must contain only valid URL characters. • The profile value is applicable at the Site level.
Access-Control-Max-Age	CORS: Access-Control-Max-Age (CORS_ACCESS_CONTROL_MAX_AGE)	Default value for caching preflight request is 3600 seconds.
Access-Control-Allow-Methods	CORS: Access-Control-Allow-Methods (CORS_ACCESS_CONTROL_ALLOW_METHODS)	Default values for allowed methods are **OPTIONS**, **HEAD**, **GET**, **POST**, **PUT**, **PATCH**, and **DELETE**.
Access-Control-Allow-Headers	CORS: Access-Control-Allow-Headers (CORS_ACCESS_CONTROL_ALLOW_HEADERS)	Default values: **Accept**, **Accept-Encoding**, **Authorization**, **Cache-Control**, **Content-Encoding**, **Content-MD5**, **Content-Type**, **Effective-Of**, **If-Match**, **If-None-Match**, **Metadata-Context**, **Origin**, **Prefer**, **REST-Framework-Version**, **REST-Pretty-Print**, **Upsert-Mode**, **User-Agent**, **X-HTTP-Method-Override**, and **X-Requested-By**.
Access-Control-Allow-Credentials	CORS: Access-Control-Allow-Credentials (CORS_ACCESS_CONTROL_ALLOW_CREDENTIA	Select **True** or **False** to allow or prevent sending user credentials with the request. The default is False. **CAUTION:** Don't set the value to True without assessing the risk. The value shouldn't be set to True if the value for ORA_CORS_ORIGINS is set to asterisk (*). The Access-Control-Allow-Credentials header won't be set if ORA_CORS_ORIGINS value is *. Setting the value to True affects all the Fusion Applications REST endpoints.

Related Topics

- Set Profile Option Values
- CORS

View Details About Predefined Scheduled Processes

To use web services to run predefined scheduled processes, you require details about the processes. View job definitions that the processes are based on, for example to get information about parameters.

You might also need to find security requirements for running the scheduled process.

Job Definitions

A job definition contains the metadata that determines how a scheduled process works and what options are available during submission.

To view job definitions:

1. Go to the Setup and Maintenance work area.
2. From the Application Extensions functional area, open any of these tasks as appropriate:
    - Manage Enterprise Scheduler Job Definitions and Job Sets for Financial, Supply Chain Management, and Related Applications
    - Manage Enterprise Scheduler Job Definitions and Job Sets for Human Capital Management and Related Applications
    - Manage Enterprise Scheduler Job Definitions and Job Sets for Customer Relationship Management and Related Applications
3. In the Manage Job Definitions tab, select your job definition and click **Edit**.

    Note: Predefined job definitions are marked with an asterisk.

4. Cancel after you get the information you need.

Security

Privileges provide the access required to run specific scheduled processes. Privileges are granted to duty roles, which are granted to job roles. To see which job roles inherit the required privileges, use the Security Console or the security reference manuals for the appropriate product family.

Deep Links

You can use deep links to open pages without using menus or navigating through pages. Deep links come in handy if you want users to go directly from various locations to Oracle Applications Cloud.

You can add deep links to a business intelligence report, an email notification, or a company website hosted on Oracle Cloud. For example, you can enable direct navigation to the My Team page. If users click your deep link URL from the company website, but aren't yet signed in to Oracle Applications Cloud, they're automatically redirected to the Sign In page. To see a complete list of the available deep links, use the Deep Links work area (**Navigator** > **Tools** > **Deep Links**). For access to this work area, you need to have the View Administration Link (FND_VIEW_ADMIN_LINK_PRIV) privilege.

How It Works

You can copy a URL from the Deep Links page and use it to create a link, for example on your company website. You can use deep links as is, to take users to a high level page, for example an overview or search page. Or, you can edit the URL so that it opens a page where the user can take action, for example to create something. For more information, refer to your product-specific documents.

URL Pattern of Deep Links

Here's a typical URL pattern of a deep link.

```
https://<pod-name>/fndSetup/faces/deeplink?
objType=<objID>&objKey=<name1=value1;name2=value2>&action=<action>&returnApp=<returnappURL>&returnAppParams=<returnAppPa
```

To direct users to a product-specific action page, you need to add specific parameters to the deep link URL. This table describes the parameters and gives you some examples of parameter values.

Parameter	Description	Example of Parameter Values
`pod-name`	The host name.	`pod.oraclecloud.com`
`objType`	The object type, such as work areas.	`SUPPLIER`
`objKey`	The object identifier.	`SupplierNumber`

`action`	The action that users can do on the page that the URL opens up, for example to edit something.
	
	Here are a few things to know:
	• If you don't add any value for the action parameter, this value is considered as `NONE` by default. So users will be taken to a high-level page, such as an overview page or a search page.
	• If the value you added for the action parameter doesn't match with any action on the UI, or the user doesn't have the privileges to access that action, they will be taken to a high-level page.
		`NONE`
		
		`VIEW`
		
		`CREATE`
		
		`EDIT`

`returnAppURL`	The application URL where users will be automatically redirected to when they try to return to the previous page, or after they complete their task. If you're using a third party URL, make sure the application name is registered using the Manage Integration of Additional Applications page in the Setup and Maintenance work area.	MyOracle
`returnAppParams`	Parameters for the return application URL.	type=photo

Where to Find Information About Product-Specific Deep Links

Here's some information about specific deep links depending on the products you're using. This isn't a comprehensive list of all available deep links.

- Oracle Fusion Cloud Supply Chain & Manufacturing

  See: *Deep Links for SCM*
- Oracle Fusion Cloud Procurement

  See: *Deep Links for Procurement*
- Oracle Fusion Cloud Succession Planning

  See: *Overview of Succession Plan Deep Links*
- Oracle Fusion Cloud Financial Reporting Compliance

  See: *Deep-Link URLs*

Related Topics

- Manage Integration of Additional Applications

12 File-Based Data Import (FBDI) and File Import and Export

File-Based Data Import (FBDI)

Overview of External Data Integration Services for Importing Data

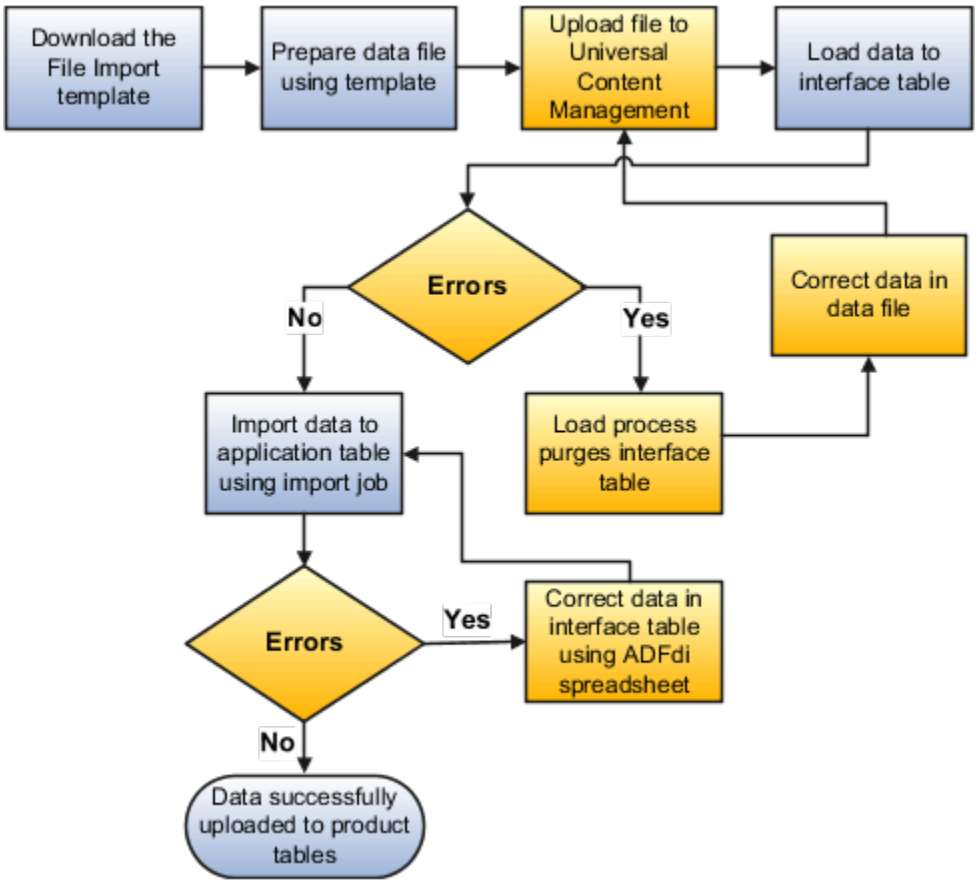
Use External Data Integration Services for Oracle Cloud to load data into the interface tables of Oracle Fusion Applications from external sources, such as legacy systems and third-party applications.

External Data Integration Services uses file-based data import (FBDI) templates and processes to import data.

The External Data Integration Services components consist of:

- Templates to structure, format, and generate the data file according to the requirements of the target application tables.
- File-based load process to load the data files into the interface tables.
- Application-specific data import processes to transfer data from interface tables to the application tables in your Oracle Fusion Applications.

The following flow diagram outlines the steps involved in loading data from external sources.



For further information, see Using External Data Integration Services for Oracle ERP Cloud (2102800.1) on My Oracle Support at **https://support.oracle.com**.

Related Topics

- Using External Data Integration Services for Oracle ERP Cloud

File Import Templates

The File Based Data Import guides in the Oracle Help Center (http://docs.oracle.com) include integration templates to help you prepare external data for loading and importing.

Each template includes table-specific instructions, guidelines, formatted spreadsheets, and best practices for preparing the data file for upload. Use the templates to ensure that your data conforms to the structure and format of the target application tables.

Preparing external data using templates involve the following tasks:

- Downloading templates
- Preparing data using the XLS template

Downloading Templates

To download the templates:

1. Open the File Based Data Import guide for your cloud service.
2. Locate the import process.
3. View the list of files.
    - Control files describe the logical flow of the data load process.
    - XLSM templates include the worksheets and macros for structuring, formatting, and generating your data file.
4. Click the template link in the File Links table to download the file. For example, click **JournalImportTemplate.xlsm** in the Journal Import topic.

Preparing Data Using the XLS Template

To prepare your data in a spreadsheet format:

1. Open the XLS template. The first worksheet in each file provides instructions for using the template.

    Note: If you don't follow the instructions, you get data load errors and data import failures.

2. Save the file.
3. Click the **Generate CSV File** button.

    The macro generates a comma-separated values (CSV) file and compresses the file into a ZIP file. You must transfer the ZIP file to the content management server.

Related Topics

- Use Excel Integration Templates to Generate Data Files
- Document Transfer Utility

Use Excel Integration Templates to Generate Data Files

The File Based Data Import guides in the Oracle Help Center (http://docs.oracle.com) include integration templates to help you prepare external data for loading and importing.

Each template includes table-specific instructions, guidelines, formatted spreadsheets, and best practices for preparing the data file for upload. Use the templates to ensure that your data conforms to the structure and format of the target application tables.

Template Structure

The integration templates include the following characteristics:

- Each interface table is represented by a separate worksheet.
- Each interface table field is represented by a worksheet column with a header in the first row.
- Each column header contains bubble text or comments that include details about the column, such as the expected data type, length, and, in some cases, other instructional text.

- Columns are formatted, where applicable, to match the target field data type to eliminate data entry errors.

  The worksheet columns appear in the order that the control file processes the data file.

For more information on the template structure, see the Instructions and CSV Generation worksheet in the template.

Template Requirements

To minimize the risks of an unsuccessful data load, ensure the following:

- Unused columns can be hidden, but not reordered or deleted.

  > **CAUTION:** Deleting or reordering columns causes the load process to fail and results in an unsuccessful data load.

- External data must conform to the data type accepted by the control file and process for the associated database column.
- Date column values must appear in the YYYY/MM/DD format.
- Amount column values can't have separators other than a period (.) as the decimal separator.
- Negative values must be preceded by the minus (-) sign.
- Column values that require whole numbers include data validation to allow whole numbers only.
- For columns that require internal ID values, refer to the bubble text for additional guidance about finding these values.

After you finish preparing the data in the sheet, click the **Generate CSV File** button to generate a ZIP file containing one or more CSV files.

Related Topics

- File Import Templates
- Import Data into Application Tables

Transfer Data Files to UCM Using Manual Flow

After you generate the ZIP file that contains the CSV data import file, transfer the ZIP file to the content repository.

Use any of the following methods to transfer file:

- File Import and Export page in Oracle Fusion Applications: Manual flow
- Oracle Fusion ERP Integration web service: Automated flow

Aspects of transferring data files to content management involve the following:

- Target accounts
- Accessing transferred content

Predefined Target UCM Accounts

You can transfer data files to predefined accounts in the Universal Content Management server that correspond to the interface table or assets.

To find the UCM account:

1. Open the File Based Data Import guide for your cloud service.
2. Locate your respective import process. For example, **Journal Import**.
3. View the UCM account in the Details section.

For more information, see the following guides in the Oracle Help Center (**https://docs.oracle.com**):

- SOAP Web Services guide for your cloud services
- File Based Data Import guide for your cloud services

Related Topics

- Document Transfer Utility

Document Transfer Utility

The WebCenter Content Document Transfer Utility for Oracle Fusion Applications is a feature-set Java library that provides programmatic access to the content repository.

Use the utility to import and export documents, such as import files that contain external data that you want to load into interface and application tables.

The library includes:

- Oracle WebCenter Content client command line tool
- Oracle WebCenter Content remote intradoc client (RIDC)
- Oracle HTTPClient
- Oracle Fusion Applications branding and defaults

Options for the WebCenter Content Document Transfer Utility for Oracle Fusion Applications fall into these categories:

- DownloadTool program options
- UploadTool program options
- Debugging and silent invocation options

DownloadTool Program Options

This table describes the download tool program options:

Option	Description
`url`	Protocol-specific connection URL of content server
`user name`	User name to leverage
`password`	Password, supplied in command line
`passwordFile`	Password, supplied in text file on the first line of the file

Option	Description
`dID`	ID of document revision to download dID is unique across repository dID changes with each revision **Note:** Alternatively, specify the `dDocName` and `RevisionSelectionMethod` to identify the `dID` to leverage.
`dDocName`	Content name Multiple revisions of a document can share the same `dDocName` value, otherwise it is unique. **Note:** You should also provide `RevisionSelectionMethod` value.
`RevisionSelectionMethod`	Revision to download Valid values: `Latest`, `LatestReleased` Default value: `Latest`
`outputFile`	Path and name of local file to write

Here you see a sample download invocation command:

```
java -classpath "oracle.ucm.fa_client_11.1.1.jar" oracle.ucm.client.DownloadTool
url=http://ucmserver.com:16200/cs/idcplg username=weblogic password=welcom3i
dID=21537 outputFile="/tmp/output.doc"
```

Here you see sample output:

```
Oracle WebCenter Content Document Transfer Utility
Oracle Fusion Applications
Copyright (c) 2013, Oracle. All rights reserved.
Performing download (GET_FILE) ...
Download successful.
```

UploadTool Program Options

This table describes the upload tool program options:

Option	Description
`url`	Protocol-specific connection URL of content server
`username`	User name to leverage

Option	Description
`password`	Password, supplied in command-line
`passwordFile`	Password, supplied in text file on the first line of the file
`primaryFile`	Fully-qualified path of local primary file to upload
`dDocAccount`	Destination account
`dDocTitle`	Document title
`checkout`	If uploading a document revision, check out the document from the repository before uploading the revision Valid values: `true`, `false` Default value: `false`
`ignoreCheckoutErrorNeg22`	Ignore error -22 (user has already checked-out the document) when checking-out the document. Valid values: `true`, `false` Default value: `true`

Here you see a sample upload invocation command:

```
java -classpath "oracle.ucm.fa_client_11.1.1.jar" oracle.ucm.client.UploadTool
url=http://ucmserver.com:16200/cs/idcplg username=weblogic password=welcom3i
primaryFile="/tmp/resume.doc" dDocTitle="Resume of MSMITH" -dDocAccount=/acme/sales
```

Here you see sample output:

```
Oracle WebCenter Content Document Transfer Utility
Oracle Fusion Applications
Copyright (c) 2013, Oracle. All rights reserved.
Performing upload (CHECKIN_UNIVERSAL) ...
Upload successful.
[dID=21537 | dDocName=UCMFA021487]
```

Debugging and Silent Invocation Options

This table describes the usable options which are common to all tools.

Option	Description
`verbose`	Verbose output Log filled with Request/Response DataBinders
`quiet`	Minimal output

Option	Description
`version`	Print tool revision or version
`log_file_name`	Send program output to specified log file instead of the System.out log file
`log_file_append`	Append log to existing log file rather than overwrite it Valid values: `true`, `false` Default value: `false`
`socketTimeout`	Override time out of socket Specify override time in seconds

You can use the tools to test the connection. Provide only the url, user name, and password as you see in this sample test:

```
java -classpath "oracle.ucm.fa_client_11.1.1.jar" oracle.ucm.client.DownloadTool
url=http://ucmserver.com:16200/cs/idcplg username=weblogic password=welcom3i
```

Here you see the sample output:

```
Oracle WebCenter Content Document Transfer Utility
Oracle Fusion Applications
Copyright (c) 2013, Oracle. All rights reserved.
Performing connection test (PING_SERVER) ...
Connection test successful.
```

Related Topics

- Overview of External Data Integration Services for Importing Data
- Use Excel Integration Templates to Generate Data Files
- Transfer Data Files to UCM Using Manual Flow

Load Interface File for Import Process

Use the Load Interface File for Import scheduled process when you need to import external setup or transaction data from your CSV files into the interface tables. The process prepares the data for import into application tables.

Run this process from the Scheduled Processes page. You can run it on a recurring basis.

When to Use

Use this scheduled process when you load data from the CSV files into the interface table that corresponds to the template that you use to prepare the data.

Before running this process, you must complete these steps:

1. Prepare your data file. For details, see *File Import Templates*.

2. Create the import file. For details, see *Use Excel Integration Templates to Generate Data Files*.
3. Transfer the data file to the content repository. For details, see *Transfer Data Files to UCM Using Manual Flow*.

Privileges Required

Privileges are granted to duty roles, which are granted to job roles. To see which job roles inherit the required privileges, use the Security Console or see *Security Reference for Financials* and *Security Reference for Common Features*.

Specifications

Use these specifications when you run the scheduled process.

Specification	Description
Job Type	We recommend that you use Scheduled, but you can also run it on demand, when needed.
Frequency	There are no constraints.
Time of Day	Run it when your system isn't processing a lot of transactions.
Duration	Not applicable.
Compatibility	None.

Parameters

The Import Process parameter and the Data File parameter are required. Set the parameters, as necessary.

Parameter	Description
Import Process	Select the target import process.
Data File	Do these steps. 1. Click the **down arrow** in the Data File attribute. 2. Scroll down, then click **Upload a New File**. 3. In the Upload File dialog, click **Select File**. 4. In your Windows Explorer window, locate and select the .zip file that you created when you used the Price List Import Template, then click **Open**. 5. In the Upload file dialog, click **OK**. 6. In the Process Details dialog, make sure the Data File attribute displays the name of the .zip before you continue.

Troubleshooting Information

See:

- *Correct Import Load Process Errors*

Related Topics

- File Import Templates
- Use Excel Integration Templates to Generate Data Files
- Transfer Data Files to UCM Using Manual Flow
- Correct Import Load Process Errors
- Document Transfer Utility
- Import Data into Application Tables

Import Data into Application Tables

The final destination for your external data is the application data tables of your Oracle Fusion application.

Importing data into application tables involves the following:

- Loading data into interface tables
- Finding and submitting the import process

Loading Data into Interface Tables

Interface tables are intermediary tables that store your data temporarily while the application validates format and structure. Run the Load Interface File for Import scheduled process to load data from the data file into the interface table that corresponds to the template that you use to prepare the data.

To load your data into interface tables, submit the Load Interface File for Import scheduled process using the following steps:

1. From the Navigator, click **Tools**.
2. Click **Scheduled Processes**.
3. Click the **Schedule New Process** button.
4. Search and select the Load Interface File for Import job.
5. On the Process Details page:
    a. Select the target import process.
    b. Enter the data file name.
6. Submit the process.

If the process is successful, the status is SUCCEEDED and the process populates the interface tables. If the process isn't successful, the status is ERROR.

Note: The data file remains in the content repository after the process ends.

Finding and Submitting the Import Process

Run the appropriate import process to import the data into the interface tables of your Oracle Fusion application.

To import your data into the application tables:

1. From the Navigator, click **Tools**.

2. Click **Scheduled Processes**.
3. Click the **Schedule New Process** button.
4. Search and select the import process for the target application tables.
5. On the Process Details page, select the process that corresponds to the data that you're importing. For example, **Journal Import**.

   If you prepared your data using the spreadsheet template, select the process shown in the Overview section of the spreadsheet.
6. Submit the process.

If the process is successful, the status is SUCCEEDED. The data in the interface tables is validated and the successful records are imported into the Oracle Fusion application tables. If the process isn't successful, the status is ERROR.

> **Note:** For more information on the process used for data prepared using the spreadsheet template, see the *Instructions and CSV Generation* tab of the spreadsheet template.

Related Topics

- Document Transfer Utility
- Use Excel Integration Templates to Generate Data Files
- Correct Import Load Process Errors

Correct Import Load Process Errors

The Load Interface File for Import process ends in error if the load of the data file fails on any row. The Load File to Interface child process ends as an error or warning.

All rows that were loaded by the process are deleted and the entire batch of records is rejected.

Correcting Data Upload Errors

To correct errors:

1. Review the error logs.
2. Change any structural or formatting anomalies in the data.
3. Generate the ZIP file containing the CSV files using the template.
4. Upload the file to the UCM server and resubmit the Load Interface File for Import process.
5. Repeat these steps until the process successfully loads all the data.

Correcting Import Process Errors

If the import process fails with errors:

1. Review the errors in the import log.
2. Correct the error records using the ADFdi correction spreadsheets.

Related Topics

- Import Data into Application Tables
- Load Interface File for Import Process

File Import and Export

Overview of Files for Import and Export

You can import data into or export data out of the applications. A repository stores the content and the import and export processes handle the data movement into and out of the repository.

Integration specialists stage data for import and export. Application administrators run processes to import data in repositories of content to application transaction tables, or retrieve data exported from applications.

Aspects of managing files for import and export involve the following:

- Using the File Import and Export page
- Interacting with content management
- Uploading to facilitate import
- Downloading to facilitate export
- Determining the file size

The File Import and Export Page

Use the File Import and Export page to upload content to or download content from the document repository of Oracle WebCenter Content. Search criteria on the page are limited to the minimum metadata of content management records needed for file import and export. To open the page, from the **Navigator** in the global header, select **Tools** > **File Import and Export**.

Contact the WebCenter Content Administrator for the following additional requirements:

- Information or assistance regarding general access to content management (including all metadata)
- Creating and managing accounts
- Programmatically uploading and downloading content

Interacting with Content Management

Each user with access to the File Import and Export page is assigned to one or more accounts in Oracle WebCenter Content. Accounts organize and secure access to the content items.

Uploading to Facilitate Import

Uploading a file creates a record in Oracle WebCenter Content. When you upload a file, you must also specify an account to which you upload the file. The account you specify determines which import process picks up that file to import it. You can upload any compatible file format, such as MIME, which the content repository can parse. However, the uploaded format must conform to the requirements of the import process. For example, the comma-separated values (CSV) file for the Load Interface File for Import process.

1. Click **Navigator** > **Tools** > **File Import and Export**.
2. In the Search Results section, click **Actions** > **Upload**.
3. On the Upload File window, click **Browse** and select the file to be uploaded.
4. From the Account list, select the account with which you want to associate the file.

5. Click **Save and Close**.

The details of the uploaded file appear in the Search Results section. Each uploaded file is assigned a unique Content ID.

Downloading to Facilitate Export

Records in the search results table of the File Import and Export page provide download links to the files.

File Size

Upload and download don't apply the following by default:

- Data compression
- File splitting

The `UPLOAD_MAX_DISK_SPACE` parameter in the `web.xml` file defines the maximum allowable file size in content management. By default, this limit is set to 2147483648 bytes (2GB), which means you can't upload files larger than 2GB. Also, several factors can impact file uploads, such as network request timeouts, virus scanning, and network bandwidth and server performance. To optimize your upload experience, here are a few recommendations:

- Consider breaking large files into smaller parts.
- Avoid uploading large files from mobile devices.
- Complete large uploads in an office or high-speed network environment.

Related Topics

- Overview of External Data Integration Services for Importing Data
- Guidelines for File Import and Export
- Import Data into Application Tables

Guidelines for File Import and Export

Interaction between the File Import and Export page and Oracle WebCenter Content requires securing content in an account. You can use the predefined accounts that are available in Oracle WebCenter Content.

Areas of file import and export involve the following:

- Defining security
- Searching records
- Accessing content in a new account
- Naming the account
- Deleting files

Defining Security

You require the File Import and Export Management duty role for accessing the File Import and Export page. This duty role is included in the predefined role hierarchy for integration specialist roles and product family administrator roles. Files in Oracle WebCenter Content are associated with an account so that only users having access to that account can work with those files. Account names are unique and each account is treated as discrete by access control. You can

only upload and download files to and from content repositories that are linked to the accounts you can access. The underlying integrated content management handles security tasks such as virus scanning.

Searching Records

A record in Oracle WebCenter Content contains the metadata used for accessing the file. When a scheduled process is run on a file, the record for the file is assigned a process ID.

Accessing Content in a New Account

After you create a new account in Oracle WebCenter Content, restart the content server. Otherwise, when you use the File Import and Export page to access content in the new account, you may experience a delay. The policy store is being updated with the new account information, which causes the delay.

Naming the Account

If you create accounts for importing or exporting data, use the following conventions for naming the account:

- Don't include a slash (/) at the beginning or end.
- End the name with a dollar sign ($) to avoid partial string matching.
- Use dollar sign and slash ($/) as a separator in the hierarchical structure.

For example: `fin$/journal$/import$` The File Import and Export page transforms account names by removing the dollar sign ($) separators. For example `fin$/journal$/import$` appears as `fin/journal/import`. The Remote Intradoc Client (RIDC) HTTP command-line interface (CLI) transforms the account name you specify without the dollar sign ($) to one that includes the sign. For example, fin/journal/import becomes `fin$/journal$/import$` in WebCenter Content.

Deleting Files

You can delete one file at a time when you use the File Import and Export page. To delete multiple files simultaneously from the content repository, use the standard service page in Oracle WebCenter Content.

Related Topics

- Import Data into Application Tables
- Overview of Files for Import and Export
- Document Transfer Utility

13 Scheduled Processes

What are scheduled processes?

Scheduled processes do tasks that are too complex or time-consuming to do manually, for example importing data or updating many records. You can run scheduled processes on a recurring schedule and send notifications based on how the process ends.

Some scheduled processes give you printable output. Those processes might have **Report** in their name.

Use the Scheduled Processes work area to run all the processes you've access to and to manage submissions. If you need access to this work area, ask your security administrator to assign you a role that gives you access, for example a custom role with the the Manage Scheduled Processes (FND_MANAGE_SCHEDULED_PROCESSES_PRIV) privilege. Other than the Scheduled Processes work area, you might be also able to run certain processes from other work areas.

Jobs and Job Definitions

Each scheduled process that you run is based on a job. The job is the executable that controls what the process does. Each job needs a job definition, which, for example, identifies the parameters and other options you've set for the process. You or your administrator can create job definitions for Oracle Analytics Publisher reports so that users can run the reports as scheduled processes.

Process Sets

A process set is a scheduled process that contains multiple processes or even other process sets. So, when you submit a process set, you're running more than process.

> **Note:** When you submit certain scheduled processes, the job logic causes other processes to automatically run. But in this case, you're not submitting a process set that includes those other processes.

Submission

When you submit a scheduled process, you can use its parameters to control how, and which records are processed. For example, a process includes only the transactions that were edited by the person you select for a Last Updated By parameter. Some scheduled processes don't have parameters.

As part of the submission, you can also set up a schedule for the process, for example to run once a week for two months. Every time a process runs, there's a unique process ID.

Output

Some scheduled processes provide output in PDF, HTML, and other formats. For example, a process can import records and also produce output with details about those records. There are many types of output, for example a tax document or a list of transactions.

Process Sets

A process set is a scheduled process that contains at least two processes. So you can run many processes in one go, for a specific purpose.

Processes in process sets run in a certain order, in serial or parallel, or by some other logic. For example, let's say we have a process set with three processes to do these three tasks:

- Validate and clean up records.
- Import the records.
- Give a report on the imported records.

What They Contain

Process sets can have any number of individual scheduled processes and even other process sets. Sometimes, a single process set has multiple process sets that are nested. For example, a process set can include three processes and two process sets, one of which contains another process set.

Related Topics

- Example of Process Details for a Process Set
- Submit Scheduled Processes and Process Sets
- What are scheduled processes?

Submit Processes

Submit Scheduled Processes and Process Sets

Watch video

Use the Scheduled Processes work area to run all the scheduled processes that you've access to, including process sets. You can also submit many processes from other work areas.

Some processes that give you output are also reports that you can view from the Reports and Analytics work area or panel tab. You can find that panel tab in some work areas. It's quick to submit a scheduled process with the bare minimum steps. But there are many additional options you can set, for example, if you want to run the process on a schedule.

Select the Scheduled Process and Define Parameters

Here's what you do:

1. Click **Navigator** > **Tools** > **Scheduled Processes**.
2. On the Scheduled Processes Overview page, click **Schedule New Process**.
3. Leave the type as **Job**, select the process that you want to submit, and click **OK**.

4. In the **Process Details** dialog box, enter at least the required parameters, if any.
    - Some processes have no parameters at all.
    - Some parameters depend on other parameters. For example, date range parameters might appear only after you select **By Date** for another parameter.
5. Click the Advanced button if you want to define the schedule, notifications, or output. Continue to the next steps. Or, just skip to the steps for finishing the submission, to run the process once as soon as possible with the default output.

Define the Schedule

Set up a schedule to run the process on a recurring basis or at a specific time. Use the Process Details dialog box in Advanced mode.

1. Open the Schedule tab and select **Using a schedule** for the **Run** option.
2. Select a frequency, for example **Daily** or **Monthly**.
    - Select **User-Defined** if you want to enter the exact dates and times to run the process.
    - You can select **Use a Saved Schedule** to use an existing schedule, if there are any.
3. Depending on the frequency you selected, define when the process should run.

Some processes can't be run more often than a certain frequency, for example more than every 10 minutes. But there are some situations where that validation doesn't apply, for example, when different users run that same process less than 10 minutes apart. Or, if you use a saved schedule that has an individual run in addition to the regular frequency, for example a schedule that runs every 10 minutes and once at five minutes after the first run.

Define the Output

You can choose the layout, format, and destination for your output. Use the Process Details dialog box in Advanced mode.

1. Open the Output tab, if available.
2. Click **Add Output Document**.
3. Change the name if you want. The name identifies this output document when you go to view output later.
4. Select a layout if you've more than one to choose from.
5. Select a format, for example one of these options:
    - **PDF:** Is the best option if you want to print the output.
    - **Excel:** Supports embedded images, such as charts and logos, but can be opened only in Excel 2003 or higher.
    - **Data:** Gives you report data in an XML file, which is used mainly for editing the report layout.
6. Click **Add Destination** to send the output somewhere, for example to a printer or email address. You can add many destinations and send the output to all of them at the same time.

    > **Tip:** You can also print the output as part of the steps for finishing the submission, instead of adding a printer destination here.

7. To add more output documents, repeat steps 2 to 6.

Set Up Notifications

You can have notifications sent out depending on how the process ends. Use the Process Details dialog box in Advanced mode to set that up. These notifications are in English and they show times in UTC, no matter what language and time zone the recipient has in their preferences.

1. Open the Notification tab.
2. Click **Create Notification**.
3. From the **Address Type** list, select whether you want to identify the recipient by their email address or user ID.
4. In the **Recipient** field, enter either the email address or user ID of the person you want to send the notification to.
5. In the **Condition** list, select when to send the notification, for example when the process ends in error.
6. Click **OK**.
7. To send notifications to more people, repeat steps 2 to 6.

Finish the Submission

Follow these steps in the Process Details dialog box:

1. Click the **Process Options** button if you want to define settings that affect the data to be processed.
2. If the process gives you output and you want to print it, select the **Print output** check box and a printer.
3. Select the **Notify me when this process ends** check box if you want to get a notification. This notification is in English and shows times in UTC, no matter what language and time zone you have in your preferences.
4. Enter submission notes to capture any information you want to associate with this submission. You can use your notes to find this submission later.
5. Click **Submit**.
6. Click **OK** to confirm.

> **Tip:** Note down the process ID for your submission if you might need to easily find it later. For example, let's say you set the process to run once a week. If you later want to cancel all runs on this schedule, you need to cancel this original submission with the process ID you see.

Submit Process Sets

To submit a process set from the Scheduled Processes Overview page:

1. Proceed with the steps that you would follow to submit any scheduled process, but select **Job Set** for the **Type** option.
2. In the Process details dialog box, set parameters for individual processes in the set. A process set itself doesn't have parameters.
    a. Select a process on the Processes tab.
    b. Enter parameters for that process, if any.
    c. Repeat for other processes in the set.
3. Define the schedule, output, and notifications for the process set, as you would do for any scheduled process.
4. Set any other options and click **Submit**.

Whether you use the Notifications tab or the **Notify me when this process ends** check box, or both, notifications are sent when the entire process set ends, not when each process within the set ends.

Related Topics

- Examples of Process Options
- Example of Process Details for a Process Set
- View Status and Other Details for Scheduled Processes
- View Analytics, Reports, and Dashboards

Examples of Process Options

When you submit scheduled processes, click the **Process Options** button in the Process Details dialog box to set options such as language and time zone.

Here are a few things to know:

- Your settings affect the data to be processed and what you get in the output.
- If the process is running on a schedule, your settings apply to every run.
- The settings override what's set in general preferences, which you can get to by clicking your user name in the global header and selecting **Set Preferences**.

Let's take a look at some examples of process options that you can set.

Language

You set the language process option to Spanish, while the Current Session field is set to Japanese in your general preferences. So, your output is in Spanish. If you don't set the language process option, the output is in Japanese.

Currency

You set the currency process option to Euro, while your general currency preference is set to Yen. The scheduled process makes calculations based on the Euro, and the output shows all monetary amounts in Euro.

Example of Process Details for a Process Set

When you're submitting a process set with the Process Details dialog box, you can open the Processes tab to see what's in the process set. Here's the information you get for every process in the process set.

- Process Name: A process in the process set.
- Path: The step ID of the process, preceded by the step ID of the process set that the process is nested under, if any. Every process and nested process set in the process set that you're submitting is considered a step and has a unique step ID.

  > **Tip:** If a process shows up more than once in the process set you're submitting, use the path information to differentiate between those instances.

- Parent Process Set: The direct parent of the process, either the process set you're submitting or the process set that the process is nested under.

Scenario

Let's try to understand what we are looking at in the Processes tab. Say you're submitting a process set called Full Cleanse and Import, which contains a Clean Records process and a nested Quick Import process set. The nested process set has two processes, one of which is the same Clean Records process.

- Clean Records process (with a step ID of `CleanRec1`)
- Quick Import process set (`QuickImpo1`), which has two processes:
  - Import Records process (`ImpoRec1`)
  - Clean Records process again (`CleanRec1`)

This table shows what we see in the Processes tab for this example.

Process Name	Path	Parent Process Set
Clean Records	**CleanRec1**	Full Cleanse and Import
Import Records	**QuickImpo1.ImpoRec1**	Quick Import
Clean Records	**QuickImpo1.CleanRec2**	Quick Import

Manage Processes and View Output

Statuses of Scheduled Processes

After you submit a scheduled process, it can go through many statuses until it reaches a final state.

This table explains the statuses you might see. The Action Required column tells you if something can be done for the process:

- **No (in progress):** The process was submitted and hasn't reached a final state yet. But you or administrators don't need to do anything to move the process along.
- **Yes:** You or administrators need to do something to get the process to another status.
- **No (final):** The process has reached a final state, and nothing else can be done.

Status	Description	Action Required?
Blocked	At least one other running process is incompatible with and currently blocking your process. The situation will be automatically fixed.	No (in progress)
Canceled	The process was canceled, and you can't restart it.	No (final)

Status	Description	Action Required?
Canceling	The process is currently moving to the Canceled status.	No (in progress)
Completed	The main part of the process completed, and postprocessing (such as sending notifications and generating output) has started.	No (in progress)
Error	The process finished running and ended with errors.	No (final)
Error Auto-Retry	The process ended with errors but will automatically run again.	No (in progress)
Error Manual Recovery	The process ended with errors and requires an administrator to move the process to a final state.	Yes
Expired	The process didn't run and its schedule already ended. You can't restart it, but you can resubmit with the same parameters or submit a new process.	No (final)
Finished	The process ran based on a schedule, and it's either a process set or a process that causes other processes to automatically run. Either way, all processes involved are done running.	No (final)
Hold	The process is put on hold and needs someone to release it before it can continue running.	Yes
Paused	The process is paused so that another process that was automatically kicked off can run first.	No (in progress)
Pending Validation	Some validations, for example related to security, are performed on the process before it runs.	No (in progress)
Ready	The process passed validation and is about to start running.	No (in progress)
Retrying	The process resulted in an error but will try again. It will automatically rerun at the time you see in the Scheduled Time column on the Scheduled Processes Overview page. The number of retries depends on how the job is set up. After all the retries, if the process still can't run successfully, it will end with the Error status.	No (in progress)

Status	Description	Action Required?
Running	The main part of the process is currently running.	No (in progress)
Schedule Ended	The last submission in a schedule has happened for a process that's either a process set or a process that causes other processes to automatically run. Either way, all processes involved have started running, but might not be done yet.	No (in progress)
Succeeded	The process successfully completed.	No (final)
Validation Failed	The process failed validation.	No (final)
Wait	The process passed validation but isn't running yet.	No (in progress)
Warning	The process finished running and ended with a warning, for example, that a notification wasn't sent.	No (final)

Related Topics

- View Status and Other Details for Scheduled Processes

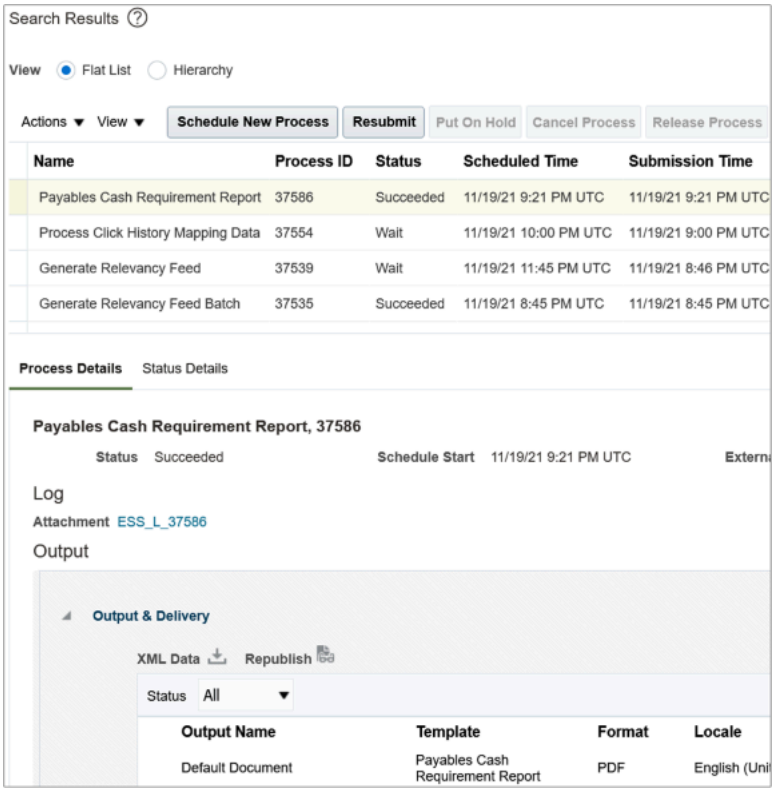
View Status and Other Details for Scheduled Processes

After you submit a scheduled process, you can track its progress. Processes can finish running in seconds, or a few minutes, or even longer.

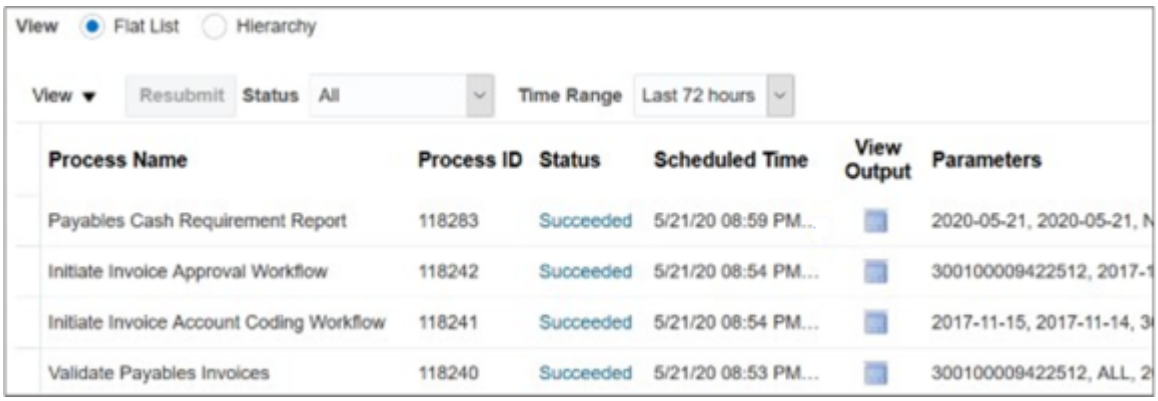
If something interrupts a process while it's running, for example a server restarting, then the process automatically picks up where it left off. If you need to see all processes, not just the ones you submitted, ask your security administrator to assign you a custom role that has the ESS Monitor Role (ESSMonitor) or ESS Operator Role (ESSOperator).

Here's where you can find processes that were submitted:

- Scheduled Processes work area



- Other work areas with a section for scheduled processes, if available.



Check the Status in the Scheduled Processes Work Area

Here's how you find your scheduled process and see how it's doing.

1. Click **Navigator** > **Tools** > **Scheduled Processes**.
   The Search Results table shows processes that were submitted in the last hour because the default saved search is **Last hour**. The table might be blank if nothing was submitted in the last hour.
2. If you don't see the process, click the **Refresh** icon or run a search. For the search, enter your own criteria or select another saved search. Here are a few examples of saved searches you can use:
   - Last 24 hours
   - Last 72 hours
   - Cancelable Processes

   > **Tip:** In the search results, select **Hierarchy** for the **View** option to see, for example, the structure of nested processes or process sets within a process set. For processes running on a recurring schedule, the parent node is the original submission, the child nodes each run in the schedule.If submission notes were entered when submitting the process, you can use the **Submission Notes** column to help identify the process.
3. Refresh the search results at any time to see the latest status of the process in the **Status** column. You can also check the **Start Time** column to see if the process has started running yet.

   > **Note:** Times such as start time and scheduled time are shown in the time zone you set in your preferences. If you change your preferences, you can see the change in the Scheduled Processes work area next time you sign in.
4. To get more details about the status, select your process in the Search Results table and open the Status Details tab. Here's some of the information you might find:
   - Status description, which explains what the current status means.
   - The position of the process with the Ready status, in the sequence of submitted processes. For example, if your process is queued up for submission at position 5, there are four processes that need to start running before your process starts.
   - Duration of a process, based on its current status.
     - How long process has been blocked: If a process is blocked, you can see how long it has been in the blocked status. For blocked processes, you can also expand the Incompatibility section to get information about which incompatible processes are preventing yours from running.
     - How long process has been running: If a process is running or completed, you can see how long it has been in the running status. If your process is in progress, and it's blocking other processes, you can also see IDs of those processes, which can't run until yours is done.
     - How long process took to complete: If a process is completed, you can see how long it took to complete with Error, Finished, Warning, or Succeeded status.
   - On the Status Details tab, you can also expand the Status of Items to Process section, if available.
     Here are a few things to know about the Status of Items to Process section:
     - This section isn't available for process sets. But, it's available for individual processes, including those within process sets, that are in these statuses:
       - Running
       - Completed
       - Succeeded

- Error
- Error Auto-Retry
- Error Manual Recovery
- Canceled
- Canceling
- Warning
- Hold
- Paused

- If a specific process is predefined to show progress information through graphs, you can see that information in one or more graphs. For example, a process importing lines from a file might show a graph called Lines. You hover over parts of the graph to see how many lines are successfully imported, how many ended up in error, and how many are still pending. A process can have multiple graphs, depending on what it's working on.

5. With your process still selected in the Search Results table, optionally click the **View Log** button (if available), especially if information isn't available in the Status of Items to Process section. The type of information in the log varies, depending on the process. You can open the log from here only if the process is currently running. When the process is done, you might want to also take a look at the final log, if any, from the Process Details tab.

View Other Details in the Scheduled Processes Work Area

To get more information about a scheduled process, select it in the Search Results table and see the Process Details tab that appears after the table. These are some of the details you might find:

- Completion text, which is automatically generated when the process reaches a final state. What you see depends on the process. For example, it might say that the process finished 1792 records in less than a second.
- The log attachment, for example for details about why the process ended in error.
- Report output that the process generated, if any.
- Parameters for the scheduled process.
  - Open the Parameter Names with Values subsection to see the parameters from the Process Details dialog box and the values that were entered when the process was submitted.
  - Use the All Parameter Values subsection for troubleshooting purposes, if you need to see the parameters and values in their actual, technical format. This subsection might have more parameters. For example, some processes run with additional parameter values that are derived from the parameter values you entered when you submitted the process.

Monitor Scheduled Processes in Other Work Areas

Some work areas have a section where you can monitor the scheduled processes that were already submitted.

1. Go to the section if it's available, usually on the landing page of the work area.
2. Click the **Refresh** icon if you don't see any processes or need to see the latest status.
   - If you still don't see the process you're looking for, try changing the filters. If that doesn't help, use the Scheduled Processes work area instead.
   - If submission notes were entered when submitting the process, you can use the **Submission Notes** column to help identify the process.

3. Do either of these things to check on the progress of the process:
    - For more details about the status, click the status link. For example, if a process is in the Ready status, you can click the **Ready** link in the **Status** column to see where the process is in the submission queue.
    - Check the **Start Time** column to see if the process has started running yet. If it has, you can click the link in the **View Log** column to get information about how the process is running.

Related Topics

- Statuses of Scheduled Processes
- What do I get if I view scheduled processes in a hierarchy?
- View Output from Scheduled Processes
- Cancel or Make Changes to Scheduled Processes
- Resubmit Scheduled Processes and Process Sets

Cancel or Make Changes to Scheduled Processes

Life is full of second chances! After a scheduled process is submitted, you can still cancel it or make other changes in the Scheduled Processes work area.

What you can do to the process depends on its status. Also, depending on what you've access to, you can even work on processes that someone else submitted. If you need to cancel processes that someone else submitted, ask your security administrator to assign you a custom role that has the ESS Administrator Role (ESSAdmin).

Make Changes to Processes

Select the scheduled process in the Search Results table. Here are some things you might be able to do.

Changes you can Make to Processes

Task	Prerequisite	Procedure
Edit Schedule Change the submission schedule, for example, to submit it biweekly instead of weekly.	This option is there only if you select the row with the process ID you got when you submitted the process to run on a schedule. The row should be the parent node when you view the search results in a hierarchy, and the status should be **Wait**.	From the **Actions** menu, select **Edit Schedule**.
Edit Output Change output options of a process, for example, from HTML format to PDF.	You can do this only if the process generates output, and hasn't started running yet.	From the **Actions** menu, select **Edit Output**.
Put On Hold Pause the process.		Click the **Put On Hold** button.

Task	Prerequisite	Procedure
Release Process Resume a process that's on hold so that it continues to run.		Click the **Release Process** button.
Change Process Priority Change the priority of a process to affect when it runs. When there are many submitted processes, those with a lower number, for example 2, would usually run before those with a higher number, for example 7.	You can do this only if your implementor has enabled priorities for scheduled processes, and you've a custom role that has the ESS Administrator Role (ESSAdmin). You can change priorities only for processes that have the **Blocked**, **Hold**, **Ready**, or **Wait** status.	Click the **Change Process Priority** button.

Note: Even if the process hasn't started, you can't change the parameter settings. You can cancel the process and submit again with the parameter values you want.

Cancel a Process

Select the scheduled process in the Search Results table, and click **Cancel Process**.

Cancel a Process Running on a Schedule

If you submitted a process to run on a schedule, for example once a day, you can cancel the scheduled runs even if some of the runs already happened.

1. Find the original submission, the row with the process ID you got when you submitted the process. The row should be the parent node when you view the search results in a hierarchy, and the status should be **Wait**.
2. Click **Cancel Process**.

   When you cancel this original submission, you cancel any current and future runs based on the schedule you had set.

What to Do If Processes Take a Long Time to Cancel

Sometimes it takes a while for a process to finish canceling. So, you can use the **Actions** menu to end it. The option you get depends on the process.

Options and Descriptions

Option	Description
Hard Cancel	To end the process shortly after you canceled it, without waiting for the cancellation to finish by itself.
Force Cancel	To end a process that has been canceling for over 30 minutes but isn't done yet.

Processes on Remote Servers

Some processes run on a remote server. Even if the status for the process that you hard or force canceled has changed to **Canceled**, the process might still be running on the remote server. With the scheduled process still selected in the Search Results table, you check the status of the remote process on the **Process Details** tab that appears after the table.

Option You Used to End Your Process	Field that Shows the Status of the Remote Process	Status of Process on Remote Server
Force Cancel	**Remote Process Status**	• **Completed Successfully**: The remote process was successfully canceled within the 30 minute grace period. • **Running/Unknown**: Your scheduled process is in a Canceled state, but the remote process is still running. • **Terminated**: Your scheduled process is in a Canceled state, and the remote process is successfully canceled after the 30 minute grace period.
Hard Cancel	**External Job Status**	• **Completed Successfully**: The remote process has successfully canceled. • **Running/Unknown**: Your scheduled process is in a Canceled state, but the remote process is still running.

Cancel Processes in Bulk

You can cancel up to 100 processes at once, as long as the processes haven't reached a final state.

1. Click **Navigator** > **Tools** > **Scheduled Processes**.
2. In the Search section, select **Cancelable Processes** from the **Saved Search** list.
3. Make sure that what you get in the Search Results table meets these requirements:
    - No more than 100 processes
    - Only processes with a cancelable status:
        - Wait
        - Ready
        - Running
        - Completed
        - Blocked
        - Hold
        - Paused
        - Pending Validation
        - Schedule Ended
        - Error Auto-Retry
4. Use the Search section to change your search results, if you need to.
5. Select **Cancel Processes in Bulk** from the **Actions** menu.

Related Topics

- View Status and Other Details for Scheduled Processes
- Allow Updates to Scheduled Process Priority

Resolve Blocked or Incompatible Processes

If your scheduled process has a Blocked status, that means another process that's currently running is incompatible with your process and preventing your process from starting. Incompatible processes can't be running at the same time.

A process can be self-incompatible, which means it can't start if another submission for the same process is currently running. For example, if you get an error in the log saying that one or more requests are currently pending for definition, that means the process is self-incompatible.

There are two types of incompatibilities:

- Global: Incompatible processes can never run at the same time, including self-incompatible processes.
- Domain-Specific: Processes are incompatible only if they also have another matching criterion. So you might see that two processes are shown as incompatible, but notice that other submissions for the same two processes are running at the same time.

If you were able to submit a process but it's now blocked, here's how you can find what's incompatible:

1. Click **Navigator** > **Tools** > **Scheduled Processes**.
2. Select your process in the Search Results table and open the Status Details tab.
3. Expand the Incompatibility section to see which processes are incompatible with yours.

When you have a blocked process, you can go with one of these options:

- Wait for the incompatible process to finish running so that yours can start. Optionally find that process in the Search Results table and track its status.
- Cancel the incompatible process. For processes running on a schedule, view search results in a hierarchy and cancel the child node the represents what's currently running. Even after you cancel, it's possible your process won't start immediately, depending on how many other submissions there are.
- Put the incompatible process on hold so that your process can run. You might need to resubmit your process. For processes running on a schedule, view search results in a hierarchy and put on hold the child node the represents the next run. Release the process after yours is done running.

View Output from Scheduled Processes

Other than processing records, some scheduled processes also give you output. When you submit the process, you can select the output layout and format, and set other output options.

In the Scheduled Processes work area, you can view the output and even republish it in a different format without resubmitting the process. You might be able to see the output from other work areas too.

When You're In the Scheduled Processes Work Area

Here's what you do:

1. Click **Navigator** > **Tools** > **Scheduled Processes**.
2. Find your scheduled process and, if you need to, refresh the search results to see the latest status.
3. Select the scheduled process.
4. Go to the Output subsection on the Process Details tab.
5. Click the link in the **Output Name** column to view or download the output, which you can then print.
6. To view or export the output in a different format, follow these steps:

a. Click the **Republish** button.
b. Click the **Actions** icon.
c. Select **Export**, and then select a format.

   If you want the Data format, you can also just click the **XML Data** icon instead.

Note: On the Process Details tab, if you don't see an Output subsection, look for a Log and Output subsection. The output might be there instead as an attachment. This is likely if the Output tab isn't available when you submitted the process in Advanced mode.

When You're In Other Work Areas

Some other work areas have a section, usually on the landing page of the work area, where you can monitor the scheduled processes that were already submitted. In the table there, find your process and click the **Output** icon in the **View Output** column.

Related Topics

- Submit Scheduled Processes and Process Sets

Resubmit Scheduled Processes and Process Sets

You can easily resubmit scheduled process using the exact same parameter values, if the process has a Succeeded status and wasn't part of a submission involving other processes.

For process sets, you can also resubmit after changing any of the parameters or other options.

Resubmit Processes

In the Scheduled Processes work area, here's how you resubmit processes using the same parameters:

1. Click **Navigator** > **Tools** > **Scheduled Processes**.
2. In the Search Results table, select your process and take a look at its details, including parameter values.
3. Click **Resubmit**.

Some other work areas have a section, usually on the landing page of the work area, where you can monitor the processes that were already submitted. In the table there, you can also select your process, see its parameter values, and click the **Resubmit** button.

Resubmit Process Sets

Resubmit process sets from the Scheduled Processes work area, not other work areas.

1. Click **Navigator** > **Tools** > **Scheduled Processes**.
2. See process details, including parameter values, for the processes that ran as part of your process set.
3. In the Search Results table, select your process set.
4. Click **Resubmit**, and you're done. Or, click the **Resubmit** drop-down button and select **Resubmit with Changes**.
   a. In the Process Details dialog box, select a process on the Processes tab.
   b. Change any of the parameters.

c. Repeat and change parameters for any of the other processes in the process set.
d. Define anything else as part of the submission, for example the schedule.
e. Click **Submit**.

Both options to resubmit are available for process sets in either of these situations:

- The process set has any of the statuses in a final state, for example Succeeded or Canceled.
- The process set ran on a schedule and has either the Wait or Schedule Ended status. The option applies only to the original submission, the row with the process ID you got when you submitted the process to run on a schedule. The row would be the parent node when you view the search results in a hierarchy.

Related Topics

- Submit Scheduled Processes and Process Sets
- View Status and Other Details for Scheduled Processes

FAQs for Scheduled Processes

What do I do if I can't find scheduled processes that were already submitted?

Some of the work areas where you do your business tasks might have a section you can use to monitor scheduled processes.

If the process you're looking for here was submitted before anything in the Time Range filter, then go to the Scheduled Processes work area (**Navigator** > **Tools** > **Scheduled Processes**). There, you can set the Submission Time criterion, for example, to search for processes that were submitted after a certain date or between the dates you specify.

If you're in the Scheduled Processes work area and still can't find your process, check if you've noted somewhere when the process was submitted or when it ran. Processes that finished a while ago might not be available any more. Processes can be kept for at most 60 days, but it might be much shorter, for example 7 or 15 days.

Which role gives me access to the Scheduled Processes work area?

Any that has the Manage Scheduled Processes (FND_MANAGE_SCHEDULED_PROCESSES_PRIV) privilege. Ask your security administrator to assign you a custom role with this privilege.

Why can't I see Scheduled Processes in the Navigator or home page?

If you have a role that should give you access, but you still can't see Scheduled Processes in the Navigator or on the home page, it's possible that the work area isn't currently available to anyone.

Your administrator should make sure in the Structure work area that **EL Expression** is selected for the **Show on Navigator** list, and the EL expression is this:

```
#{(securityContext.userGrantedResource
['resourceType=FNDResourceType;resourceName=FND_Scheduled_Processes_Menu;action=launch'])}
```

Why can't I find the scheduled process that I need to run?

It's possible that you don't have access to it. Ask your security administrator to assign you a role with the privilege that gives you access to that process. This is especially likely for custom processes.

When your administrator creates a new job definition, a new privilege is automatically created, and it's not assigned to anyone by default.

What's the maximum number of scheduled processes that can run at the same time?

It depends on the setup for your cloud service. If you need more information, contact your help desk.

What do I get if I view scheduled processes in a hierarchy?

When you select **Hierarchy** for the **View** option, you might see some search results in a hierarchical structure. Here are some possibilities for what the hierarchy can represent.

Hierarchy View

Parent Node	Child Nodes
A submitted process set.	The nested processes or process sets within the submitted process set.
A process or process set submitted to run on a schedule.	Each run in the schedule.
A process or process set that causes other processes to run automatically.	The other processes that run.

Related Topics

- Process Sets

How do I cancel or make changes to scheduled processes that are submitted to run on a recurring schedule?

First, if you can, find the process that was submitted on a recurring schedule by its process ID.

If you don't have the process ID, here's how you find it:

1. In the Scheduled Processes work area, search by the process name, the Wait status, and a submission time before the current date.
2. For the search results, select **Hierarchy** for the **View** option.
3. Select the parent node that represents the process submitted to run on a schedule.

With the process selected in the Search Results table, select what you want to do from the Actions menu. For example, **Edit Schedule** to change the end date or frequency, or **Cancel Process** to cancel the original submission and all remaining runs.

If the **Edit Schedule** option isn't available, it's likely that the process was submitted outside the application, for example through a SOAP web service. And, the schedule was defined with iCalendar in a way that doesn't map to what you can define on the Edit Schedule page.

Why can't I force cancel a scheduled process?

The **Force Cancel** option is available only if the process has already been canceling for more than 30 minutes.

For some processes, you get a **Hard Cancel** option instead, which is available soon after you cancel the process. Which option you get depends on the process.

How can I export search results for scheduled processes to a spreadsheet?

Here's what you do:

1. Click **Navigator** > **Tools** > **Scheduled Processes**.
2. On the Overview page, expand the Search section and run your search.
3. If you're happy with the search results, click the **Download Results** button in the Search section.
4. In the Download Results dialog box, select the number of records you want to export.
5. Select the **Include Job's item counts** check box to include an **Items to Process (Success/Error/Total)** column in the spreadsheet.
6. Click **Download**.

> **Tip:** If you see any difference between the spreadsheet and the Search Results table, refresh the table and then compare again.

Why doesn't the time zone for a submitted process match the time zone I used to submit or search for the process?

When you submit a process, you can select the time zone to use to define a recurring schedule.

You can also click the **Process Options** button and set a time zone just for that submission, which affects for example any parameters and output. When you search by submission time in the Scheduled Processes work area, you can also select a time zone.

But, when showing information about processes that were already submitted, the work area always reflects the time zone you set in your preferences. For example, this applies to the scheduled start time you see in the Search Results table and the Process Details tab. If you change your preferences, you can see the change in the Scheduled Processes work area next time you sign in.

Why don't notifications reflect my language or time zone?

All notifications for scheduled processes are in English and show times in UTC, no matter what language and time zone you have in your preferences.

This applies to notifications you get when you select the **Notify me when this process ends** check box. Or, when you set up notifications in the Notifications tab when you're submitting the process in Advanced mode.

Can I get notified every time a process within a process set ends?

No, notifications are sent only when the entire process set ends, not when each process within the set ends.

What happens to processes scheduled by a user who is no longer here?

If a user is inactive, for example because they left the company, the processes they submitted on a recurring schedule won't run.

For security reasons, it's best that you cancel that submission and schedule a new one if still needed. The same situation applies to users who are locked or failed to authenticate.

Where to Find Information About Financials Scheduled Processes

Here are some scheduled processes that are available as part of Oracle Financials Cloud.

Expenses

Scheduled Process	Description
Automatically Submit Expense Reports See: *Schedule Processes*	Creates and submits expense reports automatically without validation errors.
Create Corporate Card Issuer Payment Requests See: *How Corporate Card Issuer Payment Requests for Company Pay Transactions Are Processed*	Creates invoices for subsequent payment to corporate card issuers.
Create Expenses from Email Receipts See: *Enable Creating Expenses from Email Receipts*	Creates expenses from email receipts.
Import Travel Itineraries See: *How You Set Up Travel Integration* See: *How You Resolve Travel Itinerary Import and Validation Issues* See: *How You Set Up Travel Itinerary Validation Rules*	Imports travel itineraries from a third-party booking tool.
Processes Trip Expense Report See: *How You Set Up Travel Integration*	Processes trip expense reports that are created from a travel itinerary.
Process Expense Reimbursements and Cash Advances See: *Expense Report Data Flow Using a Third-Party Application*	Creates invoices for expense report reimbursements and cash advance payments.
Process Overdue and Missing Receipts See: *How Overdue and Missing Receipts Are Processed*	Processes overdue and missing receipts after expense report submission.
Upload Cash Advances See: *Upload a Cash Advance File from a Third-Party System*	Uploads open cash advances to the cash advances table.
Upload Cumulative Mileage See: *How You Upload Cumulative Mileage from a Third Party*	Uploads cumulative mileage for employees so they can submit mileage expenses.

Scheduled Process	Description

Fixed Assets

Scheduled Processes	Description
Asset Physical Inventory Comparison See: *How Physical Inventory Interface Import Data Is Processed*	Compares the entered physical inventory data with the asset book, and lists the differences and possible actions to correct the differences.
Calculate Depreciation See: *How Depreciation Is Calculated*	Calculates depreciation for assets in a book for the current open period. This process also closes the current open period.
Calculate Lease Interest and Expense See: *Guidelines for Classifying Leases*	Calculates lease interest and expense amounts for leased assets in a book for the current open period.
Create Accounting for Assets See: *Run the Create Accounting for Assets Process*	Creates journal entries for all asset transaction events. The created journal entries can be transferred to and posted in General Ledger.
Import Asset Leases See: *How Fixed Asset Lease Import Data Is Processed*	Creates asset lease transactions from the data in the lease open interface tables.
Perform Initial Mass Copy See: *Guidelines for Running the Perform Initial Mass Copy Process*	Copies all the assets in the corporate book before the end of the current tax fiscal year into the open period in the specified tax book.
Perform Periodic Mass Copy See: *Overview of the Perform Periodic Mass Copy Process* See: *Guidelines for Running the Perform Periodic Mass Copy Process*	Copies new assets and transactions performed in the corporate book during the specified period into the open period of the specified tax book.
Post Mass Fixed Asset Financial Transactions See: *How Fixed Asset Mass Adjustments Import Data Is Processed*	Posts all mass financial transactions in the interface table that are in a status of Post.
Post Mass Retirements	Posts all mass retirement transactions in the interface table that are in a status of Post.

Scheduled Processes	Description
See: *How Mass Retirements Import Data Is Processed*	
Post Mass Transfers See: *How Mass Transfers Import Data Is Processed*	Posts all mass transfer transactions in the interface table that are in a status of Post.
Post Mass Update Descriptive Details See: *How Mass Update Descriptive Details Import Data Is Processed*	Updates asset descriptive details from the data in the Descriptive Details open interface table.
Prepare Hypothetical Depreciation Analysis See: *What-if Analysis*	Prepares data for depreciation projections for hypothetical assets.
Prepare What-if Depreciation Analysis See: *What-if Analysis*	Prepares data for depreciation projections for existing assets.
Upload Units of Production See: *How Units of Production Import Data Is Processed*	Uploads asset units of production.

General Ledger

Scheduled Processes	Description
Account Analysis for Contra Account Report See: *General Ledger Account Analysis Reports*	Lists contra account balances by natural account segment, primary balancing segment, and optionally a third segment for each journal entry. Provides the subledger document number for transactions imported from subledgers.
AutoPost Journals See: *Examples of Manually Running the AutoPost Process*	Selects and posts journal batches. Schedule the AutoPost process to select and post journal batches periodically.
AutoReverse Journals See: *Journal Reversals*	Creates and posts journal reversals based on the journal reversal criteria set definition assigned to the ledger.
Average Balance Audit Account Analysis Report	Provides the detail account activity that created the aggregate balances and related average balances. Can be used to research how average balances are calculated for an account.

Scheduled Processes	Description
See: *General Ledger Account Analysis Reports*	
Average Balances Trial Balance Report See: *General Ledger Trial Balance Reports*	Lists account balances including ending balances, plus period, quarter, and year average to date balances.
Chart of Accounts Mapping Rules Report See: *General Ledger Chart of Accounts Reports*	Lists segment and account rules for a chart of accounts mapping.
Correct Misclassified Accounts See: *Correct Misclassified Accounts*	Corrects the account type misclassification for account combinations that have inherited the incorrect account type from the corresponding natural account value.
Create Balance Sheet Closing Journals See: *How Closing Journals for Balance Sheet Accounts Are Created*	Closes and zeroes out the year-to-date balances of all balance sheet accounts: assets, liabilities, and owner's equity.
Create Income Statement Closing Journals See: *How Closing Journals for Income Statement Accounts Are Created*	Transfers income statement year-end account balances of revenue and expense accounts to the retained earnings accounts.
Enable Journal Lines for Clearing Accounts Reconciliation See: *How Journal Lines Are Enabled for Clearing Accounts Reconciliation*	Prepares historical journal lines for reconciliation based on the date range specified. Journal lines for the accounts and ledgers that are enabled for reconciliation are eligible.
General Ledger Account Details Report See: *General Ledger Account Analysis Reports*	Provides periodic journal activity for each general ledger account to reconcile beginning and ending account balances. Includes journal source, category, name, description, reference, accounting date, and amount.
Generate Allocations See: *Example of Creating an Allocation Rule and Generating Allocations*	Allocates Oracle Fusion General Ledger balances.
Generate Financial Reports and Account Groups See: *How Financial Reporting Reports and Account Groups Are Generated*	Creates financial reports and account groups for each general ledger balances cube using the specified chart of accounts and accounting calendar. Provides different variations of income statements depending on whether both expense accounts and only the operating expense account is specified.
Import Account Combinations See: *How Account Combination Import Data Is Processed*	Imports the bulk account combinations from the interface table.

Scheduled Processes	Description
Import and Calculate Daily Rates See: *How Daily Rate Import Data Is Processed*	Imports and validates daily conversion rates.
Import Chart of Accounts Mapping Segment Rules See: *How Chart of Accounts Mapping Segment Rules Import Data Is Processed*	Imports and validates chart of accounts mapping segment rules for the specified chart of accounts mapping.
Import Historical Rates See: *How Historical Rates Import Data Is Processed*	Imports historical rates from the interface table for the selected ledger and accounting period.
Import Journals See: *How Journal Import Data Is Processed*	Creates journal entries from imported information from subledgers and other source systems.
Import Segment Values and Hierarchies See: *How Segment Value and Hierarchy Import Data Is Processed*	Creates journal entries from imported information from subledgers and other source systems.
Journals Batch Summary Report See: *General Ledger Journal Reports*	Provides details of posted journal batches such as name, ledger, entered currency, balancing segment value, category, source, and entered amounts. Subtotals of entered amounts are provided for each category, accounting period, and balancing segment value.
Journals Day Book Report See: *General Ledger Journal Reports*	Provides posted journal details by accounting date such as ledger, balancing segment value, source, category, subledger document sequence, document number, line accounts, line descriptions, and amounts. The journals are sorted by document number.
Journals Details Report See: *General Ledger Journal Reports*	Provides detailed information on general ledger journals of the selected posting status such as ledger, source, category, accounting date, line accounts, line descriptions, and amounts.
Journals Report See: *General Ledger Journal Reports*	Provides journal activity details such as ledger, accounting date, posting date, source, category, journal batch name, journal name, reference, line accounts, line descriptions, and amounts. Subtotals are provided for each journal, journal batch, and source.
Manage Account Combination Validation Rules See: *How Cross-Validation Rules Import Data Is Processed* See: *How Cross-Validation Rule Violations Are Managed* See: *How Cross-Validation Combinations Import Data Is Processed*	Imports different types of account combination validation rules related to the creation of new account combinations and provides other actions for managing rules.

Scheduled Processes	Description
See: *How Cross-Validation Combination Set Violations Are Managed*	
Manage Cross-Validation Rule Violations See: *How Cross-Validation Rule Violations Are Managed*	Lists and optionally disables account combinations that violate cross-validation rules.
Reconcile Clearing Accounts Automatically See: *How Clearing Accounts Are Reconciled Automatically*	Reconciles clearing account journal lines automatically using defined reconciliation types and rules.
Reconciled Transactions Report See: *Clearing Accounts Reconciliation Reports*	Provides details of clearing accounts journal lines that have been successfully reconciled by both automatic and manual reconciliation processes.
Revalue Balances See: *Revaluation Process*	Revalues balance sheet account balances from foreign currencies to ledger currency based upon changes in conversion rates.
Translate General Ledger Account Balances See: *How General Ledger Account Balances Are Translated*	Restates actual account balances from the ledger currency to a reporting currency.
Trial Balance Report See: *General Ledger Trial Balance Reports*	Lists period debits, period credits, beginning, and ending account balances summarized by natural account or account combination or natural account plus another segment.
Unreconciled Transactions Report See: *Clearing Accounts Reconciliation Reports*	Lists all unreconciled clearing accounts journal lines that have been rejected by either automatic or manual reconciliation processes, as well as those lines that haven't yet been subjected to reconciliation.
Validate and Upload Budgets See: *How General Ledger Budget Balance Import Data Is Processed*	Validates budget data.

Payables

Scheduled Processes	Description
Apply Missing Conversion Rates See: *How Missing Conversion Rates Are Applied to Invoices*	Applies missing conversion rates to foreign currency invoices and payments.

Scheduled Processes	Description
Create Mass Additions See: *Track as Asset*	Transfers capital invoice line distributions from Payables to Assets.
Import Payables Invoices See: *How Payables Standard Invoice Import Data is Processed*	Creates Payables invoices from invoice data in the Payables open interface tables.
Import Payables Invoices Report See: *Import Payables Invoices Report*	When the Business Intelligence Publisher (BI Publisher) server is down, the user can run the Import Payables Invoices program. Later, when the BI Publisher server is available, a user can run this report to get the output of the import process. If the BI Publisher server is available at the time of running the Import Payables Invoices program, this report is not required as that program itself generates the output.
Import Payables Payment Requests See: *How Payables Payment Request Import Data is Processed*	Imports payment request invoices from the data in the Payment Request Interface table.
Import Payables Payment Requests Report See: *Overview of Payables Payment Requests Import Report*	Program that prints the output of the import process.
Initiate Invoice Account Coding Workflow See: *Invoice Routing for Account Coding*	The name of the process that routes and assigns invoices to the appropriate users for account coding.
Initiate Invoice Approval Workflow See: *How Invoices Are Approved*	Initiates the approval process and routes invoices to the appropriate approvers.
Payables Cash Requirement Report See: *Payables Cash Requirement Report*	Forecasts immediate cash needs for invoice payments.
Payables Discounts Taken and Lost Report See: *Payables Discounts Taken and Lost Report*	Identifies payments where a discount was taken and payments where a discount was available, but not taken.
Payables Invoice Aging Report See: *Payables Invoice Aging Report*	Lists unpaid invoices according to the specified aging periods.
Payables Invoice Register See: *Payables Invoice Register*	Provides detailed information about invoices.

Scheduled Processes	Description
Payables Key Indicators Report See: *Payables Key Indicators Report*	Generates reports with transaction activity and the current number of suppliers, invoices, payments, and matching holds.
Payables Matched and Modified Receipts Report See: *Payables Matched and Modified Receipts Report*	Identifies receipts that were modified after invoice matching.
Payables Matching Detail Report See: *Payables Matching Detail Report*	Provides details of how an invoice, purchase order, or receipt was matched.
Payables Matching Hold Detail Report See: *Payables Matching Hold Detail Report*	Provides detailed payables and purchasing information for invoices with matching holds and matching hold releases.
Payables Open Items Revaluation Report See: *Payables Open Items Revaluation Report*	Lists changes in the value of payables open items due to conversion rate fluctuations.
Payables Payment Register See: *Payables Payment Register*	Provides detailed information about payments.
Payables Period Close Exceptions Report See: *Payables Period Close Exceptions Report*	Lists exceptions that prevent closing the Payables accounting period.
Payables Selected Installments Report See: *Overview of Payables Selected Installments Report*	Lists all invoice installments selected in a payment process request to help determine how well the selection criteria is selecting the right invoices to pay.
Payables Trial Balance Report See: *Payables Trial Balance Report*	Lists and subtotals by supplier and liability account all unpaid and partially paid invoices that Payables transferred to the general ledger.
Payables Unaccounted Transactions and Sweep Report See: *Payables Unaccounted Transactions and Sweep Report*	Lists invoices and payments that were not accounted for a period or date range.
Payment Audit by Voucher Number Report See: *Payment Audit by Voucher Number Report*	Lists payments with assigned sequential voucher numbers.

Scheduled Processes	Description
Prepare Payables to General Ledger Reconciliation See: *Prepare Payables to General Ledger Reconciliation*	Extracts payables and ledger accounting and transactional data for reconciling payables to the general ledger.
Prepayment Remittance Notice See: *Prepayment Remittance Notice*	Lists prepayments that were applied to supplier invoices.
Supplier Balance Aging Report See: *Supplier Balance Aging Report*	Supplier Balance Aging Report as of a date.
Terminate Payment Process Request See: *How Payment Approval Is Processed*	Cancels the payment process request.
Transfer Costs to Cost Management See: *Transferring Costs to Cost Management*	Transfers cost information from Payables to Cost Management.
US 1096 Report See: *US 1096 Report*	Summarizes each 1099 form type that is transmitted on paper, as required by the United States Internal Revenue Service. Generates the summary on a preformatted Internal Revenue Service form.
US 1099 Electronic Media Report See: *US 1099 Electronic Media Report*	Generates summarized 1099 information in electronic format as required by the United States Internal Revenue Service.
US 1099 Forms Report (Comma Delimited Format) See: *Overview of US 1099 Forms (Comma Delimited Format)*	Reports the total United States 1099 miscellaneous tax type payments for 1099 suppliers in a comma delimited format.
US 1099 Invoice Exceptions Report See: *US 1099 Invoice Exceptions Report*	Lists paid invoice distributions with inaccurate or missing United States 1099 income tax information.
US 1099 Payments Report See: *US 1099 Payments Report*	Lists payments made to United States 1099 reportable suppliers.
US 1099 Report See: *US 1099 Report*	Reports the total United States 1099 miscellaneous payments for a particular 1099 supplier and generates 1099 forms for each tax reporting entity in an organization.
US 1099 Supplier Exceptions Report	Lists suppliers with inaccurate or incomplete United States 1099 income tax information.

Scheduled Processes	Description
See: *US 1099 Supplier Exceptions Report*	
Update Matured Bills Payable Status See: *Overview of Update Matured Bills Payable Status Report*	Updates the status of matured bills payable from issued to negotiable.
Update and Report Income Tax Details See: *How Income Tax Detail Updates Are Processed*	Reports on or updates income tax type or income tax region fields on invoice distributions. These fields are used for United States 1099 reporting.

Receivables

Scheduled Process	Description
Add Revenue Contingency See: *Revenue Contingency Assignment Rules*	Adds revenue contingencies to transactions.
Adjust Revenue See: *Modifications to Invoices with Deferred Revenue*	Adjusts revenue schedule and allocation on transactions and transfers sales credits.
Apply Receipts Using AutoMatch See: *How AutoMatch Recommendations Are Calculated*	Automatically applies receipts to open receivables based on customer reference information.
Automatic Receipts Reversal See: *How Automatic Receipts Are Reversed*	Automatically reverses rejected receipts belonging to a settlement batch.
Bad Debt Provision Report See: *Bad Debt Provision Report*	Provides information for reviewing bad debt exposure and provisioning based on percent collectible assigned to the customer.
Bank Risk Report See: *Bank Risk Report*	Provides information for reviewing receipts that are currently at risk with a remittance bank or clearing house.
Billing History Report See: *Billing History Report*	Provides a summarized history of transactions and activity against them by customer location for a specified date range.
Bills Receivable Batch Creation Report	Generates a report for the creation of a bills receivable batch from transactions.

Scheduled Process	Description
See: *Automatic Bills Receivable Transactions Batch Report*	
Bills Receivable Remittance Batch Report See: *Bills Receivable Remittance Batch Management Report*	Generates a report for the creation of a bills receivable remittance batch from eligible bills receivables.
Clear Receipts Automatically Execution Report See: *Clear Receipts Automatically Execution Report*	Generates an execution report for the automatic clearing of remitted receipts, and the clearing or eliminating risk of factored receipts.
Clear Receipts Automatically See: *Automatic Clearing of Receipts*	Automatically clears remitted receipts, and clears or risk eliminates factored receipts.
Close Matured Bills Receivable Execution Report See: *Close Matured Bills Receivable Process*	Report for the Close Matured Bills Receivable process. Lists the changes to each bill receivable and shows all receipts that were cleared by the process run.
Close Matured Bills Receivable See: *Close Matured Bills Receivable Process*	Process that creates and applies receipts for standard remitted bills receivable and applies receipts and eliminates risk on bills receivable factored with recourse.
Confirm Balance Forward Bills See: *Example of Creating a Balance Forward Bill*	Accepts or rejects draft balance forward bills.
Create Automatic Billing Adjustments See: *Automatic Adjustments to Receivables Transactions*	Automatically adjusts the remaining balances of all open invoices, debit memos, credit memos, and chargebacks.
Create Automatic Receipt Batch See: *How Automatic Receipts Are Processed*	Creates a receipt batch from selected invoices assigned an automatic receipt method.
Create Automatic Receipt Write-offs See: *Write-offs and Receipts*	Automatically writes off unapplied amounts on selected receipts and closes the receipts.
Create Bills Receivable Batch See: *Guidelines for Batching Transactions for Bills Receivable*	Process that creates a bills receivable batch from transactions.
Create Bills Receivable Remittance Batch	Process that creates a bills receivable remittance batch from eligible bills receivable transactions.

Scheduled Process	Description
See: *Create a Bills Receivable Remittance Batch*	
Create Credit Case Folders See: *Components of a Credit Case Folder*	Process that creates credit case folders.
Create Customer Statements Execution Report See: *Create Customer Statements Execution Report*	Generates an execution report for the generation of statements for selected customers and customer sites.
Create Customer Statements See: *How You Implement Customer Statements*	Generates statements for selected customers and customer sites.
Create Late Charges Batch See: *Guidelines for Presenting Late Charges*	Generates late charges for transactions that are overdue or have late payments.
Create Periodic Credit Reviews See: *How You Run Periodic Credit Reviews*	Process that performs credit reviews of applicable customers and customer accounts as required.
Create Receipt Remittance Batch See: *Considerations for Remitting Receipts*	Creates a receipt remittance batch from eligible receipts.
Create Receivables Accounting See: *Receivables Accrual Accounting Entries*	Process that creates Receivables accounting entries in subledger accounting.
Customer Account Status Report See: *Customer Account Status Report*	Provides a detailed review of customer accounts, including for each customer all open debit items, credit items, and total balance due in the ledger currency.
Customer Balances Revaluation Report See: *Customer Balance Revaluation Report*	Report that provides two outputs: the balance of each customer and the open items that make up the balance, including on-account receipts; and a listing of customers with a negative balance only, customers with a positive balance only, or all customer balances.
Deliver Balance Forward Bills See: *Email Delivery of Balance Forward Bills*	Process that delivers balance forward bills by email as PDF attachments to the customer account or site level contacts.
Document Number Audit Report	Identifies missing document sequence numbers.

Scheduled Process	Description
See: *Document Number Audit Report*	
Expire Revenue Contingencies See: *When do I expire a revenue contingency?*	Expires selected revenue contingencies on selected transaction lines.
Format Automatic Receipts See: *Oracle Receivables Predefined Reports*	Formats automatic receipts so that they can be printed and sent to customers for confirmation.
Generate and Transfer XML Transactions See: *How You Set Up Receivables for OAGIS 10.1 XML Transaction Delivery*	Delivers transactions in XML format to all customer accounts defined as trading partners with a preferred delivery method of XML.
Generate Automatic Receipt Creation or Receipt Remittance Log See: *How Automatic Receipts Are Processed*	Generates a log file for the creation of an automatic receipt batch or a receipt remittance batch.
Generate Late Charges Report See: *Generate Late Charges Report*	Generates a report with the results of a run of the Create Late Charges process, or generates a draft run to review the results before generating late charges.
Generate Recurring Billing Data See: *How Recurring Bill Plans Generate Invoices*	Generates AutoInvoice Interface lines for recurring billing based on recurring bill plans.
Import AutoInvoice: Correlate Transaction Accounting Date See: *Accounting Date Derivation During AutoInvoice Import*	Splits imported transaction lines belonging to a ledger that enforces document sequence correlation by the increasing order of the transaction accounting date.
Import AutoInvoice: Execution Report See: *AutoInvoice Execution Report*	Imports invoices, credit memos, debit memos, and on-account credits from other systems into Receivables and validates the imported data: execution report file.
Import AutoInvoice See: *How AutoInvoice Processes Data During Import*	Imports invoices, credit memos, debit memos, and on-account credits from other systems into Receivables and validates the imported data.
Import Credit Data See: *How You Import Third-Party Credit Data for Data Points*	Name of the process that imports credit data from third party sources.
Import Customer Data	Program that imports customer data.

Scheduled Process	Description
See: *How You Import Customer Data*	
Import Receivables Transactions Using AutoInvoice See: *How AutoInvoice Processes Data During Import*	Imports invoices, credit memos, debit memos, and on-account credits from other systems into Receivables and validates the imported data.
Invoices Posted to Suspense Report See: *Invoices Posted to Suspense Report*	Lists all transactions that have revenue amounts posted to suspense accounts as a result of running the Import AutoInvoice process.
Load Extension Attributes for XML Transactions See: *How You Set Up Receivables for OAGIS 10.1 XML Transaction Delivery*	Process initiated from the Generate and Transfer XML Transactions process that loads user-defined extension attributes for Receivables transactions delivered to customers in XML format.
Open Receivables Accounting Period See: *Lockbox Standard Receipt Import Process*	Opens receivables accounting period.
Post Receipt Batch See: *Lockbox Standard Receipt Import Process*	Posts lockbox and manual receipt batches that are ready to post.
Potential Reconciling Items Report See: *Potential Reconciling Items Report*	Indicates journal items that may potentially post to incorrect GL accounts.
Prepare Receivables to General Ledger Reconciliation See: *Extract Reconciliation Data from Receivables to General Ledger*	Extracts receivables and general ledger accounting and transactional data for reconciling receivables to the general ledger.
Print Adjustments: Generate Log See: *Print Adjustments Program and Report*	Prints adjustments to selected transactions: generate log file.
Print Adjustments See: *Print Adjustments Program and Report*	Prints adjustments to selected transactions.
Print Balance Forward Bills See: *Example of Creating a Balance Forward Bill*	Prints draft or final balance forward bills.

Scheduled Process	Description
Print Bills Receivable Program and Report See: *Print Bills Receivable Program and Report*	Process that prints selected bills receivable and generates a report of the bill receivables included in the program run.
Print Detailed Balance Forward Bills See: *Example of Creating a Balance Forward Bill*	Prints balance forward bills in detail mode.
Print Receivables Transactions: Email Delivery See: *How Transaction and Statement Delivery Using Email Works*	Process that prints selected Receivables transactions and delivers them using email.
Print Receivables Transactions See: *Print Receivables Transactions*	Process that submits invoices, credit memos, debit memos, chargebacks, and balance forward bills for printing.
Print Summary Balance Forward Bills See: *Example of Creating a Balance Forward Bill*	Prints balance forward bills in summary mode.
Process Expired Credit Authorizations See: *How You Set Up a Customer Profile for Credit Checks*	Updates the status of open credit authorizations with an expiration date less than or equal to the system date and without the Exclude from Expiration option enabled from Open to Expired, and updates the remaining outstanding authorization amounts and customer available credit.
Process Receipts Through Lockbox Execution Report See: *Process Receipts Through Lockbox Execution Report*	Generates the results of a lockbox transmission.
Process Receipts Through Lockbox See: *Lockbox Standard Receipt Import Process*	Imports and validates a lockbox data file, creates receipts from the data file, and applies receipts to customer transactions.
Process Receivables Transactions for Customer Account Summaries See: *How You Maintain the Summary Tables for Data Points*	Processes business events that populate summary tables when a business event is raised from any transactional event.
Purge AutoInvoice Interface Data See: *When does AutoInvoice purge processed data?*	Purges processed transactions in the AutoInvoice interface tables.

Scheduled Process	Description
Receipts Awaiting Bank Clearance Report See: *Receipts Awaiting Bank Clearance Report*	Lists receipts by remittance bank waiting to be cleared.
Receipts Awaiting Remittance Report See: *Receipts Awaiting Remittance Report*	Lists manual and automatic receipts awaiting remittance to the bank.
Receipts Days Late Analysis Report See: *Receipts Days Late Analysis Report*	Report that reviews the timeliness of customer payments and provides the cost of customer late payment trends by calculating weighted average days late.
Receivables Aging by General Ledger Account Report See: *Receivables Aging by General Ledger Account Report*	Displays information about outstanding receivables by aging bucket and general ledger account as of a specific date.
Receivables Open Items Revaluation Report See: *Receivables Open Items Revaluation Report*	Revalues open receivables, including invoices, credit memos, and debit memos, according to the revaluation rate specified, and evaluates the changes in the value of these open receivables due to changes in foreign currency rates.
Receivables Projected Gains and Losses Report See: *Projected Gains and Losses Report*	Revalues open foreign (non-ledger) currency invoices, debit memos, and chargebacks according to the revaluation rate specified, and compares the revalued amount of each debit item with the entered amount and prints the unrealized gain or loss.
Recognize Revenue See: *How You Recognize Revenue on Transactions*	Generates the revenue distribution records for invoices and credit memos that use invoicing and revenue scheduling rules.
Refresh Receivables Transactions for Customer Account Summaries See: *Processes for Synchronizing Receivables Transaction Data*	Populates summary tables after a set of data is migrated or corrected.
Revenue Recognition Execution Report See: *How You Recognize Revenue on Transactions*	Generates the revenue distribution records for invoices and credit memos that use invoicing and revenue scheduling rules: log.
Reversal Status Report See: *How Automatic Receipts Are Reversed*	Provides information about the status of automatic receipt reversals processed in a settlement batch.
Transaction Details Report	Provides for review all of the information entered for invoices, credit memos, debit memos, and chargebacks.

Scheduled Process	Description
See: *Transaction Details Report*	
Update Customer Profile Classes See: *How You Update and Version Profile Classes*	Updates existing profile class information according to specified criteria.
Update Receivables Past Due Transactions for Customer Account Summaries See: *Processes for Synchronizing Receivables Transaction Data*	Populates summary tables for past due transactions after a set of data is migrated or corrected.
Upload Customers See: *Data Import for Customers and Consumers*	Creates customers in bulk by uploading the data from a spreadsheet.
Upload Printed Receivables Transactions See: *How You Store Printed Transactions as Attachments*	Uploads copies of printed and emailed transactions as attachments to the transaction header.
Write-off Unapplied Receipt Balances Report See: *Write-off Unapplied Receipt Balances Report*	Lists details of the write off of unapplied amounts on selected receipts.

Tax

Scheduled Process	Description
European Sales Listing Report See: *Sales Listing Report for European Union*	Identifies EU service transactions subject to reverse charge.
Financial Tax Register See: *Tax Register and Financial Tax Register*	Extracts accounting information created in Oracle Fusion Receivables, Oracle Fusion Payables, and Oracle Fusion General Ledger, including the default tax register, interim tax register, and nonrecoverable tax register.
Import External Transactions to the Tax Repository See: *Import External Transactions to Tax Repository*	Imports transactions from an external source to the tax repository.

Scheduled Process	Description
Import Tax Configuration Content See: *Tax Configuration Content Upload Program*	Loads tax content data into Oracle Fusion Trading Community Model geography and into all related Oracle Fusion Tax entities, including taxes, tax statuses, tax rates, tax jurisdictions, and accounts.
Interim Tax Register See: *Interim Tax Register*	Identifies detailed and summary information of unpaid or partially paid receivables transactions that have tax liability created at the payment date.
Sales Tax Report See: *Sales Tax Report*	Provides all of the transaction detail from the Receivables subledger, including invoices, credit memos, and adjustments and is used as the basis for the periodic sales tax returns required by each state. Also, provides a summary of the total amount exempt for each reason.
Select Transactions for Tax Reporting See: *Global Tax Reporting*	Marks taxable records as candidates for further tax reporting. Each time the selection process is run, the data pertaining to the previous run is replaced with the latest data to accommodate any changes to tax transactions.
Tax Allocation Exceptions Report See: *Tax Box Allocation Reports*	Lists the transactions that were not allocated to any tax box in the previous run of Tax Allocation Process.
Tax Allocation Process See: *Oracle Fusion Tax Predefined Reports*	Allocates tax, taxable, and total taxable box number to records selected by the selection process, by period type.
Tax Allocations Listing Report See: *Tax Box Allocation Reports*	Lists transactions within a tax period and the tax boxes that the transactions were allocated to.
Tax Audit Trail Report See: *Tax Reconciliation and Audit Reports*	Identifies detail tax and invoice information and the total amounts for each tax rate code in the ledger currency.
Tax Box Return Preparation Report See: *Tax Box Allocation Reports*	Lists transactions grouped by tax boxes. The report can be used as a basis for preparation of tax returns.
Tax Configuration Content Upload See: *Tax Configuration Content Upload Program*	Uploads a set of flat files to define new tax content data as related Oracle Fusion Tax entities.
Tax Reconciliation by Taxable Account Report See: *Tax Reconciliation and Audit Reports*	Lists taxable transaction information for Oracle Fusion Payables, Oracle Fusion Receivables, and Oracle Fusion Tax transactions. Generates subtotals by taxable account and tax rate code.
Tax Reconciliation Report See: *Tax Reconciliation and Audit Reports*	Lists the taxable and tax amounts, by tax account, of all Oracle Fusion Receivables and Oracle Fusion Tax transactions for a given period.

Scheduled Process	Description
Tax Register See: *Tax Register and Financial Tax Register*	Identifies total tax amounts by tax type, tax class, and company to include deferred tax accounting information and all transactions for which tax accounting is defined.
Upload Tax Configuration Content: Process Tax Content Data See: *Tax Configuration Content Upload Program*	Uploads US sales and use tax updates from the tax service provider. The processes in the Upload Tax Configuration Content request set import tax content at various jurisdiction levels. Loads the data into Oracle Fusion Trading Community Model geography and into all related Oracle Fusion Tax entities, including taxes, tax statuses, tax rates, tax jurisdictions, and accounts. Also, supports the import of incremental tax content.
Upload Tax Configuration Content: Upload Tax Content File See: *Tax Configuration Content Upload Program*	Uploads U.S. sales and use tax updates from the tax service provider. The processes in the Upload Tax Configuration Content request set import tax content at various jurisdiction levels. Load the data into the TCA Geography model and into all related Oracle Fusion Tax entities, including taxes, tax statuses, tax rates, tax jurisdictions, and accounts. Also, support the import of incremental tax content.
Upload Tax Configuration Content See: *Tax Configuration Content Upload Program*	Uploads US sales and use tax updates from the tax service provider. The processes in the Upload Tax Configuration Content request set import tax content at various jurisdiction levels. Load the data into the Trading Community Architecture Geography model and into all related Oracle Fusion Tax entities, including taxes, tax statuses, tax rates, tax jurisdictions, and accounts. Also, supports the import of incremental tax content.
Upload Tax Configuration from a Spreadsheet See: *Example of Creating Tax Setup Using the Tax Configuration Workbook*	Uploads a flat file for defining new tax content data into related Oracle Fusion Tax entities to expedite the completion of tax configuration.

Where to Find Information About Common Scheduled Processes

Here are many of the scheduled processes that are available as part of common features.

Approvals and Workflow

- Archive Transaction Console Completed Transactions

  See: *Archive and Purge Transactions*
- Create Search Index for Worklist

  See: *Set Up the Approvals Work Area*
- Employee Vacation and Delegation Rules Report

  See: *Review Employee Vacation and Delegation Rules*

- Extract Workflow Tasks for Archive

  See: *How Workflow Tasks Are Archived and Purged*
- Process Translations for Workflow Tasks Archive

  See: *How Workflow Tasks Are Archived and Purged*
- Refresh Transaction Administrator Console Transaction Status

  See: *Automatically Refresh Transaction Statuses*
- Run Reassign Pending Approvals for Terminations and Correct Invalid Supervisor Assignments Process

  See: *How You Can Regularly Reassign Pending Approvals for Workers That Become Inactive*
- Synchronize Notifications in Global Header

  See: *How do I sync in-app notifications for all users in Fusion Applications?*
- Upload Workflow Task Attachments for Archive

  See: *How Workflow Tasks Are Archived and Purged*

Business Intelligence

- Create Rules XML File for BI Extender Automation

  See: *Overview of the Essbase Rule File and Cubes*
- Import Oracle Fusion Data Extensions for Transactional Business Intelligence

  See: *Overview of Flexfield Change Import*

Data

- Diagnose and Synchronize Application Data

  See: *Diagnose and Synchronize Application Data*
- Load Interface File for Import

  See: *Load Interface File for Import Process*
- Purge Interface Tables

  See: *Purge Interface Tables*

Flexfields

- Upload Comma-Separated Value Files for Import Process

  See: *Upload Comma-Separated Values File for Import Process*
- Upload Value Set Values

  See: *Upload Value Set Values Process*
- Synchronize Flexfields with Business Objects

See: *How can I resolve synchronization issues between flexfields and business objects in Fusion Applications?*

Search

- ESS job to create index definition and perform initial ingest to OSCS

  See: *What do I do if I get errors about enabling the search extension framework?*

  See: *What do I do if I get errors stating that the Oracle Search Cloud Service or OSCS isn't reachable?*
- ESS job to run Bulk ingest to OSCS

  See: *Enable Search Extension Framework*
- ESS process to check Search Cloud Service availability

  See: *What do I do if the process for creating indexes keeps failing?*

  See: *What do I do if I get errors stating that the Oracle Search Cloud Service or OSCS isn't reachable?*

Security

- Import User and Role Application Security Data

  See: *Configure the Security Console*
- Import User Login History

  See: *Schedule the Import User Login History Process*
- Inactive Users Report

  See: *Inactive Users Report*
- Locked Users

  See: *View Locked Users and Unlock Users*
- Password Expiry Report

  See: *Password Expiry Report*
- Retrieve Latest LDAP Changes

  See: *Retrieve Latest LDAP Changes*
- Send User Name and Password Email Notifications

  See: *How can I notify users of their user names and passwords?*
- User and Role Access Audit Report

  See: *User and Role Access Audit Report*
- User Password Changes Audit Report

  See: *User Password Changes Audit Report*
- User Role Membership Report

See: *User Role Membership Report*

Trees

- Manage All Trees Operations Centrally

  See: *Copy, Audit, and Flatten Tree Versions Using a Scheduled Process*

Related Topics

- Best Practices for Scheduled Processes in Fusion Applications

14 Moving Common Reference Objects

Overview of Moving Common Reference Objects

The common reference objects are used by several setup tasks in the Setup and Maintenance work area. The common reference objects become a part of the configuration package that's created for an implementation project.

While moving the application content, for example, moving from test to the production phase of an implementation, attend to the nuances of these common reference objects.

Parameters

The common reference objects are represented as business objects. A single object can be referenced in multiple setup tasks with different parameters. In the configuration package created for the implementation project, parameters passed to a setup task are also passed to the business objects being moved. As a result, the scope of the setup tasks is maintained intact during the movement.

Dependencies

Common reference objects may have internal references or dependencies among other common reference objects. Therefore, you must note all the dependencies before moving the objects so that there are no broken references among them.

Related Topics

- Guidelines for Moving Related Common Reference Objects
- Business Objects for Moving Common Reference Objects
- Overview of Setup Data Export and Import
- Setup Data Export and Import Using an Offering or a Functional Area

Business Objects for Moving Common Reference Objects

Common reference objects in Oracle Fusion Functional Setup Manager are used to move application setup content from one environment to another. For example, from a test environment to a production environment.

Choice of Parameters

The following table lists the business objects, the movement details, and the effect of the setup task parameter on the scope of the movement.

Note:

- You can move only the translations in the current user language.

Business Object Name	Moved Functional Item	Effect on the Scope of Movement
Application Message	Messages and associated tokens	No parameters: All messages are moved. Parameter **moduleType/moduleKey**: Only messages belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved. Parameter **messageName/applicationId**: Only the specified message is moved.
Application Taxonomy	Application taxonomy modules and components	No parameters: All taxonomy modules and components are moved.
Application Attachment Entity	Attachment entities	No parameters: All attachment entities are moved. Parameter **moduleType/moduleKey**: Only attachment entities belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved.
Application Attachment Category	Attachment categories and category-to-entity mappings	No parameters: All attachment categories and category-to-entity mappings are moved. Parameter **moduleType/moduleKey**: Only attachment categories belonging to the specified module and its descendant modules in the taxonomy hierarchy along with the respective category-to-entity mappings are moved.
Application Document Sequence Category	Document sequence categories	No parameters: All categories are moved. Parameter **moduleType/moduleKey**: Only categories belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved. Parameter **code/applicationId**: Only the specified document sequence category code is moved.
Application Document Sequence	Document sequences and their assignments	No parameters: All sequences are moved. Parameter **moduleType/moduleKey**: Only document sequences belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved Parameter **name**: Only the specified document sequence is moved.

Business Object Name	Moved Functional Item	Effect on the Scope of Movement
Application Descriptive Flexfield	Descriptive flexfield registration data and setup data	No parameters: All descriptive flexfields are moved. Parameter **moduleType/moduleKey**: Only descriptive flexfields belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved. Parameter **descriptiveFlexfieldCode/applicationId**: Only the specified descriptive flexfield is moved. Importing the metadata of a flexfield can change its deployment status. Therefore, you must redeploy if there are any affected flexfields. The import process automatically submits affected flexfields for redeployment. Also, only flexfields with a deployment status of Deployed or Deployed to Sandbox are eligible to be moved. **Note:** Sometimes, the flexfield setup data exported to an XML file may contain noneditable auto-generated content that might not exist when exported to a CSV file. You may ignore and exclude such data during the export-import process.
Application Extensible Flexfield	Extensible flexfield registration data and setup data, including categories	No parameters: All extensible flexfields are moved Parameter **moduleType/moduleKey**: Only extensible flexfields belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved. Parameter **extensibleFlexfieldCode/applicationId**: Only the specified extensible flexfield is moved. Importing the metadata of a flexfield can change its deployment status and therefore, the affected flexfields must be redeployed. The import process automatically submits affected flexfields for redeployment. Also, only flexfields with a deployment status of Deployed or Deployed to Sandbox are eligible to be moved. **Note:** Sometimes, the flexfield setup data exported to an XML file may contain noneditable auto-generated content that might not exist when exported to a CSV file. You may ignore and exclude such data during the export-import process.
Application Key Flexfield	Key flexfield registration data and setup data	No parameters: All key flexfields are moved. Parameter **moduleType/moduleKey**: Only key flexfields belonging to the specified module

Business Object Name	Moved Functional Item	Effect on the Scope of Movement
		and its descendant modules in the taxonomy hierarchy are moved. Parameter **`keyFlexfieldCode/applicationId`**: Only the specified key flexfield is moved. Importing the metadata of a flexfield can change its deployment status and therefore, the affected flexfields must be redeployed. The import process automatically submits affected flexfields for redeployment. Only flexfields with a deployment status of Deployed or Deployed to Sandbox are eligible to be moved. **Note:** Sometimes, the flexfield setup data exported to an XML file may contain noneditable auto-generated content that might not exist when exported to a CSV file. You may ignore and exclude such data during the export-import process.
Application Flexfield Value Set	Value set setup data	No parameters: All value sets are moved. Parameter **`moduleType/moduleKey`**: Only value sets belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved. Parameter **`valueSetCode`**: Only the specified value set is moved. Importing the metadata of a value set can change the deployment status of flexfields that use the value set. Therefore, you must redeploy if there are any affected flexfields. The import process automatically submits affected flexfields for redeployment.
Application Reference Currency	Currency data	No parameters: All currencies are moved.
Application Reference ISO Language	ISO language data	No parameters: All ISO languages are moved.
Application Reference Industry	Industry data including industries in territories data	No parameters: All industries are moved.
Application Reference Language	Language data	No parameters: All languages are moved.
Application Reference Natural Language	Natural language data	No parameters: All natural languages are moved.
Application Reference Territory	Territory data	No parameters: All territories are moved.
Application Reference Time zone	Time zone data	No parameters: All time zones are moved.

Business Object Name	Moved Functional Item	Effect on the Scope of Movement
Application Standard Lookup	Standard lookup types and their lookup codes	No parameters: All standard lookups are moved. Parameter **moduleType/moduleKey**: Only standard lookups belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved. Parameter **lookupType**: Only the specified common lookup is moved.
Application Common Lookup	Common lookup types and their lookup codes	No parameters: All common lookups are moved. Parameter **moduleType/moduleKey**: Only common lookups belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved. Parameter **lookupType**: Only the specified common lookup is moved.
Application Set-Enabled Lookup	Set-enabled lookup types and their lookup codes	No parameters: All set-enabled lookups are moved. Parameter **moduleType/moduleKey**: Only set-enabled lookups belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved. Parameter **lookupType**: Only the specified set-enabled lookup is moved.
Application Profile Category	Profile categories	No parameters: All profile categories are moved. Parameter **moduleType/moduleKey**: Only categories belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved. **name/applicationId**: Only the specified category is moved.
Application Profile Option	Profile options and their values	No parameters: All profile options and their values are moved. Parameter **moduleType/moduleKey**: Only profile options and their values belonging to the specified module are moved. Parameter **profileOptionName**: Only the specified profile option and its values are moved.

Business Object Name	Moved Functional Item	Effect on the Scope of Movement
Application Profile Value	Profile options and their values	No parameters: All profiles and their values are moved. Parameter **moduleType/moduleKey**: Only profiles and their values belonging to the specified module are moved. Parameter **categoryName/ categoryApplicationId**: Only profiles and their values belonging to the specified category are moved. Parameter **profileOptionName**: Only the specified profile and its values are moved.
Application Reference Data Set	Reference data sets	No parameters: All sets are moved.
Application Reference Data Set Assignment	Reference data set assignments	Parameter **determinantType**: Only assignments for the specified determinant type are moved. Parameter **determinantType/ referenceGroupName**: Only assignments for the specified determinant type and reference group are moved.
Application Tree Structure	Tree structures and any labels assigned to the tree structure	No parameters: All tree structures (and their labels) are moved. Parameter **moduleType/moduleKey**: Only tree structures (and their labels) belonging to the specified module are moved. Parameter **treeStructureCode**: Only the specified tree structure (with its labels) is moved.
Application Tree	Tree codes and versions	No parameters: All trees are moved. Parameter **moduleType/moduleKey**: Only trees belonging to the specified module are moved. Parameter **treeStructureCode**: Only trees belonging to the specified tree structure are moved. Parameter **TreeStructureCode/TreeCode**: Only trees belonging to the specified tree structure and tree code are moved.
Application Tree Label	Tree structures and any labels assigned to the tree structure	No parameters: All tree structures (and their labels) are moved. Parameter **moduleType/moduleKey**: Only tree structures (and their labels) belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved.

Business Object Name	Moved Functional Item	Effect on the Scope of Movement
		Parameter **`treeStructureCode`**: Only the specified tree structure (with its labels) is moved.
Application Data Security Policy	Database resources, actions, conditions, and data security policies	No parameters: All database resources/actions/conditions/policies are moved. Parameter **`moduleType/moduleKey`**: Only database resources/actions/conditions/policies belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved. Parameter **`objName`**: Only the specified database resource along with its actions/conditions/policies is moved. If the policies being moved contain reference to newly created roles, move the roles before moving the policies. If the source and target systems use different LDAPs, manually perform the GUID reconciliation after moving the data security policies.

Related Topics

- Guidelines for Moving Related Common Reference Objects

Guidelines for Moving Related Common Reference Objects

Certain common reference objects may use other common reference objects creating dependencies among the objects. During the movement of common reference objects, ensure that these dependencies or references aren't broken or lost.

Dependencies

The dependencies among the common reference objects may be caused by any of the following conditions.

- Flexfield segments use value sets
- Value sets may make use of standard, common, or set-enabled lookups
- Key flexfields may have an associated tree structure and key flexfield segments may have an associated tree code
- Tree codes and versions may be defined over values of a value set
- Data security policies may be defined for value sets that have been enabled for data security

You may decide to move one, some, or all of the business objects by including the ones you want to move in your configuration package. For example, you may decide to move only value sets, or move both value sets and their lookups

as part of the same package. Whatever be the combination, Oracle recommends that during the movement of objects, you follow an order that maintains the dependencies among the objects.

While moving the business objects, adhere to the following order:

1. Move created taxonomy modules before moving any objects that reference them, such as flexfields, lookups, profiles, messages, and so on.
2. Move created currencies before moving any objects that reference them, such as territories.
3. Move created territories before moving any objects that reference them, such as languages and natural languages.
4. Move created ISO languages before moving any objects that reference them, such as languages, natural languages, and industries.
5. Move created tree structures before moving any objects that reference them, such as trees or tree labels.
6. Move created profile options before moving any objects that reference them, such as profile categories or profile values.
7. Move created attachment entities before moving any objects that reference them, such as attachment categories that reference them.

Note: In scenarios where there may be dependencies on other objects, you must move the dependencies before moving the referencing object. For example, if data security policies have dependencies on newly created security roles, you must move the security roles before moving the security policies.

Related Topics

- Business Objects for Moving Common Reference Objects

Guidelines for Moving Common Reference Objects Using the Seed Data Framework

To move the common reference objects, you can use the Seed Data Framework. You can also use the command line interface of the Seed Data Framework to move the object setup data.

Movement Dependencies

The seed data interface moves only the setup metadata. For example, if you use Seed Data Framework to import flexfield metadata, the flexfield setup metadata is imported into your database. However, you must initiate the flexfield deployment process separately after seed data import to regenerate the runtime flexfield artifacts in the target environment. Similarly, if you use Seed Data Framework to import data security metadata, you must first move any new referenced roles and then manually run the GUID reconciliation where required.

To ensure that the reference data isn't lost during the movement, certain guidelines are prescribed. It's recommended that you perform the movement of object data exactly in the following order:

Note: Only the translation in the current user language is moved.

1. Move created taxonomy modules before moving any objects that reference them, such as flexfields, lookups, profiles, attachments, reference data sets, document sequences, messages, and data security.

2. Move created currencies before moving any objects that reference them, such as territories.
3. Move created territories before moving any objects that reference them, such as languages and natural languages.
4. Move created ISO languages before moving any objects that reference them, such as languages, natural languages, and industries.
5. Move created tree structures before moving any objects that reference them, such as trees or tree labels.
6. Move created profile options before moving any objects that reference them, such as profile categories or profile values.
7. Move created attachment entities before moving any objects that reference them, such as attachment categories that reference them.
8. Move created reference data sets before moving any objects that reference them, such as reference data set assignments and set-enabled lookups.
9. Move created document sequence categories before moving any objects that reference them, such as document sequences.
10. Move created tree labels before moving any objects that reference them, such as trees.
11. Move created data security objects and policies before moving any objects that reference them, such as value sets.
12. Move created value sets before moving any objects that reference them, such as flexfields.
13. Move created trees before moving any objects that reference them, such as key flexfields.