

**Oracle Fusion Applications Project Execution Management
Implementation Guide**

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Oracle® Fusion Applications Project Execution Management Implementation Guide

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Preface

This Preface introduces the guides, online help, and other information sources available to help you more effectively use Oracle Fusion Applications.

Oracle Fusion Applications Help

You can access Oracle Fusion Applications Help for the current page, section, activity, or task by clicking the help icon. The following figure depicts the help icon.



You can add custom help files to replace or supplement the provided content. Each release update includes new help content to ensure you have access to the latest information. Patching does not affect your custom help content.

Oracle Fusion Applications Guides

Oracle Fusion Applications guides are a structured collection of the help topics, examples, and FAQs from the help system packaged for easy download and offline reference, and sequenced to facilitate learning. You can access the guides from the **Guides** menu in the global area at the top of Oracle Fusion Applications Help pages.

Guides are designed for specific audiences:

- **User Guides** address the tasks in one or more business processes. They are intended for users who perform these tasks, and managers looking for an overview of the business processes. They are organized by the business process activities and tasks.
- **Implementation Guides** address the tasks required to set up an offering, or selected features of an offering. They are intended for implementors. They are organized to follow the task list sequence of the offerings, as displayed within the Setup and Maintenance work area provided by Oracle Fusion Functional Setup Manager.
- **Concept Guides** explain the key concepts and decisions for a specific area of functionality. They are intended for decision makers, such as chief financial officers, financial analysts, and implementation consultants. They are organized by the logical flow of features and functions.
- **Security Reference Manuals** describe the predefined data that is included in the security reference implementation for one offering. They are

intended for implementors, security administrators, and auditors. They are organized by role.

These guides cover specific business processes and offerings. Common areas are addressed in the guides listed in the following table.

Guide	Intended Audience	Purpose
Common User Guide	All users	Explains tasks performed by most users.
Common Implementation Guide	Implementors	Explains tasks within the Define Common Applications Configuration task list, which is included in all offerings.
Functional Setup Manager User Guide	Implementors	Explains how to use Oracle Fusion Functional Setup Manager to plan, manage, and track your implementation projects, migrate setup data, and validate implementations.
Technical Guides	System administrators, application developers, and technical members of implementation teams	Explain how to install, patch, administer, and customize Oracle Fusion Applications. Note Limited content applicable to Oracle Cloud implementations.

For guides that are not available from the Guides menu, go to Oracle Technology Network at <http://www.oracle.com/technetwork/indexes/documentation>.

Other Information Sources

My Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

Use the My Oracle Support Knowledge Browser to find documents for a product area. You can search for release-specific information, such as patches, alerts, white papers, and troubleshooting tips. Other services include health checks, guided lifecycle advice, and direct contact with industry experts through the My Oracle Support Community.

Oracle Enterprise Repository for Oracle Fusion Applications

Oracle Enterprise Repository for Oracle Fusion Applications provides details on service-oriented architecture assets to help you manage the lifecycle of your

software from planning through implementation, testing, production, and changes.

In Oracle Fusion Applications, you can use Oracle Enterprise Repository at <http://fusionappsoer.oracle.com> for:

- Technical information about integrating with other applications, including services, operations, composites, events, and integration tables. The classification scheme shows the scenarios in which you use the assets, and includes diagrams, schematics, and links to other technical documentation.
- Other technical information such as reusable components, policies, architecture diagrams, and topology diagrams.

Note

The content of Oracle Enterprise Repository reflects the latest release of Oracle Fusion Applications.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/us/corporate/accessibility/index.html>.

Comments and Suggestions

Your comments are important to us. We encourage you to send us feedback about Oracle Fusion Applications Help and guides. Please send your suggestions to oracle_fusion_applications_help_ww_grp@oracle.com. You can use the **Send Feedback to Oracle** link in the footer of Oracle Fusion Applications Help.

Overview

Project Execution Management Offering: Overview

In the Project Management business process area, your enterprise can configure how you execute projects, including how to manage requirements, schedule and collaborate on tasks, staff resources, maximize utilization, resolve issues, and complete deliverables.

Before you begin, use the Getting Started page in the Setup and Maintenance work area to access reports for each offering, including full lists of setup tasks, descriptions of the options and features that you can select when you configure the offering, and lists of business objects and enterprise applications that are associated with the offering.

The first implementation step is to configure the offerings in the Setup and Maintenance work area by selecting the offerings, options, and features that you want to make available to implement. For the Project Execution Management offering, you can select the following features and options:

- Project Execution Management

The following table lists feature choices for the Project Execution Management offering.

Feature	Feature Description
Implementation Project Task Lists	<p>Indicate whether to display the minimum or a complete list of setup tasks in implementation projects.</p> <ul style="list-style-type: none"> • Basic: Include the minimum number of setup tasks that must be implemented to use Project Execution Management applications. • Complete: Include all setup tasks to perform configuration tasks that are common to Oracle Fusion applications and to extend the functionality of Project Execution Management applications. For example, the Complete feature choice includes setup tasks for social networking, users and security, and application preferences.

Local Installation of Help	Define help settings if help is locally installed.
Access to Internet-Based Help Features	Set options for using Internet-based help features.
Help Customization	Set help options for privileged users to edit help and add custom help.
Custom Help Security	Enables addition of links to internet sites from help, and sharing of ratings.

- Project Resource Management

Indicate whether Oracle Fusion Project Resource Management will be deployed.

Next, create one or more implementation projects for the offerings, options, and features that you want to implement first, which generates task lists for each project. The application implementation manager can customize the task list and assign and track each task.

If you select the **Complete** feature choice for the Implementation Project Task Lists feature, and enable all additional features, the generated task list for this offering will contain the groups of tasks listed in the following table:

Task List	Description
Define Common Applications Configuration for Project Execution Management	Define the configuration for common setup such as users, enterprise and HR structures, security, and common reference objects for Oracle Fusion Project Execution Management. You can find other information that supports the common implementation tasks in the Oracle Fusion Applications Concepts Guide.
Define Common Project Execution Options	Configure Oracle Fusion Project Management products to manage project users, project roles, and calendars.
Define Project Management Configuration	Configure Oracle Fusion Project Management to manage projects, tasks, requirements, deliverables, and resources, and to track and resolve issues.
Define Project Resource Management Configuration	Configure Oracle Fusion Project Resource Management to manage the availability and staffing of resources, fulfill project resource requests, and monitor resource utilization.
Define Extensions for Project Execution Management	Configure specific extensions for customization of Project Execution Management.

You can also customize and extend applications using other tools. For more information, see the Oracle Fusion Applications Extensibility Guide.

Define Common Applications Configuration for Project Execution Management: Overview

In the Define Common Applications Configuration for Project Execution Management activity, you perform common setup steps such as populating the product tables containing user and role information and defining security and common reference objects for Project Execution Management applications in

Oracle Fusion Project Portfolio Management. This activity contains advanced setup tasks that are not required for a typical implementation of Project Execution Management applications.

Define Common Applications Configuration for Project Execution Management

Setup tasks in the Define Common Applications Configuration for Project Execution Management activity are grouped into the following task lists:

Task List	Description
Define Synchronization of Users and Roles from LDAP	Run a process to populate the product tables containing user and role information with the users and roles held in LDAP. This process is typically the first implementation task but can also run periodically to keep the product tables synchronized with subsequent updates to LDAP.
Define Social Networking	Review options related to social networking and update as necessary.
Define Security for Project Execution Management	Enable users to perform functions related to their job roles.
Define Approval Management for Project Execution Management	Define approval routing structures and controls to match the needs of the organization.
Define Help Configuration	Define what users can see and do in a local deployment of Oracle Fusion Applications Help.
Maintain Common Reference Objects	Review and manage objects, for example currencies and reference data sets, that are shared across applications. Perform setup that applies to Oracle Fusion Applications as a whole, for example Navigator menu customization and maintenance of common messages that can be used in any application.

Getting Started with an Implementation: Overview

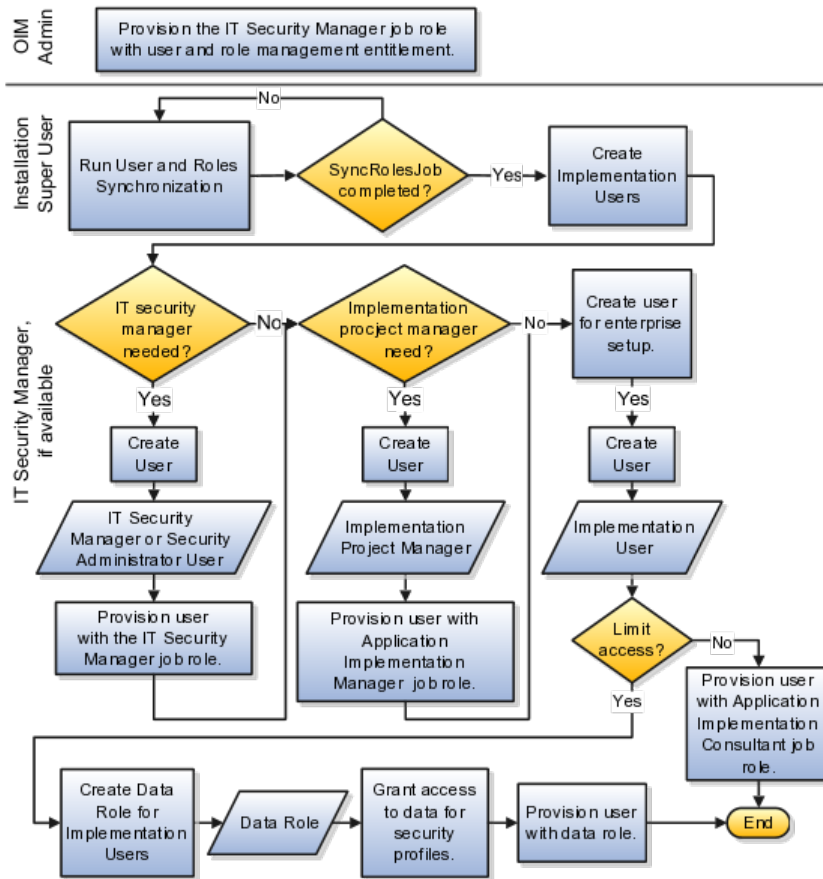
To start an Oracle Fusion Applications implementation, you must set up one or more initial users using the super user that was created during installation and provisioning of the Oracle Fusion Applications environment, or using the initial administrator user provided by Oracle for Oracle Cloud Application Services implementations. Because Oracle Fusion Applications is secure as delivered, the process of enabling the necessary setup access for initial users requires several specialized steps when getting started with an implementation.

The following high level steps are required for starting an implementation.

1. If you are not starting an Oracle Cloud Application Services implementation, sign into Oracle Identity Manager (OIM) as the OIM Administration users and provision the IT Security Manager job role with roles for user and role management. This enables the super user account, which is provisioned with the IT Security Manager job role, to create implementation users.
2. For starting all implementations, sign in as the user with initial access: either the Oracle Fusion Applications installation super user or the initial Oracle Cloud Application Services administrator user.
3. Select an offering to implement, and generate the setup tasks needed to implement the offering.
4. Perform the following security tasks:

- a. Synchronize users and roles in the Lightweight Directory Access Protocol (LDAP) store with HCM user management by using the Run User and Roles Synchronization Process task.
 - b. Create an IT security manager user by using the Create Implementation Users task.
 - c. Provision the IT security manager with the IT Security Manager role by using the Provision Roles to Implementation Users task.
5. As the newly created IT security manager user, sign in to Oracle Fusion Applications and set up at least one implementation user for setting up enterprise structures.
- a. Create an implementation user by using the Create Implementation Users task.
 - b. Provision the implementation user with the Application Implementation Manager job role or the Application Implementation Consultant job role by using the Provision Roles to Implementation Users task. The Application Implementation Consultant job role inherits from all product-specific application administrators and entitles the necessary View All access to all secured object.
 - c. Optionally, create a data role for an implementation user who needs only the limited access of a product-specific Application Administrator by using the Create Data Role for Implementation Users. Then assign the resulting data role to the implementation user by using the Provision Roles to Implementation Users task.

The figure shows the task flow from provisioning the IT Security Manager job role with the user and role management entitlement to creating and provisioning implementation users for enterprise setup.



Manage Application Implementation

Manage Application Implementation: Overview

The Manage Applications Implementation business process enables rapid and efficient planning, configuration, implementation, deployment, and ongoing maintenance of Oracle Fusion applications through self-service administration.

The Setup and Maintenance work area offers you the following benefits:

- **Prepackaged Lists of Implementation Tasks**

Task lists can be easily configured and extended to better fit with business requirements. Auto-generated, sequential task lists include prerequisites and address dependencies to give full visibility to end-to-end setup requirements of Oracle Fusion applications.

- **Rapid Start**

Specific implementations can become templates to facilitate reuse and rapid-start for comparable Oracle Fusion applications across many instances.

- **Comprehensive Reporting**

A set of built-in reports helps to analyze, validate and audit configurations, implementations, and setup data of Oracle Fusion applications.

With Oracle Fusion Functional Setup Manager you can:

- Learn about and analyze implementation requirements.
- Configure Oracle Fusion applications to match your business needs.
- Achieve complete visibility to setup requirements through guided, sequential task lists downloadable into Excel for project planning.
- Enter setup data through easy-to-use user interfaces available directly from the task lists.
- Export and import data from one instance to another for rapid setup.
- Validate setup by reviewing setup data reports.
- Implement all Oracle Fusion applications through a standard and consistent process.

The following documentation resources are available for learning how to configure Oracle Fusion Applications.

- Functional Setup Manager Developer's Guide
- Common Implementation Guide
- Customer Data Management Implementation Guide
- Enterprise Contracts Implementation Guide
- Marketing Implementation Guide
- Sales Implementation Guide
- Fusion Accounting Hub Implementation Guide
- Financials Implementation Guide
- Compensation Management Implementation Guide
- Workforce Deployment Implementation Guide
- Workforce Development Implementation Guide
- Incentive Compensation Implementation Guide
- Procurement Implementation Guide
- P6 EPPM Administrator's Guide for an Oracle Database
- P6 EPPM Administrator's Guide for Microsoft SQL Server Database

Implementation Projects: Explained

An implementation project is the list of setup tasks you need to complete to implement selected offerings and options. You create a project by selecting the offerings and options you want to implement together. You manage the project as a unit throughout the implementation lifecycle. You can assign these tasks to users and track their completion using the included project management tools.

Maintaining Setup Data

You can also create an implementation project to maintain the setup of specific business processes and activities. In this case, you select specific setup task lists and tasks

Exporting and Importing

Implementation projects are also the foundation for setup export and import. You use them to identify which business objects, and consequently setup data, you will export or import and in which order.

Selecting Offerings

When creating an implementation project you see the list of offerings and options that are configured for implementation. Implementation managers specify which of those offerings and options to include in an implementation project. There are no hard and fast rules for how many offerings you should include in one implementation project. The implementation manager should decide based on how they plan to manage their implementations. For example, if you will implement and deploy different offerings at different times, then having separate implementation projects will make it easier to manage the implementation life cycles. Furthermore, the more offerings you included in an implementation project, the bigger the generated task list will be. This is because the implementation task list includes all setup tasks needed to implement all included offerings. Alternatively, segmenting into multiple implementation projects makes the process easier to manage.

Offerings: Explained

Offerings are application solution sets representing one or more business processes and activities that you typically provision and implement as a unit. They are, therefore, the primary drivers of functional setup of Oracle Fusion applications. Some of the examples of offerings are Financials, Procurement, Sales, Marketing, Order Orchestration, and Workforce Deployment. An offering may have one or more options or feature choices.

Implementation Task Lists

The configuration of the offerings will determine how the list of setup tasks is generated during the implementation phase. Only the setup tasks needed to implement the selected offerings, options and features will be included in

the task list, giving you a targeted, clutter-free task list necessary to meet your implementation requirements.

Enabling Offerings

Offerings and their options are presented in an expandable and collapsible hierarchy to facilitate progressive decision making when specifying whether or not an enterprise plans to implement them. An offering or its options can either be selected or not be selected for implementation. Implementation managers decide which offerings to enable.

Provisioning Offerings

The Provisioned column on the Configure Offerings page shows whether or not an offering is provisioned. While you are not prevented from configuring offerings that have not been provisioned, ultimately the users are not able to perform the tasks needed to enter setup data for those offerings until appropriate enterprise applications (Java EE applications) are provisioned and their location (end point URLs) is registered.

Options: Explained

Each offering in general includes a set of standard functionality and a set of optional modules, which are called options. For example, in addition to standard Opportunity Management, the Sales offering includes optional functionality such as Sales Catalog, Sales Forecasting, Sales Prediction Engine, and Outlook Integration. These optional functions may not be relevant to all application implementations. Because these are subprocesses within an offering, you do not always implement options that are not core to the standard transactions of the offering.

Feature Choices: Explained

Offerings include optional or alternative business rules or processes called feature choices. You make feature selections according to your business requirements to get the best fit with the offering. If the selected offerings and options have dependent features then those features are applicable when you implement the corresponding offering or option. In general, the features are set with a default configuration based on their typical usage in most implementations. However, you should always review the available feature choices for their selected offerings and options and configure them as appropriate for the implementation.

You can configure feature choices in three different ways:

Yes or No

If a feature can either be applicable or not be applicable to an implementation, a single checkbox is presented for selection. Check or uncheck to specify yes or no respectively.

Single Select

If a feature has multiple choices but only one can be applicable to an implementation, multiple choices are presented as radio buttons. You can turn on only one of those choices.

Multi-Select

If the feature has multiple choices but one or more can be applicable to an implementation then all choices are presented with a checkbox. Select all that apply by checking the appropriate choices.

Common Applications Configuration: Define Synchronization of Users and Roles from LDAP

User and Role Synchronization: Explained

Oracle Identity Management (OIM) maintains Lightweight Directory Access Protocol (LDAP) user accounts for users of Oracle Fusion applications. OIM also stores the definitions of abstract, job, and data roles and holds information about roles provisioned to users. During implementation, any existing information about users, roles, and roles provisioned to users must be copied from the LDAP directory to the Oracle Fusion Applications tables. Once the Oracle Fusion Applications tables are initialized with this information, it is maintained automatically. To perform the initialization, you run the process Retrieve Latest LDAP Changes.

Note

For security and audit best practice, implementation users have person records and appropriate role-based security access. So that appropriate roles can be assigned to implementation users, you must run the process Retrieve Latest LDAP Changes before you create implementation users.

During initial implementation, the installation super user performs the task Run User and Role Synchronization Process to run the Retrieve Latest LDAP Changes process.

Tip

The user name and password of the installation super user are created during installation provisioning of Oracle Fusion Applications. For details of the user name and password, contact your system administrator or the person who installed Oracle Fusion Applications.

Common Applications Configuration: Define Security for Project Execution Management

Security Tasks: Highlights

Security tasks include the following.

- Security setup
- Security implementation and administration

Note

Security setup and administration tasks typically use integrated user interface pages that are provided by the following products.

- Oracle Identity Manager (OIM)
- Oracle Authorization Policy Manager (APM)
- Oracle Fusion Human Capital Management (HCM) products
- Oracle Application Access Control Governor (AACG) in Oracle Enterprise Governance, Risk and Compliance (GRC)

Security setup and administrative tasks performed by product administrators and implementation consultants, such as managing HCM security profiles, are presented in the documentation for those products.

Set Up the IT Security Manager Job Role

Provision the IT Security Manager job role with roles for user and role management.

- Using the OIM Administrator user name and password, sign in to Oracle Identity Manager (OIM). Refer to the Oracle Fusion Middleware Enterprise Deployment Guide for Oracle Identity Management (Oracle Fusion Applications Edition).
See: Creating Users and Groups
- Open the IT Security Manager job role's attributes and use the Hierarchy tab to add the User Identity Administrators role and the Role Administrators role in the OIM Roles category using the Add action. Use the Delegated Administration menu to search for the Xellerate Users

organization and assign it to the IT Security Manager role. Refer to the Oracle Fusion Middleware User's Guide for Oracle Identity Manager.

See: User Management Tasks

Prerequisite Tasks for Security Administration

Sign into Oracle Fusion Applications for the first time with the Installation Super User account to synchronize LDAP users with HCM user management and create an IT security manager user account and provision it with the IT Security Manager role. For environments that are not in Oracle Cloud, use the super user account that was created during installation to sign in for the first time.

- Installation establishes the super user account. Refer to the Oracle Fusion Applications Installation Guide.

See: Identity Management Configuration

- Oracle provides an initial user for accessing your services in Oracle Cloud. For more information, refer to "Oracle Cloud Application Services Security: Explained" in Oracle Cloud documentation.
- Synchronize LDAP users with HCM user management by performing the Run User and Roles Synchronization Process task. Monitor completion of the predefined Enterprise Scheduler process called Retrieve Latest LDAP Changes.
- Refer to information about creating person records in Oracle Fusion Applications Workforce Development Implementation Guide, or refer to the Oracle Fusion Middleware User's Guide for Oracle Identity Manager.

See: Managing Users

- As a security guideline, provision a dedicated security professional with the IT Security Manager role as soon as possible after initial security setup and revoke that role from users provisioned with the Application Implementation Consultant role. If entitled to do so, see Security Tasks and Oracle Fusion Applications: How They Fit Together for details about provisioning the IT security manager.

Required Security Administration Tasks

Establish at least one implementation user and provision that user with sufficient access to set up the enterprise for all integrated Oracle Fusion Middleware and all application pillars or partitions.

- Perform the initial security tasks. If entitled to do so, see Initial Security Administration: Critical Choices.
- Sign in to Oracle Fusion Applications using the IT security manager's or administrator's user name and password, and create and provision users who manage your implementation projects and set up enterprise structures by performing the Create Implementation Users task. Refer to the Oracle Fusion Middleware User's Guide for Oracle Identity Manager.

See: User Management Tasks

- Create a data role for implementation users who will set up HCM that grants access to data in secured objects required for performing HCM

setup steps. Provision the implementation user with this View All data role. See "Creating an HCM Data Role: Worked Example."

- For an overview of security tasks from the perspective of an applications administrator, refer to the Oracle Fusion Applications Administrator's Guide

See: Securing Oracle Fusion Applications

Optional Security Administration Tasks

Once initial security administration is complete and your enterprise is set up with structures such as business units, additional security administration tasks are optional and based on modifying and expanding the predefined security reference implementation to fit your enterprise. See points to consider for defining security, data security and trading partner security after enterprise setup.

- Create users. Refer to the Oracle Fusion Middleware User's Guide for Oracle Identity Manager.

See: Creating Users

- Provision users with roles. Refer to the Oracle Fusion Middleware User's Guide for Oracle Identity Manager.

See: Adding and Removing Roles

- You manage users and job roles, including data and abstract roles, in Oracle Identity Management user interface pages. Refer to the Oracle Fusion Middleware User's Guide for Oracle Identity Manager.

See: User Interfaces

- You manage duties, security policies, and data role templates in the Authorization Policy Manager. Refer to the Oracle Fusion Middleware Authorization Policy Manager Administrator's Guide (Oracle Fusion Applications Edition).

See: Managing Oracle Fusion Applications Data Security Policies

- You manage role provisioning rules in Human Capital Management (HCM). Refer to the Role Mappings: Explained topic in the Oracle Fusion Applications Workforce Development Implementation Guide.

See: Common Applications Configuration: Define Security for Human Capital Management

- For a complete description of the Oracle Fusion Applications security reference implementation, see the Oracle Fusion Applications Security Reference Manuals for each offering.

See: Oracle Fusion Applications Common Security Reference Manual

- For a detailed functional explanation of the Oracle Fusion Applications security approach, refer to the following guides.

See: Oracle Fusion Applications Security Guide

See: Oracle Fusion Applications Security Hardening Guide

- Since security in Oracle Fusion Applications is based on integrations with Oracle Identity Management in Fusion Middleware, security features in the database, and Oracle Enterprise Governance, Risk and Compliance (GRC), additional resources in support of performing security tasks include the following.
 - Authorization Policy Manager (APM) is available in Oracle Fusion Applications through integration with Oracle Identity Management (OIM). Authorization policy management involves managing duty roles, data role templates, and data security policies. Refer to the Oracle Fusion Middleware Authorization Policy Manager Administrator's Guide (Oracle Fusion Applications Edition).
See: Getting Started With Oracle Authorization Policy Manager
 - Oracle Identity Management (OIM) is available in Oracle Fusion Applications through integration with Oracle Fusion Middleware. Identity management in Oracle Fusion Application involves creating and managing user identities, creating and linking user accounts, managing user access control through user role assignment, managing enterprise roles, and managing workflow approvals and delegated administration.
See: Oracle Fusion Middleware User's Guide for Oracle Identity Manager
 - Oracle Fusion Applications is certified to integrate with Applications Access Controls Governor (AACG) in the Oracle Enterprise Governance, Risk and Compliance (GRC) suite to ensure effective segregation of duties (SOD).
See: Oracle Application Access Controls Governor Users Guide
See: Oracle Application Access Controls Governor Implementation Guide
- Configure and manage auditing. Refer to the Oracle Fusion Middleware Application Security Guide.
See: Configuring and Managing Auditing

Defining Security After Enterprise Setup: Points to Consider

After the implementation user has set up the enterprise, further security administration depends on the requirements of your enterprise.

The Define Security activity within the Information Technology (IT) Management business process includes the following tasks.

- Import Worker Users
- Import Partner Users
- Manage Job Roles
- Manage Duties
- Manage Application Access Controls

If no legacy users, user accounts, roles, and role memberships are available in the Lightweight Directory Access Protocol (LDAP) store, and no legacy workers are available in Human Resources (HR), the implementation user sets up new users and user accounts and provisions them with roles available in the Oracle Fusion Applications reference implementation.

If no legacy identities (workers, suppliers, customers) exist to represent people in your enterprise, implementation users can create new identities in Human Capital Management (HCM), Supplier Portal, and Customer Relationship Management (CRM) Self Service, respectively, and associate them with users.

Before Importing Users

Oracle Identity Management (OIM) handles importing users.

If legacy employees, contingent workers, and their assignments exist, the HCM Application Administrator imports these definitions by performing the Initiate HCM Spreadsheet Load task. If user and role provisioning rules have been defined, the Initiate HCM Spreadsheet Load process automatically creates user and role provisioning requests as the workers are created.

Once the enterprise is set up, performing the Initiate HCM Spreadsheet Load task populates the enterprise with HR workers in records linked by global user ID (GUID) to corresponding user accounts in the LDAP store. If no user accounts exist in the LDAP store, the Initiate HCM Spreadsheet Load task results in new user accounts being created. Worker email addresses as an alternate input for the Initiate HCM Spreadsheet Load task triggers a search of the LDAP for user GUIDs, which may perform more slowly than entering user names.

In the security reference implementation, the HCM Application Administrator job role hierarchy includes the HCM Batch Data Loading Duty role, which is entitled to import worker identities. This entitlement provides the access necessary to perform the Initiate HCM Spreadsheet Load task in HCM.

Note

The Import Person and Organization task in the Define Trading Community Import activity imports the following resources, creates users, and links the resources to users for use in CRM.

- Internal employees
- Contingent workers
- External partner contacts
- Partner companies
- Legal entities
- Customers
- Consumers

If role provisioning rules have been defined, the Import Person and Organization task automatically provisions role requests as the users are created.

Import Users

If legacy users (identities) and user accounts exist outside the LDAP store that is being used by the Oracle Fusion Applications installation, the IT security manager has the option to import these definitions to the LDAP store by performing the Import Worker Users and Import Partner Users tasks.

If no legacy users or user accounts can be imported or exist in an LDAP repository accessible to Oracle Identity Management (OIM), the IT security manager creates users manually in OIM or uses the Initiate HCM Spreadsheet Load task to create users from imported HR workers.

Once users exist, their access to Oracle Fusion Applications is dependent on the roles provisioned to them in OIM or Human Capital Management. Use the Manage HCM Role Provisioning Rules task to define rules that determine what roles are provisioned to users.

Importing user identities from other applications, including other Oracle Applications product lines, is either a data migration or manual task. Migrating data from other Oracle Applications includes user data. For more information about importing users, see the Oracle Fusion Middleware Developer's Guide for Oracle Identity Manager.

In the security reference implementation, the IT Security Manager job role hierarchy includes the HCM Batch Data Loading Duty and the Partner Account Administration Duty. These duty roles provide entitlement to import or create users. The entitlement Load Batch Data provides the access necessary to perform the Import Worker Users task in OIM. The entitlement Import Partner entitlement provides the access necessary to perform the Import Partner Users task in OIM.

Manage Job Roles

Job and abstract roles are managed in OIM. This task includes creating and modifying job and abstract roles, but not managing role hierarchies of duties for the jobs.

Note

Manage Job Roles does not include provisioning job roles to users. Provisioning users is done in OIM, HCM, CRM or Oracle Fusion Supplier Portal.

Roles control access to application functions and data. Various types of roles identify the functions performed by users.

The Oracle Fusion Applications security reference implementation provides predefined job and abstract roles. In some cases, the jobs defined in your enterprise may differ from the predefined job roles in the security reference implementation. The predefined roles and role hierarchies in Oracle Fusion may require changes or your enterprise may require you to create new roles. For example, you need a job role for a petty cash administrator, in addition to an accounts payable manager. The security reference implementation includes a predefined Accounts Payable Manager, and you can create a petty cash administrator role to extend the reference implementation.

In the security reference implementation, the IT Security Manager job role hierarchy includes the Enterprise Role Management Duty role, which is entitled to manage job and abstract roles (the entitlement is Manage Enterprise Role). This entitlement provides the access necessary to perform the Manage Job Roles task in OIM.

Manage Duties

A person with a job role must be able to perform certain duties. In the Oracle Fusion Applications security reference implementation, enterprise roles inherit

duties through a role hierarchy. Each duty corresponds to a duty role. Duty roles specify the duties performed within applications and define the function and data access granted to the enterprise roles that inherit the duty roles.

Managing duties includes assigning duties to job and abstract roles in a role hierarchy using Authorization Policy Manager (APM). If your enterprise needs users to perform some actions in applications coexistent with Oracle Fusion applications, you may wish to remove the duty roles that enable those actions. For details about which duty roles are specific to the products in an offering, see the Oracle Fusion Applications Security Reference Manual for each offering.

OIM stores the role hierarchy and the spanning of roles across multiple pillars or logical partitions of applications.

In cases where your enterprise needs to provide access to custom functions, it may be necessary to create or modify the duty roles of the reference implementation.

Tip

As a security guideline, use only the predefined duty roles, unless you have added new applications functions. The predefined duty roles fully represent the functions and data that must be accessed by application users and contain all appropriate entitlement. The predefined duty roles are inherently without segregation of duty violations of the constraints used by the Application Access Controls Governor.

In the security reference implementation, the IT Security Manager job role hierarchy includes the Application Role Management Duty role, which is entitled to manage duty roles (the entitlement is Manage Application Role). This entitlement provides the access necessary to perform the Manage Duties task in APM.

Note

Product family administrators are not entitled to create role hierarchies or manage duty roles and must work with the IT security manager to make changes such as localizing a duty role to change a role hierarchy. Setup for localizations is documented in HCM documentation.

Manage Application Access Controls

Prevent or limit the business activities that a single person may initiate or validate by managing segregation of duties policies in the Application Access Controls Governor (AACG) .

Note

In AACG, segregation of duties policies are called access controls or segregation of duties controls.

In the security reference implementation, the IT Security Manager job role hierarchy includes the Segregation of Duties Policy Management Duty role, which is entitled to manage segregation of duties policies (the entitlement is Manage Segregation of Duties Policy). This entitlement provides the access necessary to perform the Manage Application Access Controls task in AACG.

Security Tasks and Oracle Fusion Applications: How They Fit Together

The major security tasks and their order within the context of an overall Oracle Fusion Applications implementation extend from security setup through production deployment audits.

The Oracle Fusion business process model (BPM) provides a sequence of security implementation tasks that includes the following.

- Security setup (Define Common Applications Configuration activity)
 - Define Implementation Users task group (optional)
 - Create Implementation Users task
 - Create Data Role for Implementation Users task
 - Provision Roles to Implementation Users task
 - Define security - tasks vary depending on deployed Oracle Fusion product family
 - Revoke Data Role from Implementation Users task
 - Import Worker Users task
 - Import Partner Users task
 - Manage Duties task
 - Manage Job Roles task
 - Manage Application Access Controls task
 - Define Automated Governance, Risk, and Performance Controls activity
 - Manage Application Access Controls task (AACG settings)
 - Manage Application Preventive Controls task
 - Manage Application Transaction Controls task
 - Manage Application Configuration Controls task
- User and role provisioning tasks
 - Implement Role Request and Provisioning Controls activity
 - Import Worker Users task
 - Import Partner Users task
 - Self Request User Roles task
 - Approve User and Role Provisioning Requests task

- Assign User Roles task
- Manage Supplier User Roles and User Role Usages task
- Map and Synchronize User Account Details task
- Tasks for viewing account details for self or others
- Tasks for applying and managing various role provisioning rules
- Tasks for running synchronization processes
- Security implementation and ongoing maintenance after setup (Manage IT Security activity)
 - Implement Function Security Controls
 - Create Job Role task
 - Import Worker Users task
 - Import Partner Users task
 - Manage Duties task
 - Manage Job Roles task
 - Manage Users task
 - Implement Data Security Controls
 - Manage Data Security Policies task
 - Manage Role Templates task
 - Manage Encryption Keys task
 - Manage Segment Security task
 - Manage Data Access Sets task
 - Define Security Profiles task group
 - Auditing tasks
 - Manage Security Audit, Compliance and Reporting activity
 - Manage Application Access Controls task

Note

Go live deployment does not require lockdown or specific security tasks because security is enforced across the test to production information life cycle.

Required Roles

The following enterprise roles are provisioned to a single super user that is set up by the Oracle Fusion Applications installation process, and to the initial user set up by Oracle for Oracle Cloud Application Services:

- Application Implementation Consultant
- IT Security Manager
- Application Administrators for the provisioned products

Initial security administration also includes provisioning the IT Security Manager role with Oracle Identity Management (OIM) roles for user and role management.

- Identity User Administrator
- Role Administrator

Additionally, the Xellerate Users organization must be assigned to the IT Security Manager role.

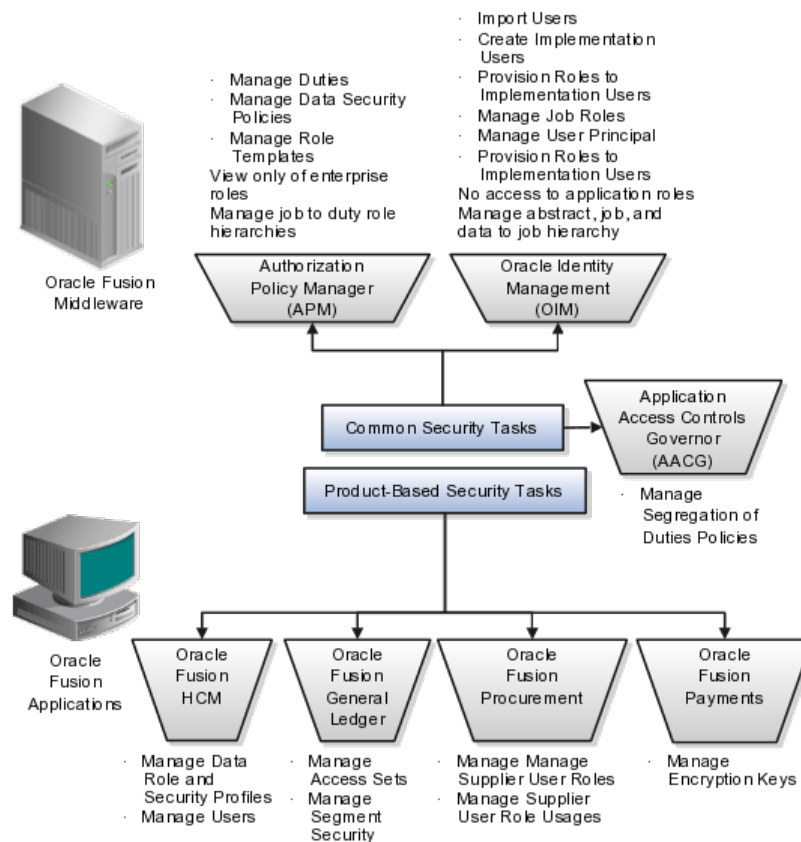
Important

As a security guideline, provision a dedicated security professional with the IT Security Manager role at the beginning of an implementation, and revoke that role from users provisioned with the Application Implementation Consultant role.

Tools Used to Perform Security Tasks

Security tasks are supported by tools within both Oracle Fusion Applications and Oracle Fusion Middleware.

The figure lists the tasks associated with each of the integrated products and pillars of an Oracle Fusion Applications deployment.



Security Tasks: Overview

Security tasks span multiple business processes and are performed by various roles using numerous integrated tools.

The following table shows the business process model (BPM) tasks and tools used to support securing Oracle Fusion Applications.

Example Task	Oracle BPM Task	Supporting Tools	Details
View duty roles inherited by a job role	Manage Duties	<ul style="list-style-type: none"> Authorization Policy Manager (APM) 	Each logical partition or pillar contains a collection of application roles, and function and data security policies.
View entitlement or policies carried by a job role	Manage Duties	<ul style="list-style-type: none"> APM 	In LDAP, the policy store stores application roles and the identity store stores enterprise roles.
Add a job role to a role hierarchy	Manage Job Roles	<ul style="list-style-type: none"> Oracle Identity Management (OIM) 	The identity store in LDAP stores enterprise roles.
Add a duty role to a role hierarchy	Manage Duties	<ul style="list-style-type: none"> APM 	LDAP stores the role hierarchy and the spanning of roles across multiple pillars or logical partitions.
Create a hierarchy of enterprise (abstract, job, data) roles	Manage Job Roles	<ul style="list-style-type: none"> OIM 	
Create a hierarchy of (application) duty roles	Manage Duties	<ul style="list-style-type: none"> APM 	
Create a new job role	Manage Job Roles	<ul style="list-style-type: none"> OIM 	The identity store in LDAP stores enterprise roles.
Change duty roles inherited by a job or abstract role	Manage Duties	<ul style="list-style-type: none"> APM 	The policy store stores duty roles. The identity store stores enterprise roles. Some duty roles may enable actions and their associated users interface features that your enterprise does not want users to perform in Oracle Fusion applications.
Create a new duty role	Manage Duties	<ul style="list-style-type: none"> APM 	All functions and actions in Oracle Fusion Applications that need to be secured are covered by the reference implementation. In some cases, especially with function customizations, a new duty role may be needed.

View Segregation of Duties (SOD) policies respected by a duty role	Manage Application Access Controls	<ul style="list-style-type: none"> Application Access Controls Governor (AACG) in Governance, Risk, and Compliance Controls (GRCC) 	The Security Reference Manuals (SRM) document the segregation of duties (SOD) policies respected within each job role
View SOD policy violations carried by the duty roles inherited by a job role	Manage Application Access Controls	<ul style="list-style-type: none"> AACG in GRCC 	The Security Reference Manuals (SRM) document the SOD policies respected within each job role
View SOD policy violations	Manage Segregation of Duties Policies	<ul style="list-style-type: none"> AACG in GRC 	The SRM documents the SOD conflicts for each job role
View the data security policies carried by a job, abstract, and data roles	Manage Data Security Policies	<ul style="list-style-type: none"> APM 	<p>Oracle Fusion Data Security stores data security policies in the policy store.</p> <p>Data security can also be defined in application pages provided by Oracle Middleware Extensions for Applications (FND)</p>
Create and update HCM security profiles	Manage Data Role and Security Profiles	<ul style="list-style-type: none"> Oracle Fusion HCM 	This task does not include assigning data roles to the users, which is supported by user provisioning tasks.
Create (generate) a data role	<ol style="list-style-type: none"> Manage Role Templates Manage Data Roles and Security Profiles 	<ul style="list-style-type: none"> APM Oracle Fusion HCM 	<p>Data roles are generated automatically based on data role templates and enterprise setup. Changes to data role templates generate new or changed data roles.</p> <p>Create data roles in HCM using the Manage Data Roles and Security Profiles task.</p>
Create a new data security policy (not through generated data roles based on data role templates or HCM security profiles)	Manage Data Security Policies	<ul style="list-style-type: none"> APM 	Data security can also be defined in application pages provided by Oracle Middleware Extensions for Applications (FND)
View data role templates defined by a product	Manage Role Templates	<ul style="list-style-type: none"> APM 	
Create or edit an existing data role template	Manage Role Templates	<ul style="list-style-type: none"> APM 	

Secure common objects such as attachment categories or profile options	Manage Data Security Policies	<ul style="list-style-type: none"> • APM 	Data security can also be defined in application pages provided by Oracle Middleware Extensions for Applications (FND)
View, create, update encryption keys used to secure attributes of personally identifiable information	Manage Encryption Keys	<ul style="list-style-type: none"> • Oracle Fusion Payments 	
View, create, update Data Access Sets used to secure Ledgers and Ledger Sets	Manage Data Access Sets	<ul style="list-style-type: none"> • Oracle Fusion General Ledger 	
View, create, update accounting flexfield segment security rules	Manage Security Segments	<ul style="list-style-type: none"> • Oracle Fusion General Ledger 	
View or update the set of job roles that can be provisioned to supplier users	Manage Supplier User Role	<ul style="list-style-type: none"> • Supplier Portal • Sourcing 	These tools are in the Oracle Fusion Procurement product family
Determine the supplier job roles that the supplier self service administrator can provision to supplier users	Manage Supplier User Role Usages	<ul style="list-style-type: none"> • Supplier Portal • Sourcing 	These tools are in the Oracle Fusion Procurement product family
Set default supplier job roles based on the set of supplier roles that are defined by performing the Manage Supplier User Roles task	Manage Supplier User Role Usages	<ul style="list-style-type: none"> • Supplier Portal • Sourcing 	These tools are in the Oracle Fusion Procurement product family
Create a new implementation user	Create Implementation Users	<ul style="list-style-type: none"> • OIM 	
Import legacy users	<ul style="list-style-type: none"> • Import Worker Users • Import Partner Users 	<ul style="list-style-type: none"> • OIM 	
Create a new user	Manage Users	<ul style="list-style-type: none"> • HCM 	<p>HCM creates a new user and identity when a new worker is created. The Hire Employee and Add Contingent Worker tasks also result in new user creation requests.</p> <p>Creating a new user automatically triggers role provisioning requests based on role provisioning rules.</p>

Provision roles to a user	<ol style="list-style-type: none"> 1. Provision Roles to Implementation Users 2. Manage Users 	<ul style="list-style-type: none"> • OIM • Oracle Fusion HCM • Oracle Fusion CRM • Oracle Fusion Suppliers 	<p>Implementation users are provisioned through OIM since HCM is not setup at the start of the implementation. The Provision Roles to Implementation Users is not needed once implementation is complete.</p> <p>Once HCM is setup, HCM is used to provision roles to non-implementation users by performing the Manage Users task. Human Resources (HR) transaction flows such as Hire and Promote also provision roles.</p> <p>Once supplier users are setup, Supplier Model can be used by internal users to maintain supplier user accounts or supplier users can maintain their accounts in Supplier Portal.</p>
View the job, abstract, and data roles provisioned to a user	<ol style="list-style-type: none"> 1. Manage Users 2. Manage User Principal 3. Provision Roles to Implementation Users 	<ul style="list-style-type: none"> • Human Capital Management (HCM) • OIM 	<p>LDAP stores users, roles and provisioning information.</p> <p>The Manage User Principal and Provision Roles to Implementation Users tasks are not needed once implementation is complete.</p>
Revoke role from user.	Manage Users	<ul style="list-style-type: none"> • HCM 	You can revoke roles from various Human Resources task flows, the HCM Manage Users task and OIM. User termination includes role revocation.
Approve role provisioning or user account request.	Approve User and Role Provisioning Requests	<ul style="list-style-type: none"> • OIM 	
View audit logs	Not applicable	<ul style="list-style-type: none"> • Oracle Enterprise Manager 	Viewing audit logs is a Oracle Fusion Middleware function and not represented by an Oracle Fusion Applications BPM task.

For more information about provisioning identities and configuring audit policies, see the Oracle Fusion Applications Administrator's Guide.

There may be more than one navigation path to the graphical user interface in which the task is performed. You can access most security tasks by starting in the Setup and Maintenance Overview page and searching for security tasks and task lists.

Define Users for Project Execution Management

Securing Identities and Users: Points To Consider

Identity covers all aspects of an entity's existence within the contexts in which it is used. The identity of an enterprise user consists of HR attributes, roles, resources, and relationships.

HR attributes include identifying information about a user that is relatively static and well understood, such as first and last name, title, and job function.

Roles are part of a user's identity and define the user's purpose and responsibilities.

Within identity management, resources define what a user can and does do. In an enterprise, this typically translates into what resources a user has access to, what privileges they have on that resource, and what they have been doing on that resource. Resources can be application accounts or physical devices such as laptops or access cards. The enterprise owns the resources, secures them, and manages access to the resources by managing the user's identity and access.

Relationships establish the portion of user identities that involve organizational transactions such as approvals.

An Oracle Fusion Applications user and corresponding identity are usually created in a single transaction, such as when a worker is created in Human Resources (HR). That transaction automatically triggers provisioning requests for the user based on role provisioning rules.

User accounts for some identities that are not employees, such as partner contacts, may be created in a later transaction using an identity that is already created in the identity store. Supplier contacts are created in the Supplier Model, not HR.

Stores

Various locations store identity and user data.

Identity data consists of the following.

- HR person records
- Oracle Fusion Trading Community Model party records

In Oracle Fusion Applications, identities and users correspond one to one, but not all identities correspond to a user, and not all users are provisioned with an

identity. Some identities stored in HR and Trading Community Model may not be provisioned to user accounts and therefore are not synchronized with Oracle Identity Management (OIM). For example, a contact for a prospective customer is an identity in Trading Community Model but may not be provisioned with a user account in OIM. Some users stored in the Lightweight Directory Access Protocol (LDAP) store may not be provisioned with identities. For example, system user accounts used to run Web services to integrate third party services with Oracle Fusion Applications are not associated with a person record in HR or Trading Community Model. Some identifying credentials such as name, department, e-mail address, manager, and location are stored with user data in the LDAP store.

Importing Users

You can import users or user attributes in bulk from existing legacy identity and user stores.

Your tasks may include the following.

- Create users in bulk
- Update specific attributes for all users, such as postal code
- Link users to HR or Trading Community Model persons
- Monitor progress of the import process
- Correct errors & re-import
- Export users in bulk
- Import and export users using a standard plain text data interchange format like Lightweight Data Interchange Format (LDIF)

You can reserve a specific user name not currently in use for use in the future, or release a reserved username from the reservation list and make it available for use. Between a user registration request and approved registration, Oracle Fusion Applications holds the requested user name on the reservation list, and releases the name if an error occurs in the self-registration process or the request is rejected. Self-registration processes check the reservation list for user name availability and suggest alternative names.

Provisioning Events

New identities, such as new hires, trigger user and role provisioning events. In addition to user creation tasks, other tasks, such as Promote Worker or Transfer Worker, result in role provisioning and recalculation based on role provisioning rules.

When an identity's attributes change, you may need to provision the user with different roles. Role assignments may be based on job codes, and a promotion triggers role provisioning changes. Even if the change in the identities attributes requires no role assignment change, such as with a name change, OIM synchronizes the corresponding user information in the LDAP store.

Deactivating or terminating an identity triggers revocation of some roles to end all assignments, but may provision new roles needed for activities, such as

a pay stub review. If the corresponding user for the identity was provisioned with a buyer role, terminating the identity causes the user's buyer record in Procurement to be disabled, just as the record was created when the user was first provisioned with the buyer role.

Notifications and Audits

Oracle Fusion Applications provides mechanisms for notifying and auditing requests or changes affecting identities and users.

Oracle Fusion Applications notifies requestors, approvers, and beneficiaries when a user account or role is provisioned. For example, when an anonymous user registers as a business-to-customer (B2C) user, the B2C user must be notified of the registration activation steps, user account, password and so on once the approver (if applicable) has approved the request and the user is registered in the system.

User ID and GUID attributes are available in Oracle Fusion Applications session information for retrieving authenticated user and identity data.

End user auditing data is stored in database WHO columns and used for the following activities.

- Setting up sign-in audit
- Using the application monitor
- Notifying of unsuccessful sign ins
- Sign-in audit reports

You can conduct real time audits that instantiate a runtime session and impersonate the target user (with the proxy feature) to test what a user has access to under various conditions such as inside or outside firewall and authentication level.

For information on configuring audit policies and the audit store, see the Oracle Fusion Applications Administrator's Guide.

Delegated Administration

You can designate local administrators as delegated administrators to manage a subset of users and roles.

Delegated administrators can be internal or external persons who are provisioned with a role that authorizes them to handle provisioning events for a subset of users and roles.

For example, internal delegated administrators could be designated to manage users and roles at the division or department level. External delegated administrators could be designated to manage users and roles in an external organization such as a primary supplier contact managing secondary users within that supplier organization.

You can also define delegated administration policies based on roles. You authorize users provisioned with specific roles named in the policy to request a subset of roles for themselves if needed, such as authorizing a subset of roles for

a subset of people. For example, the policy permits a manager of an Accounts Payables department to approve a check run administrator role for one of their subordinates, but prohibits the delegated administrator from provisioning a budget approver role to the subordinate.

Credentials

You activate or change credentials on users by managing them in Oracle Identity Management (OIM)

Applications themselves must be credentialed to access one another.

Oracle Fusion Applications distinguishes between user identities and application identities (APPID). Predefined application identities serve to authorize jobs and transactions that require higher privileges than users.

For example, a payroll manager may submit a payroll run. The payroll application may need access to the employee's taxpayer ID to print the payslip. However, the payroll manager is not authorized to view taxpayer IDs in the user interface as they are considered personally identifiable information (PII).

Calling applications use application identities (APPID) to enable the flow of transaction control as it moves across trust boundaries. For example, a user in the Distributed Order Orchestration product may release an order for shipping. The code that runs the Pick Notes is in a different policy store than the code that releases the product for shipment. When the pick note printing program is invoked it is the Oracle Fusion Distributed Order Orchestration Application Development Framework (ADF) that is invoking the program and not the end user.

Manage HCM Role Provisioning Rules

Role Provisioning and Deprovisioning: Explained

A user's access to data and functions depends on the user's roles: users have one or more roles that enable them to perform the tasks required by their jobs or positions. Roles must be provisioned to users; otherwise, users have no access to data or functions.

Role Provisioning Methods

Roles can be provisioned to users:

- Automatically
- Manually, using delegated administration:
 - Users such as line managers and human resource specialists can provision roles manually to other users.
 - Users can request roles for themselves.

For both automatic and manual role provisioning, you create a role mapping to identify when a user becomes eligible for a role.

Oracle Identity Management (OIM) can be configured to notify users when their roles change; notifications are not issued by default.

Role Types

Data roles, abstract roles, and job roles can be provisioned to users. Roles available for provisioning include predefined roles, HCM data roles, and roles created using OIM.

Automatic Role Provisioning

A role is provisioned to a user automatically when at least one of the user's assignments satisfies the conditions specified in the relevant role-mapping definition. The provisioning occurs when the assignment is either created or updated. For example, when a person is promoted to a management position, the line manager role is provisioned automatically to the person if an appropriate role mapping exists. Any change to a person's assignment causes the person's automatically provisioned roles to be reviewed and updated as necessary.

Role Deprovisioning

Automatically provisioned roles are deprovisioned automatically as soon as a user no longer satisfies the role-mapping conditions. For example, a line manager role that is provisioned to a user automatically is deprovisioned automatically when the user ceases to be a line manager.

Automatically provisioned roles can be deprovisioned manually at any time.

Manually provisioned roles are deprovisioned automatically only when all of the user's work relationships are terminated; in all other circumstances, users retain manually provisioned roles until they are deprovisioned manually.

Changes to Assignment Managers

When a person's line manager is changed, the roles of both new and previous line managers are updated as necessary. For example, if the person's new line manager now satisfies the conditions in the role mapping for the line manager role, and the role is one that is eligible for autoprovisioning, then that role is provisioned automatically to the new line manager. Similarly, if the previous line manager no longer satisfies the conditions for the line manager role, then that role is deprovisioned automatically.

Roles at Termination

When a work relationship is terminated, all automatically provisioned roles for which the user does not qualify in other work relationships are deprovisioned automatically. Manually provisioned roles are deprovisioned automatically only if the user has no other work relationships; otherwise, the user retains all manually provisioned roles until they are deprovisioned manually.

Automatic deprovisioning can occur either as soon as the termination is submitted or approved or on the day after the termination date. The user who is terminating the work relationship selects the appropriate deprovisioning date.

Role mappings can provision roles to users automatically at termination. For example, the locally defined roles Retiree and Beneficiary could be provisioned to users at termination based on assignment status and person type values.

If a termination is later reversed, roles that were deprovisioned automatically at termination are reinstated and post-termination roles are deprovisioned automatically.

Date-Effective Changes to Assignments

Automatic role provisioning and deprovisioning are based on current data. For a future-dated transaction, such as a future promotion, role changes are identified and role provisioning occurs on the day the changes take effect, not when the change is entered. The process Send Pending LDAP Requests identifies future-dated transactions and manages role provisioning and deprovisioning at the appropriate time. Note that such role-provisioning changes are effective as of the system date; therefore, a delay of up to 24 hours may occur before users in other time zones acquire the access for which they now qualify.

Role Mappings: Explained

User access to data and functions is determined by abstract, job, and data roles, which are provisioned to users either automatically or manually. To enable a role to be provisioned to users, you define a relationship, known as a mapping, between the role and a set of conditions, typically assignment attributes such as department, job, and system person type. In a role mapping, you can select any role stored in the Lightweight Directory Access Protocol (LDAP) directory, including Oracle Fusion Applications predefined roles, roles created in Oracle Identity Management (OIM), and HCM data roles.

The role mapping can support:

- Automatic provisioning of roles to users
- Manual provisioning of roles to users
- Role requests from users
- Immediate provisioning of roles

Automatic Provisioning of Roles to Users

A role is provisioned to a user automatically if:

- At least one of the user's assignments satisfies all conditions associated with the role in the role mapping.
- You select the **Autoprovision** option for the role in the role mapping.

For example, for the HCM data role Sales Manager Finance Department, you could select the **Autoprovision** option and specify the following conditions.

Attribute	Value
Department	Finance Department
Job	Sales Manager
Assignment Status	Active

The HCM data role Sales Manager Finance Department is provisioned automatically to users with at least one assignment that satisfies all of these conditions.

Automatic role provisioning occurs as soon as the user is confirmed to satisfy the role-mapping conditions, which can be when the user's assignment is either created or updated. The provisioning process also removes automatically provisioned roles from users who no longer satisfy the role-mapping conditions.

Note

The automatic provisioning of roles to users is effectively a request to OIM to provision the role. OIM may reject the request if it violates segregation-of-duties rules or fails a custom OIM approval process.

Manual Provisioning of Roles to Users

Users such as human resource (HR) specialists and line managers can provision roles manually to other users; you create a role mapping to identify roles that can be provisioned in this way.

Users can provision a role to other users if:

- At least one of the assignments of the user who is provisioning the role (for example, the line manager) satisfies all conditions associated with the role mapping.
- You select the **Requestable** option for the role in the role mapping.

For example, for the HCM data role Quality Assurance Team Leader, you could select the **Requestable** option and specify the following conditions.

Attribute	Value
Manager with Reports	Yes
Assignment Status	Active

Any user with at least one assignment that satisfies both of these conditions can provision the role Quality Assurance Team Leader manually to other users, who are typically direct and indirect reports.

If the user's assignment subsequently changes, there is no automatic effect on roles provisioned by this user to others; they retain manually provisioned roles until either all of their work relationships are terminated or the roles are manually deprovisioned.

Role Requests from Users

Users can request roles when reviewing their own account information; you create a role mapping to identify roles that users can request for themselves.

Users can request a role if:

- At least one of their own assignments satisfies all conditions associated with the role mapping.
- You select the **Self-requestable** option for the role in the role mapping.

For example, for the Expenses Reporting role you could select the **Self-requestable** option and specify the following conditions.

Attribute	Value
Department	ABC Department
System Person Type	Employee
Assignment Status	Active

Any user with at least one assignment that satisfies all of these conditions can request the role. The user acquires the role either immediately or, if approval is required, once the request is approved. Self-requested roles are classified as manually provisioned.

If the user's assignment subsequently changes, there is no automatic effect on self-requested roles. Users retain manually provisioned roles until either all of their work relationships are terminated or the roles are manually deprovisioned.

Immediate Provisioning of Roles

When you create a role mapping, you can apply autoprovisioning from the role mapping itself.

In this case, all assignments and role mappings in the enterprise are reviewed. Roles are:

- Provisioned immediately to all users who do not currently have roles for which they are eligible
- Deprovisioned immediately from users who are no longer eligible for roles that they currently have

Immediate autoprovisioning from the role mapping enables bulk automatic provisioning of roles to a group of users who are identified by the role-mapping conditions. For example, if you create a new department after a merger, you can provision relevant roles to all users in the new department by applying autoprovisioning immediately.

To provision roles immediately to a single user, the user's line manager or an HR specialist can autoprovision roles from that user's account.

Role-Mapping Names

The names of role mappings must be unique in the enterprise. You are recommended to devise a naming scheme that reveals the scope of each role mapping. For example:

Name	Description
Autoprovisioned Roles Sales Department	Mapping includes all roles provisioned automatically to anyone in the sales department
Benefits Specialist Autoprovisioned	Mapping defines the conditions for autoprovisioning the Benefits Specialist role
Line Manager Requestable Roles	Mapping includes all roles that a line manager can provision manually to direct and indirect reports

Role Mappings: Examples

Roles must be provisioned to users explicitly, either automatically or manually; no role is provisioned to a user by default. This topic provides some examples of typical role mappings to support automatic and manual role provisioning.

Creating a Role Mapping for Employees

You want all employees in your enterprise to have the Employee role automatically when they are hired. In addition, employees must be able to request the Expenses Reporting role when they need to claim expenses. Few employees will need this role, so you decide not to provision it automatically to all employees.

You create a role mapping called All Employees and enter the following conditions.

Attribute	Value
System Person Type	Employee
Assignment Status	Active

In the role mapping you include the:

- Employee role, and select the **Autoprovision** option
- Expenses Reporting role, and select the **Self-requestable** option

You could create a similar role mapping for contingent workers called All Contingent Workers, where you would set the system person type to contingent worker.

Note

If the Employee and Contingent Worker roles are provisioned automatically, pending workers acquire them when their periods of employment or placements start. If they need roles before then, you create a separate role mapping for the pending worker system person type.

Creating a Role Mapping for Line Managers

Any type of worker can be a line manager in the sales business unit. You create a role mapping called Line Manager Sales BU and enter the following conditions.

Attribute	Value
Business Unit	Sales
Assignment Status	Active
Manager with Reports	Yes

You include the Line Manager role and select the **Autoprovision** option. This role mapping ensures that the Line Manager role is provisioned automatically

to any worker with at least one assignment that matches the role-mapping conditions.

In the same role mapping, you could include roles that line managers in this business unit can provision manually to other users by selecting the roles and marking them as requestable. Similarly, if line managers can request roles for themselves, you could include those in the same role mapping and mark them as self-requestable.

Creating a Role Mapping for Retirees

Retirees in your enterprise need a limited amount of system access to manage their retirement accounts. You create a role mapping called All Retirees and enter the following conditions.

Attribute	Value
System Person Type	Retiree
Assignment Status	Inactive

You include the locally defined role Retiree in the role mapping and select the **Autoprovision** option. When at least one of a worker's assignments satisfies the role-mapping conditions, the Retiree role is provisioned to that worker automatically.

Creating a Role Mapping for Sales Managers

Grade 6 sales managers in the sales department need the Sales Manager role. In addition, sales managers need to be able to provision the Sales Associate role to other workers. You create a role mapping called Sales Managers Sales Department and enter the following conditions.

Attribute	Value
Department	Sales
Job	Sales manager
Grade	6
Assignment Status	Active

In the role mapping, you include the:

- Sales Manager role, and select the **Autoprovision** option
- Sales Associate role, and select the **Requestable** option

Import Worker Users

Defining Security After Enterprise Setup: Points to Consider

After the implementation user has set up the enterprise, further security administration depends on the requirements of your enterprise.

The Define Security activity within the Information Technology (IT) Management business process includes the following tasks.

- Import Worker Users
- Import Partner Users
- Manage Job Roles
- Manage Duties
- Manage Application Access Controls

If no legacy users, user accounts, roles, and role memberships are available in the Lightweight Directory Access Protocol (LDAP) store, and no legacy workers are available in Human Resources (HR), the implementation user sets up new users and user accounts and provisions them with roles available in the Oracle Fusion Applications reference implementation.

If no legacy identities (workers, suppliers, customers) exist to represent people in your enterprise, implementation users can create new identities in Human Capital Management (HCM), Supplier Portal, and Customer Relationship Management (CRM) Self Service, respectively, and associate them with users.

Before Importing Users

Oracle Identity Management (OIM) handles importing users.

If legacy employees, contingent workers, and their assignments exist, the HCM Application Administrator imports these definitions by performing the Initiate HCM Spreadsheet Load task. If user and role provisioning rules have been defined, the Initiate HCM Spreadsheet Load process automatically creates user and role provisioning requests as the workers are created.

Once the enterprise is set up, performing the Initiate HCM Spreadsheet Load task populates the enterprise with HR workers in records linked by global user ID (GUID) to corresponding user accounts in the LDAP store. If no user accounts exist in the LDAP store, the Initiate HCM Spreadsheet Load task results in new user accounts being created. Worker email addresses as an alternate input for the Initiate HCM Spreadsheet Load task triggers a search of the LDAP for user GUIDs, which may perform more slowly than entering user names.

In the security reference implementation, the HCM Application Administrator job role hierarchy includes the HCM Batch Data Loading Duty role, which is entitled to import worker identities. This entitlement provides the access necessary to perform the Initiate HCM Spreadsheet Load task in HCM.

Note

The Import Person and Organization task in the Define Trading Community Import activity imports the following resources, creates users, and links the resources to users for use in CRM.

- Internal employees
- Contingent workers

- External partner contacts
 - Partner companies
 - Legal entities
 - Customers
 - Consumers
-

If role provisioning rules have been defined, the Import Person and Organization task automatically provisions role requests as the users are created.

Import Users

If legacy users (identities) and user accounts exist outside the LDAP store that is being used by the Oracle Fusion Applications installation, the IT security manager has the option to import these definitions to the LDAP store by performing the Import Worker Users and Import Partner Users tasks.

If no legacy users or user accounts can be imported or exist in an LDAP repository accessible to Oracle Identity Management (OIM), the IT security manager creates users manually in OIM or uses the Initiate HCM Spreadsheet Load task to create users from imported HR workers.

Once users exist, their access to Oracle Fusion Applications is dependent on the roles provisioned to them in OIM or Human Capital Management. Use the Manage HCM Role Provisioning Rules task to define rules that determine what roles are provisioned to users.

Importing user identities from other applications, including other Oracle Applications product lines, is either a data migration or manual task. Migrating data from other Oracle Applications includes user data. For more information about importing users, see the Oracle Fusion Middleware Developer's Guide for Oracle Identity Manager.

In the security reference implementation, the IT Security Manager job role hierarchy includes the HCM Batch Data Loading Duty and the Partner Account Administration Duty. These duty roles provide entitlement to import or create users. The entitlement Load Batch Data provides the access necessary to perform the Import Worker Users task in OIM. The entitlement Import Partner entitlement provides the access necessary to perform the Import Partner Users task in OIM.

Manage Job Roles

Job and abstract roles are managed in OIM. This task includes creating and modifying job and abstract roles, but not managing role hierarchies of duties for the jobs.

Note

Manage Job Roles does not include provisioning job roles to users. Provisioning users is done in OIM, HCM, CRM or Oracle Fusion Supplier Portal.

Roles control access to application functions and data. Various types of roles identify the functions performed by users.

The Oracle Fusion Applications security reference implementation provides predefined job and abstract roles. In some cases, the jobs defined in your enterprise may differ from the predefined job roles in the security reference implementation. The predefined roles and role hierarchies in Oracle Fusion may require changes or your enterprise may require you to create new roles. For example, you need a job role for a petty cash administrator, in addition to an accounts payable manager. The security reference implementation includes a predefined Accounts Payable Manager, and you can create a petty cash administrator role to extend the reference implementation.

In the security reference implementation, the IT Security Manager job role hierarchy includes the Enterprise Role Management Duty role, which is entitled to manage job and abstract roles (the entitlement is Manage Enterprise Role). This entitlement provides the access necessary to perform the Manage Job Roles task in OIM.

Manage Duties

A person with a job role must be able to perform certain duties. In the Oracle Fusion Applications security reference implementation, enterprise roles inherit duties through a role hierarchy. Each duty corresponds to a duty role. Duty roles specify the duties performed within applications and define the function and data access granted to the enterprise roles that inherit the duty roles.

Managing duties includes assigning duties to job and abstract roles in a role hierarchy using Authorization Policy Manager (APM). If your enterprise needs users to perform some actions in applications coexistent with Oracle Fusion applications, you may wish to remove the duty roles that enable those actions. For details about which duty roles are specific to the products in an offering, see the Oracle Fusion Applications Security Reference Manual for each offering.

OIM stores the role hierarchy and the spanning of roles across multiple pillars or logical partitions of applications.

In cases where your enterprise needs to provide access to custom functions, it may be necessary to create or modify the duty roles of the reference implementation.

Tip

As a security guideline, use only the predefined duty roles, unless you have added new applications functions. The predefined duty roles fully represent the functions and data that must be accessed by application users and contain all appropriate entitlement. The predefined duty roles are inherently without segregation of duty violations of the constraints used by the Application Access Controls Governor.

In the security reference implementation, the IT Security Manager job role hierarchy includes the Application Role Management Duty role, which is

entitled to manage duty roles (the entitlement is Manage Application Role). This entitlement provides the access necessary to perform the Manage Duties task in APM.

Note

Product family administrators are not entitled to create role hierarchies or manage duty roles and must work with the IT security manager to make changes such as localizing a duty role to change a role hierarchy. Setup for localizations is documented in HCM documentation.

Manage Application Access Controls

Prevent or limit the business activities that a single person may initiate or validate by managing segregation of duties policies in the Application Access Controls Governor (AACG) .

Note

In AACG, segregation of duties policies are called access controls or segregation of duties controls.

In the security reference implementation, the IT Security Manager job role hierarchy includes the Segregation of Duties Policy Management Duty role, which is entitled to manage segregation of duties policies (the entitlement is Manage Segregation of Duties Policy). This entitlement provides the access necessary to perform the Manage Application Access Controls task in AACG.

Importing Worker Users: Explained

You can import workers from legacy applications to Oracle Fusion Applications using the Import Worker Users task. By enabling you to bulk-load existing data, this task is an efficient way of creating and enabling users of Oracle Fusion Applications.

The Import Worker Users Process

Importing worker users is a two-stage process:

1. On the Initiate Data Load page, you generate and complete the Create Worker spreadsheet. You must map your data to the spreadsheet columns and provide all required attributes. Once the spreadsheet is complete, you import the data to the HCM Data Loader stage tables.

HCM Data Loader is a generic utility for loading data to Oracle Fusion Human Capital Management from external sources.

2. In the Data Exchange work area, you run the Load Batch Data process to load data from the HCM Data Loader stage tables to the Oracle Fusion application tables.

User-Account Creation

Oracle Fusion user accounts are created automatically for imported workers in Oracle Identity Management (OIM), unless automatic account creation is disabled.

By default, user account names and passwords are sent automatically to users when their accounts are created. This default action may have been changed at enterprise level, as follows:

- User account names and passwords may be sent to an enterprise-wide e-mail rather than to users themselves.
- Automatic sending of user account names and passwords may be disabled for the enterprise; in this case, you can notify users at an appropriate time.

Role Provisioning

Once user accounts exist, roles are provisioned to users automatically in accordance with current role-provisioning rules. For example, current rules could provision the employee abstract role to every worker. Role provisioning occurs automatically unless it has been disabled for the enterprise.

Importing Worker Users: Worked Example

This example shows how to import worker users from legacy applications to Oracle Fusion Applications.

The following table summarizes key decisions for this task.

Decisions to Consider	In This Example
What are my spreadsheet names? You can define your own naming convention; in this example, the names are selected to make identifying the spreadsheet contents easy.	<ul style="list-style-type: none">• WorkersMMDDYYBatchnn.xlsx• WorkersMMDDYYBatchnnErrorsnn.xlsx For example, Workers042713Batch01.xlsx.
What is my batch name?	Workers042713Batchnn
Where will I fix Load Batch Data errors?	In the spreadsheet Workers042713BatchnnErrorsnn.xlsx

Import worker users by:

1. Selecting the Import Worker Users task
2. Creating the spreadsheet
3. Entering workers in the spreadsheet
4. Importing the spreadsheet data to the HCM Data Loader stage tables
5. Loading workers to the application tables from the HCM Data Loader stage tables

6. Reviewing the results of the Load Batch Data process and correcting errors

Prerequisites

Before you can complete this task, you must have:

1. Installed the desktop client Oracle ADF 11g Desktop Integration
2. Enabled the Trust Center setting **Trust access to the VBA project object** in Microsoft Excel

Selecting the Import Worker Users Task

1. On the Overview page of the Setup and Maintenance work area, click the All Tasks tab.
2. In the Search region, complete the fields as shown in this table.

Field	Name
Search	Task
Name	Import Worker Users

3. Click **Search**.
4. In the search results, click **Go to Task** for the task Import Worker Users.

The task navigates to the Initiate Data Load page.

Alternatively, you can select the Import Worker Users task from an implementation project.

Creating the Spreadsheet

1. On the Initiate Data Load page, find the entry for Create Worker in the list of business objects.

Create Worker appears after other business objects such as departments, locations, and jobs, because those business objects (regardless of how you create them) must be created before worker users.
2. Click **Create Spreadsheet** for the Create Worker entry.
3. When prompted, save the spreadsheet locally using the name Workers042713Batch01.xlsx.
4. When prompted, sign in to Oracle Fusion Applications using your Oracle Fusion user name and password.

Entering Workers in the Spreadsheet

1. In the **Batch Name** field of the spreadsheet Workers042713Batch01.xlsx, replace the default batch name with the batch name Workers042713Batch01.
2. Enter workers in the spreadsheet.

Ensure that you provide any required values and follow instructions in the spreadsheet for creating additional rows.

Importing the Spreadsheet Data to the HCM Data Loader Stage Tables

Use the default values except where indicated.

1. In the workers spreadsheet, click **Upload**.
2. In the Upload Options window, click **OK**.

As each row of data is uploaded to the HCM Data Loader stage tables, its status is updated.

3. When uploading completes, identify any spreadsheet rows with the status **Insert Failed**, which indicates that the row failed to upload.
4. For any row that failed to upload, double-click the status value to display a description of the error.
5. When you have corrected any errors, click **Upload** again to load the remaining rows to the same batch.

Loading Workers to the Application Tables from the HCM Data Loader Stage Tables

Use the default values except where indicated.

1. In Oracle Fusion Applications, select **Navigator - Workforce Management - Data Exchange**.
2. In the Tasks pane of the Data Exchange work area, click **Load Batch Data**.
3. In the Search region of the Load Batch Data page, enter the batch name **Workers042713Batch01** in the **Batch Name** field.
4. Click **Search**.
5. In the Search Results region, select the batch **Workers042713Batch01** and click **Run**.
6. On the Schedule Request page, click **Submit**.

Reviewing the Results of the Load Batch Data Process and Correcting Errors

1. On the Load Batch Data page, search again for the batch **Workers042713Batch01** and review its status in the **Batch Status** column of the Search Results region.
2. If the batch status is **Complete**, click **Done** to close the Load Batch Data page; otherwise, continue with the next step.
3. If the batch completed with errors, select the batch in the search results.
4. On the Batch Summary tab of the Batch Details region, select **Action - Extract Failed Objects to Spreadsheet**.

An errors spreadsheet with a standard name is created automatically.

5. Save the errors spreadsheet locally as **Workers042713Batch01Errors01.xlsx**.
Leave the batch name in the errors spreadsheet as **Workers042713Batch01**.
6. Review the error messages in the spreadsheet and correct the errors.

- Repeat this process from the task Importing the Spreadsheet Data to the HCM Data Loader Stage Tables until all errors are fixed.

If further errors occur, increment the errors-spreadsheet suffix by 1; for example, Workers042713Batch01Errors02, Workers042713Batch01Errors03, and so on.

- Click **Done** to close the Load Batch Data page.

To load a new batch of workers on the same date, increment the batch number in the spreadsheet and batch names; for example, Workers042713Batch02.

Manage Users

Creating Users: Worked Example

You can create users by entering basic person and employment data. A user account is created automatically for a person when you create the user record. You can assign the users Oracle Fusion Human Capital Management (HCM) and non-HCM data roles, each providing access to specific functions and data. This example demonstrates how to create a user and assign roles to the user.

Note

This user management functionality is available for HCM Foundation and Oracle Fusion Workforce Directory Management (WDM) users only.

Decisions to Consider	In this Example
For whom are you creating the user record?	Gail Williams
What is the user account name?	Same as the e-mail ID, gail.williams@vision.com
Where is Gail employed?	Gail is an employee of Vision Corporation, and works in the Human Resources (HR) department in the Canada office.
What roles must be provisioned to Gail?	Autoprovision the employee role. Gail is responsible for processing workers' expense claims so provision the role Expense Claims Administrator manually to Gail.

Prerequisites

- Create a role mapping called All Employees and enter the following conditions.

Attribute	Value
System Person Type	Employee
Assignment Status	Active

In the role mapping you include the:

- Employee role, and select the **Autoprovision** option
- Expense Claims Administrator role, and select the **Self-requestable** option

Creating a User

1. On the Search Person page, click the **Create** icon to open the Create User page.
2. Complete the fields, as shown in this table:

Field	Value
Last Name	Williams
First Name	Gail
E-Mail	gail.williams@vision.com
Hire Date	4/12/11

3. In the User Details region, leave the User Name field blank. The user name defaults to the user's e-mail ID.
4. In the Employment Information region, select the person type **Employee** and complete the fields as shown in the table:

Field	Value
Legal Employer	Vision Corporation
Business Unit	Vision Canada
Department	Human Resources

Assigning Roles to the User

1. Click **Autoprovision Roles** to provision the employee role to the user.
2. Click **Add Role**.
3. Search for and select the **Expense Claims Administrator** role.
4. Click **Save and Close**. The user account is created and the roles are assigned to the user immediately.

User Details System Extract Report

The Oracle BI Publisher User Details System Extract Report includes details of some or all Oracle Fusion Applications user accounts.

To run this report, you must have an HCM data role that provides view-all access to person records for the Human Capital Management Application Administrator job role.

To run the report:

1. Navigate to **Tools - Reports and Analytics**.
2. In the Contents pane of the Reports and Analytics work area, navigate to **Shared Folders - Human Capital Management - Workforce Management - Human Resources Dashboard**.
3. Select the User Details System Extract report.
4. In the report window, click **More**.
5. On the Oracle Business Intelligence page for the report, select **Open** to run the report immediately or **Schedule** to schedule the report.

Parameters

User Population

Enter one of the following values to identify the group of user accounts to include in the report.

Value	Description
HCM	User accounts with an associated HCM person record.
TCA	User accounts with an associated TCA party account.
OIM	Accounts for users in the PER_USERS table who do not have an associated person number or party ID. OIM users are also referred to as implementation users.
ALL	HCM, TCA, and OIM users accounts.

From Date

Accounts for HCM and OIM users created on or after this date are included in the report. If you specify no **From Date** value, then accounts with any creation date are included, subject only to any **To Date** value that you specify.

From and to dates do not apply to the TCA user population; the report includes all TCA users if you include them in the report's user population.

To Date

Accounts for HCM and OIM users created on or before this date are included in the report. If you specify no **To Date** value, then accounts with any creation date are included, subject only to any **From Date** value that you specify.

From and to dates do not apply to the TCA user population; the report includes all TCA users if you include them in the report's user population.

User Active Status

Enter one of the following values to identify the user-account status.

Value	Description
A	Include active accounts, which belong to users with current roles.

I	Include inactive accounts, which belong to users with no current roles.
All	Include both active and inactive user accounts.

The output is an XML-formatted file where user accounts are grouped by type, as follows:

- Group 1 (G_1) includes HCM user accounts.
- Group 2 (G_2) includes TCA party user accounts.
- Group 3 (G_3) includes OIM user accounts.

The information provided in the extract varies with the account type.

The business unit from the primary work relationship.

The date when any one of a number of values, including assignment managers, location, job, and person type, was last updated.

The department from the primary assignment.

The worker type from the user's primary work relationship.

The user's name suffix (for example, Jr., Sr., or III).

The enterprise hire date.

A list of roles currently provisioned to workers whose work relationships are all terminated. This value appears for active user accounts only.

The job title from the user's primary assignment.

A resource group.

A list of job, abstract, and data roles provisioned to the user.

The manager of a resource group.

The date from when the account existed.

The user name of the user who created the account.

FAQs for Manage Users

What happens if I send the user name and password?

An e-mail containing the user name and password is sent to the user's primary work e-mail address. If the user has no primary work-email address, then the user name and password are sent to the primary work e-mail address of the user's line manager, if available; otherwise, no notification is sent.

You can select **Send user name and password** only if these details have not already been sent for this user: the user name and password can be sent

once only for any user. If this option is available for selection but you do not select it, then you can run the process Send User Name and Password E-Mail Notifications later to notify users of their user names and passwords.

Can I extract details of all Oracle Fusion Applications users?

Yes. The Oracle BI Publisher User Details System Extract report includes details of all user accounts or a specified subset. For example, you can produce a report showing inactive user accounts, accounts created between specified dates, or accounts associated with TCA parties only.

To run the report, you must have an HCM data role that provides view-all access to person records for the Human Capital Management Application Administrator job role.

Common Applications Configuration: Define Approval Management for Project Execution Management

Approval Management: Highlights

Use approval management to determine the policies that apply to approval workflows for particular business objects such as expense reports. For example, you can specify levels of approval for expense reports over a particular amount, to reflect your own corporate policies. You also determine the groups of users who act on these workflow tasks, for example, the chain of approvers for expense reports.

Approval management is fully described in the Oracle Fusion Middleware Modeling and Implementation Guide for Oracle Business Process Management. Though the concepts described there apply also to Oracle Fusion Applications, the only setup relevant to Oracle Fusion Applications involves approval groups and task configuration. Customization of approval workflows themselves is described in the Oracle Fusion Applications Extensibility Guide.

Overview

- Approval management is an extension of the human workflow services of Oracle SOA Suite. Refer to the Oracle Fusion Middleware Modeling and Implementation Guide for Oracle Business Process Management.

See: Introduction to Approval Management

See: Understanding Approval Management Concepts

Approval Groups and Task Configuration

- An approval group consists of a name and a predefined set of users configured to act on a task in a certain pattern. Refer to the Oracle Fusion Middleware Modeling and Implementation Guide for Oracle Business Process Management.

See: Administering Approval Groups

- Task configuration involves managing policies that control approval flows. Refer to the Oracle Fusion Middleware Modeling and Implementation Guide for Oracle Business Process Management.

See: Using Task Configuration

- To configure a predefined approval policy, select the predefined rule set and click the Edit task icon button.
- To disable a predefined rule set, select the Ignore this participant check box for that rule set.
- To edit the rules within a predefined rule set, you can insert, update, or delete from the seeded rules as needed while in edit mode.
- You can configure a specific rule to automatically approve without being sent to any approver. Modify the routing for that rule so that it is sent to the initiator (which means the requestor is the approver), set the Auto Action Enabled option to True, and enter APPROVE in the Auto Action field.

Customization

- You can optionally customize predefined approval workflows, for example add post-approval activities or additional stages. Refer to the Oracle Fusion Applications Extensibility Guide.

See: Customizing and Extending SOA Components

Common Applications Configuration: Define Help Configuration

Define Help Configuration: Overview

The Define Help Configuration task list contains tasks that let you set up and maintain Oracle Fusion Applications Help for all users. Use the Set Help Options task to determine if certain aspects of Oracle Fusion Applications Help are available to users and to control how aspects of the help site work. Use the Assign Help Text Administration Duty and Manage Help Security Groups tasks to set up customization of help content.

After performing the help configuration tasks, you can review the predefined help and consider whether to add or customize any content. You can also customize help that is embedded in the application, for example hints and help windows, using other tools such as Oracle JDeveloper and Oracle Composer.

Use the Setup and Maintenance work area to access the tasks in the Define Help Configuration task list.

Set Help Options

Help Feature Choices and Help Options: Points to Consider

Help feature choices on the Configure Offerings page in the Setup and Maintenance work area control the look and behavior of Oracle Fusion Applications Help, and also determine which help options are available. Help options are setup options on the Set Help Options page.

Local Installation of Help

Select the Local Installation of Help feature choice so that the Define Help Configuration task list appears in your implementation project, and you can select two additional features (Access to Internet-Based Help Features and Help Customization) to control the fields available on the Set Help Options page.

Access to Internet-Based Help Features

Select this feature choice to provide users access to features that involve navigation to sites on the Web. If you select this feature choice, then the Web

Sites Available from Help Site section is available on the Set Help Options page. For Oracle Cloud, always leave this feature choice selected so that your users can access the Cloud Learning Center.

Important

For non-Cloud implementations only: Some help includes links to the Oracle Fusion Applications Technology Library. If you select this feature, then these links open the library on the Oracle Technology Network Web site. If you do not select this feature, then your system administrator must download the library from Oracle Technology Network (<http://www.oracle.com/technetwork/documentation/fusion-apps-doc-1508435.html>) and put all the content from within the extracted folder (for example E28271_01) directly into the appmgr/APPLTOP/fusionapps/applications/ahc/afh/reference/TechLib folder.

Help Customization

Select the Help Customization feature choice if you intend to customize predefined help or add your own files to help. For example, you can add internal policies or procedures as help, and Oracle User Productivity Kit content, if any. Only users with job roles containing the Application Help Text Administration duty role have access to customize help.

If you select this feature choice, then the Custom Help Security feature choice is available, as well as all these sections on the Set Help Options page:

- Custom Help
- User Productivity Kit
- Privacy Statement

Custom Help Security

Select this feature choice if you want certain help files to be available only to a restricted set of users. You can define the user groups allowed to view corresponding help files. Do not select this feature choice if you do not have this requirement, because the feature can have an impact on performance.

If you select the Custom Help Security feature choice, then the Manage Help Security Groups task is available in the Define Help Configuration task list in your implementation project. There are no help options associated with this feature choice.

Administering Collaboration Features and Announcements in Help: Points to Consider

Announcements and collaboration features (discussions, ratings and comments) allow users to share information regarding help and the subjects that particular help files cover. The collaboration features are also used elsewhere in Oracle Fusion Applications. Discussions may not be available in Oracle Cloud implementations.

Use the Set Help Options page in the Setup and Maintenance work area to enable the announcements and discussions features and to set options about

ratings. When administering these features, consider the purpose of each feature and points that are specific to Oracle Fusion Applications Help.

Announcements

Use announcements to broadcast information to all users of your help site. You can provide information about help, for example new custom help that was recently added, or about anything that users should take note of, for example a change in company policy. Announcements can appear on any of the tabs on the home page of Oracle Fusion Applications Help. You can target specific user groups by posting announcements to specific tabs, for example, posting information related to implementation to the Functional Setup tab.

Only users with the Application Help Text Administration duty role have access to the Manage Announcements icon button in the Announcements sections. They can create, edit, and delete announcements for the tab that they are on, and set the date range for when each announcement is to be displayed.

Note

Use the full URL, for example <http://www.oracle.com>, when creating links.

Discussions

Users can use discussions to post questions or comments about subjects covered in specific help files. For example, after reading help on expense reports, users might have questions or comments about company policies or processes for expenses. Other users who later access this help file would benefit from the information in the discussion.

You can set a help option to enable discussions. Each help file would contain a **Discuss** link that all users can use to read discussions about that file. They can also start a discussion topic or post to existing topics. These discussions are visible only to users in your enterprise.

Important

Do not enable discussions until servers for discussions are up and running.

Only users with the appropriate administrator role can moderate discussions. For more information on granting the administrator role on the discussions server, see the Oracle Fusion Middleware Administrator's Guide for Oracle WebCenter Portal.

Ratings and Comments

Users can rate any help file on a five star system and provide feedback about the content. This information is helpful to other users in deciding which help file to open. Help files with a higher average rating are listed first in help windows, and in the help listings you see as you browse using the help navigators.

The scope of ratings and reviews is limited to your enterprise.

FAQs for Set Help Options

When do I link to the Oracle User Productivity Kit library from the help site?

Provide a link to your Oracle User Productivity Kit (UPK) library if you have UPK licensed and custom UPK content to share with your users. You give them access to a library of custom UPK content in addition to any custom UPK demos that you added to the help site itself. UPK demos that you add as custom help are available only in the See It mode, so the library can include the same demo in other modes. If you have UPK versions earlier than 3.6.1, then you cannot add UPK demos as custom help, so the link is the only way for users to access custom UPK content from the help site.

How can I find the URL to the Oracle User Productivity Kit library?

The URL to enter on the Set Help Options page should be the full path from the Web server where you are hosting your Oracle User Productivity Kit (UPK) content to the index.html file that opens the table of contents for the library, for example, `http://<your domain>.com/UPKcontent/PlayerPackage/index.html`. In this example, you or your UPK administrator would publish one UPK player package that contains all the content to be linked to from Oracle Fusion Applications Help, as well as the index.html file, and place the PlayerPackage folder in a manually created folder called UPKcontent on the Web server.

FAQs for Assign Help Text Administration Duty

Who can add and manage custom help?

Users with the Application Help Text Administration duty role have access to customize help in Oracle Fusion Applications Help. This duty is assigned by default to various job roles, in particular the administrators for product families.

You can assign the duty role to other users who need access to customize help. Use the Manage Duties task in the Setup and Maintenance work area to search for the Application Help Text Administration duty role on the Role Catalog page, and map additional job roles to this duty role.

Manage Help Security Groups

Creating Help Security Groups: Worked Example

This example demonstrates how to create a help security group to define a set of job roles that have access to help. The help security group can then be assigned to particular help files so that only users with any of the defined roles have access to the help.

The following table summarizes key decisions for this scenario.

Decisions to Consider	In This Example
What type of users do you need to limit help access to?	Human resources (HR) specialists

Is there a specific time period for which this access is needed?	No, the help files should always be viewed only by the HR specialists
Where do you want this group to appear in the list of values for help security groups?	First

Define a help security group and assign a duty role to the group.

1. From the Setup and Maintenance work area, find the Manage Help Security Groups task and click **Go to Task**.
2. On the Manage Help Security Groups page, add a new row.
3. Complete the fields, as shown in this table. Leave the start and end dates blank.

Field	Value
Help Security Group	HR
Meaning	HR Only
Description	Viewing by HR specialists only
Display Sequence	1

4. Click **Save**.
5. With your new help security group selected, go to the Associated Roles section and add a new row.
6. Select **PER_HUMAN_RESOURCE_SPECIALIST** as the role name.
7. Click **Save and Close**.

You have created a new lookup code for the Help Security Groups lookup type, which is a standard lookup. The lookup code has the name, meaning, and description that you defined for the help security group.

You have also created a data security policy for the help database resource, specifying that the Human Resource Specialist role can view help that is defined with the HR security group. If you go to the Manage Database Resources and Policies page and find the database resource, or object, **ATK_KR_TOPICS**, then you can see the policy for the Human Resource Specialist role, with the condition that the column name, **SECURITY_CODE**, is equal to the value **HR**.

Customize Help Files

Help File Customization: Overview

If you have the appropriate job roles, then you can customize the help files in the help site. Use the Manage Custom Help page to maintain both predefined and custom help files. You can create, duplicate, edit, and delete custom files, or set their status to Active or Inactive. For predefined files, you can only duplicate them or set their status. For each help file, predefined or custom, use help

locations to determine where the help file appears in the application and in the help site. You have various options in how you add custom help, for example by uploading a file or specifying a URL.

Note

To make a copy of all custom help for testing, migration, or other purposes, use the export and import feature in the Setup and Maintenance work area.

There are various ways to access help customization.

- Many help files can be accessed from help windows in the application. If you want to customize help in the context of a help window, for example create a custom help file and add a link to it from a specific help window, then start by opening that help window. When you click the **Manage Custom Help** link, you go to the Manage Custom Help page, and the help location fields are automatically populated with values that correspond to the help window. This way you can easily select existing files to add to the same help location, and when you create a new file, the same help location appears by default.
- Open the Manage Custom Help page directly from the home page of Oracle Fusion Applications Help or from search result pages.
- To edit a specific file, you can either find it in the Manage Custom Help page, or open the file itself and click the **Edit** link.
- Likewise, you can find glossary terms in the Manage Custom Help page, or click the **Glossary** link in the global area to open the Glossary tab, search for the term, and click **Edit**.

Note

When you search in the Manage Custom Help page, make sure that the **Custom Help Only** check box is not selected if you are looking for predefined help.

If your enterprise has purchased Oracle User Productivity Kit (UPK) content, then your administrator can also add a **UPK** item to the **Help** menu in the global area of Oracle Fusion Applications. When users select this menu item, they access UPK content specific to the page that they are on.

Help Types: Explained

Oracle Fusion Applications Help contains various types of help content, including demos, examples, FAQs, glossary terms, help topics, and PDF guides. A business process or product can be supported by some or all of these help types.

Demo

Demos are Oracle User Productivity Kit (UPK) topics that visually demonstrate how to use the application to complete a short task or portion of a task. Demos can also provide an introduction to complex dashboards and work areas.

Example

Examples provide real use cases of features to illustrate how and when to use the feature, or scenarios to illustrate abstract concepts. Worked examples show exactly what you need to do to achieve a specific result, emphasizing decisions that you make and values that you enter.

FAQ

FAQs, or frequently asked questions, provide brief answers to questions that you might have regarding a task or page. For example, they can briefly explain what a term means, why something happened, how you can perform an action, or what happens if you perform the action.

Glossary

Glossary terms provide definitions for words or phrases used in help. You can search or browse glossary terms in the Glossary tab of Oracle Fusion Applications Help. Where the links are available, you can also see the definition when you hover over the term in help content for other help types.

Help Topic

Help topics explain key concepts, illustrate how application components work together, or assist in decision-making by explaining points to consider or the options you have. Help topics can also provide reference, overview, and other information.

PDF Guide

PDF guides present a collection of help content from the other help types, except demos, in an organized and logical format. For example, there are guides addressing specific business processes and setup offerings. You can see lists of all guides from the **Guides** menu in Oracle Fusion Applications Help.

Help Locations: Explained

Help locations determine where users can find help files, custom or not, from either the application or the help site.

Help locations include:

- Page or section values
- Help hierarchies
- Primary locations

Page or Section Values

The value in the **Page or Section** field on the help customization pages represents where users can click a help icon to open a help window that contains

a link to the help file. In most cases, this value represents a page or region header in the application. Help windows are also available on specific tabs or windows, and in the Setup and Maintenance work area for specific task lists or tasks. You can associate a help file with multiple page or section values, or with none at all.

The page or section value reflects the logical navigation to the help window. For example, **Edit Opportunity page, Revenue tab, Recommendations window** does not mean that the help file is available in three different places. The help icon is in the Recommendations window, which is accessed from the Revenue tab on the Edit Opportunity page.

If the value suggests multiple locations, for example **Create and Edit Opportunity pages**, then the help file is available from the page header of both the Create Opportunity and Edit Opportunity pages. If the page or section value is, for example, a dashboard region that appears in multiple dashboards, then the value does not specify the page name but just the region. The help file is available from that region in multiple dashboards.

Help Hierarchies

Help files are associated with help hierarchies, which are used to categorize help files and aid users in finding help. Each help file can have multiple hierarchies, with at least one of type Business Processes. The business process hierarchy is based on the Business Process Management model. Every page or section value is predefined with a specific business process hierarchy. If you select a page or section without entering a business process hierarchy, the predefined hierarchy appears by default.

The Search by Business Process navigator in the help site is based on the business process hierarchy. For example, if you assign two business process hierarchies to a help file, users can find the file in both locations in the navigator. When the user clicks **More Help** from a help window, all help files assigned to the same business process hierarchy as the page or section value are returned as search results.

Similarly, the Search by Product navigator is based on the Product hierarchy type, in which level 1 is the product family, level 2 is the product, and level 3 is the business activity owned by that product.

The Search by Functional Setup navigator is based on the Functional Setup hierarchy type. The level 1 nodes for this hierarchy are:

- Functional Setup Manager, which includes help about using the Setup and Maintenance work area.
- Guides, which contains level 2 nodes that correspond to business areas and setup offerings. All the user reference and functional setup PDF guides are included.
- Offerings, which contains level 2 nodes for each setup offering, and lower levels for the main task lists in the offerings. Help for the task lists and tasks are included.

The Search by Common Tasks navigator is based on the Welcome hierarchy type. The level 1 nodes represent categories of functional areas common to all users.

Primary Locations

The primary location of a help file designates the hierarchy that is displayed for the help file in search results and within the help content as breadcrumbs. You cannot change the primary location of a help file that came with your help installation. Primary locations of predefined help are based on the business process hierarchy, while custom help files can have primary locations based on hierarchies of any type.

Editing Predefined Help and Glossary Terms: Points to Consider

When you open any predefined help file, including glossary terms, that came with Oracle Fusion Applications Help, you can see an edit option if you have roles allowing edit access. When you edit predefined help, keep in mind:

- What happens to the original help file
- Where predefined help appears
- Considerations specific to glossary terms

What Happens to the Original Files

When you edit predefined help, you are actually creating a new custom help file based on the original file, with the same help locations. The customized version replaces the original, which becomes inactive and hidden from users. You can display both versions by reactivating the original in the Manage Custom Help page.

Note

In the Search Results: Existing Help region on the Manage Custom Help page, there is no option to edit predefined help. You can duplicate a predefined help file, edit the copy, and optionally inactivate the original.

Where Predefined Help Appears

All predefined help comes with preassigned help locations, including at least one based on the hierarchy of type Business Processes. Many also have predefined page or section values that indicate where the help can be accessed from help windows in the application.

To change where predefined help appears, either in the help site navigators or in the application, create a duplicate in the Manage Custom Help page. Change or add help locations to your custom copy, and inactivate the original.

Even though glossary terms do not appear in the help site navigators, you still need to enter at least one help location to categorize the glossary term.

Considerations Specific to Glossary Terms

When you edit a predefined glossary term, the original term becomes inactive. Existing links to the glossary term, from other predefined and custom help files, will automatically point to your custom version. If you later inactivate the custom glossary term, make sure to activate the original term so that the links still work.

Links in Custom Help: Points to Consider

When you create or edit custom help, follow best practices when you include links to help files or other content. If you are working on custom help created by duplicating a predefined help file, then you may see existing links from the original file in the Help Content section. The types of links that you can work with include:

- Related help links
- Standard hypertext links
- Links to documentation library content
- Glossary term links

For all link types, except the standard hypertext links, you must create or edit custom help with a Text or Desktop source type. In other words, you must type the help content directly in the application or use an HTML file that you upload to help. For standard hypertext links, the source type can also be URL.

Related Help Links

Related help is the section at the end of help files that contains links to other help files. The syntax for related help contains a comma-separated list of title IDs that represent help files.

This figure provides an example of related links code.

```
OfaRelatedTopics(CREATE_AUTOMATIC_POSTING_CRITERIA_S_0000,  
JOURNAL_ENTRIES_HOW_THEY_RE_RECORDER_0000)
```

- You can delete this code to remove all related help, or delete title IDs to remove individual links (for example, CREATE_AUTOMATIC_POSTING_CRITERIA_S_0000).
- To replace existing links or add new links, you need to retain the code syntax and enter desired title IDs. To find title IDs, search for the help files on the Manage Custom Help page. Title IDs are displayed in the search results, but the **Title ID** column is hidden by default.

Standard Hypertext Links

You can create standard hypertext links to any file or Web site as long as you ensure the stability and validity of the links, including links to other help files,

custom or not. These links can appear anywhere in the body of your help file as long as they come before any related help links.

In the Help Content section, highlight the text that you want to use as link text and click the **Add Link** icon button.

For links to other help files, open the file to which you want to link, and click the **E-Mail** link. Use the URL in the autogenerated e-mail text as the link to the file.

Note

Use the full URL, for example `http://www.oracle.com`, when creating links.

Links to Documentation Library Content

The syntax for links to HTML files in documentation libraries, for example the Oracle Fusion Applications Technology Library, is:

```
<span class="HP_topic-link_bridgeDocument-linkToSTDoc_"><?ofa  
linkToSTDoc(WCSUG4636) ?><span class="HP_topic-linktext_">Understanding  
Tags</span><?ofa endLink ?></span>.
```

WCSUG4636 is the anchor ID and Understanding Tags is the link text. You can:

- Modify the link by replacing the existing anchor ID or editing the link text, or both.
- Remove the link by deleting all the code for it.
- Create links to documentation library content by following the same syntax. These links can appear anywhere in the body of your help file as long as they come before any related help links.

Important

To ensure that you are linking to a supported documentation library, enter anchor IDs only from documentation libraries that are linked from predefined help topics.

Glossary Term Links

Glossary term links provide definitions in a note box when users hover over the term in help files.

This figure shows an example of code for a glossary term link.

```
OfaGlossaryTerm("accounting period", ACCOUNTING_PERIOD_0001)
```

In this example, `accounting period` is the link text, or glossary term, and `ACCOUNTING_PERIOD_001` is the identifier, or title ID.

- To remove the link but retain the text, delete all the code except the term itself.

- To add glossary term links, you must follow the link syntax and use the correct title ID for the glossary term. You can find title IDs in the search results of the Manage Custom Help page.

Note

If your custom help has glossary terms and the source type is Desktop File, then make sure before uploading that the quotes around the glossary term are actual quotation marks in raw HTML, not ". Otherwise, quotation marks will appear when users view the help file.

Customizing PDF Guides: Worked Example

This example demonstrates how to customize a PDF guide that came with Oracle Fusion Applications Help. This guide is currently not available from any help window in the application.

The following table summarizes key decisions for this scenario.

Decisions to Consider	In This Example
What changes do you need to make to the guide?	Change the title of a chapter and remove a section in that chapter, to hide content about a particular subject
Which help window should the customized guide appear in?	The help window for the entire Welcome dashboard of Oracle Fusion Applications
Which help navigators should the customized guide appear in, and on which node?	Same as the original guide, plus the path associated with the help window
Do you want to limit access to the customized guide?	No, same as the original guide

Edit a copy of the original PDF guide, and use the Manage Custom Help page to replace the original PDF guide with your new file.

Copying and Editing the PDF Guide

1. Open the original PDF guide from the help site and save a copy to your desktop. Leave open the help file for the guide.
2. Using a PDF editor application, change the title of the chapter wherever the chapter title appears. Delete the content you want to hide from users.
3. Make sure that your new PDF guide is less than 6 MB.

Replacing the Original PDF Guide

1. In the help file that you still have open for the original PDF guide, click the **Edit** link.
2. On the Create Help page, use the default values except where indicated.
3. Update the title to the name that you want to display to users.
4. In the **File Name** field, browse for and select your customized guide.

5. Delete any keywords or parts of the description relevant to the content you removed from the PDF guide.
6. Add a help location with the Business Processes hierarchy type and select **Information Technology Management** as the level 1 node, **Manage Enterprise Application Software** as the level 2 node, and **Use Applications** as the level 3 node.
7. Select **Welcome page** in the **Page or Section** column.
8. Click **Save and Close**. The help file for the original PDF guide is automatically set to inactive.

Adding Custom UPK Content to Help: Worked Example

This example demonstrates how to add custom Oracle User Productivity Kit (UPK) topics as demo help files. These help files function like any predefined help file for demos. You can search and include these files in help windows and navigators as you would other help.

In this scenario, you are adding two demos about social networking, to appear in help windows on the Welcome dashboard.

Note

Your demo must be made with UPK 3.6.1 or later to be added as help.

The following table summarizes key decisions for this scenario.

Decisions to Consider	In This Example
What UPK content do you want to add to help?	From a UPK module containing five topics, add two as custom demos on the help site
Which help navigators should each demo appear in, and on which node?	Because the two demos are about social networking: <ul style="list-style-type: none"> • Search by Common Tasks navigator, under the Collaboration node • Search by Business Process navigator, under Information Technology Management - Manage Networking and Communications - Manage Social Networking Capabilities
Which help window should each demo appear in?	On the Welcome dashboard of Oracle Fusion Applications, one demo goes in the help window in the Activity Stream region, and the other in the People Connection region
Do you want to limit access to the help files for the demos?	No
Do you want the help files to appear in the New and Updated pane?	Yes

Generate a report of UPK document IDs, which you will use when creating custom help, to identify the UPK topics that you want to add. Publish the UPK module as a player package, then create custom help for the UPK topics that you want to use as help demos.

Generating a UPK Document ID Report

1. In the UPK Developer, select **Details View**.
2. Right-click any column header, for example Name, and select **Column Chooser**.
3. In the Column Chooser dialog box, click and drag the Document ID column header and drop it after the Name column. Close the Column Chooser dialog box.
4. From the File menu, select to print, and save the output as a Microsoft Excel file to your desktop.

Creating the Player Package

1. From the UPK Developer, make sure that the topics that you want to add as demos have the See It play mode. The topics can also have other modes, but only the See It mode is included in the custom help file.
2. Publish the module, specifying any location for the output and selecting to publish the selection only.
3. In the Formats section of the Publish Content window, select the **Player** check box under the **Deployment** check box group.
4. In the Player section, select the **Include HTML Web Site** check box, to ensure that the custom help file includes a text-only version of the UPK topic.
5. Finish the publishing process, after optionally setting other options.
6. Navigate to the location where you specified the output to be generated.
7. In the Publishing Content folder, copy the PlayerPackage folder and add it to the web server where you store UPK content.

Creating Custom Help for Demos

1. Open the help window in the Activity Stream region on the Welcome dashboard of Oracle Fusion Applications, and click **Manage Custom Help**.
2. On the Manage Custom Help page, the page or section and hierarchy values are populated with the values for the Activity Stream region.
3. Click **Create**.
4. On the Create Help page, complete the fields in the General Information section, as shown in this table. Use the default values except where indicated.

Field	Value
Title	The name of the UPK topic.
Source Type	Oracle User Productivity Kit
File Location	The full URL of the player package folder on the Web server, for example, <code>http://<your domain>.com/UPKcontent/PlayerPackage.</code>

Document ID	The document ID of the UPK topic to add to the help window in the Activity Stream region. You can copy and paste this ID from the Microsoft Excel file that you generated earlier.
Help Type	Demo
Help Security Group	Unsecured
Keywords	Terms relevant to the demo.
Description	Summary of the demo.
Include in New and Updated pane	Selected

The Help Location section contains values for the help window in the Activity Stream region. This help file will also appear in the Search by Business Process navigator under this predefined hierarchy.

5. Click **Save and Close**.
6. On the Manage Custom Help page, open the help locations for the help file that you just created.
7. Add a help location with the Welcome hierarchy type and select **Collaboration Features** as the level 1 node.
8. Add another help location with the Business Processes hierarchy type and select **Information Technology Management** as the level 1 node, **Manage Networking and Communications** as the level 2 node, and **Manage Social Networking Capabilities** as the level 3 node.
9. Click **Save and Close**.
10. Starting at the Connections region, repeat steps 1 to 9 for the other UPK topic that you want to add.

FAQs for Customize Help Files

How can I restrict help content to specific user roles?

When you create or edit help, select a help security group that represents the set of roles that you want to have access to the help. If you do not see the Security Group field, then your administrator has not selected the Custom Help Security feature choice. The Unsecured group has no associated roles, so anyone can view the help. The predefined Secured group includes all internal employees and contingent workers, unless this group has been edited. You can create security groups and associate roles using the Manage Help Security Groups page, which you can access by starting in the Setup and Maintenance Overview page and searching for the Manage Help Security Groups task. Your new security groups are immediately available for use to secure new or edited help files.

Why can't I select and add help to a location?

You must specify a page or section to add the existing help to. To ensure that help is added to the correct help window, go to the page or section in the

application, click the **Help** icon, and click the **Manage Custom Help** link in the help window. Alternatively, in the Manage Custom Help page, search for at least a page or section and a level 1 value for the Business Processes hierarchy type before selecting the **Select and Add** option.

You cannot select and add help to a particular hierarchy, on the Manage Custom Help page, without a page or section. To add just a hierarchy, search for the help file, add a new help location, and specify only the hierarchy information.

What happens to custom help when a help patch is applied?

Oracle Fusion Applications Help patches update all help files, both active and inactive, except custom help. Custom help files are not affected by patches. Consider reviewing inactive files to see if you want to activate the updated version, or to make similar edits to the custom versions of those files, if any.

Customize Embedded Help

Customizing Embedded Help: Highlights

You can customize help that is embedded in the application, for example hints and help windows, for all users of Oracle Fusion Applications.

Embedded help customization is fully described in the Oracle Fusion Applications Extensibility Guide.

- Edit, create, or delete hint text that appears on hover over buttons, links, icons, or tab titles.

See: Customizing or Adding Bubble Embedded Help

- Edit, create, or delete other types of embedded help. Refer to the Customizing or Adding Static Instructions, In-Field Notes, and Terminology Definitions section.

See: Oracle Fusion Applications Extensibility Guide

Common Applications Configuration: Maintain Common Reference Objects

Maintain Common Reference Objects: Overview

The Maintain Common Reference Objects task list contains Oracle Fusion Middleware Extensions for Applications (Applications Core) tasks that support implementation of common behaviors, such as data security or reference data sets.

Use this task list to manage common reference objects that are defined centrally and shared across applications, in addition to those that are specific to Applications Core functionality. You can access this task list by starting in the Setup and Maintenance Overview page and searching for common reference object task lists.

Note

Offerings also include application-specific tasks for managing Applications Core objects. For example, the Financials offering includes tasks such as Manage Receivables Descriptive Flexfields, and Manage Receivables Lookups.

For more information on configuring custom objects, see the Oracle Fusion Applications Extensibility Guide.

To make the Maintain Common Reference Objects task list available in your implementation project, go to **Setup and Maintenance Overview - Configure Offerings**, and for a specific offering, select the Maintain Common Reference Objects feature choice.

Define Application Taxonomy

Application Taxonomy: Highlights

Application taxonomy is the organization of Oracle application components and functions in a hierarchical structure, from product lines to logical business areas. This hierarchy represents a breakdown of products into units based on how applications are installed and supported. Maintain this hierarchy on the Manage

Taxonomy Hierarchy page, which you can access by starting in the Setup and Maintenance Overview page and searching for the Manage Taxonomy Hierarchy task.

A detailed introduction to application taxonomy is provided in the Oracle Fusion Applications Developer's Guide.

Hierarchy

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

See: Characteristics of the Level Categories

See: Benefits of a Logical Hierarchy

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 lifecycle.

See: How to Manage the Lifecycle

Modules in Application Taxonomy: Explained

A module is any node in the application taxonomy hierarchy. The top level of the hierarchy is product line, followed by 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.

Product Line

A product line is a collection of products under a single brand name, for example, Oracle Fusion.

Product Family

A product family is a collection of products associated with a functional area that may or may not be licensed together as a single unit, for example Financials.

Application

An application is a single product within a product family, containing closely related features for a specific business solution, for example General Ledger.

Logical Business Area

A logical business area is 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 two or three levels deep. Each leaf node has at least one business object and service, up to a maximum of four business objects and associated services. A logical business area with more than four business objects are further refined with child logical business area levels.

Each of these parent-child levels is represented by a directory in the physical package hierarchy.

Managing Modules in Application Taxonomy: Points to Consider

Manage modules on the Create Child Module or Edit Module page, which you can access by starting in the Setup and Maintenance Overview page and searching for the Manage Taxonomy Hierarchy task. When you create a module, it is a child of the currently selected node in the application taxonomy hierarchy. This determines which values are available, for example for module type. Once created, you cannot delete the module or move it elsewhere in the hierarchy. 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, an ID is automatically generated. Once the module is created, you cannot update the ID.

Module key and alternative ID are additional identifiers of the module, presented in a way that is easier to read than the module 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 IDs are provided for the product line, product family, and application modules, but you can optionally add them for logical business areas and new custom modules.

Note

Do not 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 Applications.

Names

Module name is the logical name for the module and is always available. The name must be unique among nodes in the same hierarchy level with the same parent, but try to make it as unique in the whole hierarchy as possible.

The user name and description can appear to users in other parts of Oracle Fusion Applications, so make sure that the values are something that users know to represent the module.

Usage Types

Though you can update the usage type to reflect the current state of the module, just doing so does not affect the actual state. For example, setting a module as installed does not mean it is actually installed if the installation itself has

not taken place. Installation refers to operations related to laying down all the components needed to create an Oracle Fusion Applications environment, while 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 seed data such as 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 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 Fusion Applications Functional Core (ASK) tables.

Define Reference Data Sharing

Reference Data Sharing: Explained

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 the data is shared or partitioned. Use reference data sets to reduce duplication and maintenance by sharing common data across business entities where appropriate. 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.

You can share reference data after it is filtered on the basis of sets. 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 cannot 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 managers in different business units setting up the same grades, XYZ Corporation decides to create a set called Grades and assign the grades reference data group for all business units in the organization to the Grades set, so that the grades can be shared.

Note

For specific information on configuring reference data sharing for a particular object or product, refer to its product documentation.

Reference Data Sets: Explained

Reference data sets are logical groups of reference data that can be accessed by various transactional entities depending on the business context. Oracle Fusion Applications contains a common reference data set as well as an enterprise set that may be used as a default set. Depending on your business requirement you can create and maintain additional reference data sets, while continuing to use the common reference data set.

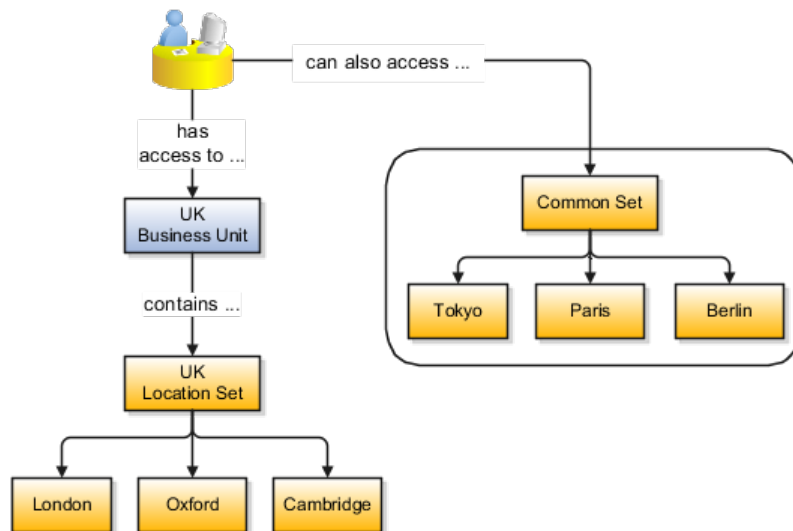
Consider the following scenario.

Your enterprise can decide that some aspects of corporate policy should affect all business units and leave other aspects to the discretion of the business unit manager. This allows your enterprise to balance autonomy and control for each business unit. For example, if your enterprise holds business unit managers accountable for their profit and loss, but manages working capital requirements at a corporate level, you can let managers define their own sales methods, but define payment terms centrally. In this case, each business unit would have its own reference data set for sales methods, and there would be one central reference data set for payment terms assigned to all business units.

Partitioning

The partitioning of reference data and creation of data sets enable you to create reference entities across tables or lookup types, and share modular information and data processing options among business units. With the help of partitioning, you can choose to create separate sets and subsets for each business unit depending upon its business requirement, or create common sets or subsets to enable sharing reference data between several business units, without the need for duplicating the reference data. Partitioning provides you the flexibility to handle the reference data in a way appropriate to your business needs.

The following figure illustrates the reference data sharing method (assignment to one set only, with common values) where 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.



Reference Data Sets and Sharing Methods: Explained

Oracle Fusion Applications reference data sharing feature is also known as SetID. The reference data sharing functionality supports operations in multiple ledgers, business units, and warehouses, thereby reducing the administrative burden and decreasing the time needed to implement new business units. For example, you can share sales methods, transaction types, or payment terms across business units or selected 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 will 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 is being shared. For example, assign separate sets for payment terms, transaction types, and sales methods to your business units.

Your enterprise can decide that some aspects of corporate policy should affect all business units and leave other aspects to the discretion of the business unit manager. This allows your enterprise to balance autonomy and control for each business unit. For example, if your enterprise holds business unit managers accountable for their profit and loss, but manages working capital requirements at a corporate level, you can let managers define their own sales methods, but define payment terms centrally. In this case, each business unit would have its own reference data set for sales methods, and there would be one central reference data set for payment terms 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 are 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 setup 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

There are variations 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. 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. 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 is available to all the business units without the need to be explicitly assigned 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 transaction types from the set assigned to the business unit, as well as transaction types assigned to the common set that is 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 the payment term Net 15 is assigned to only your corporate business unit specific set. At transaction entry, the list of values for payment terms consists of only one set of data; the set that is 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.

Assigning Reference Data Sets to Reference Objects: Points to Consider

You can assign the reference data sets to reference objects on 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 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 based on a business context setting called the determinant type. It is the point of reference used in the data assignment process. The following table lists the determinant types used in the reference data assignment.

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 is responsible for enforcing consistent project management practices.
Reference Data Set	References to other shared reference data sets.

Determinant

The determinant or determinant value is the value that corresponds to the selected determinant type. The determinant is one of the criteria for selecting the appropriate reference data set. For example, when managing set assignments for the set determinant type, Reference Data Set is the determinant type, and you would enter the corresponding set code value as the corresponding determinant value.

Reference Groups

A transactional entity may have multiple reference entities (generally considered to be setup data) that are treated in the same manner because of commonness in implementing business policies and legal rules. Such reference entities in your application are grouped into logical units called reference groups, based on the functional area and the partitioning requirements that they have in common. For example, all tables and views that define Sales Order Type details might be part of the same reference group.

Note

The reference groups are predefined in the reference groups table and are available for selection and assignment.

Define Lookups

Lookups: Explained

Lookups are lists of values in applications. You define a list of values as a lookup type consisting of a set of lookup codes, each code's translated meaning, and optionally a tag. End users see the list of translated meanings as the available values for an object.

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 end users to select. For example, the two lookup codes Y and N are defined in the REQUIRED_INDICATOR lookup type.

In another example, a lookup type for marital status has lookup codes for users to specify married, single, or available legal partnerships.

Lookup Type	Lookup Code	Meaning	Tag
MAR_STATUS	M	Married	
	S	Single	
	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
- Customization 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.

Customization Level

The customization 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 customization 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 meanings of predefined lookup codes cannot be modified. Some predefined lookup codes can be changed during implementation or later, as needed.

The customization levels are user, extensible, and system. The following table shows which lookup management tasks are allowed at each customization level.

Allowed Task	User	Extensible	System
Deleting a lookup type	Yes	No	No
Inserting new codes	Yes	Yes	No
Updating start date, end date, and enabled fields	Yes	Yes, only if the code is not predefined data	No
Deleting codes	Yes	Yes, only if the code is not 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 customization level should be system or extensible to prevent deletion.

Once the customization level is set for a lookup type, it cannot be modified. The customization level for lookup types created using the Define Lookups page is by default set at the User level.

Standard, Common, and Set-Enabled Lookups

The available kinds of lookups are as follows.

Lookup	Description
Standard	Lists the available codes and translated meanings
Set enabled	Additionally associates a reference data set with the lookup codes
Common	Legacy lookups

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.

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 may define lookups in an application view to restrict the UI pages where they may appear.

In lookups management tasks, lookups may be associated with a module in the application taxonomy to provide a 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.

For more information on the predefined lookups and lookup codes, see assets with the Lookup type in the Oracle Enterprise Repository for Oracle Fusion Applications (<http://fusionappsoer.oracle.com>).

Managing a Standard Lookup: Example

Creating a new standard lookup involves creating or selecting a lookup type to which the lookup code belongs, and determining appropriate values for the lookup codes and their meanings.

Note

You can only create or edit the lookup codes for a particular lookup type if its customization level supports it.

Creating a Lookup Type Called COLORS

Your enterprise needs a list of values for status to be used on various objects such as processes or users. The lookups are colors, so the lookup type you create is COLORS.

Lookup type parameters	Value
Lookup type name	COLORS
Meaning	Status
Description	Status by color
Module	Oracle Fusion Middleware Extensions for Applications

The lookup codes you define for the COLORS lookup type are, BLUE, RED, GREEN, and YELLOW.

Lookup Code	Meaning	Enabled	Display Sequence
BLUE	Urgent	No	4
RED	Stop	Yes	1
GREEN	Go	Yes	3
YELLOW	Caution	Yes	2

Understanding the Resulting Data Entry List of Values

Users need to respond to a process question by indicating whether to stop it, use caution, go ahead, or complete it urgently.

The list of values for the COLORS lookup type includes the meanings for the enabled codes.

Displayed Value	Hidden ID
Stop	RED
Caution	YELLOW
Go	GREEN

Analysis

The BLUE lookup code was not enabled and does not appear in the list of values. The display sequence of values in the list of values is alphabetical unless you enter a number manually to determine the order of appearance. Number 1 indicates the value listed first in the list of values.

Note

Only lookups that are enabled and active, meaning between start and end dates, are visible.

When users enter one of the values from the list of values for the lookup type COLORS, the transaction table records the lookup code. In this example, the code is stored in the Status column

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 does not affect transaction records in which that code is stored. Data querying and reporting have access to disabled lookup codes in transaction tables.

Managing Set-Enabled Lookups: Examples

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.

Note

You can only create or edit the lookup codes for a particular lookup type if its customization level supports it.

The reference data set for a set-enabled lookup code is part of its foreign key. This is unlike other set-enabled entities.

Selecting a Reference Group for a Set-Enabled Lookup Type

By specifying a reference group for a set-enabled lookup type you 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. If a COLORS lookup type contains a RED, YELLOW, ORANGE, and GREEN lookup code, you can enable one RED lookup as coming from the US reference data set and another RED lookup as coming from the EU reference data set with divergent meanings.

Reference Data Set	Lookup Code	Lookup Meaning
US	RED	Red
US	YELLOW	Yellow
US	GREEN	Green
EU	RED	Rouge
EU	ORANGE	Orange

In addition to divergent meanings for lookup codes based on associated reference data set, 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 this example.

In another example, a lookup type called HOLD_REASON provides a list of reasons for applying a hold to a contract renewal. 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

Using the Manage Set Assignments task, you have defined assignments that designate the China business unit to refer to the CHINA and the US business unit to refer to the US and all business units to refer to the COMMON set. When end users place a contract hold in the US business unit, only the three reason codes in US_SET are available. When placing a contract hold in the China business, only the two codes in China_SET are available.

FAQs for Define Lookups

How can I edit lookups?

You can edit the existing lookup codes of a lookup type or add new lookup codes on the Define Lookups pages, which you can access by starting in the Setup and

Maintenance work area and searching for lookup tasks. You can edit the existing lookup codes of a lookup type, or add new lookup codes to a lookup type, if the customization level for the lookup type supports editing

Why can't I see my lookup types?

Lookups are listed by lookup type. Typically lookup types are managed using tasks that handle a group of related lookups, such as Manage Geography Lookups. Each task gives you access only to certain lookup types. The generic tasks provide access to all lookup types of a kind, such as all common lookups using the Manage Common Lookups task.

If existing lookups are not available to the tasks of the Define Lookups activity, they may be validated for use in a lookup view that is not central to all applications or whose owning application has not been specified in a lookup view.

Lookups can only be managed in the Define Lookups tasks if the lookup's view application is the standard lookups view, common lookups view, or set-enabled lookups view. Lookups defined in an application view can only be managed by following instructions provided by the owning application.

Note

A lookup type and its codes can only be defined in one lookup view.

What's the difference between a lookup type and a value set?

A lookup type consists of lookup codes that are the values in a static list of values. Lookup code validation is a one to one match.

A table-validated value set can consist of values that are validated through a SQL statement, which allows the list of values to be dynamic.

Tip

A table validated value set can be defined based on any table, including the lookups table. This allows a lookup type to be made 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 Table validation type
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	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
Management	Managed by both administrators and end-users, except system lookups or predefined lookups at the system customization level, which cannot be modified.	Maintained by administrators, except some product flexfield codes, such as GL for Oracle Fusion General Ledger, which are maintained by end users

A lookup type cannot make use of a value from a value set.

Value sets can make use of standard, common, or set-enabled lookups.

Both lookup types and value sets are used to create lists of values from which users select values.

What's a lookup tag used for?

Tags on lookup codes allow you to add a label to your lookup codes.

Lookup tags are unvalidated and uninterpreted by lookups. A tag can be used to categorize lookups based on facilitating searches or guiding how a lookup should be used.

Document what the tag on a lookup represents and how to use it.

Manage Messages

Messages: Highlights

The message dictionary contains messages that tell users about business rule errors, such as missing or incorrect data, and how to resolve them, to warn users about the consequences of intended actions, and provide information in log files. These messages are defined for specific applications and modules, but a few are common messages that can be used in any application. All applications also use messages stored outside of the message dictionary.

The message dictionary is described in the Oracle Fusion Applications Developer's Guide, and other messages in the Oracle Fusion Middleware Web User Interface Developer's Guide for Oracle Application Development Framework.

Managing Messages

- Use the Manage Messages page to create and edit custom messages in the message dictionary, as well as edit predefined messages. Do not delete predefined messages unless you are sure that they are not used anywhere. Refer to the Oracle Fusion Applications Developer's Guide.

See: Introduction to Message Dictionary Messages

- Messages outside of the message dictionary, for example confirmations and field validations, are managed in Oracle Application Development Framework Faces components or through message resource bundles used for translation. Refer to the Oracle Fusion Middleware Web User Interface Developer's Guide for Oracle Application Development Framework.

See: Displaying Hints and Error Messages for Validation and Conversion

See: Internationalizing and Localizing Pages

Creating and Editing Messages: Highlights

Each message in the message dictionary has many attributes and components, including message properties, text, and tokens, that you define when creating or editing the message.

Details about these messages are described in the Oracle Fusion Applications Developer's Guide.

Message Properties

- The message type identifies the type of information that the message contains.

See: Understanding Message Types

- The message name and number are identifiers for the message. There are specific message number ranges for predefined messages in each application, and you should not edit numbers assigned to predefined messages. When creating custom messages, use only message numbers within the 10,000,000 to 10,999,999 range.

See: About Message Names

See: About Message Numbers

- The translation notes for predefined messages might contain internal content that you can disregard.

See: About Translation Notes

- The message category, severity, and logging enabled option are related to the incident and logging process.

See: About Grouping Messages by Category and Severity

See: Understanding Incidents and Diagnostic Logs with Message Dictionary

Message Text and Tokens

- The message text comprises various components, some of which are displayed only to select users. To determine which component of the message text is displayed to a particular user, set the Message Mode profile option (FND_MESSAGE_MODE) at the user level for that user. The message component short text is visible to all users and therefore, the

profile option does not apply to this component. Also, the profile option applies only to messages in the message dictionary.

See: About Message Components

- Tokens are variables that represent values to be displayed in the message text.

See: About Tokens

Common Messages: Points to Consider

Common messages, which have message names that begin with FND_CMN and message numbers between 0 and 999, are used throughout Oracle Fusion Applications. Each common message can appear in multiple places in any product family. For example, the FND_CMN_NEW_SRCH message can be used for any search to indicate that no results were found. Common messages that are of type error or warning are part of the message dictionary.

Editing Common Messages

Because a common message can be used in any application, 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, make sure that the text would make sense to all users across Oracle Fusion Applications who might see it.

Creating Common Messages

You can create custom common messages for use in multiple places within a single product. Do not begin the message name with FND_CMN, but use another suitable convention. The message number should be within the range that is designated for the product.

Define ISO Reference Data

Defining Currencies: Points to Consider

When creating or editing currencies, consider these points relevant to entering the currency code, date range, or symbol for the currency.

Currency Codes

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

Date Ranges

Users can enter transactions denominated in the currency only for the dates within the specified range. If you do not enter a start date, then the currency is

valid immediately. If you do not enter an end date, then the currency is valid indefinitely.

Symbols

Even if you enter a symbol for a currency, the symbol is not always displayed when an amount is displayed in this currency. Some applications use currency symbols when displaying amounts. Others, like Oracle Fusion General Ledger, do not.

Euro Currency Derivation: Explained

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.

Note

If you need to use a different currency code for Euro, you can disable the predefined Euro 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 do not 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 should 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.

Natural Languages: Points to Consider

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 cannot be deleted, 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 is not 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 should 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?

Edit territory descriptions to determine how they are displayed in lists of country values throughout Oracle Fusion Applications. The predefined territories are all countries from the International Organization for Standardization (ISO) 3166 standard. You usually would not edit territory names or codes.

Do not edit National Language Support (NLS) territory codes, which are identifiers used in the system, unless you need to change the association between ISO and system territory. You usually would not edit the default currency, which is the value that defaults in the **Currency** field in Oracle Fusion Applications user preferences after the user first selects a territory.

Create territories if new countries emerge and the system has not yet been patched with the latest ISO country values.

When do I create or edit industries?

Edit industry descriptions to determine how they are displayed in Oracle Fusion Applications. You usually would not edit industry names, which are from the North American Industry Classification System (NAICS). Enabled industries are mainly used in the context of customization, though these values can also appear in any application.

Create industries if you have particular ones you need, for example for customization, that are not included in the NAICS standard.

When do I associate industries with territories?

Optionally associate industries with territories to provide an industry in territory value, used for customization. For example, administrators can customize a page

in one way for users within an industry in one country, and another way for users within the same industry in another country. The administrator would select the appropriate industry in territory value to set the customization context.

When do I create or enable currencies?

Create currencies to use, for example for reporting purposes, if they are not already provided. All currencies from the International Organization for Standardization (ISO) 4217 standard are provided.

Enable any currency other than USD for use in Oracle Fusion Applications, for example for displaying monetary amounts, assigning to sets of books, entering transactions, and recording balances. Only USD is enabled by default.

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

Precision is the number of digits to the right of the decimal point used in regular currency transactions. Extended precision is the number of digits to the right of the decimal point used in calculations for this currency, and it must be greater than or equal to the standard precision. For example, USD would have 2 for precision because amounts are transacted as such, for example \$1.00. For calculations, for example adding USD amounts, you might want the application to be more precise than two decimal digits, and would enter an extended precision accordingly.

Note

Some applications use extended precision. Others, such as Oracle Fusion General Ledger, do not.

Minimum accountable unit is the smallest denomination for the currency. For example, for USD that would be .01 for the cent. This unit does not necessarily correspond to the precision for all currencies.

What's a statistical unit currency type?

The statistical unit currency type is used only for the Statistical (STAT) currency. The Statistical currency is used to record statistics such as the number of items bought and sold. Statistical balances can be used directly in financial reports, allocation formulas, and other calculations.

When do I create or edit ISO languages?

You can edit the names and descriptions of International Organization for Standardization (ISO) languages to determine how they are displayed in lists of ISO language values in Oracle Fusion Applications. The ISO languages are from the ISO 639 standard. If there were changes to the ISO standard and the system has not yet been patched with the latest ISO values, you can update the ISO alpha-2 code or add languages as needed.

When do I edit languages?

Installed languages automatically appear on the Manage Languages page, so you do not manually enter newly installed languages. This page contains all languages available for installation and translation in Oracle Fusion Applications. Each dialect is treated as a separate language. The language codes and names are values used by the system.

You generally would not edit any of the detailed fields unless you really need to and know what they are.

When do I create or edit time zones?

Though all standard time zones are provided, optionally enable only a subset for use in lists of time zone values in Oracle Fusion Applications. You can add time zones if new zones became standard and the system has not yet been patched with the latest values.

Manage Data Security Policies

Data Security in the Security Reference Implementation: Explained

The reference implementation contains a set of data security policies that can be inspected and confirmed to be suitable or a basis for further implementation using the Authorization Policy Manager (APM).

The security implementation of an enterprise is likely a subset of the reference implementation, with the enterprise specifics of duty roles, data security policies, and HCM security profiles provided by the enterprise.

The business objects registered as secure in the reference implementation are database tables and views.

Granting or revoking object entitlement to a particular user or group of users on an object instance or set of instances extends the base Oracle Fusion Applications security reference implementation without requiring customization of the applications that access the data.

Data Security Policies in the Security Reference Implementation

The data security policies in the reference implementation entitle the grantee (a role) to access instance sets of data based on SQL predicates in a WHERE clause.

Tip

When extending the reference implementation with additional data security policies, identify instance sets of data representing the business objects that need to be secured, rather than specific instances or all instances of the business objects.

Predefined data security policies are stored in the data security policy store, managed in the Authorization Policy Manager (APM), and described in the

Oracle Fusion Applications Security Reference Manual for each offering. A data security policy for a duty role describes an entitlement granted to any job role that includes that duty role.

Warning

Review but do not modify HCM data security policies in APM except as a custom implementation. Use the HCM Manage Data Role And Security Profiles task to generate the necessary data security policies and data roles.

The reference implementation only enforces a portion of the data security policies in business intelligence that is considered most critical to risk management without negatively affecting performance. For performance reasons it is not practical to secure every level in every dimension. Your enterprise may have a different risk tolerance than assumed by the security reference implementation.

HCM Security Profiles in the Security Reference Implementation

The security reference implementation includes some predefined HCM security profiles for initial usability. For example, a predefined HCM security profile allows line managers to see the people that report to them.

The IT security manager uses HCM security profiles to define the sets of HCM data that can be accessed by the roles that are provisioned to users

Data Roles

The security reference implementation includes no predefined data roles to ensure a fully secured initial Oracle Fusion Applications environment.

The security reference implementation includes data role templates that you can use to generate a set of data roles with entitlement to perform predefined business functions within data dimensions such as business unit. Oracle Fusion Payables invoicing and expense management are examples of predefined business functions. Accounts Payable Manager - US is a data role you might generate from a predefined data role template for payables invoicing if you set up a business unit called US.

HCM provides a mechanism for generating HCM related data roles.

Data Security: Explained

By default, users are denied access to all data.

Data security makes data available to users by the following means.

- Policies that define grants available through provisioned roles
- Policies defined in application code

You secure data by provisioning roles that provide the necessary access. Enterprise roles provide access to data through data security policies defined for the inherited application roles.

When setting up the enterprise with structures such as business units, data roles are automatically generated that inherit job roles based on data role templates. Data roles also can be generated based on HCM security profiles. Data role templates and HCM security profiles enable defining the instance sets specified in data security policies.

When you provision a job role to a user, the job role implicitly limits data access based on the data security policies of the inherited duty roles. When you provision a data role to a user, the data role explicitly limits the data access of the inherited job role to a dimension of data.

Data security consists of privileges conditionally granted to a role and used to control access to the data. A privilege is a single, real world action on a single business object. A data security policy is a grant of a set of privileges to a principal on an object or attribute group for a given condition. A grant authorizes a role, the grantee, to actions on a set of database resources. A database resource is an object, object instance, or object instance set. An entitlement is one or more allowable actions applied to a set of database resources.

Data is secured by the following means.

Data security feature	Does what?
Data security policy	Grants access to roles by means of entitlement
Role	Applies data security policies with conditions to users through role provisioning.
Data role template	Defines the data roles generated based on enterprise setup of data dimensions such as business unit.
HCM security profile	Defines data security conditions on instances of object types such as person records, positions, and document types without requiring users to enter SQL code
Masking	Hides private data on non-production database instances
Encryption	Scrambles data to prevent users without decryption authorization from reading secured data

The sets of data that a user can access via roles are defined in Oracle Fusion Data Security. Oracle Fusion Data Security integrates with Oracle Platform Security Services (OPSS) to entitle users or roles (which are stored externally) with access to data. Users are granted access through the entitlement assigned to the roles or role hierarchy with which the user is provisioned. Conditions are WHERE clauses that specify access within a particular dimension, such as by business unit to which the user is authorized.

Data Security Policies

Data security policies articulate the security requirement "Who can do What on Which set of data," where 'Which set of data' is an entire object or an object instance or object instance set and 'What' is the object entitlement.

For example, accounts payable managers can view AP disbursements for their business unit.

Who	can do	what	on which set of data
Accounts payable managers	view	AP disbursements	for their business unit

A data security policy is a statement in a natural language, such as English, that typically defines the grant by which a role secures business objects. The grant records the following.

- Table or view
- Entitlement (actions expressed by privileges)
- Instance set (data identified by the condition)

For example, disbursement is a business object that an accounts payable manager can manage by payment function for any employee expenses in the payment process.

Note

Some data security policies are not defined as grants but directly in applications code. The security reference manuals for Oracle Fusion Applications offerings differentiate between data security policies that define a grant and data security policies defined in Oracle Fusion applications code.

A business object participating in a data security policy is the database resource of the policy.

Data security policies that use job or duty roles refer to data security entitlement.

For example, the data security policy for the Accounts Payable Manager job role refers to the view action on AP disbursements as the data security entitlement.

Important

The duty roles inherited by the job role can be moved and job roles reassembled without having to modify the data security.

As a security guideline, data security policies based on user session context should entitle a duty role. This keeps both function and data security policies at the duty role level, thus reducing errors.

For example, a Sales Party Management Duty can update Sales Party where the provisioned user is a member of the territory associated with the sales account. Or the Sales Party Management Duty can update Sales Party where the provisioned user is in the management chain of a resource who is on the sales account team with edit access. Or the Participant Interaction Management Duty can view an Interaction where the provisioned user is a participant of the Interaction.

For example, the Disbursement Process Management Duty role includes entitlement to build documents payable into payments. The Accounts Payable Manager job role inherits the Disbursement Process Management Duty role. Data security policies for the Disbursement Process Management Duty role authorize access to data associated with business objects such as AP disbursements within

a business unit. As a result, the user provisioned with the Accounts Payable Manager job role is authorized to view AP disbursements within their business unit.

A data security policy identifies the entitlement (the actions that can be made on logical business objects or dashboards), the roles that can perform those actions, and the conditions that limit access. Conditions are readable WHERE clauses. The WHERE clause is defined in the data as an instance set and this is then referenced on a grant that also records the table name and required entitlement.

Data Roles

Data roles are implemented as job roles for a defined set of data.

A data role defines a dimension of data within which a job is performed. The data role inherits the job role that describes the job. For example, a data role entitles a user to perform a job in a business unit.

The data role inherits abstract or job roles and is granted data security privileges. Data roles carry the function security privileges inherited from job roles and also the data security privilege granted on database objects and table rows.

For example, an accounts payables specialist in the US Business Unit may be assigned the data role Accounts Payables Specialist - US Business Unit. This data role inherits the job role Accounts Payables Specialist and grants access to transactions in the US Business Unit.

A data role may be granted entitlement over a set people.

For example, a Benefits Administrator A-E is allowed to administer benefits for all people that have a surname that begins with A-E.

Data roles are created using data role templates. You create and maintain data roles in the Authorization Policy Manager (APM). Use the Manage Data Roles and Security Profiles task to create and maintain HCM data roles in Oracle Fusion HCM.

HCM Security Profiles

HCM security profiles are used to secure HCM data, such as people and departments. You use HCM security profiles to generate grants for an enterprise role. The resulting data role with its role hierarchy and grants operates in the same way as any other data role.

For example, an HCM security profile identifies all employees in the Finance division.

Oracle Fusion Payroll uses HCM security profiles to secure project organizations. Applications outside of HCM can use the HCM Data Roles UI pages to give their roles access to HR people.

Masking and Encryption

Oracle Fusion Applications uses masking to protect sensitive data from view by unauthorized users. Encryption APIs mask sensitive fields in applications user interfaces. Additionally, Oracle Data Masking is available for masking data in non-production instances and Oracle Transparent Data Encryption is available

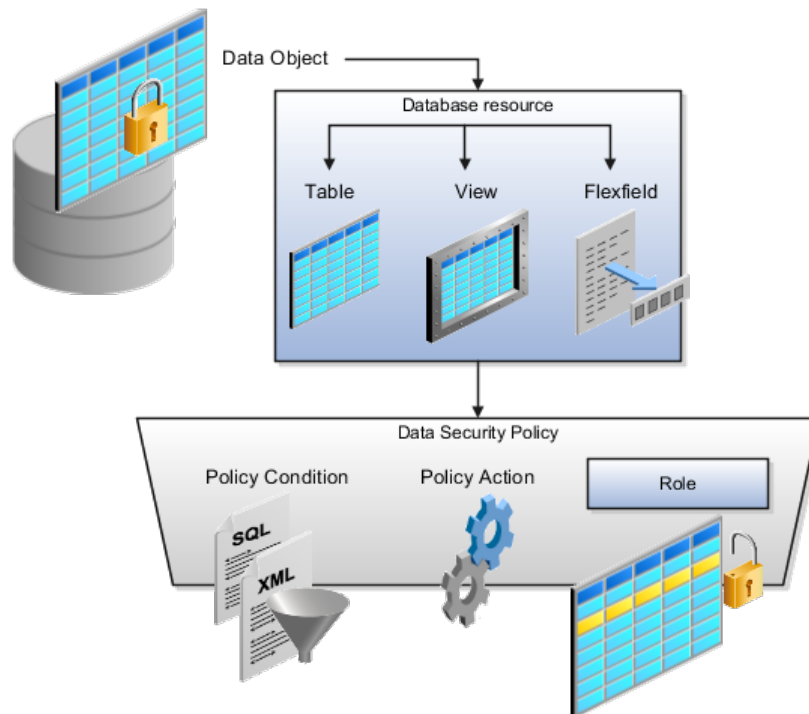
for protecting data in transit or in backups independent of managing encryption keys.

Database Resources and Data Security Policies: How They Work Together

A data security policy applies a condition and allowable actions to a database resource for a role. When that role is provisioned to a user, the user has access to data defined by the policy. In the case of the predefined security reference implementation, this role is always a duty role. Data roles generated to inherit the job role based on data role templates limit access to database resources in a particular dimension, such as the US business unit.

The database resource defines and instance of a data object. The data object is a table, view, or flexfield.

The following figure shows the database resource definition as the means by which a data security policy secures a data object. The database resource names the data object. The data security policy grants to a role access to that database resource based on the policy's action and condition.



Database Resources

A database resource specifies access to a table, view, or flexfield that is secured by a data security policy.

- Name providing a means of identifying the database resource

- Data object to which the database resource points

Data Security Policies

Data security policies consist of actions and conditions for accessing all, some, or a single row of a database resource.

- Condition identifying the instance set of values in the data object
- Action specifying the type of access allowed on the available values

Note

If the data security policy needs to be less restrictive than any available database resource for a data object, define a new data security policy.

Actions

Actions correspond to privileges that entitle kinds of access to objects, such as view, edit, or delete. The actions allowed by a data security policy include all or a subset of the actions that exist for the database resource.

Conditions

A condition is either a SQL predicate or an XML filter. A condition expresses the values in the data object by a search operator or a relationship in a tree hierarchy. A SQL predicate, unlike an XML filter, is entered in a text field in the data security user interface pages and supports more complex filtering than an XML filter, such as nesting of conditions or sub queries. An XML filter, unlike a SQL predicate, is assembled from choices in the UI pages as an AND statement.

Tip

An XML filter can be effective in downstream processes such as business intelligence metrics. A SQL predicate cannot be used in downstream metrics.

Securing Data Access: Points to Consider

Oracle Fusion Applications supports securing data through role-based access control (RBAC) by the following methods.

Method of securing data	Reason	Example
Data roles apply explicit data security policies on job and abstract roles	Appropriate for job and abstract roles that should only access a subset of data, as defined by the data role template that generates the data role or by HCM security profiles.	Accounts Payable Manager - US data role to provide an accounts payable manager in the US business unit with access to invoices in the US business unit.
Data security policies	Define data access for application roles and provide inheriting job and abstract roles with implicit data security	Projects

If a user has access to the same function through different roles that access different data sets, then the user has access to a union of those data sets.

When a runtime session is created, Oracle Platform Security Services (OPSS) propagates only the necessary user to role mapping based on Oracle Fusion Data Security grants. A grant can specify entitlement to the following.

- Specific rows of data (data object) identified by primary key
- Groups of data (instance set) based on a predicate that names a particular parameter
- Data objects or instance sets based on runtime user session variables

Data is either identified by the primary key value of the row in the table where the data is stored. Or data is identified by a rule (SQL predicate) applied to the WHERE clause of a query against the table where the data is stored.

Grants

Oracle Fusion Data Security can be used to restrict the following.

- Rows that are returned by a given query based on the intended business operation
- Actions that are available for a given row

Grants control which data a user can access.

Note

Attribute level security using grants requires a data security policy to secure the attribute and the entitlement check enforces that policy.

A grant logically joins a user or role and an entitlement with a static or parameterized object instance set. For example, `REGION='WEST'` is a static object instance set and `REGION=&GRANT_ALIAS.PARAMETER1` is a parameterized object instance set. In the context of a specific object instance, grants specify the allowable actions on the set of accessible object instances. In the database, grants are stored in `FND_GRANTS` and object instance sets are stored in `FND_OBJECT_INSTANCE_SETS`. Object access can be tested using the privilege check application programming interface (API).

Securing a Business Object

A business object is a logical entity that is typically implemented as a table or view, and corresponds to a physical database resource. The data security policies of the security reference implementation secure predefined database resources. Use the Manage Data Security Policies task to define and register other database resources.

Data security policies identify sets of data on the registered business object and the actions that may be performed on the business object by a role. The grant can be made by data instance, instance set or at a global level..

Note

Use parameterized object instance sets whenever feasible to reduce the number of predicates the database parses and the number of administrative intervention required as static object instances sets become obsolete. In HCM, security profiles generate the instance sets.

Data Role Templates: Explained

You use data role templates to generate data roles. You generate such data roles, and create and maintain data role templates in the Authorization Policy Manager (APM).

Note

HCM data roles are generated using the Manage Data Roles and Security Profiles task, which uses HCM security profiles, not data role templates, to define the data security condition.

The following attributes define a data role template.

- Template name
- Template description
- Template group ID
- Base roles
- Data dimension
- Data role naming rule
- Data security policies

The data role template specifies which base roles to combine with which dimension values for a set of data security policies. The base roles are the parent job or abstract roles of the data roles.

Note

Abstract, job, and data roles are enterprise roles in Oracle Fusion Applications. Oracle Fusion Middleware products such as Oracle Identity Manager (OIM) and Authorization Policy Manager (APM) refer to enterprise roles as external roles. Duty roles are implemented as application roles in APM and scoped to individual Oracle Fusion Applications.

The dimension expresses stripes of data, such as territorial or geographic information you use to partition enterprise data. For example, business units are a type of dimension, and the values picked up for that dimension by the data role template as it creates data roles are the business units defined for your enterprise. The data role template constrains the generated data roles with grants of entitlement to access specific data resources with particular actions. The data

role provides provisioned users with access to a dimensional subset of the data granted by a data security policy.

An example of a dimension is a business unit. An example of a dimension value is a specific business unit defined in your enterprise, such as US. An example of a data security policy is a grant to access a business object such as an invoice with a view entitlement.

When you generate data roles, the template applies the values of the dimension and participant data security policies to the group of base roles.

The template generates the data roles using a naming convention specified by the template's naming rule. The generated data roles are stored in the Lightweight Directory Access Protocol (LDAP) store. Once a data role is generated, you provision it to users. A user provisioned with a data role is granted permission to access the data defined by the dimension and data security grant policies of the data role template.

For example, a data role template contains an Accounts Payable Specialist role and an Accounts Payable Manager role as its base roles, and region as its dimension, with the dimension values US and UK. The naming convention is [base-role-name]:[DIMENSION-CODE-NAME]. This data role template generates four data roles.

- Accounts Payable Specialist - US (business unit)
- Accounts Payable Specialist - UK (business unit)
- Accounts Payable Manager - US (business unit)
- Accounts Payable Manager - UK (business unit)

Making Changes To Data Role Templates

If you add a base role to an existing data role template, you can generate a new set of data roles. If the naming rule is unchanged, existing data roles are overwritten.

If you remove a base role from a data role template and regenerate data roles, a resulting invalid role list gives you the option to delete or disable the data roles that would be changed by that removal.

Making Changes to Dimension Values

If you add a dimension value to your enterprise that is used by a data role template, you must regenerate roles from that data role template to create a data role for the new dimension. For example if you add a business unit to your enterprise, you must regenerate data roles from the data role templates that include business unit as a dimension.

If you add or remove a dimension value from your enterprise that is used to generate data roles, regenerating the set of data roles adds or removes the data roles for those dimension values. If your enterprise has scheduled regeneration as an Oracle Enterprise Scheduler Services process, the changes are made automatically.

For information on working with data role templates, see the Oracle Fusion Middleware Administrator's Guide for Authorization Policy Manager (Oracle Fusion Applications Edition).

Define Document Sequences

Document Sequences: Explained

In Oracle Fusion Applications, each business document or business event is uniquely identified by a document sequence number that you assign to it. However, the document sequencing feature must be turned on (enabled) on the business document or event to allow the assignment. For example, if document sequencing is enabled, you can assign a document sequence number to an invoice that gets generated in response to a purchase order. You can use document sequences as a proof to track successfully executed transactions as well as failed transactions. Additionally, a document sequence helps in generating an audit trail, which can be used to identify how a particular transaction passed through various applications.

Document sequencing can be managed automatically, manually, and gaplessly.

Note

Plan your document sequencing carefully before you use the options available in the application to apply sequence numbers. Avoid changes to the options 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 as it is generated, and this unique number is stored in the database. The numbering is sequential by date and time of creation. If you define a sequence to automatically number documents, you can provide an initial value to begin the sequence. In absence of a custom value, the default value 1 is used.

Manual Sequencing

Manual sequencing requires you to assign a unique number to each document before it is generated. In manual sequencing, the numerical ordering and completeness of a transaction is not enforced. Users can skip or omit numbers when entering the sequence value. However, each time that a number is assigned, 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. As a result, the sequence is maintained for all the documents that are generated, and no sequence numbers are lost due to incomplete or failed document generation.

Important

Use this type of sequencing only if necessary because it may affect the performance of the system and slow down transaction processing.

Document Sequence Categories: Explained

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.

Restriction

Once a document sequence category is created, you cannot 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 is available for use under 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.

Document Sequences: Points to Consider

Sequencing documents is an important business and legal requirement. Certain aspects of the defining process are permanent and cannot be modified later. Therefore, it is important that you first decide the appropriate document sequence to use for a set of documents. You must also decide beforehand the type of document sequencing, because you are not allowed to switch to other types once a sequence is assigned to a document sequence category. Make a note of the details such as the document sequence and document sequence category so that you can refer to them at a later point in time. Also note if there are any restrictions or configuration prerequisites before you define document sequencing.

Note

Products that implement document sequencing have specifications about its usage. Refer to the corresponding product documentation for specific details and also to determine 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. If the end date is left blank, it means that the sequence definition never expires. Among the several options used in creating and editing document sequences, the following options are functionally more important and therefore need to be carefully determined:

- **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 should not be greater than eight digits. If you leave this field blank, the first document is automatically assigned a value of 1. Once a document sequence is defined, you cannot change this initial value.

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. The table must already be enabled for document sequencing. When specifying the table, you must consider the following points:

- When the sequential numbering feature checks for completeness or generates a report, it locates the category's documents in the table.
- You can select only tables belonging to the application associated with the category.
- Once a category is defined, you cannot change the choice of 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, a method code, 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 do not 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 selected determinant type.

At runtime, when users create documents, the document sequence to be assigned is determined by finding the active assignment that matches the correct

combination of category, numbering method, and the date range containing the transaction date.

Auditing Document Sequences

You can audit document sequences, if required, to provide an audit trail of the document sequences used in a specific product. However, before enabling the audit functionality for a document sequence, you must have created an audit table for the specific document sequence, using appropriate details. Enabling the audit functionality is permitted only for newly created document sequences. You cannot audit document sequences that are already in use by a specific product.

For more information about defining a document sequence audit table, see the Oracle Fusion Applications Developer's Guide.

Define Trees

Trees: Overview

Use the tree management feature in Oracle Fusion applications to organize data into hierarchies. A hierarchy contains organized data and enables the creation of groups and rollups of information that exist within an organization. Trees are hierarchical structures that enable several data management functions such as better access control, application of business rules at various levels of hierarchies, improved query performance, and so on.

For example, XYZ Corporation has two departments: Marketing and Finance. The Finance department has two functional divisions: Receivables and Payables. Defining a tree for the XYZ Corporation establishes a hierarchy between the organization and its departments, and between the departments and their respective functional divisions. Such a hierarchical modeling of organizational data could be used for executing several data management functions within that organization.

You can create one or more versions of trees, and they can be labeled for better accessibility and information retrieval. You can create trees for multiple data sources, which allow the trees to be shared across Oracle Fusion applications.

Tree Structures

A tree structure is a representation of the data hierarchy, and guides the creation of a tree. A tree is an instance of the hierarchy as defined in the tree structure. Tree structures enable you to enforce business rules to which the data must adhere.

The root node is the topmost node of a tree. Child nodes report to the root node. Child nodes at the same level, which report to a common parent node, are called siblings. Leaves are details branching off from a node but not extending further down the tree hierarchy.

Tree Versions

A tree is created having only one version. However, users can create more than one tree version depending on the need, and they can make changes to those

versions. Depending on varying requirements, users can create one or more tree versions and publish all of them or some of them by making the versions active at the same time. Similar to any other version control system, versions of trees are maintained to keep track of all the changes that a tree undergoes in its life cycle.

Tree Labels

Tree labels are short names associated with trees and tree structures and point directly to the data source. Tree labels are automatically assigned to the tree nodes. You can store labels in any table and register the label data source with the tree structure.

Manage Tree Structures

Tree Structures: Explained

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. Every 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 is 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.

Tree Structure Definition: Points to Consider

Defining a tree structure involves specifying several important pieces of information on the **Create Tree Structure: Specify Definition** page.

Tree Node Selection

The **Tree Node** table displays data in nodes that exist in the data hierarchy. You must select the correct and most appropriate tree node table to be able to define the tree structure, based on the tree hierarchy you want to establish. This selection also affects the level of security that is set on a tree node and its child entities.

Tree Sharing Mode

The following options are used 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 will be associated with a specific reference data set.

Creation Mode

Indicates the source where the tree structure is being defined. For predefined tree structures select Oracle and for custom structures, select Customers.

Customization

You can customize the predefined tree structures as well as the ones that you created. However, customizing the predefined tree structures involves certain level of access restrictions, and will be limited to specific tree nodes and downwards in hierarchy.

Multiple Tree Versions

One or more trees and tree versions can be based on a tree structure. A tree structure can have one or more trees and tree versions based on it. Usually, only one active version is permitted at any given point of time. However, depending on the requirement, you can allow two or more tree versions to be in the active state for the same date range. This flexibility allows you to choose the tree version that you want to implement.

Managing Tree Structures: Points to Consider

You can create, edit, and delete tree structures depending upon the requirement. You can also audit and change the status a tree structure.

Creating and Editing Tree Structures

You can create trees on the basis of a tree structure. When you edit an active tree structure, the status of the tree structure and all associated trees and their versions change to draft. To reuse a tree structure, you can create a copy of it without copying the associated trees and tree versions. If you delete a tree structure, all the associated trees and tree versions are automatically deleted.

Note

For specific information on working with the predefined tree structures that exist in an Oracle Fusion application, refer to the specific product documentation.

Setting Status

If 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	Yet to be published or is in a modified state.

Active	In use and based on which one or more trees or tree versions are created.
Inactive	Not in use.

Tree Structure Audit Results: Explained

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. You can also manually trigger an audit on the manage Tree Structures page, using **Actions - Audit**. The Tree Structure Audit Result table shows a list of validations that ran against the selected tree structure.

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 is checked)	Possible Cause for Validation Failure	Suggested Corrective Action
Restrict By Set ID	On the Manage Tree Structures: Specify Data Sources page, if the Set ID check box is selected to enable the Restrict Tree Node List of Values Based on option for a tree structure, each of its data source view objects must have a reference data set attribute. This validation does not take place when the check box is not selected.	Even when the check box is selected, one or more of its data source view objects does not 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.
Row Flattened Table Name	On the Manage Tree Structures: Specify Performance Options page, a valid row flattened table must be specified for the tree structure. It can either be the standard row flattened table <code>FND_TREE_NODE_RF</code> or a custom table.	<ul style="list-style-type: none"> • The specified table does not exist in the database. • The specified table does not contain the same columns as the <code>FND_TREE_NODE_RF</code> table. 	Correct the row flattened table definition.

<p>Available Label Data Sources</p>	<p>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 box, the label data source view object specified for each data source must be accessible, and the primary keys must be valid. This restriction does not apply when you select None from the Labeling Scheme list box.</p>	<ul style="list-style-type: none"> • Any of the specified label data source view objects do not exist. • Any of the specified label data source view objects do not 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. 	<ul style="list-style-type: none"> • Correct the specified label data source view object. • Correct the primary keys of the specified label data source view object. • Either correct the primary keys in the label data source view object to match the primary keys that were earlier registered in <code>FND_TS_DATA_SOURCE</code>, or correct the primary keys registered in that table to match the new view object definition.
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Available Data Sources	Each data source view object specified for the tree structure must be accessible, and all its primary key attributes must be valid.	<ul style="list-style-type: none"> • Any of the specified data source view objects do not exist. • When a data source view object is initially defined, the database automatically registers the primary keys for the view object if the Use non-defined primary key columns check box on the Data Source dialog box is not selected. If the check box is selected, the database registers the primary keys specified explicitly by the user on the Add Data Source dialog box. 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 does not match the primary keys defined in the corresponding data source view object. • Any common attribute that exists in both the data source view object and the tree node view object is not of the same data type in both view objects. 	<ul style="list-style-type: none"> • 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.
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Column Flattened Table Name	On the Manage Tree Structures: Specify Performance Options page, a valid column flattened table must be specified for the tree structure. It can either be the standard row flattened table <code>FND_TREE_NODE_CF</code> or a custom table.	<ul style="list-style-type: none"> The specified table does not exist in the database. The specified table does not contain the same columns as the <code>FND_TREE_NODE_CF</code> table. 	Correct the column flattened table definition.
Restrict by Date	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 of its data source view objects must have effective start date and effective end date attributes. This validation does not take place when the check box is not selected.	Even when the check box is selected, one or more of its data source view objects does not contain effective start date and effective 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	On the Manage Tree Structures: Specify Definition page, a valid tree node table must be specified for the tree structure. It can either be the standard row flattened table <code>FND_TREE_NODE</code> or a custom table.	<ul style="list-style-type: none"> No table is specified in the Tree Node Table field. The specified table does not exist in the database. The specified table does not contain the same columns as the <code>FND_TREE_NODE</code> table. 	Correct the tree node table definition.
Allow Node Level Security	If the Allow Node Level Security option is set to No for the tree structure, the same option cannot be set to Yes on any of its data sources. This is a database setting that is not visible on the Manage Tree Structures page.	The option is set to No for the tree structure but one or more associated data sources have that option set to Yes.	Correct the option setting in the tree structure and their data sources.

Specifying Data Sources for Tree Structures: Points to Consider

The data sources provide the items for establishing hierarchy in a tree structure. In the tree management infrastructure, these data sources are Oracle Application

Development Framework (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 customer assignment. You may also choose not to have any labeling scheme. However, if you decide to use any of the labeling schemes, you may need to select the following additional options, to restrict the list of values that appear under 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 under 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 customized 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 is 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 ADF business components are used as data sources. To associate the view object with the tree structure, you can pick the code from 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.

Specifying Performance Options for a Tree Structure: Points to Consider

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
- ADF Business Component View Objects

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 run-time 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 Objects

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.

ADF Business Component View Objects

View objects from the ADF business components can also 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 business component view object generated by the tree management for business intelligence reporting and usage. The business component 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.

Manage Tree Labels

Tree Labels: Explained

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. <hr/> Note In an unbalanced hierarchy, a level may not be equal to depth.

Manage Trees and Tree Versions

Managing Trees and Tree Versions: Points to Consider

You can create and edit trees and tree versions depending upon the requirement. A tree can have one or more tree versions. Typically, 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. However, only the tree is duplicated and not its versions.

Creating a tree involves specifying the tree definition and specifying the labels that are used on its nodes. 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 customized 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. A tree must contain a version.

Editing an existing tree provides you the choice to update the existing version. You can also edit the existing version that lies nested under 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 cancelled.

Tree Version Audit Results: Explained

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**. 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 is 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 is not 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 is not selected, and if the tree structure is not empty, the tree version must contain exactly one root node. This validation does not take place if the check box is selected.	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.
Data Source Max 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 does not 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 is not selected, the tree version should 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 should be valid and available in the underlying data source.	<ul style="list-style-type: none"> • A node in the tree version does not 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 does not 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 do not 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 should always be under 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 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 does not apply when the check box is not selected.	Even when the check box is selected, the tree version has nodes whose data source values belong to a different reference data set than the tree.	Modify the tree version such that all nodes in the tree have data 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 box, all nodes should have labels. This restriction does not apply when you select None from the Labeling Scheme list box.	The tree structure has a labeling scheme but the tree version has nodes without labels.	Assign a label to any node that does not 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 does not apply if the check box is not 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 is not 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 is not selected for the tree structure, there should not be more than one active tree version under a tree at any time. This restriction does not apply if the check box is selected.	Even when the check box is not 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 is not selected, range-based nodes are not permitted from that data source. This restriction does not apply if the check box is selected.	Even when the check box is not 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.

Terminal Node	On the Data Source dialog box, if the Allow Use as Leaves check box is not selected, values from that data source cannot be added as leaves (terminal nodes) to the tree version. This restriction does not apply if the check box is selected.	Even when the check box is not 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 does not apply if None option is selected.	Even if the Use All Values option is selected, there are values in the data source that are not in the tree version.	For each data source value that is not yet available, add nodes to the tree version.

Trees and Data Sources: How They Work Together

Data sources form the foundation for tree management in Oracle Fusion Applications. 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 being used.

Metadata

Tree structures contain the metadata of the actual data that is used in Oracle Fusion Applications. Tree structures contain the core business logic that is manifested in trees and tree versions.

Data Storage

Trees and tree versions are built upon the tree structures. They employ the business rules defined in the tree structures and allow an application to 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, 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.

Adding Tree Nodes: Points to Consider

Tree nodes are points of data convergence that serve as the building blocks of a tree structure. Technically, the node may be stored either in a product-specific table or in an entity that has been established by tree management as the default

storage mechanism. However, since all data in Oracle Fusion Applications usually have a storage home, only user-created data needs to be stored in an entity.

Nodes are attached to tree versions. Whenever you create or edit a tree version, you need to specify its tree node.

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

In most trees, all nodes at the same level represent the same kind of information. For example, in a tree that reflects the organizational hierarchy, all division nodes appear on one level and all department nodes on another. Similarly, in a tree that organizes a user's product catalog, the nodes representing individual products might appear on one level and the nodes representing product lines on the next higher level.

When levels are not used, the nodes in the tree have no real hierarchy or reporting structure but do form a logical summarization structure. Strictly enforced levels mean that the named levels describe each node's position in the tree. This is natural for most hierarchies. Loosely enforced levels mean that the nodes at the same visual level of indentation do not all represent the same kind of information, or nodes representing the same kind of information appear at multiple levels. With loosely enforced levels, users assign a level to each node individually. The level is not tied to a particular visual position.

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 is not physically stored in the same tree. For example, a geographic hierarchy for the United States can be referenced in a World geographic hierarchy.

Importing Segment Values and Hierarchies: Explained

Use Import Segment Values and Hierarchies process to load segment values and hierarchies if you maintain your chart of accounts reference data outside Oracle Fusion applications. You can load your segment values and hierarchies by populating two tables: `GL_SEGMENT_VALUES_INTERFACE` table and

GL_SEGMENT_HIER_INTERFACE table, and running the Import Segment Values and Hierarchies process.

Note

You can load data to interface tables using predefined templates and the Load Interface File for Import scheduled process, which are both part of the External Data Integration Services for Oracle Cloud feature. For other implementations, optionally use this feature only if you have SFTP configured for it.

The GL_SEGMENT_VALUES_INTERFACE and GL_SEGMENT_HIER_INTERFACE tables

You can use GL_SEGMENT_VALUES_INTERFACE to load segment values and GL_SEGMENT_HIER_INTERFACE to load segment value hierarchies to Oracle Fusion applications. You can find details of the columns of the interface table in Oracle Enterprise Repository (OER) for Oracle Fusion Applications.

Assigning Values for Columns in the GL_SEGMENT_VALUES_INTERFACE table

You must enter values in all columns of the interface table that require values, which includes all of the not null columns, in order for the Import Segment Values and Hierarchies process to be successful. Enter values in the following required columns of the interface table:

Column Name	Value
STATUS_CODE	Enter the value NEW to indicate that you are bringing new segment value data.
VALUE_SET_CODE	Enter the value set code for the segment values.
VALUE	Enter the segment value.
SUMMARY_FLAG	Select N if the segment value is a child value or Y if the segment value is a parent value.
ENABLED_FLAG:	Select Y to enable the segment value. Enter N to disable the segment value.
ACCOUNT_TYPE:	Enter the natural account type if the segment value is for natural account segment. Valid values are: A for Assets, L for Liabilities, E for Expenses, O for Owner's Equities, and R for Revenues.
ALLOW_POSTING_FLAG	Select Y if posting is allowed for this segment value. Select N if posting is not allowed.
OBJECT_VERSION_NUMBER	Enter default value of 1.

You can enter values for the following optional columns:

Column Name	Value
START_DATE_ACTIVE	Enter the start date of the segment value
END_DATE_ACTIVE	Enter the end date of the segment value.
THIRD_PARTY_CTRL_ACCOUNT	Enter the third party control account value. Valid values are: CUSTOMER, SUPPLIER, R for Restrict Manual Journals, Y, and N.

FINANCIAL_CATEGORY	Enter a financial category value for Oracle Transactional Business Intelligence reporting. Valid values are values defined in the FINANCIAL_CATEGORY lookup type.
DESCRIPTION	There are different description columns for different languages. To see segment value description in a different language installation, you need to populate the segment description for that language too.

The following columns should be left as null as Import Segment Values and Hierarchies process uses them for internal processing or does not use them in the current release.

- CREATION_DATE
- CREATED_BY
- LAST_UPDATE_DATE
- LAST_UPDATE_LOGIN
- LAST_UPDATED_BY
- SEGMENT_VALUE_INTERFACE_ID
- REQUEST_ID
- LOAD_REQUEST_ID

Assigning Values for Columns in the GL_SEGMENT_HEIR_INTERFACE table

You must enter values in all columns of the interface table that require values, which includes all of the not null columns, in order for the Import Segment Values and Hierarchies process to be successful. Enter values in the following required columns of the interface table:

Column Name	Value
STATUS_CODE	Enter the value NEW to indicate that you are bringing new hierarchy data.
VALUE_SET_CODE	Enter the value set code for the segment values.
TREE_CODE	Enter the hierarchy name (tree code).
TREE_VERSION NAME	Enter the hierarchy version name (tree version name).
TREE_VERSION_START_DATE_ACTIVE	Enter the date that the tree version is activated.
TREE_VERSION_END_DATE_ACTIVE	Enter the date that the tree version is inactivated.
VALUE	Enter the segment value.
PARENT_VALUE	Select N if the segment value is a child value or Y if the segment value is a parent value.
DEPTH	Enter the depth of the hierarchy which shows the many ancestors the segment value has in the hierarchy.
OBJECT_VERSION_NUMBER	Enter default value of 1.

The following columns should be left as null as Import Segment Values and Hierarchies process uses them for internal processing or does not use them in the current release.

- CREATION_DATE
- CREATED_BY
- LAST_UPDATE_DATE
- LAST_UPDATE_LOGIN
- LAST_UPDATED_BY
- SEGMENT_VALUE_INTERFACE_ID
- REQUEST_ID
- LOAD_REQUEST_ID

Loading Data to the Segment Value and Hierarchies Interface Tables: Explained

Load the segment values and hierarchies to the interface table by using the following steps.

1. Load segment values and hierarchies to comma separated values (csv) files. You can use the sample csv file or xls file that's provided in Oracle Enterprise Repository (OER) for Oracle Fusion Applications as a reference.
2. Upload the comma separated values (csv) file to the secure FTP server.
3. Run the Load Interface File for Import process.
4. After the data is loaded to the interface table, you can run the Import Segment Values and Hierarchies process to load the segment values and hierarchies.

Define Profile Options

Profile Options: Explained

Profile options manage configuration data centrally and influence the behavior of applications. Profile options serve as permanent user preferences and application configuration parameters. You configure profile options with settings for specific contexts or groups of users. Users customize how their user interfaces look and behave by changing the values of available profile options.

Profile options store the following kinds of information.

Type of Information	Profile Option Example
User preferences	Settings to provide access to social networking features
Installation information	Setting to identify the location of a portal

Configuration choices	Settings to change user interface skins and behaviors
Processing options	Settings to affect how much information to log either for an entire site or a specific user

You can add and configure new profile options in addition to configuring predefined profile options that are implemented as updateable.

Profile Option Definition and Configuration

Application developers add new profile options and configure ones that are not to be updated by other users. Application administrators and implementation consultants configure profile options with profile option values that are implemented as updateable.

Profile option definitions consist of the following.

- Profile option name
- Application and module in the application taxonomy
- Profile option values
- Profile options categories
- Profile option levels
- Profile option level hierarchy

Profile options can appear on any user interface page without indication that a profile option is what is being set.

Profile Option Values

Some profile options have predefined profile option values.

The Manage Profile Option Values task flow allows an administrator to set updateable profile option values at the available levels, including the user level. You can access the Manage Profile Option Values task starting in the Setup and Maintenance Overview page and searching for profile option tasks.

You can set profile option values at different levels: site, product, and user. The following table provides examples.

Profile Option Level	Value of the Profile Option Level	Profile Option Value	Effect
User	Manager1	UK pound sterling	Access to site and all products shows UK pounds sterling in effect
User	Manager2	US dollar	Access to site and all products shows US dollars in effect
Product	Financials for EMEA	Euro	Unless superseded by a user level value, Euros in effect for Financials for EMEA applications

Site	Site	UK pound sterling	UK pounds sterling in effect for all other users and products
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Context such as user session or accessed product determines which profile option value is associated with the profile option name. In the example, if manager1 does not set a profile option value for this profile option, access to Financials for EMEA shows currency in Euros; and access to other products shows currency in UK pounds sterling.

Profile Option Categories

Categories group profile options based on their functional area. Profile option categories facilitate searching and defining data security.

For example, in Oracle Fusion Receivables, the Transactions profile option category groups profile options related to setting how Receivables transactions are to be processed, such as Require Adjustment Reason.

A profile option can be in more than one category.

Profile Option Hierarchies and Levels

Application developers specify at which hierarchy level a profile option is enabled. The predefined profile option hierarchy levels are site, product, and user.

The hierarchy levels specified in the profile option definition determine the context in which a profile option value may be set. If the profile option value at a particular level is updatable, an administrator can update the profile option value for that context.

Note

Profile options should only be enabled for context levels that are appropriate for that profile option. For example, a profile option indicating a global configuration setting should not be enabled at the user level, if users cannot choose a different value for that setting.

For security, one level in the hierarchy is designated as a user level. A profile option may be enabled at any or all hierarchy levels. When enabled at all levels, the predefined ordering of profile option hierarchy levels gives precedence to the values that are set at the user level over values set at the product and site levels, and precedence to values set at the product level to values set at the site level. If there is no value for the current user, then the product value applies. If there is no value for the user or product, then the site value applies.

The table shows the predefined profile option hierarchy and ordering.

Hierarchy Level	Priority When Multiple Levels Set	Effect on Applications	Example
Site	Lowest	Affect all applications for a given implementation	Currency for the site is set to Euros.

Product	Supersedes Site	Affect all applications of a product family such as Financials	Currency for the Financials products set to UK pound sterling.
User	Highest, supersedes Product	Affect only the experience of the current user	Currency for the user of Financials applications set to US dollars.

You can configure updatable values for profile options at one or more levels depending on which levels are enabled in the profile option definition. When a profile is set at more than one level, higher levels of specificity override lower levels of specificity.

In the example, if the currency setting for the site is UK pounds sterling, but the Financials division works in the Netherlands using the Euro, a manager in the US can override that product level setting at the user level to use US dollars when accessing Financials applications.

In another example, if a profile option called Printer is set only at the site and product levels. When a user logs on, the Printer profile option assumes the value set at the product level, since it is the highest level setting for the profile.

Tip

Set site-level profile option values before specifying values at any other level. The profile option values specified at the site-level work as defaults until profile option values are specified at the other levels.

For more information on the predefined profile options, see assets with the Profile Option type in the Oracle Enterprise Repository for Oracle Fusion Applications (<http://fusionappsoer.oracle.com>).

Planning Profile Options: Points to Consider

Plan profile options before defining and configuring them.

The following aspects assist you in better planning how to manage profile options.

- Profile option tasks
- Before creating a profile option
- Profile options data model

Profile Option Tasks

Users may be able to set their own profile options, depending on settings in the profile option definition. However, not all profile options are visible to end users, and some profile options, while visible, may not be updated by end users.

The following table lists tasks and considerations relevant to planning profile options.

Tasks	Role	Considerations
Planning, creating, and editing a new profile option	Applications developer	Since profile options are for permanent settings, do not use profiles options to cache temporary session attributes. Add capacity for user preferences and system configuration. Customize profile options with values, value behaviors, validation, category values, and security. Define the levels at which the profile option is enabled.
Configure values in an existing profile option	Applications developer, application administrator, and implementation consultant	Manage the values for existing profile options.
Create and edit profile option categories	Applications developer, application administrator, and implementation consultant	Manage categories for organizing existing profile options.

Note

Since a profile option enables a behavior in an application user interface or across applications, a value change made by an end user is reflected in the UI page for managing profile option values.

Before Creating a Profile Option

Profile options are best defined for managing configuration data centrally and influencing the behavior of applications.

If the purpose of a profile option setting is specific to a piece of data (typically setup data), it is best implemented as an attribute of that data.

Do not use profile options for behavior that is not configurable.

Profile options exist independent of role.

Do not use profile options to implement function security. For example, an application should not check for a profile option value set to yes to provide access to a page. Do not use profile options to implement data security, such as a profile option value that must be set to a specific value to provide view access to an entity.

Do not use profile options to capture a dynamic system states, such as data stored in a temporary table. Use Global Variables for temporary states instead.

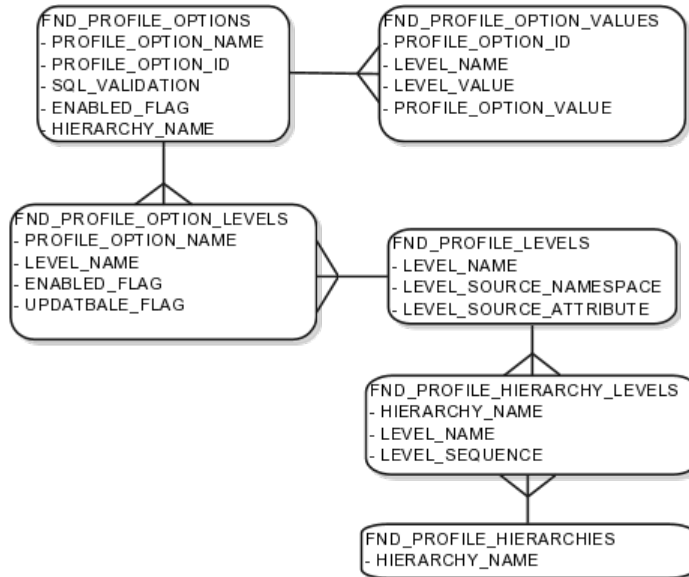
Evaluate if there is a genuine need before creating a profile option. Do not force users to make a decision about an aspect of their application use that is of no concern.

Evaluating need includes looking for duplicate or similar profile options, even in other products, before creating a new one. For example, you do not need multiple profile options to choose a preferred currency.

Profile Options Data Model

The profile option data model illustrates the relationships among profile option elements.

The figure shows the data model of profile option entities.



For more information about planning profile options, see the Oracle Fusion Applications Developer's Guide.

Managing Profile Options: Points to Consider

A profile option definition consists of a name for the profile option and valid values. It is defined within a module of the application taxonomy. Application developers manage profile options to create new profile options or modify existing profile option definitions, which includes specifying the levels at which a profile option is enabled and defining values. Implementation consultants and application administrators configure existing profile options by managing the profile option's updatable values, and creating categories that group profile options.

Configuring a Profile Option

A profile option definition includes information about the owning application and module in the application taxonomy. A start or end date, or both may limit when a profile option is active. The profile option definition may include an SQL validation statement that determines which values are valid, and the hierarchy levels at which the profile option is enabled and updatable.

To be visible to users, a profile option must be user enabled. You can also allow user updates of the profile option, which means users can make changes to the validation and the profile option level information.

Profile option levels specify at which context level profile values may be enabled or updated

Profile options should only be enabled for context levels that are appropriate for that profile option. For example, a profile option indicating a global configuration setting should not be enabled at the user level, if users cannot choose a different value for that setting.

SQL Validation

The SQL validation of the profile option definition determines what valid profile option values are available. In the absence of validation, any value is valid.

For example, SQL validation provides a means of defining a list of values for the valid values of the profile option. The SQL validation can use lookups to provide the valid values for profile options, such as the lookup codes of the YES_NO lookup type.

With a profile option called DEFAULT_LANGUAGE, you can configure the following validation.

```
SELECT DESCRIPTION Language, NLS_LANGUAGE
FROM FND_LANGUAGES_VL
WHERE INSTALLED_FLAG IN ('B','I')
ORDER BY DESCRIPTION
```

This results in the following list of values based on data in FND_LANUGUAGE_VL.

Display Value	Hidden Value
American English	US
French	F
Spanish	E

Hidden values must be varchar2(2000).

Profile options generally provide configuration values within a particular context. Though you can create a profile option to be global, think of global values as default values to avoid storing inappropriate configuration information as profile option values. Create global profile options that have corresponding contextual levels.

Managing Profile Option Categories: Points to Consider

Use profile option categories to group profile options.

Organizing Profile Options in Categories

As a guideline, group profile options in a single category if the profile options affect the same feature, or if an administrator would likely want to see the profile options in the results of a single search.

Application developers are responsible for the initial groupings and then administrators can make changes based on their specific needs. Administrators can categorize profile options and then easily search on profile options by category.

Tip

Define profile option categories first and assign new profile options to existing categories rather than defining profile options first and then defining categories to categorize them.

Adding New Profile Option Categories

You can add new categories or add profiles to an existing category.

You can create a profile option category by duplicating an existing category and editing it for a new grouping of profile options. You can add multiple profile options to a category. A profile option can exist in multiple categories.

Profile Option Order in a Category

Specify a profile option sequence to determine the order of profile options when queried by profile option category.

Viewing and Editing Profile Option Values: Points to Consider

A profile option value consists of the value and the context or level where the value is set. You specify the context with a pairing of the profile option value's level and level value, such as the product level and the level value GL for Oracle Fusion General Ledger. Adding or modifying profile option values can include deciding which valid values are enabled or updatable at which level.

The SQL validation of the profile option definition determines what valid profile option values are available. In the absence of validation, any value is valid.

Profile Option Levels and User Session Context

Site level profile option values affect the way all applications run for a given implementation. Product level profile option values affect the way applications owned by a particular product code behave. For example, a product may use profile options set at the product level to determine how regions provided by a common module such as those available from Oracle Fusion Trading Community Model or Customer Relationship Management (CRM) display in a particular work area or dashboard. User level profile option values affect the way applications run for a specific application user

Whichever profile option value is most specific to a user session, that is the value at which the profile option is set for the user session.

For example, the predefined FND_LANGUAGE profile option sets the default language. In addition to a site level value, you can define a value for various product or user levels.

Level Name	Level Value	Profile Option Value
Site	InFusion	American English
Product	Customer Center	French
Product	CRM Application Composer	American English
User	Application Administrator	American English
User	Hima	Hindi

Values at the site level take effect for any user unless overridden by a different value set at the more specific levels of product and user. Product level profile option values affect the way applications owned by a particular product code behave. In addition to user level profile option values in applications, selections may be available in the user preferences workspace.

The following table demonstrates the FND_LANGUAGE profile option settings that would apply to specific users, based on the example above. For example, the user Hima is using the CRM Application Composer product, in the InFusion site. The example above shows that this profile option is set to Hindi at the user level for Hima. Because user is the highest applicable level for Hima, the applicable profile option value is Hindi for Hima.

Site	Product	User	Highest Available Level	Active Profile Option Value
InFusion	CRM Application Composer	Hima	User	Hindi
Acme	Payables	Application Administrator	User	American English
InFusion	Customer Center	Guillaume	Product	French
InFusion	Payables	Implementation Consultant	Site	American English
Acme	Payables	Implementation Consultant	none	no value

Note

More than one site level value is relevant in an enterprise with multiple tenants using a single instance of Oracle Fusion Applications.

Effect of Changes to Profile Option Values

Any change you make to a user level profile option has an immediate effect on the way applications run for that session. When you sign in again, changes made to your user level profile options in a previous session are still in effect. When you change profile option value at the product level and no user level values are set, you see the update immediately, but other users may not see the changed value until signing out and back in. When you change a profile option value and

the new value affects other users, the change takes effect only when users sign in the next time.

Changes to site level profile options take effect for any user session that is started after the setting has been changed. Changes to site or user level profile options do not affect any user sessions that are already in progress when the change is made.

Changes to site or user level profile options take effect for any C or PL/SQL processes, such as scheduled jobs, that are launched after the setting has been changed. Profile option changes do not affect C or PL/SQL processes that are already running.

Define Flexfields

Flexfields: Overview

Flexfields are a mechanism for configuring and extending applications to meet enterprise-specific needs. Using flexfields, you can extend application objects to capture data that would not otherwise be tracked by the application, or configure intelligent key codes comprised of meaningful parts according to your business practices. Flexfields encapsulate all of the pieces of information related to a specific purpose, such as a key identifying a particular purchase, or the components of a student's contact information, or the features of a product in inventory.

A flexfield is an extensible data field consisting of subfields. Each subfield is a flexfield segment. You configure segments to capture enterprise-specific information. Each segment captures a single atomic value, has a name, and maps to a pre-reserved column in the applications database.

Flexfields allow enterprise requirements to be met without changing the data model. Different data can be captured on the same database table.

Application developers create a flexfield and register it so that it is available for configuration. Administrators and implementation consultants setup or configure segments and other properties of the available flexfields. End users see flexfield segments as attributes of information displayed in the application user interface. They enter a value for the attribute. The value may be selected from a list of valid values or entered as free-form text that complies with formatting rules.

Accessing Flexfields

Manage flexfields using tasks you access by starting in the Setup and Maintenance Overview page.

Tip

Use the **Business Object** parameter to search Application Key Flexfields, Application Descriptive Flexfields, and Application Extensible Flexfields to find all tasks related to flexfields. To manage any flexfield across all Oracle Fusion Applications products, search for the Define Flexfields task list and access the

Manage Descriptive Flexfields, Manage Extensible Flexfields, and Manage Key Flexfields tasks.

For lists of flexfields, see assets with the Flexfield: Descriptive, Flexfield: Extensible, or Flexfield: Key type in Oracle Enterprise Repository for Oracle Fusion Applications (<http://fusionappsoer.oracle.com>).

Types of Flexfields

The following three types of flexfields are available in Oracle Fusion Applications and provide a means to customize applications features without programming.

- Key
- Descriptive
- Extensible

For example, in Oracle Fusion Financials, key flexfields represent objects such as accounting codes and asset categories. Generally, correct operations of a product depend on key flexfield setup. In Oracle Fusion Payables, a descriptive flexfield expands a customizable area of an invoices page by providing subfields for collecting invoice details. You can implement these subfields, which are descriptive flexfield segments, as context sensitive so they appear only when needed. Extensible flexfields are similar to descriptive flexfields, but provide additional advanced features. Generally setup of descriptive and extensible flexfields is optional because their segments capture additional information that is stored attributes on an entity

Segments

All flexfields consist of segments. Segments represent attributes of information. They can appear globally wherever the flexfield is implemented, or based on a structure or context.

You define the appearance and meaning of individual segments when configuring a flexfield.

A key flexfield segment commonly describes a characteristic of the entity identified by the flexfield, such as a part number structured to include information about the type, color, and size of an item. A descriptive flexfield segment represents an attribute of information that describes a characteristic of the entity identified on the application page, such as details about a device containing components, some of which are globally present on the page while others are contextually dependent on the category of the device.

Value Sets

A value set is a predefined, named group of values that can be used to validate the content of a flexfield segment.

You configure a flexfield segment with a value set that establishes the valid values that an end user can enter for the segment. You define the values in a value set, including such characteristics as the length and format of the values. You can specify formatting rules, or specify values from an application table or predefined list. Multiple segments within a flexfield, or multiple flexfields, can share a single value set.

Structure and Context

Key flexfields have structure. Descriptive flexfields and extensible flexfields have context.

Each key flexfield structure is a specific configuration of segments. Adding or removing segments, or rearranging their order, produces a different structure. The database columns on which segments in different structures are based can be reused in as many structures as desired.

Descriptive flexfield segments can be context-sensitive, which means available to an application based on a context rather than globally available wherever the flexfield appears. (which means available to an application based on a context value rather than globally available wherever the flexfield appears. A descriptive flexfield context is a set of context-sensitive segments that store information related to the same context value. You define contexts as part of configuring a descriptive flexfield. End users see global segments, as well as any context-sensitive segments that apply to the selected context value.

Extensible flexfield segments are made available to an application based upon a category value. An extensible flexfield context serves as a container for related segments, used to organize the various segments that are applicable to a category value. You define contexts with context-sensitive segments and associate them to categories as part of configuring an extensible flexfield. End users see the segments displayed in subregions, one for each context associated to the selected category value.

In descriptive flexfields and extensible flexfields, the database columns on which context-sensitive segments are based can be reused in as many contexts as desired.

Deployment

A flexfield must be deployed to display its current definition in a runtime application user interface. For example, if the deployment status is Edited, the flexfield segments may appear in the UI based on the flexfield definition at the time of last deployment, rather than the current definition.

You can deploy a flexfield as a sandbox for testing the configuration before deploying it to the mainline for all users. In the case of extensible flexfields, you can deploy offline as a background process.

Runtime Appearance

In an application user interface, descriptive flexfield segments appear as label and field pairs or as a table of fields where the column headers correspond to the labels. The fields represent the flexfield segments and accept entered input or a selection from a list of choices that correspond to 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.

Use the **Highlight Flexfields** command in the Administration menu of the Setup and Maintenance work area to identify the location of the flexfields on the runtime page. Flexfields in highlight mode display an information icon to access details about the flexfield, and an edit icon to manage the flexfield.

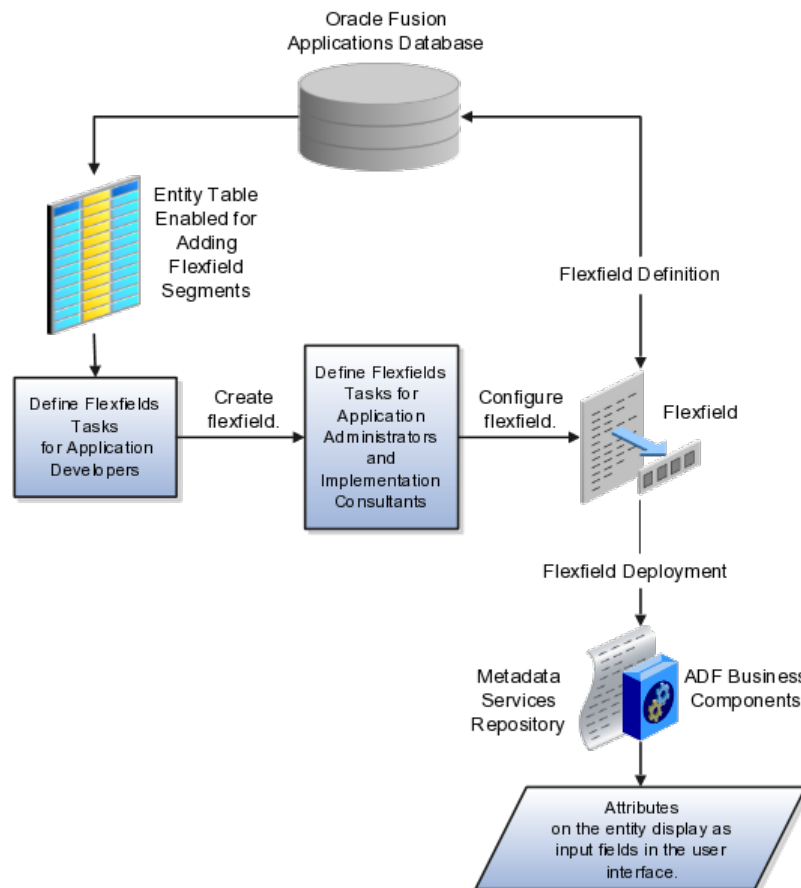
All segments of a single flexfield are grouped together by default. The layout and positions of the flexfield segments depend on where the application developer places the flexfield on the page. Flexfields may also be presented in a separate section of the page, in a table, or on their own page or subwindow.

You can use Oracle Composer to edit the layout, position, or other display features of the flexfield segments.

Flexfields and Oracle Fusion Application Architecture: How They Work Together

Administrators configure flexfield segments to capture data that represents the values of attributes. Flexfield segments represent attributes of entities (business objects). Most business objects are enabled for descriptive flexfields. Some business objects are enabled for extensible flexfields.

The figure shows the layers of a flexfield: the business entity table and metadata in the database, business components that are Application Development Framework (ADF) objects or ADFbc objects derived from the metadata and stored in the Metadata Services Repository (MDS), and the user interface where the input fields defined by the flexfield segments are rendered. The flexfield definition consists of all the metadata defined during configuration and stored in the database.



Application developers create a flexfield and register it so that it is 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.

Integration

A flexfield affects the Web Services Description Language (WSDL) schemas exposed by ADF services and used by SOA composites. The Web services that expose base entity data also expose flexfield segment data.

Attributes incorporate into SOA infrastructure (BPEL, Rules) and integrate with business intelligence (Oracle Business Intelligence, Extended Spread Sheet Database (ESSbase)).

Flexfield configurations are preserved across Oracle Fusion Applications 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 runtime user interface reflects the latest definition of the flexfield in the metadata.

Importing and Exporting

You can export and import flexfields with a deployment status of Deployed or Deployed to Sandbox across instances of Oracle Fusion Applications using the Setup and Maintenance Overview page. Ensure a flexfield is eligible for migration (by verifying that it has successfully deployed) prior to attempting the migration.

Runtime

For a flexfield to reflect the latest flexfield definition at runtime it must be deployed. The user interface accesses a business object and the deployed flexfield definition indicates which business object attributes the flexfield captures values for. If you add display customizations for a flexfield using Oracle Composer, these are customizations on the page so that the same flexfield segments can appear differently on various different pages.

Values entered for segments are validated using value sets.

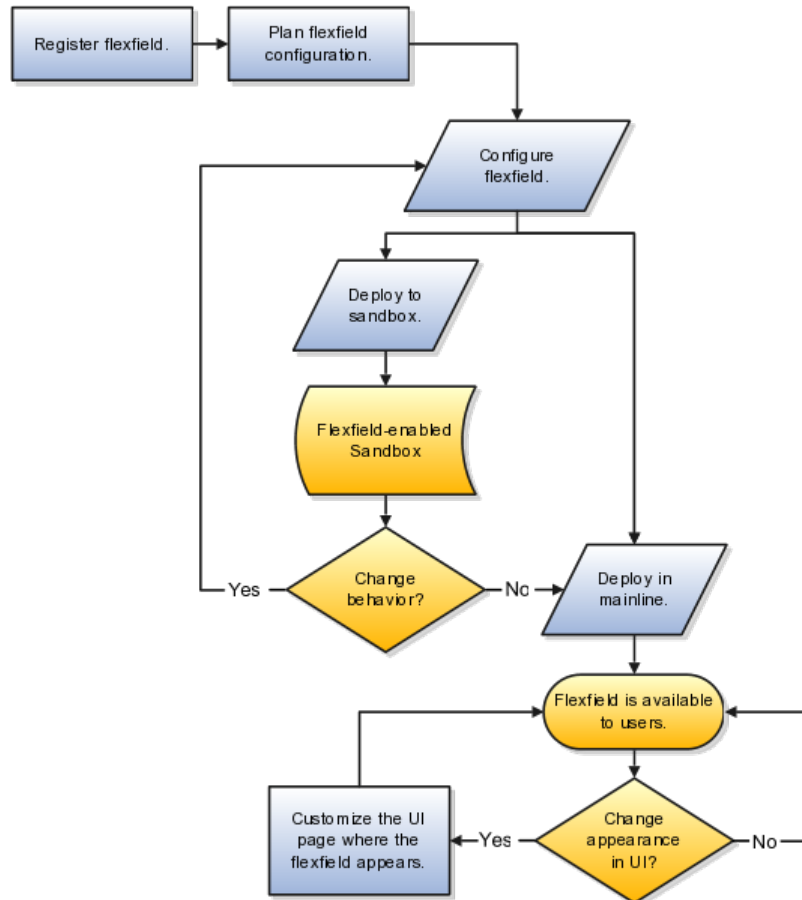
Flexfield Management

Managing Flexfields: Points to Consider

Managing flexfields involves, registering, 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 end users. Optionally, you can customize the UI page to change how the flexfield segments appear to end users on that page.

The figure shows the processes involved in making flexfields available to end users. The tasks in the Define Flexfields activity allow administrators to configure and deploy flexfields. If you deploy a flexfield to a sandbox and decide not to make further changes, you select the flexfield in the Manage Flexfields tasks of the Define Flexfields activity and deploy the flexfield in the mainline so it is available to users.



Registering Flexfields

Application development registers flexfields so they are available to administrators and implementation consultants for configuration.

Application development creates the capacity of database tables to support flexfields so an enterprise can capture specific information about an entity. Many flexfields are predefined in Oracle Fusion Applications.

A flexfield must be registered before it can be configured.

For more information on registering flexfields, see Oracle Fusion Applications: Developer's Guide.

Planning Flexfields

All flexfields consist of segments which represent attributes of an entity. The values an end user inputs for an attribute are stored in a column of the entity

table. Application development enables columns of entity tables for use in flexfields during flexfield registration.

A flexfield must be registered before it can be configured. Before configuring new flexfield segments for your enterprise, be sure to plan their implementation carefully.

For more information on planning flexfield configuration, see Oracle Fusion Applications Extensibility Guide.

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.

Configuring a flexfield includes the following.

- Defining value sets against which the values entered by end users are validated
- Defining the structure or context of the segments in the flexfield
- Specifying the 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

As a flexfield guideline, define value sets before configuring the flexfield, because you assign value sets to each segment as you configure a flexfield.

Some descriptive flexfields provide parameters that are attributes of the same or related entity objects. 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.

Note

Adding segments to represent additional attributes is considered a custom task. For more information, see the Oracle Fusion Applications Extensibility Guide.

For more information on adding columns to a table, see the Oracle Fusion Applications Developer's Guide.

For more information on configuring flexfields for custom attributes, see also the Oracle Fusion Applications Extensibility Guide.

Enabling a Flexfield Segment for Business Intelligence

You can enable key flexfield segment instances and descriptive flexfield segments for business intelligence if the flexfield is registered in the database

as an Oracle Business Intelligence-enabled flexfield. For more information on enabling segments for business intelligence, see points to consider when enabling key and descriptive flexfield segments for business intelligence.

Deploying Flexfields

After you configure or change a flexfield, you must deploy it to make the latest definition available to end users.

You deploy a flexfield in the mainline for general use in a test or production environment, or you can deploy a flexfield as a flexfield-enabled sandbox to confirm that it is correctly configured before deploying it to the mainline.

Deploying a flexfield results in a deployment status. Once deployed, the deployment status indicates the state of the currently configured flexfield relative to the last deployed definition

Optionally Changing How Flexfield Segments Appear in a User Interface Page

The flexfield attributes 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.

You can customize the appearance of the flexfield segments in the UI page using Oracle Composer once the flexfield is deployed to the mainline.

For more information on customizing flexfield appearance with Oracle Composer, see guidance on customizing existing pages in Oracle Fusion Applications Extensibility Guide.

For more information on planning flexfields or customizing them beyond the configuration possible in the Define Flexfields tasks, see Oracle Fusion Applications Extensibility Guide.

For more information on creating flexfields and adding them to a UI page, see Oracle Fusion Applications Developer's Guide.

Identifying Flexfields on a Runtime Page

The **Highlight Flexfields** command in the Administration menu of the Setup and Maintenance work area identifies the location of descriptive and key flexfields on the runtime page by displaying an information icon for accessing details about each flexfield.

Even if a flexfield has not yet been deployed and does not appear on the runtime page in normal view, it appears in the Highlight Flexfield view for that page. **Highlight Flexfields** accesses the current flexfield metadata definition.

Use the highlighted flexfield's edit icon to manage the descriptive or key flexfield directly. Alternatively, note a highlighted flexfield's name to search for it in the tasks for managing flexfields.

Flexfield Segment Properties: Explained

Independent of the value set assigned to a segment, segments may have properties such as validation.

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, so the order date must be on or before the ship date, and consequently 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 the same data type.
- Both segments must be part of the same structure in a key flexfield or part of the same context in a descriptive flexfield or extensible flexfield.
- The low value segment must have a lower sequence number than the high value segment.
- Non-range validated segments can exist between a range validated pair, but range validated pairs cannot 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 encounter a low value segment first, and the next range validated segment it encounters 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.

Code Naming Conventions

When entering codes such as segment code, enter a code consisting of the characters A-Z, a-z, 0-9, with a non-numeric leading character.

The code is used in the flexfield's element in the XML schema for web services. You can maximize the readability of the schema by naming codes with a leading alphabetic character followed by alphanumeric characters. The use of spaces, underscores, multi-byte characters, and leading numeric characters, which are all encoded in XML schemas, make the codes in the schema element difficult to read.

This applies to context code in descriptive and extensible flexfields, and to structure instance code in key flexfields.

Flexfields and Value Sets: How They Work Together

Value sets are specific to your enterprise. When gathering information using flexfields, your enterprise's value sets validate the values 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.

Defining and Assigning Value Sets

As a flexfield guideline, define value sets before configuring the flexfield, because you assign value sets to each segment as you configure a flexfield.

Caution

Be sure changes to a shared value set are compatible with all flexfield segments using 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 values 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.

Deployment

When you deploy a flexfield, the value sets assigned to the segments of the flexfield provide end users with the valid values for the attributes represented by the segments.

Defaulting and Deriving Segment Values: Explained

To populate a flexfield segment with a default value when a row is created, specify a default type of constant or parameter and a default value.

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 defaulting or deriving a default value from a parameter, only those attributes designated by development as parameters are available to be chosen.

Different combinations of making the segments read only or editable in combination with the default or derivation value or both, have different effects.

Initial runtime behavior corresponds to the row for the attribute value being created in the entity table. If the default value is read only, it cannot subsequently be changed through the user interface. If the default value is not 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 runtime behavior	Runtime behavior after parameter changes
None	No	Yes	No initial segment value	Changed parameter derivation value updates segment value
Constant	Yes	No	Default segment value	N/A
Constant	Yes	Yes	Default segment value	Changed parameter derivation value updates segment value
Parameter	Yes	No	Default segment value is the parameter's default value	N/A
Parameter	Yes	Yes, and same as default value	Default segment value is parameter's default and derivation value	Changed parameter derivation value updates segment value
Parameter	Yes	Yes, and different from default value	Default segment value is parameter's default value	Changed parameter default value does not update segment value. Only the changed derivation value updates the segment value.

Flexfield Usages: Explained

Usage affects various aspects of flexfields. The usage of the flexfield is set when the flexfield is registered and specifies the application and table with which the flexfield is associated.

Entity usage indicates the table containing the segments of a flexfield.

A flexfield can have multiple usages. The first table registered for a flexfield is the master usage. Segments are based on the master usage, and other usages of the same table for the same flexfield use the same segment setup, though the column names optionally may have a differentiating prefix.

Extensible Flexfields

You can configure different behavior for extensible flexfield contexts at the usage level. The usage of an extensible flexfield context determines in which scenarios or user interfaces the segments of a context appear to end users. For example, if a Supplier page displays an extensible flexfield's supplier usage and a buyer page displays that same extensible flexfield's buyer usage, a context that is associated to the supplier usage but not the buyer usage displays only on the supplier page and not the buyer page.

Value Sets

The usage of value sets specifies the segments where the value set is assigned.

Flexfield Deployment

Flexfield Deployment: Explained

To use a flexfield at runtime, the flexfield must have been deployed at least once. Deployment generates or refreshes the Application Development Framework (ADF) business component objects that render the flexfield in a user interface. Flexfields are deployed for the first time during the application provisioning process.

After you configure or change a flexfield, you must deploy it to make the latest definition available to end users. You can deploy a flexfield to a sandbox for testing or to the mainline for use. In the case of extensible flexfields, you can deploy offline as a background process.

Deployment Status

Every flexfield has a deployment status.

A flexfield can have the following deployment statuses.

Deployment Status	Meaning
Edited	The flexfield metadata definition has not been deployed yet. Updates of the metadata definition are not applied in the runtime environment yet.
Patched	The flexfield metadata definition has been modified through a patch or through a data migration action, but the flexfield has not yet been deployed so the updated definition is not reflected in the runtime environment.
Deployed to Sandbox	The current metadata for the flexfield is deployed in ADF artifacts and available as a flexfield-enabled sandbox. The status of the sandbox is managed by the Manage Sandboxes task available to the Administrator menu of the Setup and Maintenance work area.
Deployed	The current metadata for the flexfield is deployed in ADF artifacts and available to end users. There have not been any changes to the flexfield since it was last deployed in the mainline.
Error	The deployment attempt in the mainline 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 Applications installation loads flexfield metadata into the database. This initial load sets the flexfield status to Edited to indicate that the flexfield has not been deployed yet. The application provisioning process during installation deploys the predefined flexfields of the provisioned applications, which sets their status to Deployed if no errors are encountered.

When accessing a provisioned application, deployed flexfields are ready to use. In some cases, flexfield availability at runtime 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. Errors in the metadata validation phase of deployment cause the deployment attempt to abort. Metadata validation results do not affect the deployment status of a flexfield.

Flexfield Deployment Status: How It Is Calculated

Flexfield deployment status indicates how the flexfield metadata definition in the Oracle Fusion Applications database relates to the Application Development Framework (ADF) business components generated into a Metadata Services (MDS) repository.

Settings That Affect Flexfield Deployment Status

If you have made a change to a flexfield and expect a changed deployment status, be sure you have saved your changes. No settings affect flexfield deployment status.

How Flexfield 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 in the Oracle Fusion application 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 Oracle Fusion application

matches the metadata definition that generated ADF business components in a sandbox MDS repository. Whether the sandbox is active or not does not affect the deployment status. If the flexfield was deployed to a sandbox and has not been edited or re-deployed to the mainline since then, the status remains Deployed to Sandbox independent of whether the sandbox is active, or who is viewing the status.

If you deploy the flexfield successfully, meaning to the mainline, the status is Deployed. The latest flexfield metadata definition in the Oracle Fusion 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.

If either type of deployment fails so the current flexfield definition is not deployed, the status is Error. The deployment error message gives details about the error. The latest flexfield metadata definition in the Oracle Fusion 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 Oracle Fusion 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 will remain at Edited to reflect that there are still changes (outside of the patch) that are not yet in effect.

When a deployment attempt fails and you can access the Deployment Error Message for details.

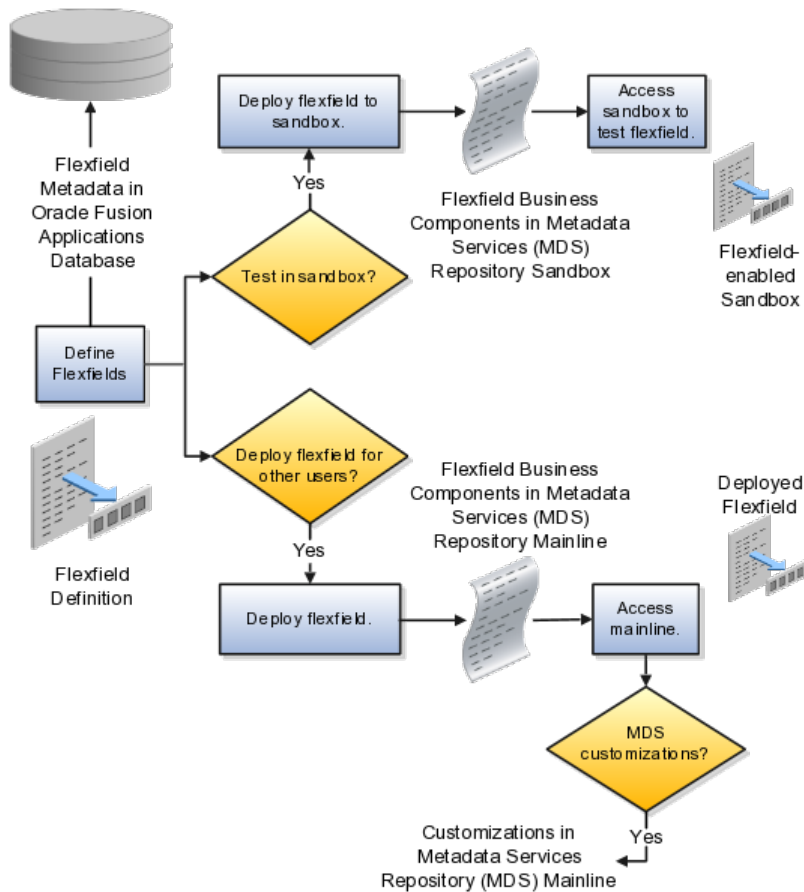
Deploying a Flexfield-Enabled Sandbox: How It Works With Mainline Metadata

The flexfield definition in a sandbox corresponds to the flexfield metadata definition in the Oracle Fusion Applications database at the time the flexfield was deployed to the sandbox. When the flexfield is ready for end users, the flexfield must be deployed to the mainline.

A flexfield-enabled sandbox uses the following components.

- Flexfield metadata in the Oracle Fusion Applications database
- Flexfield business components in a sandbox Metadata Services (MDS) repository
- User interface customizations for the flexfield in the mainline MDS repository

The figure shows the two types of deployment available in the Manage Flexfield tasks of the Define Flexfields activity. Deploying a flexfield to a sandbox creates a sandbox MDS repository for the sole purpose of testing flexfield behavior. The sandbox is only accessible to the administrator who activates and accesses it, not to users generally. Deploying a flexfield to the mainline applies the flexfield definition to the mainline MDS repository where it is available to end users. After deploying the flexfield to the mainline, customize the page where the flexfield segments appear. Customization of the page in the sandbox MDS repository cannot be published to 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.

Warning

Do not make changes to flexfield segment display features in a flexfield-enabled sandbox as these changes will be lost when deploying the flexfield to the mainline.

Mainline Metadata Services Repository Data

The Oracle Fusion Applications database stores the single source of truth about a flexfield. From this the ADF business component objects that implement the flexfield in the runtime user interface are generated in the mainline MDS repository when the flexfield is deployed.

Deploying a Flexfield-Enabled Sandbox: Points to Consider

Deploying a flexfield to a sandbox creates a flexfield-enabled sandbox . Each flexfield-enabled sandbox contains only one flexfield.

You can test the runtime behavior of a flexfield in the flexfield-enabled sandbox. If changes are needed, return to the Define Flexfield tasks to change the flexfield definition.

When you deploy a flexfield to sandbox, the process reads the metadata about the segments from the database, generates flexfield Application Development Framework (ADF) business component artifacts based on that definition, and stores in the sandbox only the generated artifacts derived from the definition.

Sandbox MDS Repository Data

The sandbox data allows you to test the flexfield in isolation without first deploying it in the mainline where it could be accessed by users.

Warning

Do not make changes to flexfield segment display features in a flexfield-enabled sandbox as these changes will be lost when deploying the flexfield to the mainline.

Managing a Flexfield-Enabled Sandbox

When you deploy a flexfield as a sandbox, that flexfield-enabled sandbox automatically gets activated in your user session. When you sign back in to see the changes, the sandbox is active in your session.

You can only deploy a flexfield to a sandbox using the Define Flexfields task flow pages.

You also can use the Manage Sandboxes feature in the Administration menu of the Setup and Maintenance work area to activate, access, or delete a flexfield-enabled sandbox.

Note

Whether you use the Define Flexfields or Manage Sandboxes task flows to access a flexfield-enabled sandbox, you must sign out and sign back in before you can see the changes you deployed in the runtime.

You cannot publish the flexfield from the sandbox to the mainline. You must use the Define Flexfields task flow pages to deploy the flexfield for access by users of the mainline because the flexfield configuration in the mainline is the single source of truth.

Deploying Flexfields Using the Command Line: Explained

You can use the Manage Key Flexfields, Manage Descriptive Flexfields, and Manage Extensible Flexfields tasks to deploy flexfields. You can also use WebLogic Server Tool (WLST) commands for priming the Metadata Services (MDS) repository with predefined flexfield artifacts and for deploying flexfields.

The table describes the available commands.

WebLogic Server Tool Command	Description
<code>deployFlexForApp</code>	Deploys all flexfields for the specified enterprise application. Only flexfields whose status is other than deployed are affected by this command unless the option is enabled to force all flexfields to be deployed regardless of deployment status. Initial application provisioning runs this command to prime the MDS repository with flexfield artifacts.
<code>deployFlex</code>	Deploy a single flexfield regardless of deployment status
<code>deployPatchedFlex</code>	Deploys flexfield changes that have been delivered using a flexfield Seed Data Framework (SDF) patch. Deploys flexfields that have a Patched deployment status.
<code>deleteFlexPatchingLabels</code>	Displays MDS label of flexfield changes for viewing and deleting patching labels.

Executing these commands outputs a report at the command line. The report provides the following information for every flexfield that is processed.

- Application identity (APPID)
- Flexfield code
- Deployment result, such as success or error

In case of errors, the report lists the usages for which the errors were encountered. If a runtime exception occurs, the output displays the traceback information. For each WLST flexfield command, adding the `reportFormat='xml'` argument returns the report as an XML string.

Consider the following aspects of command line deployment.

- Preparing to use the WLST flexfield commands
- Using the `deployFlexForApp` command
- Using the `deployFlex` command
- Using the `deployPatchedFlex` command
- Using the `deleteFlexPatchingLabels` command
- Exiting the WLST and checking the results

Preparing To Use the WLST Flexfield Commands

You can only execute the WLST flexfield commands on a WebLogic Administration Server for a domain that has a running instance of the Oracle Fusion Middleware Extensions for Applications (Applications Core) Setup application.

For more information on deploying the Applications Core Setup application, see the Oracle Fusion Applications Developer's Guide.

Ensure that the AppMasterDB data source is registered as a JDBC data source with the WebLogic Administration Server and points to the same database as the ApplicationDB data source.

Start the WebLogic Server Tool (WLST) tool, if it is not currently running.

UNIX:

```
sh $JDEV_HOME/oracle_common/common/bin/wlst.sh
```

Windows:

```
wlst.cmd
```

Connect to the server, replacing the user name and password arguments with your WebLogic Server user name and password.

```
connect('wls_username', 'wls_password', 'wls_uri')
```

The values must be wrapped in single-quotes. The `wls_uri` value is typically `T3://localhost:7101`.

For more information on the WLST scripting tool, see the Oracle Fusion Middleware Oracle WebLogic Scripting Tool.

Using the `deployFlexForApp` Command

The `deployFlexForApp` command translates the product application's predefined flexfield metadata into artifacts in the MDS repository.

Important

This command is run automatically when you provision applications. However, after custom applications development, you must run the `deployFlexForApp` command after you configure your application to read the flexfield artifacts from the MDS repository and before you log into the application for the first time, even if there is no predefined flexfield metadata.

This command does not deploy flexfields that have a status of Deployed unless the `force` parameter is set to `'true'` (the default setting is `'false'`).

For more information on priming the MDS partition with configured flexfield artifacts, see the Oracle Fusion Applications Developer's Guide.

From the WLST tool, execute the following commands to deploy the artifacts to the MDS partition, replacing `product_application_shortcode` with the application's short name wrapped in single-quotes.

```
deployFlexForApp('product_application_shortcode'[, 'enterprise_id']  
[, 'force'])
```

In a multi-tenant environment, replace `enterprise_id` with the Enterprise ID to which the flexfield is mapped. Otherwise, replace with `'None'` or do not provide a second argument.

To deploy all flexfields regardless of their deployment status, set `force` to `'true'` (the default setting is `'false'`). If you want to deploy all flexfields in a single-tenant environment, you either can set `enterprise_id` to `'None'`, or you can use the following signature:

```
deployFlexForApp(applicationShortName='product_application_shortname',force='true')
```

Tip

The application's short name is the same as the application's module name.

For more information about working with application taxonomy, see the Oracle Fusion Applications Developer's Guide.

Using the deployFlex Command

From the WLST tool, execute the following command to deploy a flexfield, replacing `flex_code` with the code that identifies the flexfield, and replacing `flex_type` with the flexfield's type, which is either DFF, KFF, or EFF.

```
deployFlex('flex_code', 'flex_type')
```

The values must be wrapped in single-quotes.

Using the deployPatchedFlex Command

Use the `deployPatchedFlex` command for situations where the patching framework does not invoke the command, such as when an application has been patched offline.

If the installation is multi-tenant enabled, the command deploys all patched flexfields for all enterprises. This command is not intended to be invoked manually.

Check with your provisioning or patching team, or the task flows for managing flexfields, to verify that the flexfield has a Patched deployment status.

From the WLST tool, execute the following command to deploy the artifacts to the MDS partition of all flexfields that have a READY status.

```
deployPatchedFlex()
```

Execute the following command to deploy all flexfields that have either a READY status or an ERROR status.

```
deployPatchedFlex(mode='RETRY')
```

Using the deleteFlexPatchingLabels Command

Whenever you deploy flexfield changes to MDS using the `deployPatchedFlex()` WLST command, an MDS label is created in the format `FlexPatchingWatermarkdate+time`. Use the `deleteFlexPatchingLabels` command to inquire about and delete these labels.

From the WLST tool, execute the `deployPatchedFlex()` command with no arguments to delete the flexfield patching labels.

To output a list of flexfield patching labels, execute the command with the `infoOnly` argument, as follows:

```
deleteFlexPatchingLabels(infoOnly='true')
```

Exiting the WLST and Checking the Results

To exit the tool, execute the following command.

disconnect ()

Optionally, sign into the application, access user interface pages that contain flexfields, and confirm the presence of flexfields for which configuration exists, such as value sets, segments, context, or structures.

Manage Value Sets

Value Sets: Explained

A value set is a set of valid values that you assign to a flexfield segment.

An end user enters a value into a flexfield segment while using the application. The flexfield validates the segment 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.

Caution

Be sure changes to a shared value set are compatible with all flexfields segments using the value set.

Defining value sets involves making decisions about the following.

- Validation
- Security
- Precision and scale
- Usage and deployment

Validation

The following types of validation are available for value sets.

- Format only, where end users enter data rather than 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 does not present a list of valid values to users.

You can build a tree structure from the values in an independent value set whose data type is character.

Note

Adding table validated value sets to the list of available value sets available for configuration is considered a custom task.

For more information, see the Oracle Fusion Applications Extensibility Guide.

Security

Value set security only works in conjunction with usage within flexfield segments. If a value set is used standalone, meaning outside a flexfield, value set security is not applied, but Oracle Fusion data security is enforced.

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 end users can view or modify.

Value set security applies at the value set level. If a value set is secured, every usage of it in any flexfield is secured. It is not possible to disable security for individual usages of the same value set.

Value set security applies to independent, dependent, or table-validated value sets.

Value set security applies mainly when data is being created or updated, and to key flexfield combinations tables for query purposes. Value set security does not 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 that correspond to the code combination ID (CCID), structure instance number (SIN), and data set number (DSN) cannot be transient. They must exist in the database table. For key flexfields, the SIN segment is the discriminator attribute, and the CCID segment is the common attribute.

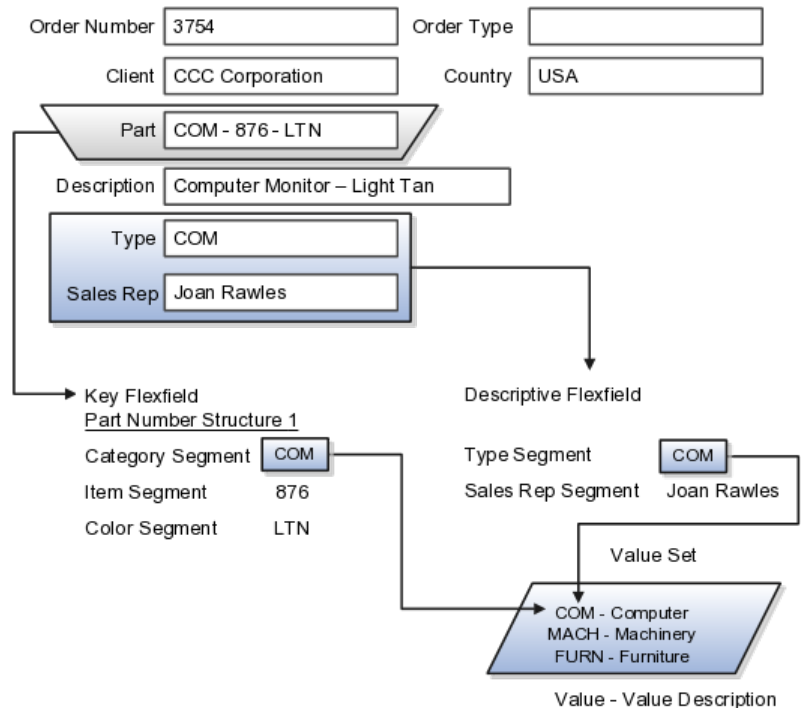
Precision and Scale

For a value set with the data type 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.

The figure shows a value set used by a segment in a key flexfield and the context segment of a descriptive flexfield.



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.

Defining Value Sets: Critical Choices

Validation and usage of value sets determine where and how end users access valid values for attributes represented by flexfield segments.

Tip

As a flexfield guideline, define value sets before configuring the flexfield, because you assign value sets to each segment as you configure a flexfield.

Value Sets for Context Segments

When assigning a value set to a context segment, you can only use table-validated or independent value sets. The data type must be character and the maximum length of the values being stored must not be larger than column length of the context.

Format Only Validation

The format only validation type enables end users to enter any value, as long as it meets your specified formatting rules. That is, the value must not exceed

the maximum length you define for your value set, and it must meet any format requirements for that value set.

For example, if the value set allows only numeric characters, your user could enter the value 456 (for a value set with maximum length of three or more), but could not enter the value ABC. A format only value set does not otherwise restrict the range of different values that users can enter. For numeric values, you can also specify if a numeric value should be zero filled or how many digits should follow the radix separator

Interdependent Value Sets

You cannot 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. You use a dependent value set to limit the list of values for a given segment based on the value that the end user has chosen 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 U.S. states with values such as CA, NY, and so on. Then you define a dependent value set of U.S. cities, with values such as San Francisco and Los Angeles that are valid for the independent value CA, and New York City and Albany that 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. End users do not need to choose a value for another segment first to have access to the subset value set.

Table Validation

Typically, you use a table-validated set when the values you want to use are already maintained in an application table (for example, a table of vendor names). Table validation allows you to enable a segment to depend upon multiple prior segments in the same context or structure.

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 does not have bind variables. If it has bind variables, the assumption is that the values are unique in the value set.

Range

In the case of format, independent, or dependent value sets, you can specify a range to further 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. If you use a table value set, you cannot reference flexfield segments in the WHERE clause

of the value set . For example, the WHERE clause cannot reference a segment or a value set.

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 end users can view or modify.

When you enable security on a table-validated value sets, the security rule that is 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 should not assume anything about the bind variables; it must assume the whole list of values is available and write the rule, for example, to allow x, or to allow y and z. By default in data security all values are denied, and show only rows to which access has been provided.

Maintenance

There is no need to define or maintain values for a table-validated or subset value set, as the values are managed as part of the referenced table or independent value set, respectively.

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 does not require you to provide translated values now, but you cannot change this option if you decide to provide them later.

For more information about defining value sets, see the Oracle Fusion Applications Extensibility Guide.

Manage Descriptive Flexfields

Descriptive Flexfields: Explained

Descriptive flexfields provide a way to add custom attributes to entities, and define validation and display properties for them. These attributes are generally standalone. They don't necessarily have anything to do with each other and are not treated together as a combination.

All Oracle Fusion Applications business entities that you can access are enabled for descriptive flexfields. Descriptive flexfields are optional. You can choose to configure and expose segments for the descriptive flexfield defined and registered in your database, or not. For lists of descriptive flexfields, see assets with the Flexfield: Descriptive type in Oracle Enterprise Repository for Oracle Fusion Applications (<http://fusionappsoer.oracle.com>).

A descriptive flexfield provides a set amount of segments for an entity. The segments of a descriptive flexfield are made available to end users as individual fields in the application user interface.

Context

A descriptive flexfield can have only one context segment to provide context sensitivity.

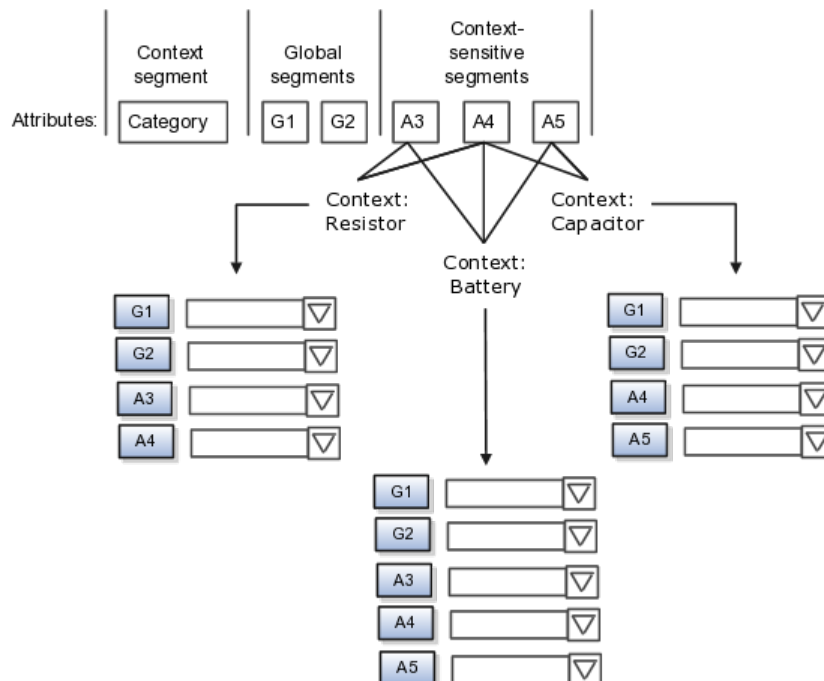
The same underlying column can be used by different segments in different contexts. For example, you can define a Dimensions context that uses the ATTRIBUTE1 column for height, the ATTRIBUTE2 column for width, and the ATTRIBUTE3 column for depth. You can also define a Measurements context that uses the same columns for other attributes: the ATTRIBUTE1 column for weight, the ATTRIBUTE2 column for volume, and the ATTRIBUTE3 column for density.

Segments and Contexts

Descriptive flexfield segments are of the following types.

Segment Type	Runtime Behavior
Global segment	Always available
Context segment	Determines which context-sensitive segments are displayed
Context-sensitive segment	Displayed depending on the value of the context segment

In the figure, a descriptive flexfield has one context segment called Category for which there are three values: Resistor, Battery, and Capacitor. In addition, the descriptive flexfield consists of two global segments that appear in each of the contexts, and three context-sensitive segments that only appear in the context in which they are configured.



Application development determines the number of segments available for configuring. During implementation you determine which attributes to add using the available segments, and the context values and the combination of attributes in each context. A segment can be used for different attributes, such as Height in Context1 and Color in Context2. Each segment of a descriptive flexfield that you make available to end users is exposed in the user interface as an individual field.

Value Sets

For each global and context-sensitive segment, you configure the values allowed for the segment and how the values that end users enter are validated, including interdependent validation among the segments.

Managing Descriptive Flexfields: Points to Consider

Configuring descriptive flexfields involves managing the available flexfields registered with your Oracle Fusion 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.

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 cannot enter a number for one segment that is already in use for a different segment.

Value sets are optional for context segments. The value set that you specify for a context segment consists of a set of context codes, each of which corresponds to a context that is appropriate for the descriptive flexfield. If you do not 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 cannot 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 are configured on application pages that use most of the same properties.

Usages

Descriptive flexfield usages allow for the same definition to be applied to multiple entities. Descriptive flexfield tables define the placeholder entity where the flexfield segment values are stored once you have configured the descriptive flexfield.

Parameters

Parameters are public arguments to a descriptive flexfield. Parameters provide outside values in descriptive flexfield validation. Parameters can be referenced by the logic that derives the default segment value and in 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.

Enabling Descriptive Flexfield Segments for Business Intelligence: Points to Consider

A descriptive flexfield that is registered in the database as enabled for Oracle Business Intelligence (BI) includes a BI Enabled setting for each of its segments. When a global, context, or context-sensitive segment is BI-enabled, it is available for use in Oracle Business Intelligence.

The following aspects are important in understanding BI-enabled flexfield segments.

- Flattening business components to use BI-enabled segments in Oracle BI.
- Equalizing context-sensitive segments to prevent duplication and complexity in the flattened components
- 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, import the flexfield changes into the Oracle Business Intelligence repository to make use of the newly-generated attributes in business intelligence applications. For additional information about import, refer to the Oracle Fusion Middleware Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition (Oracle Fusion Applications Edition).

Flattening

When you deploy a business intelligence-enabled descriptive flexfield, the deployment process generates an additional set of flattened business components for use in Oracle BI. The flattened business components include attributes for business intelligence-enabled segments only.

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, if you assigned a label to the segment, the flattened components include an additional single attribute representing segments with that label. If you did not assign a label, the flattened components include a discrete attribute for each BI-enabled context-sensitive segment in each context.

Equalization

You can prevent duplication and the extra workload and complexity that result from the flattening process by assigning a label to any set of context-sensitive segments that serve the same purpose in different contexts. BI-enabled context-sensitive segments that have labels are equalized so that the flattened business components include one attribute for each label, consolidated across contexts. Non-labeled context-sensitive segments are not equalized across context values, so the flattened components include a separate attribute for each context-sensitive segment for each context value.

Note

It may not be possible to equalize similarly labeled segments if they have incompatible data types or value set types.

Mapping to Logical Objects in Business Intelligence

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 does not 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 cannot be equalized across context values. The flattened components include a separate attribute for each non-labeled context-sensitive segment in each context.

Manage Extensible Flexfields

Extensible Flexfields: Explained

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 are not dependent on the number of segments 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 contexts in groups so 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.
- You can specify view and edit privileges for the extensible flexfield segments to control who sees the attributes and who can change the attribute's 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 does not differ by context value.

An extensible flexfield describes an application entity, with the runtime 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.

For lists of extensible flexfields, see assets with the Flexfield: Extensible type in Oracle Enterprise Repository for Oracle Fusion Applications (<http://fusionappsoer.oracle.com>)

Usages

As with 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.

Categories

Extensible flexfields support multiple contexts, and the contexts can be grouped into categories. Every extensible flexfields has at least one category, or root

category, and some extensible flexfields support a hierarchy of categories, where a given category can inherit contexts from its parent categories.

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 allow you to 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.

Managing Extensible Flexfields: Points to Consider

Configuring extensible flexfields involves managing the available flexfields registered with your application database and configuring their flexfield-level properties, defining contexts, categories, and pages, and configuring the segments for each extensible flexfield.

Contexts

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 chapter segment and a number of pages segment. Multiple chapters can then be associated with each book in the BOOK table.

Set the context to translatable so 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 utilize format-only value sets for storing free-form, user-entered text.

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 using the Deploy Offline command.

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 under 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; 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. You can think of category hierarchies as the 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 a variety of different 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 pages, which serve to connect the contexts so they will always be presented together 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.

Indexed Segments

You can designate an extensible flexfield segment as indexed so that it is one of the selectively required attributes an end 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. This is commonly done by a database administrator (DBA).

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, an end user can search an item catalog for computers by entering processor or memory or both as a

search criterion. No search is performed if an end user enters an attribute as search criteria that is not indexed.

Offline Deployment

You can deploy extensible flexfields offline as a background process using the Deploy Offline command in the Manage Extensible Flexfields task, and continue working in the session without having to wait for the deployment to complete. Deploy Offline enables adding one after another extensible flexfield to your deployment queue. For extensible flexfields with more than 30 categories you must use Deploy Offline.

You can remove an extensible flexfield from the deployment queue with the Cancel Offline command.

When an extensible flexfield is deployed offline, its offline status indicates that the flexfield is in an offline deployment process. The Offline Status column refreshes when you perform a new search in the Manage Extensible Flexfields task. A flexfield's offline status is cleared and its deployment status updated when the offline deployment process has completed.

Manage Key Flexfields

Key Flexfields: Explained

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 vendor #450 sold by division #10 (office supplies). Behind the scenes, the application uses a unique number, 13452, for this part, but the end user always see the 10-PEN-BLA-450 part number.

The following aspects are important to understanding key flexfields.

- Architecture
- Segments and segment labels
- Structures
- Segment and structure instances
- Combinations
- Dynamic combination creation
- Security

Key flexfields are not 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.

For lists of key flexfields, see assets with the Flexfield: Key type in Oracle Enterprise Repository for Oracle Fusion Applications (<http://fusionappsoer.oracle.com>).

Architecture

When you configure a key flexfield, you define metadata about the key flexfield such as how many segments are in a structure, how many structures the flexfield uses, what value sets each segment uses, and so on. This is flexfield metadata stored in flexfield metadata tables.

Based on the flexfield metadata, actual part numbers are captured at runtime as a combination of segment values and stored in a combinations table. A combinations table contains all the segment columns for a flexfield, plus a unique ID column and a structure instance number column that differentiates multiple arrangements of the segment columns.

For example, a part number that can be comprised of multiple segments can be represented by a key flexfield. A part number key flexfield has a corresponding 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 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 combination 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 and so on. Any number of foreign key tables can reference a particular entity represented by a key flexfield.

Segments and Segment Labels

A key flexfield consists of segments. Segments consist of a prompt, a short prompt, display width, a number that determines where in the sequence of a key flexfield structure the segment exists, the range type and the column name of the attribute being captured by the segment, a default value set and a label for the segment. A segment label identifies a particular segment of a key flexfield. Segment labels are defined and made available by applications development.

Applications identify a particular segment for some purpose such as security or computations. Segment name or segment order cannot reliably identify a segment because key flexfield segments can be configured to appear in any order with any prompts. A segment label functions as a tag for a segment.

For example, Oracle Fusion General Ledger needs to identify which segment in the Accounting Flexfield contains balancing information and which segment contains natural account information. General Ledger uses a segment label to determine which segment you are using for natural account information. When you define your Accounting Flexfield, you must specify which segment label apply to which segments.

Some labels must be unique, and cannot 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.

A segment label orients an end user's search of segments, such as the Cost Center label for all segments across key flexfields that capture a value for cost center.

Structures

A key flexfield structure definition includes the number of segments and their order.

In some applications, different users need 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 end users based on a data condition in your application data, such as the value of another field entered by the end 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 end 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. If you want to store a particular segment, such as Cost Center, in two different structures, you must define the segment separately in each structures.

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 allowable values or value sets that validate the segments.

Structure and Segment Instances

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 has been registered with a tree structure, you can specify a tree code for a segment instance, where the tree code defines a hierarchical relationship between the segment values.

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 had ten parts you would define ten combinations. A valid combination is simply an existing or new combination that can currently be used because it is not out of date or disabled, and does not 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 Oracle Fusion Applications products refer to a key flexfield combination by using the name of the entity or the key flexfield itself. For example, Oracle

Fusion Assets uses the asset key flexfield and refers to one of its combinations as an asset key or asset key flexfield. In another example, other Oracle Fusion Applications products including Oracle Fusion General Ledger (GL) refer 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 (a code combination ID number or CCID) 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 allows you to 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. The combinations page is where you maintain individual combinations, such as part numbers.

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.

Dynamic combination creation may be enabled at the following levels.

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 do not 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 code combination for an account that does not 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 is not the underlying table for the foreign key page.

Managing Key Flexfields: Points to Consider

Consider the plans for a key flexfield, security, and resulting runtime pages when configuring key flexfields.

Planning

Plan structures carefully and allow for future needs.

Caution

Do not 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 end 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.

Tip

Choose the delimiter value of your key flexfield carefully so that it does not conflict with the flexfield data. For example, if your data frequently contains periods, such as in monetary or numeric values, do not use a period as your segment separator. Any character you expect to appear frequently in your segment values or descriptions is not 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 Fusion 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 combination table, data security allows 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.

Runtime 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 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 page 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 allows manipulating rows containing code combination IDs (CCID).

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, it is possible that only part of the configuration is visible. This allows the key flexfield to behave more like a descriptive flexfield.

A code combination maintenance page or combinations page presents the combinations table. This allows directly creating and maintaining code combinations. The combinations table contains all key flexfield segment columns and a unique ID column.

A typical application has one and only one combinations page. An application might not have a combinations page if it does not support maintenance by administrators.

A page containing a search region enables end 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, end 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, end 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 as a picker for choosing combinations.

For more information on key flexfield pages, see the Oracle Fusion Applications Developer's Guide.

Key Flexfield Structures: Explained

A key flexfield structure arranges the segments of a key so you can reuse a single key flexfield in multiple combinations of the same or a subset of 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.

Restriction

Be sure to add segments in the order that your key requires. Once deployed, the order cannot be changed.

Enable segments to indicate that they are in use. A flexfield does not display disabled segments in runtime.

Tip

To protect the integrity of your data, disable a segment if you have already used it to enter data.

Key Flexfield Structure Instances and Segment Instances: Explained

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

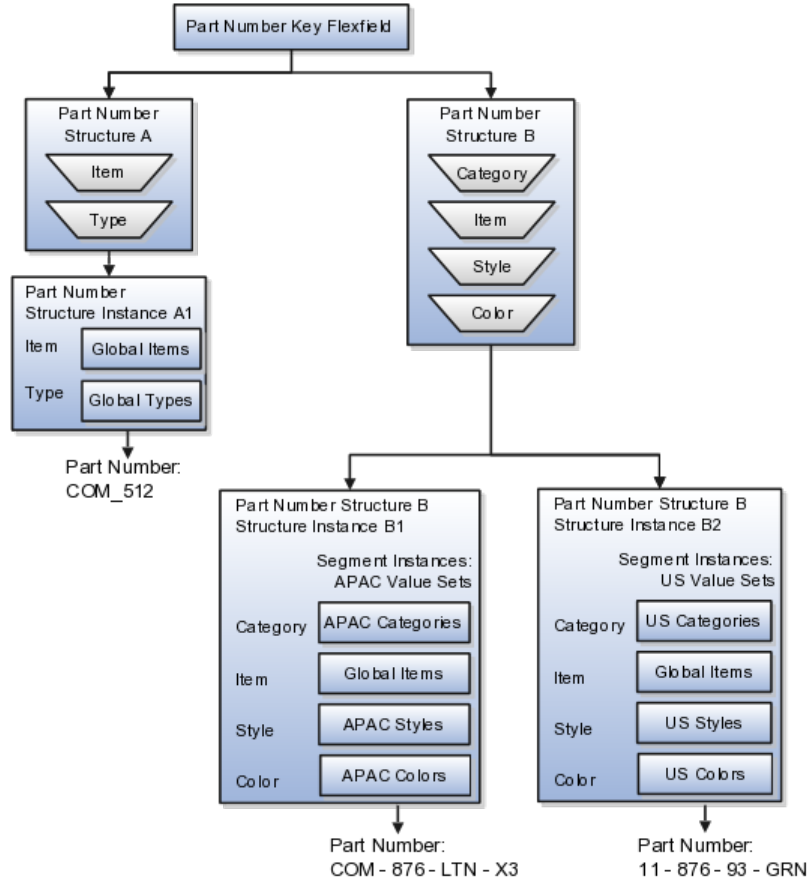
Differences among structure instances at the structure level include whether dynamic combination creation is allowed.

Differences among segment instances at the structure instance level include 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 could use one group of value sets for the US and another for France.

The figure shows two structures instances for a part number structure. The structures differ in the number of segments and the segment separators used. The structure instances of a structure share all properties that are defined for the structure, but can vary in the properties defined at the structure instance or segment instance level, such as the value set assigned to the segment instances.



Query Required Segment Instances

You can designate a key flexfield segment instance as query required so that it is one of the selectively required attributes an end user can use in a key flexfield combination search. If you indicate in the Manage Key Flexfields UI page that a segment instance should be indexed, the column representing the segment must be added to the database index. This is commonly done by a database administrator (DBA).

Following deployment, the combination picker of the key flexfield displays the query required attributes as selectively required. An end user must specify at least one of the query required attributes in the search criteria. This prevents non-selective searches that could cause performance issues.

For example, if you mark the cost center and account attributes as query required and ensure that the corresponding columns in the database are indexed, an end user can search for combinations by entering cost center or account or both as a search criterion. No search is performed if an end user does not enter at least one query required attribute as search criteria.

Tip

Index the Structure Instance Number column on your combinations table to improve performance.

Dynamic Combinations

If a key flexfield supports dynamic combination creation, you can choose to enable this feature by selecting **Dynamic Combination Creation Allowed**. This will allow end users to enter values at runtime that produce new code combinations for the flexfield. If not enabled, new valid combinations can only be entered using the combinations table for the flexfield.

Trees

If a tree code has been defined for the value set assigned to the segment instance, and 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.
- A tree code for that tree structure exists.
- The tree code that includes tree versions containing the values of the value set assigned to the segment instance.
- You assign the desired tree code directly to the segment instance.

Provided these conditions are satisfied, different segment instances that use the same value set can be assigned the same or different tree codes, meaning they use a different hierarchy definition over the same values.

Enabling Key Flexfield Segments for Business Intelligence: Points to Consider

A key flexfield that is registered in the database as enabled for Oracle Business Intelligence (BI) includes a BI Enabled setting for each of its segment instances. When a segment instance is BI-enabled, it is available for use in Oracle 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, import the flexfield changes into the Oracle Business Intelligence repository to make use of the newly generated attributes in business intelligence applications. For additional information about import, refer to the Oracle Fusion Middleware Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition (Oracle Fusion Applications Edition).

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 did not assign a label, the flattened components include a discrete attribute for each BI-enabled segment instance in each structure.

Equalization

You can prevent duplication and the extra workload and complexity that result from the flattening process by assigning a label to any set of segments that serve the same purpose in different structures. BI-enabled segments that have labels are equalized so that the flattened business components include one attribute for each label, consolidated across structures. Non-labeled segments are not equalized across structures, so the flattened components include a separate attribute for each segment for each structure.

Note

It may not be possible to equalize similarly labeled segments if they have incompatible data types or value set types.

Mapping to Logical Objects in Business Intelligence

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.

Note

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 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 structures.

If no labels are assigned to a BI-enabled segment, or the BI Object Name on the assigned label does not exist in business intelligence, you must manually map the segment to the desired logical object when importing into Oracle Business Intelligence.

In addition, segments without labels cannot be equalized across structures. The flattened components include a separate attribute for each non-labeled segment in each structure.

Note

Segment labels serve other functions as well, as presented in Key Flexfields: Explained.

Key Flexfields: Example

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 gives the user the option of selecting an expense account that identifies the cost center and other details needed for processing the expense.

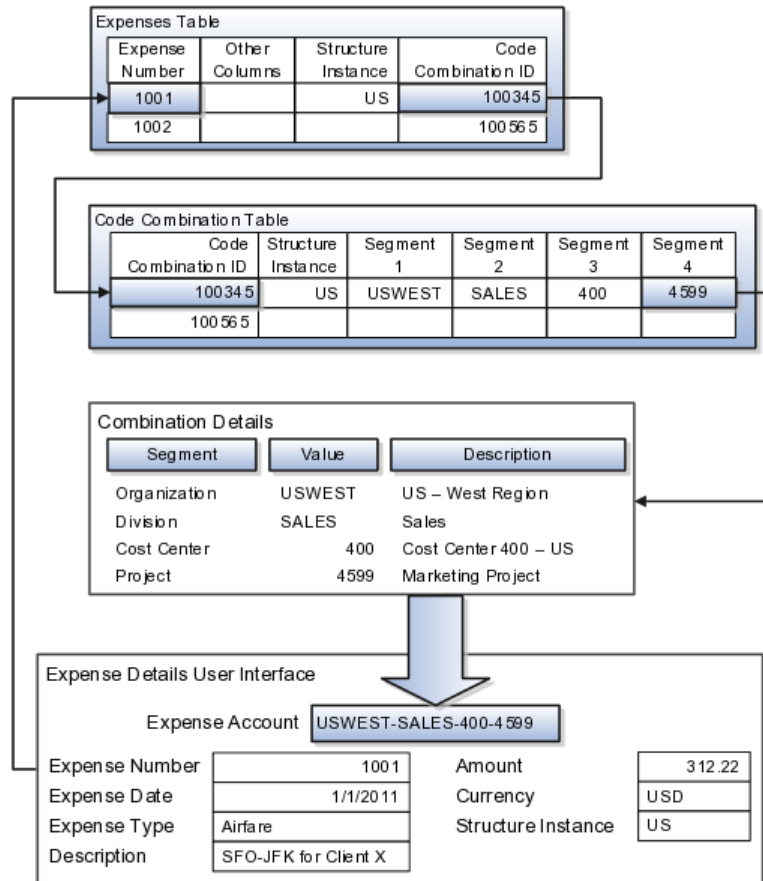
Analysis

The expense account field is a foreign key reference to a code combination (EXPENSE_LINES.EXPENSE_ACCOUNT = ACCOUNTS.CCID).

Code Combination Table for Entering Accounts and Employees

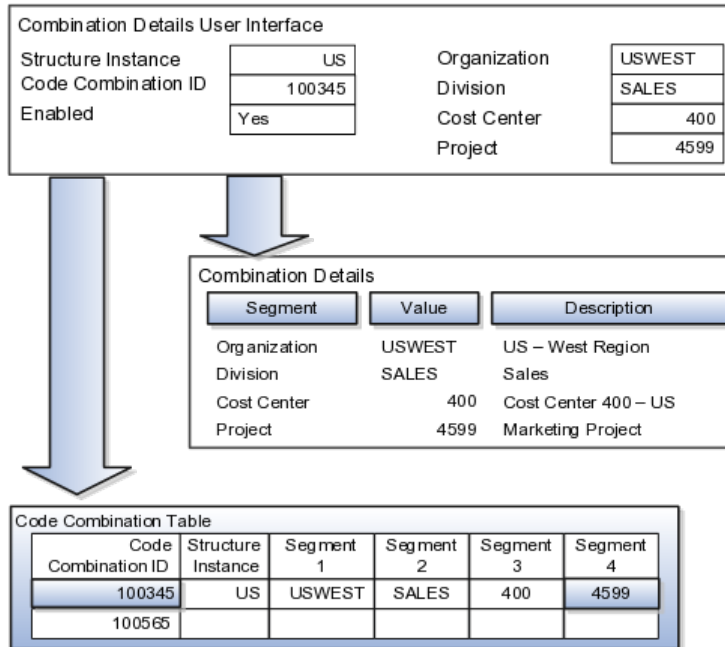
The code combination table supports entering account information, such as for expense accounts.

The figure shows the origin in the code combination table of the account specified by the user. The code combination ID record stores the information of the key flexfield segments used to assemble the expense account based on the key flexfield configuration.



The combinations page, which is the maintenance page for the key flexfield, is for managing rows in the combination table. In this example, managing the combinations means adding or editing account numbers that adhere to the key flexfield metadata rules.

The figure shows the code combination details for the example expense account reflected in the flexfield configuration and the code combination table.

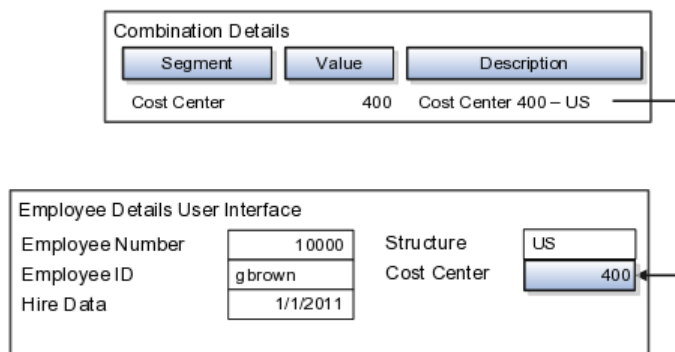


If dynamic combination creation is not enabled, then when entering an expense line, the user can only select an account that already exists in the ACCOUNTS (combinations) table. If they require an account that does not exist, they must consult with the appropriate application administrator who can add the account to the combinations table.

If dynamic combination creation is enabled, then when entering an expense line, the user can either select a pre-existing account, or type in a new account that 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.

In this figure, instead of specifying a cost center ID reference to an account, only the Cost Center segment is used and the value is stored directly on the employee table.



FAQs for Define Flexfields

Why did my flexfield changes not appear in the runtime UI?

The ADF business components or artifacts of a flexfield, which are generated into an metadata services (MDS) repository when the flexfield is deployed, are cached within a user session. You must sign out and back in again to view flexfield definition changes reflected in the runtime application user interface page.

A flexfield's status relative to its deployment determines whether the flexfield segments as currently defined in the metadata are available to end users. The flexfield segments seen by end users in the runtime correspond to the flexfield definition that was last deployed successfully.

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 end user's role in the system.

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 system.

For example, Western-region employees may choose only California, Nevada, Oregon, and so on as valid values. They cannot select non-Western-region states. Eastern-region employees may choose only New York, New Jersey, Virginia, and so on as valid values, but cannot select non-Eastern-region states. Value set security is implemented using Oracle Fusion Applications data security.

How can I set a default value for a flexfield segment?

When you define or edit a flexfield segment, you specify a default value from the values provided by the value set assigned to that segment.

You can set the default value to be a parameter, which means the entity object attribute to which the parameter you choose is mapped will provide the initial default value for the segment.

You can set 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 choose identifies the entity object source attribute. Any changes in the value of the source attribute during runtime 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.

Can I display the context segment in the project Cost Collection flexfield?

No. The context segment is predetermined for each page. Displaying it and changing the value may result in capture of data that is not applicable for the current transaction.

Define Attachments

Attachments: Explained

Attachments are pieces of supplementary information that users can associate with specific business objects such as expense reports or purchase orders. Attachments can be URLs, desktop files, text, or in cases where available, repository folders. For any given business object, a user may be able to only view attachments, or also create, delete, or edit attachments, depending on security. For more information on an introduction to attachments, see the Oracle Fusion Applications Developer's Guide.

Repository

Attachments are stored in a content management repository provided by Oracle WebCenter Content Server. Users managing attachments have no real interaction with the repository unless the repository mode is enabled for attachments on specific business objects. In that case, users can share attachments among objects, update attachments by checking them out of and back into the repository, and perform other tasks. Access to attachment files is controlled by a digital signing mechanism. Depending on security, users might have direct access to the repository.

Security

Data security that applies to a specific business object also applies to attachments for that object, as determined by the attachment entity defined for the object. For example, if a user has no access to a specific expense report, then the same user cannot access attachments for the expense report. You can also use attachment categories to control access and actions on attachments, based on roles associated with the category. For more information on securing attachments, see the Oracle Fusion Applications Developer's Guide.

Attachment Entities: Explained

An attachment entity is usually a database entity, for example a table or view, that represents a business object attachments can be associated with. Each attachment UI must be defined with a corresponding attachment entity, which not only identifies the business object to attach to, but also controls what users can do. Attachment entities are used only in the context of attachments and exist separately from the database entities that they are based on.

Edit and create attachment entities on the Manage Attachment Entities page, which you can access by starting in the Setup and Maintenance Overview page and searching for the Manage Attachment Entities task. Though you would generally use predefined attachment entities with attachment UIs, you might need to create new entities, for example when developing custom UIs.

Entity Names

An attachment entity name should match the name of the table or view that represents the business object to attach to. The name is also used in the repository folder that is automatically created to store attachments for the entity. The attachment entity display name should be something that users know to represent the business object.

Database Resource

The data security policies associated with the database resource defined for the attachment entity would apply to attachments for that entity. For example, based on the database resource for the expense reports attachment entity, the same policies apply to attachments for expense reports. 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.

Enabling Security

Security based on the database resource associated with the attachment entity is always in effect. What you can enable or disable is security based on attachment categories. If any of the attachment categories associated with the attachment entity has data security defined, then that security applies to this entity only if enabled.

Attachment Entities and Attachment Categories: How They Work Together

The association between attachment entities and categories determines which categories can be used for an entity. For example, categories associated with the expense report attachment entity are available to be implemented in attachment UIs for expense reports. You can define these associations when managing either entities or categories. Any association changes in either the Manage Attachment Entities or Manage Attachment Categories page are reflected on the other page. You can access either page by starting in the Setup and Maintenance Overview page and searching for attachment tasks.

Managing Entities

You determine which attachment categories are relevant to a particular entity on the Manage Attachment Entities page, and each entity must have at least one category. Depending on configuration, any or all of the available categories for that entity are used. For example, you assign three categories to the expense

reports attachment entity. For a particular expense report page with attachments functionality, you can customize the attachments component to specify which of the three categories are used. Based on your selection, the data security defined for each category, if any, is applied to attachments on that page if the attachment entity has category-based security enabled.

Managing Categories

If you create an attachment category and need to assign it to multiple attachment entities, use the Manage Attachment Categories page. The association means the same as the association on the Manage Attachment Entities page.

Attachments Troubleshooting: Explained

Attachments UIs for users to add and manage attachments are fully functional as is, and users usually would not encounter issues. If you customize attachments in any way, for example by creating additional attachment categories and implementing data security on them, then some issues might arise.

Issue: Unable to View, Add, Update, or Delete Attachments

Users encounter issues when trying to view attachments or perform actions such as adding attachments.

- Users can no longer see specific attachments that they were previously able to see.
- Likewise, they can no longer update or delete attachments.
- Users get an error stating that they do not have permission to add attachments.

Resolution

Use the Manage Attachment Entities page to ensure that attachment categories are associated to the relevant attachment entity. For example, if users can no longer see attachments for an expense report, then search for the expense report attachment entity and assign all necessary categories to it. 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, then verify that the Enable Security check box is selected in the Manage Attachment Entities page for that entity. Make sure that users have a role with the privileges shown in the following table, 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)
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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 do not have the Update Application Attachment privilege for any attachment categories tied to the expense report attachment entity, then they cannot create any attachments at all for expense reports.

For more information on attachment category data security, see the Oracle Fusion Applications Developer's Guide.

Finally, certain attachments UI for users have predefined restrictions on categories in place. 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

Users can see existing attachments, but the attachments no longer have an attachment category value.

Resolution

When the attachment was added, at least one category existed for the corresponding attachment entity, as otherwise the attachment could not have been added. Since then, the entity was edited so that it no longer has any assigned categories, so the user cannot 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 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 additional categories to assign.

Finally, certain attachments UI for users have predefined restrictions on categories in place. 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.

FAQs for Define Attachments

What's an attachment category?

An attachment category is used to classify and secure attachments. Each attachment user interface must be defined with at least one category for users to be able to add attachments. If there are multiple categories, users can view

them and select one when adding attachments. For example, attachments for an expense report can be categorized as receipts, scanned invoice images, and so on.

You can also associate roles with categories to determine user access and actions for attachments, based on the categories assigned to the attachment entity. For example, security for expense report attachments can be based in part on the categories assigned to the expense report attachment entity. You can define multiple categories per module, and add and manage custom categories for your own purposes. For more information on attachment category data security, see the Oracle Fusion Applications Developer's Guide.

Use the Manage Attachment Categories page, which you can access by starting in the Setup and Maintenance Overview page and searching for the Manage Attachment Categories task.

Set Activity Stream Options

Activity Stream Options: Highlights

Activity Stream is a region on the Oracle Fusion Applications Welcome dashboard and other pages in various applications. Users track the activities and transactions of other users in this region. You can set options that affect the all Activity Stream regions for all users across your site. Individual users can still override your settings through Activity Stream preferences.

Activity stream settings are described in the Oracle Fusion Middleware User's Guide for Oracle WebCenter Portal: Spaces. When you read content from that guide, note that:

- Your setup applies to all users, not just yourself or any individual user.
- You can disregard discussions about how to access the settings, because you access the Set Activity Stream Options page by starting in the Setup and Maintenance Overview page and searching for the Set Activity Stream Options task.

Setting Activity Stream Options

- Define the types of users to display activities about in the Activity Stream region, the types of activities to track, and other settings.

See: Setting Activity Stream Preferences

Manage Menu Customizations

Managing Menu Customizations: Highlights

You can customize the Navigator menu, which is the main menu of Oracle Fusion Applications and is always available in the global area. You can also customize the home page of Oracle Fusion Applications by adding tabs to display additional dashboards. Use the Manage Menu Customizations page,

which you can access by starting in the Setup and Maintenance Overview page and searching for the Manage Menu Customization task.

An overview of customizing the Navigator menu and home page is provided in the Oracle Fusion Applications Extensibility Guide.

Navigator Menu and Home Page

- Navigator menu customization involves managing items, which are nodes in the menu that take the user to the desired destination, and groups, which are categories of items.

See: Customizing the Navigator Menu

- The Oracle Fusion Applications home page displays a set of dashboards as tabs. You can create more tabs and make them display additional dashboard content.

See: Customizing the Navigator Menu.

Manage Audit Policies

Managing Audit Policies: Explained

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 that is required to be reported.

Enabling Audit Functionality

To enable audit, ensure that you have administrative privileges. For Oracle Fusion Applications, 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 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, refer to the Oracle Fusion Middleware documentation and also the Oracle Enterprise Repository for Oracle Fusion Applications at <http://fusionappsoer.oracle.com>.

If you do not want an application to be audited, you can stop the audit process by setting the Audit Level option to **None**. While viewing the audit report for that application, you can specify the period during which auditing remained enabled.

Configuring Audit Business Object Attributes: Points to Consider

Audit allows you to track 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. Your configuration settings determine which attributes to audit for a given object, and when the audit starts and ends. Auditing takes into account all the create or insert, update, and delete operations performed on an object and its attributes.

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 object 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.

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 Fusion Applications 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 are not audited. To continue to audit the business object with select attributes, deselect those attributes that are not to be audited.

When end-users view the audit history for an application, they can specify the period for which they want the results. Therefore, it is important to note when you start and stop auditing an application. For example, today if end-users intend to view the audit history of an object for the previous week, but auditing for that object was stopped last month, they would not get any audit results for that week because during the entire month that object was not audited. Even if you enable audit for that object today, end-users cannot get the wanted results because audit data until today is not available.

Configuring Audit: Highlights

You can set up auditing for Oracle Fusion Applications using the Manage Audit Policies page in the Setup and Maintenance work area of Oracle Fusion Applications.

To set up auditing for Oracle Fusion Middleware products, you must select the level of auditing that maps to a predefined set of metadata and events that have to be audited. Information on 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 in the form of audit-specific assets that can be used to create the configuration file (config.xml). For more information, see the Oracle Enterprise Repository for Oracle Fusion Applications at <http://fusionappsoer.oracle.com>.

Oracle Fusion Middleware Products

- Configure business objects to enable auditing in Oracle Fusion Middleware products. Refer to the Oracle Fusion Middleware Security and Administrator's Guide for Web Services.

See: Auditing Web Services

Oracle Fusion Security Products

- Configure business objects to enable auditing in Oracle Fusion security products. Refer to Oracle Fusion Middleware Application Security Guide.

See: Oracle Fusion Middleware Audit Framework Reference

Manage Oracle Social Network Objects

Managing Oracle Social Network Objects: Explained

Use Oracle Social Network to collaborate with key individuals within your organization, as well as external contacts such as suppliers and partners, using critical transaction data from Oracle Fusion Applications. Available collaboration tools include groups, activity feeds, discussion forums, document sharing, instant messaging, email and web conferencing. By bringing key attributes from the applications to share, socialize and update information, you can make better business decisions, based on additional information that you obtain and analyze within your social network environment. You do this by defining which business objects and attributes to enable and the enablement method for Oracle Social Network integration with Oracle Fusion Applications. Once enabled, these business objects can be shared in collaborative conversations. Within Oracle Fusion Applications, conversations can be viewed using the Social button in the Global Area and select applications pages.

Use the Manage Oracle Social Network Objects page, which you can access by starting in the Setup and Maintenance Overview page and searching for the task Manage Oracle Social Network Objects.

Note

Oracle Social Network is currently not available in non-Cloud implementations.

Aspects of managing Oracle Social Network objects include the following:

- Enabling business objects for integration.
- Understanding initial and subsequent defaults.

Enabling Business Objects for Integration

A business object cannot be shared within Oracle Social Network until a functional administrator or implementor accesses the Manage Oracle Social Network Objects page and enables the business object for Oracle Social Network integration. Use the Manage Oracle Social Network Objects page to set up and define which business objects and attributes to enable and the enablement method for Oracle Social Network integration with Oracle Fusion Applications.

Note

You see only the business objects that are predefined as available to enable, not the full list of business objects for products that you are permitted to view.

Understanding Initial and Subsequent Defaults

Upon initial deployment, the preceding rule that states a business object cannot be shared until it is accessed and enabled through the Manage Oracle Social Network Objects page, does not apply to certain default configurations for business objects in Oracle Fusion Customer Relationship Management (CRM) and Oracle Fusion Human Capital Management (HCM). Subsequently, these business objects are managed no differently than any of the other business objects. If you set to Manual or Automatic, the setup is not complete until you select attributes.

Options for Enabling Oracle Social Network Objects: Explained

Access the Manage Oracle Social Network Objects page to select from the following options to enable business objects and apply attributes for Oracle Social Network integration with Oracle Fusion Applications.

These enablement options exist:

- Enable Object
- Disable Object
- Enable All

Enable Object

Access the Business Object section of the Manage Oracle Social Network Objects page.

Click **Enable Object** to select from the available enablement options and define how the object integrates with Oracle Social Network. Options include:

- **Manual** - Recommended; the object is enabled for manual sharing with Oracle Social Network, where the social network user decides whether or not to share each instance of the object with Oracle Social Network. Once shared, all updates to enabled attributes of the object instance, and deletes, are sent to Oracle Social Network. Updates to attributes that are not enabled are not sent.

- **Automatic** - Automatically sends newly enabled object instances and updates to Oracle Social Network. All object instances are automatically shared with Oracle Social Network upon creation and all subsequent updates to enabled attributes of the object instances, and deletes, are automatically sent to Oracle Social Network.
- **No** - Does not send any object instance information to Oracle Social Network.

Note

After you enable an object, you must enable one or more attributes in the Attributes section of the Manage Oracle Social Network Objects page. Updates to enabled attributes are sent to Oracle Social Network.

Disable Object

Access the Business Object section of the Manage Oracle Social Network Objects page.

Click **Disable Object** to disable the selected business object, then Save. This shortcut disables the currently selected business object by changing the enablement option to No.

Alternatively, you can click **Enable Object** to access the dialog box and enablement options and select **No**, then click OK, and then click Save to disable a selected business object.

Disabling the object through either mechanism does not affect any associated attributes. Use the Attributes section of the page to manage the list of enabled attributes.

Enable All

Access the Manage Oracle Social Network Objects page.

Click **Enable All** at the page level to perform a bulk update of the enablement status from No to Manual of all business objects. After you click Enable All, then you save.

The bulk update of the statuses does not affect the attributes selected as enabled for each business object. Use the Attributes section of the page to manage the list of enabled attributes.

Status Column

The Status column appears in the Business Objects table to provide a visual indicator as to which enabled business objects do not yet have an enabled attribute assigned.

When you enable a business object (automatic or manual), a check mark or a warning sign appears in the Status column of the business object depending on this criteria:

- A check mark indicates that you have configured attributes for an enabled business object.
- A warning sign indicates that you have not configured any attributes for the enabled business object.

Note

It is important that you configure the attributes before you click Save.

When you enable a business object, but do not configure any attributes for the enabled business object, unexpected results can occur as no attributes are sent to Oracle Social Network during create and update except some internal bookkeeping information. Deletes are sent as usual.

Attributes

Enable business object attributes in the Attributes section of the Manage Oracle Social Objects page. To provide a visual indicator of the enabled business objects that have no attributes added, a Status column appears at the end of the Business Objects table. This column shows a warning when there are no attributes defined for a business object that has had its enabled state changed from No. This warning does not prevent you from saving the Oracle Social Network enablement of the business object, but does provide a guide that you should assign attributes for an enabled business object.

In the Attributes table, you can do the following:

- View a list of all attributes that are enabled.

These are the attributes that, upon update, are sent to Oracle Social Network. Disabled attributes are not sent.
- Click Add to launch the dialog where you can select attributes to add to the table.
- Click Remove to remove attributes from the table.

FAQs for Manage Oracle Social Network Objects

What happens if I update translations?

When you click **Update Translations** from the Manage Oracle Social Network Objects page, you synchronize the newly translated text from Oracle Fusion Applications so that it can be used within Oracle Social Network. This means you can install and enable a new language or take a language patch at any time.

Update Translations sends attribute labels and business object names to Oracle Social Network for use in its user interface. Users in Oracle Social Network see the attribute or business object labels in the language of their locale. If the user changes locale in Oracle Social Network, then the attribute or business object labels appear in the updated language. The data, however, appears in the language in which it was originally sent to Oracle Social Network. If a user has previously sent a business object instance to Oracle Social Network, then the business object instance data is not updated. When you save the business object enablement to Oracle Social Network, it sends the translations as well. This makes it unnecessary to click both Save and Update Translations. For subsequent updates to labels and attributes, such as if a new Oracle Fusion Applications language pack is installed, run Update Translations to send the updated labels and their translations to Oracle Social Network. The Update Translations button

sends translations for all business objects whose enablement is Manual or Automatic.

Manage Applications Core Common Reference Objects: Manage Applications Core Messages

Common Messages: Points to Consider

Common messages, which have message names that begin with FND_CMN and message numbers between 0 and 999, are used throughout Oracle Fusion Applications. Each common message can appear in multiple places in any product family. For example, the FND_CMN_NEW_SRCH message can be used for any search to indicate that no results were found. Common messages that are of type error or warning are part of the message dictionary.

Editing Common Messages

Because a common message can be used in any application, 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, make sure that the text would make sense to all users across Oracle Fusion Applications who might see it.

Creating Common Messages

You can create custom common messages for use in multiple places within a single product. Do not begin the message name with FND_CMN, but use another suitable convention. The message number should be within the range that is designated for the product.

Manage Applications Core Common Reference Objects: Manage Applications Core Administrator Profile Values

Creating and Editing Messages: Highlights

Each message in the message dictionary has many attributes and components, including message properties, text, and tokens, that you define when creating or editing the message.

Details about these messages are described in the Oracle Fusion Applications Developer's Guide.

Message Properties

- The message type identifies the type of information that the message contains.

See: Understanding Message Types

- The message name and number are identifiers for the message. There are specific message number ranges for predefined messages in each application, and you should not edit numbers assigned to predefined messages. When creating custom messages, use only message numbers within the 10,000,000 to 10,999,999 range.

See: About Message Names

See: About Message Numbers

- The translation notes for predefined messages might contain internal content that you can disregard.

See: About Translation Notes

- The message category, severity, and logging enabled option are related to the incident and logging process.

See: About Grouping Messages by Category and Severity

See: Understanding Incidents and Diagnostic Logs with Message Dictionary

Message Text and Tokens

- The message text comprises various components, some of which are displayed only to select users. To determine which component of the message text is displayed to a particular user, set the Message Mode profile option (FND_MESSAGE_MODE) at the user level for that user. The message component short text is visible to all users and therefore, the profile option does not apply to this component. Also, the profile option applies only to messages in the message dictionary.

See: About Message Components

- Tokens are variables that represent values to be displayed in the message text.

See: About Tokens

Profile Options and Related General Preferences: How They Work Together

Some Oracle Fusion Middleware Extensions for Applications profile options are related to general preferences in the global area.

Preferences

The related general preferences are Default Application Language, Territory, Date Format, Time Format, Currency, and Time Zone. When the user changes any of these preferences, the stored values in LDAP are updated accordingly.

Profile Options

The corresponding profile options are Default Language, Default Territory, Default Date Format, Default Time Format, Default Currency, and Default User

Time Zone. No matter what you set for these profile options at any level, the preferences settings, or LDAP values, take precedence. The profile option value is used only if the LDAP value is not available. Updating the profile option value does not automatically update the value in LDAP or preferences.

Define Common Project Execution Options

Manage Project User Registrations

Provisioning Access to Project Execution Management Applications: Overview

Provisioning access to Project Execution Management applications is the process of registering a user account in Oracle Identity Management for a resource and assigning project-related enterprise roles to the resource. A resource's access to work areas in Project Execution Management applications depends on the roles that you assign to the resource.

Use the Manage Project User Registrations page to request user accounts and assign enterprise roles for project enterprise labor resources to enable the resources to log into Project Execution Management applications to plan projects, manage resources, review, track, and collaborate on work. During implementation you can provision a set of users and assign the Project Application Administrator role so that these administrators can initiate the provisioning process for the rest of the project enterprise labor resources.

Resources to Provision

A resource that you provision typically falls into one of these categories:

- Resource is an HCM person in Oracle Fusion HCM and is a project enterprise labor resource in Oracle Fusion Project Management.

User accounts for resources in this category are typically created in Oracle Fusion HCM, and the HCM person is associated with a project enterprise labor resource when you create the resource in Oracle Fusion Project Management. Assign the appropriate project-related roles to these resources so they can perform project management, project collaborative planning, and progress functions in Project Execution Management applications.

Important

You cannot create a user account on the Manage Project User Registrations page for an existing HCM person. HCM persons are registered in Oracle Fusion HCM.

- Resource is a project enterprise labor resource in Oracle Fusion Project Management, but is not an HCM person.

You can maintain resource details and add resources to projects in Oracle Fusion Project Management even if the resources are not employees or contingent workers in Oracle Fusion HCM. However, if you want these resources to access Project Execution Management applications to administer or manage projects or resources, or track and report on work, then you must create user accounts to register the resources in Oracle Identity Management, and assign project-related enterprise roles to the resources. Select the existing project enterprise labor resource on the Manage Project User Registrations page and initiate the provisioning process.

- Resource is an HCM person in Oracle Fusion HCM, but is not a project enterprise labor resource in Oracle Fusion Project Management.

You can assign project-related enterprise roles to resources who have user accounts that were created in Oracle Fusion HCM. However, these resources do not appear as project enterprise labor resources in Project Execution Management applications until you create the resources in Oracle Fusion Project Management.

Enterprise Roles to Assign

You can assign the following enterprise roles to resources:

- **Project Application Administrator:** Collaborates with project application users to maintain consistent project application configuration, rules, and access.
- **Project Execution:** Manages projects in Project Execution Management applications.

Note

The Project Manager job role does not include the Project Execution role by default.

- **Resource Manager:** Manages a group of resources who are employees or contingent workers. Monitors the utilization of resources and manages the assignment of resources to work on projects. Collaborates with project managers to find suitable resources to fulfill project resources requests.
- **Team Collaborator:** Performs, tracks, and reports progress on project and nonproject work. Collaborates with other team members or project managers to perform project tasks and to-do tasks.

Manage Project User Registrations Page

On the Manage Project User Registrations page:

- When you select the **Request user account** check box, the Project Execution and Team Collaborator roles appear by default in the Role Details table.
- Select the **Assign administrator role** check box to assign the Project Application Administrator role to the resource. This action adds the Project Application Administrator role to the Role Details table.
- Add the Resource Manager role to the Role Details table if the resource will perform functions in Oracle Fusion Project Resource Management.
- You can add or remove roles for a resource with an existing user account. Use the Edit feature to add roles. Use the Actions menu to remove roles.

Note

You must wait until any previous provisioning request is complete for this resource before you add or remove roles for the resource.

User Account and Provisioning Statuses

A user account status indicates whether a user can access the application. The statuses are:

- Active: User is active and can access the application
- Inactive: User is inactive and cannot access the application

A user provisioning status indicates the state of the user provisioning process. The statuses are:

- Completed: Process completed without errors or warnings
- Failed: Process failed because of errors or warnings
- Partially completed: Process is partially completed
- Pending: Process is in progress
- Provisioned: Role is provisioned in Oracle Identity Management
- Rejected: Process was rejected by Oracle Identity Management
- Provisioning requested: Process for provisioning a user is submitted to Oracle Identity Management
- Revoke Requested: Process for revoking user provisioning is submitted to Oracle Identity Management

Manage Project Management Roles

Project Roles in Project Execution Management Applications: Explained

A project role is a classification of the relationship that a person has to a project, such as project manager, functional consultant, or technical lead. A project role

defines the type of work that a person performs on a project, and allows access to project management information for the project manager role.

Project manager and project team member are predefined project roles that you cannot edit or delete. You can create additional project roles to meet the needs of your organization. However, you cannot delete a project role that is designated as a resource's primary project role, specified on a project resource request, or assigned to a resource on a project.

Project roles are used for the following purposes:

- To identify the type of work that a person performs on project assignments
- To set up default resource qualifications
- As criteria when searching for resources to fulfill project resource requests
- As a resource's primary project role

Project Assignments

When you add a resource to a project, you select a project role to identify the type of work that the resource will perform on the project. The default project role is Project Team Member for resources or resource placeholders that you add directly to the Manage Project Resources page in the Project Management work area.

When you fulfill a project resource request in the Project Resources work area and create an assignment for the resource, the project role specified on the request is the default project role on the assignment. You can change the project role on the Assign Resource page before you submit the assignment for approval.

Default Resource Qualifications

On the Manage Project Roles page, select a set of default qualifications, proficiencies, and keywords for each project role. Default qualifications, proficiencies, and keywords that you associate with a project role automatically appear as requirements on a project resource request when you select the project role for the request.

Project Resource Requests

When searching for resources to fulfill a project resource request on the Search and Evaluate Resources page, you can filter the resource search results by project role to focus the results. Resources that have the selected project role filter as their primary project role will appear in the results. The number next to the filter indicates the number of resources in the results that have the primary project role.

Primary Project Roles

You can designate a primary project role for a resource that represents the work that the resource typically performs on project assignments.

You can use the resource's primary project role in the following areas in Oracle Fusion Project Resource Management:

- As a resource search option filter when viewing resources on the Search and Evaluate Resources page
- When viewing resource information on the Resource Details page
- When comparing the attributes of multiple resources against the requirements specified in the project resource request on the Compare Resources page
- As an attribute value to assign to new resources that the Maintain Project Enterprise Labor Resources process creates
- As search criteria when searching for a project enterprise labor resource to designate as a resource pool owner on the Manage Resource Pools page
- As advanced search criteria when searching for resource pool members on the Manage Resource Pools page
- As column to sort open project resource requests on the Resource Manager Dashboard

Define Project and Resource Calendars

Project and Resource Calendars: Explained

Project and resource calendars define the standard working and nonworking time for projects and resources. Working times are the days and total hours in a calendar during which work can occur. Nonworking times in a calendar are days and total hours for which work should not be scheduled, such as weekends and holidays.

Features of project and resource calendars include:

- Default calendars
- Project calendars
- Resource calendars
- Standard calendar

Default Calendars

Your implementation team selects a default project calendar and resource calendar on the **Define Project Management Implementation Options** page. The default project calendar is automatically assigned to new projects, and the default resource calendar is automatically assigned to new project enterprise labor resources.

If the default project calendar does not meet the schedule requirements for a specific project, a project manager can select another calendar during project creation. Similarly, if the default resource calendar does not meet the scheduling requirements for a specific project enterprise labor resource, the project application administrator can assign another calendar to the resource.

Project Calendars

A project manager can select the calendar for a project during project creation or when managing the project plan.

The working days and total hours in the calendar are used to schedule the project plan. The calendar also works with the project start and finish dates to determine the project duration.

Resource Calendars

The project application administrator can select a resource calendar when creating or editing a project enterprise resource. The working days and total working hours in a resource calendar are used to determine resource availability.

Oracle Fusion Project Resource Management uses the resource calendar to determine a resource's available hours for a project. The Update Resource Utilization Data process calculates the resource's projected utilization with the available hours.

Standard Calendar

Oracle Fusion Project Execution Management provides a standard calendar of 8 hours per day, 5 days per week that you can assign to projects and resources.

FAQs for Define Project and Resource Calendars

What happens if project resource request dates are outside the resource calendar effective dates?

The application cannot calculate a resource's available capacity if the project resource request dates are outside of the resource calendar effective dates. The resource will have no Available Capacity score.

Manage Project Enterprise Resources

Project Enterprise Labor Resources: How They Are Automatically Created and Maintained

Run the Maintain Project Enterprise Labor Resources process to create resources, remove resource availability for staffing, and maintain the resource search index.

Settings That Affect the Maintain Project Enterprise Labor Resources Process

Create and maintain project enterprise labor resources by defining a set of conditions that specify the employees and contingent workers in Oracle Fusion Human Capital Management (HCM) to create as resources in Oracle Fusion Project Portfolio Management. Define the resource attribute values, such as the resource calendar and primary project role, to assign to the new resources.

The following table lists the criteria that you define for selecting HCM persons to create as project enterprise labor resources.

Selection Criteria	Description
Person type	Select the HCM person type for the process to use as criteria when selecting HCM persons to create as resources. Available person types are employees, contingent workers, or both employees and contingent workers.
Option to select people based on job	Select this option for the process to create resources for HCM persons with specific jobs. Caution If you do not select job criteria for this condition, the process will create resources for all eligible people based only on the person type.
Jobs	If you selected the option to select people based on job, then select the jobs for the process to use as HCM person selection criteria.

The following table lists the attributes for which you specify values to assign to resources that are created for the condition.

Resource Attribute	Description
Option to manage resource availability and staffing	Select this option for resource managers to manage the availability and project staffing of resources who are created based on the condition. Resources who are managed in Oracle Fusion Project Resource Management are eligible to fulfill project resource requests.
Calendar	Select the resource calendar for resources that are created based on the condition. The resource calendar defines the work schedule for project enterprise labor resources, and includes working days and hours and any exceptions, such as holidays.
Primary project role	Select the primary project role for resources that are created based on the condition. Project roles are maintained in Oracle Fusion Project Management.
Cost rate and currency	Enter the cost rate and currency for resources that are created based on the condition.
Bill rate and currency	Enter the bill rate and currency for resources that are created based on the condition.

How Resources are Created

Select one or both of the following process options when you run the Maintain Project Enterprise Labor Resources process:

- Create resources:

Creates project enterprise labor resources from Oracle Fusion HCM persons based on person selection criteria and resource attribute values defined in maintenance conditions.

- Remove resource availability:

Disables the option to manage resource availability and staffing for all project enterprise labor resources with no active primary assignment in Oracle Fusion HCM.

The Maintain Project Enterprise Labor Resources process includes all conditions on the Maintain Project Enterprise Labor Resources Process Conditions page each time the process runs. Assign a process order to each condition to determine the order in which the Maintain Project Enterprise Labor Resources process creates resources. When you run the process for the Create Resources option, conditions are processed in ascending order of the process order value. Multiple conditions with the same process order value are processed in ascending alphabetical order of the condition name.

Resources who no longer have the option enabled to manage resource availability and staffing are not eligible to appear in match results. You have the option to disable resource availability for resources who do not have an active primary assignment in HCM.

After all conditions are processed, the Maintain Project Resource Search Index Job Set process runs. This process updates the index that enables resources to appear on the Search and Evaluate Resources page when searching for resources to fulfill project resource request. You can also submit the job set for the index on its own. It is not necessary to always run the maintain process first.

The Maintain Project Enterprise Labor Resources process creates resources only for HCM people that meet the selection criteria for a condition and are not already linked to a project enterprise labor resource. The list of exceptions appears in the Last Process Details region and refreshes each time you run the process.

Project Enterprise Labor Resource Components: How They Work Together

A project enterprise labor resource is a resource that you can assign to multiple projects. If you manage resource availability and staffing in Oracle Fusion Project Resource Management, use project enterprise labor resources to fulfill project resource requests.

Consider the following attributes when creating a project enterprise labor resource.

- Select the resource calendar
- Select the primary project role
- Associate an employee or contingent worker

- Manage resource availability and staffing
- Select a resource pool

Selecting the Resource Calendar

Resource calendars are used to determine resource availability, schedule tasks, and assign resources to tasks.

The main purpose of the calendar is for daily scheduling of work using hours per day as the unit. The duration of tasks is measured in days and not hours.

A predefined calendar with eight hours per day and five days per week with no holidays is used as a default if no calendar is available for a project or resource.

Selecting the Primary Project Role

Available values are based on Oracle Fusion Project Management project roles. The primary project role represents the role that a resource most often fulfills on a project.

Note

The default value is Project Team Member.

Associating an Employee or Contingent Worker

An HCM person is a named person in the HCM database with a person type of Employee or Contingent Worker and an active assignment. In Oracle Fusion Project Resource Management, if you associate an HCM person with a project enterprise labor resource and manage the resource's availability and staffing, then the resource is eligible to fulfill project resource requests.

Managing Resource Availability and Staffing

Select this option for the resource to be eligible to fulfill project resource requests.

If you deselect this option after selecting it, the resource availability and staffing is no longer managed in Oracle Fusion Project Resource Management, and the following changes occur:

- If the resource is not used in Project Resource Management, then the resource is no longer eligible to fulfill project resource requests and is removed completely from pools.
- If the resource is used in Project Resource Management, then resource is no longer eligible to fulfill project resource requests and remains in pools for historical reporting purposes. If the resource is already associated with an unfulfilled request, then the resource is no longer eligible to be assigned to fulfill the request.

Selecting a Resource Pool

You must select a resource pool if you manage the resource availability and staffing in Project Resource Management.

Note

The default value is the Resources with No Pool Membership.

FAQs for Manage Project Enterprise Resources

What's the difference between a project enterprise labor resource and a managed project enterprise labor resource?

A project enterprise labor resource is a resource that you can assign to multiple projects.

A managed project enterprise labor resource is a project enterprise resource who is associated with a named person in HCM, and whose availability and staffing are managed in Oracle Fusion Project Resource Management. You use managed project enterprise labor resources to fulfill project resource requests.

Define Project Management Configuration

FAQs for Manage Project Management Implementation Options: Default Calendar

What's the difference between project calendars and resource calendars?

Project calendars determine standard working and nonworking times for resources working on projects. For example, a project calendar can designate the total number of working hours per day and any holidays that occur during the project dates. A project calendar is used to schedule project tasks, and to estimate project duration.

Resource calendars determine the total available working hours for resources.

Note

Your implementation team defines the default project and resource calendars that are automatically assigned to new projects and resources. However, a project manager can assign another calendar to a project. Similarly, a project application administrator can assign a different calendar to a resource.

Can I change the default value for the resource calendar that appears when I create a project enterprise labor resource?

Yes. On the Define Project Management Implementation Options page, you select a default resource calendar that the application automatically assigns to new project enterprise labor resources. If the default resource calendar does not meet the requirements for a specific project enterprise labor resource, then you can assign a different calendar to the resource.

FAQs for Manage Project Management Implementation Options: Progress Thresholds

Why do some tasks have exceptions for progress entries?

A team member entered a proposed start date, proposed finish date, or an increase to the planned hours for the task that exceeds the progress thresholds entered on the **Define Project Management Implementation Options** page.

Manage Enterprise Project and Task Codes

Enterprise Project Codes and Task Codes: Explained

Project codes and task codes enable you to capture information at the project and task level that is specific to your organization.

Create project and task codes based on one of the following data types to determine how project managers and project team members enter information.

- Value sets
- Free form text
- Numeric

Value sets

Define up to 40 project or task codes based on value sets. When you define a value set, enter at least one value for project managers and team members to select when they create projects or tasks. You can specify a sequence for the values to appear in a specific order.

Free form text

Define up to 20 text fields to enable users to enter alphanumeric information for project or task codes.

Numeric

Define up to 10 project or task codes that allow entry of numeric information.

You cannot assign the same code to both project and task codes. After you use a code at the task level, you cannot use it at the project level.

Define Project Requirement Configuration

Project Requirements: Explained

Requirements enable you to analyze, define, track, and prioritize the intended outcomes of a successful project.

The following aspects are important regarding project requirements:

- Creating Requirements
- Importing Requirements from Excel

Creating Requirements

Create requirements using the three-level requirement hierarchy that consists of investment area, feature, and backlog item by default.

Note

Names of requirement levels can be changed during implementation.

Create requirements at different levels to focus planning, review, and execution of project work. For example, you can associate requirements with sprints when development will take place, or what the priority of a requirement is. You can also create project tasks based on lowest-level requirements called backlog item by default.

Importing Requirements from Excel

Use desktop integration for Excel to create requirements in a spreadsheet and export the requirements to Oracle Fusion Project Management.

Note

You cannot edit and then export existing requirements from Excel. Use the Manage Requirements page to edit requirements.

FAQs for Define Project Management Requirements

How can I create requirements at any level from a project plan?

You can only create backlog items, the lowest-level requirements, for the project plan.

Define Project Resource Management Configuration

Manage Project Resource Management Implementation Options

Project Resource Management Workflow: Explained

In Oracle Fusion Project Resource Management you can enable workflow to perform the following actions.

- Notify the requester of a project resource request when a resource is proposed to fulfill the assignment. The requester must approve or reject the proposed resource.

The workflow process starts when the staffing owner assigns a resource to fulfill a project resource request.

The requester can approve or reject the proposed resource by using any of these methods:

- **Approve** or **Reject** buttons in the notification in the Worklist: Notifications and Approvals region
- **Approve** or **Reject** links in the e-mail notification
- **Actions** menu on the project resource request
- Notify the staffing owner when the requester approves or rejects the proposed resource for the assignment. This notification is for information only.

Project Resource Management Workflow Settings

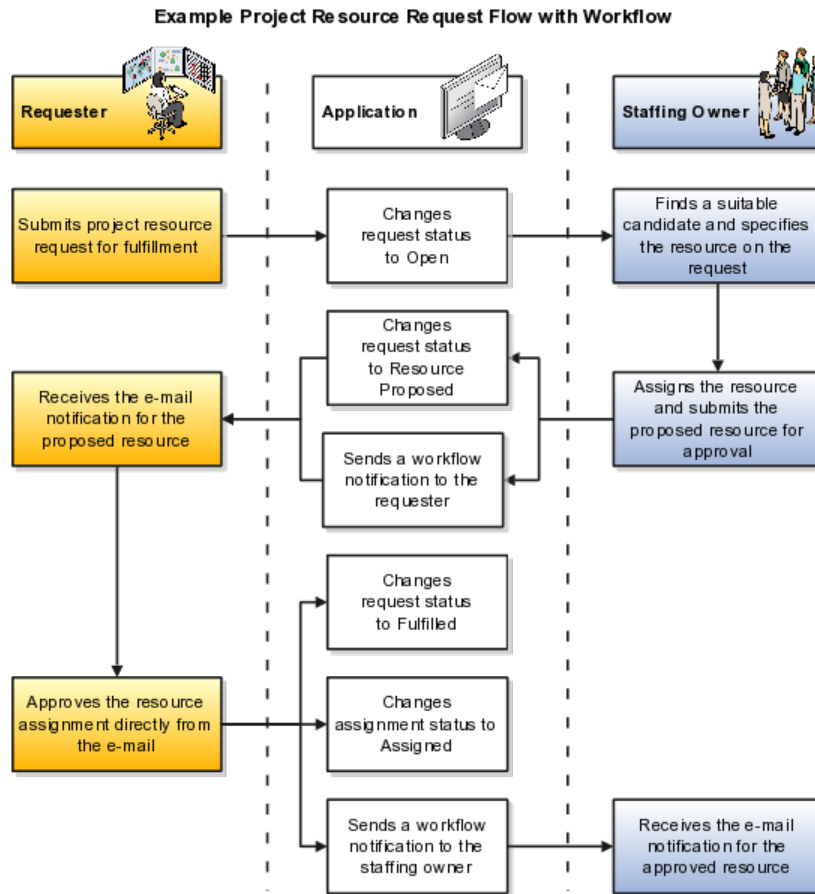
You must select the **Notify requester when a resource is proposed to fulfill a project resource request** option on the Manage Project Resource Management Implementation Options page to enable these workflow notifications.

Note

If you do not enable the workflow implementation option, then the requester must go to the project resource request to approve or reject the resource.

Workflow Example

The following figure shows an example project resource request flow that uses workflow.



In this example, a project manager submits a request for a new project resource. The resource manager searches for qualified, available candidates and finds a resource that is a good match for the project. The resource manager specifies the resource name on the request and submits the request for the project manager to approve the proposed resource. The project manager receives an e-mail notification requesting approval of the resource, and approves the resource. This action fulfills the project resource request, assigns the resource to the project, and launches an e-mail notification to inform the resource manager that the resource is approved.

Define Project Enterprise Labor Resources

Project Enterprise Labor Resources: How They Are Automatically Created and Maintained

Run the Maintain Project Enterprise Labor Resources process to create resources, remove resource availability for staffing, and maintain the resource search index.

Settings That Affect the Maintain Project Enterprise Labor Resources Process

Create and maintain project enterprise labor resources by defining a set of conditions that specify the employees and contingent workers in Oracle Fusion Human Capital Management (HCM) to create as resources in Oracle Fusion Project Portfolio Management. Define the resource attribute values, such as the resource calendar and primary project role, to assign to the new resources.

The following table lists the criteria that you define for selecting HCM persons to create as project enterprise labor resources.

Selection Criteria	Description
Person type	Select the HCM person type for the process to use as criteria when selecting HCM persons to create as resources. Available person types are employees, contingent workers, or both employees and contingent workers.
Option to select people based on job	Select this option for the process to create resources for HCM persons with specific jobs. Caution If you do not select job criteria for this condition, the process will create resources for all eligible people based only on the person type.
Jobs	If you selected the option to select people based on job, then select the jobs for the process to use as HCM person selection criteria.

The following table lists the attributes for which you specify values to assign to resources that are created for the condition.

Resource Attribute	Description
Option to manage resource availability and staffing	Select this option for resource managers to manage the availability and project staffing of resources who are created based on the condition. Resources who are managed in Oracle Fusion Project Resource Management are eligible to fulfill project resource requests.
Calendar	Select the resource calendar for resources that are created based on the condition. The resource calendar defines the work schedule for project enterprise labor resources, and includes working days and hours and any exceptions, such as holidays.
Primary project role	Select the primary project role for resources that are created based on the condition. Project roles are maintained in Oracle Fusion Project Management.
Cost rate and currency	Enter the cost rate and currency for resources that are created based on the condition.

Bill rate and currency	Enter the bill rate and currency for resources that are created based on the condition.
------------------------	---

How Resources are Created

Select one or both of the following process options when you run the Maintain Project Enterprise Labor Resources process:

- **Create resources:**
Creates project enterprise labor resources from Oracle Fusion HCM persons based on person selection criteria and resource attribute values defined in maintenance conditions.
- **Remove resource availability:**
Disables the option to manage resource availability and staffing for all project enterprise labor resources with no active primary assignment in Oracle Fusion HCM.

The Maintain Project Enterprise Labor Resources process includes all conditions on the Maintain Project Enterprise Labor Resources Process Conditions page each time the process runs. Assign a process order to each condition to determine the order in which the Maintain Project Enterprise Labor Resources process creates resources. When you run the process for the Create Resources option, conditions are processed in ascending order of the process order value. Multiple conditions with the same process order value are processed in ascending alphabetical order of the condition name.

Resources who no longer have the option enabled to manage resource availability and staffing are not eligible to appear in match results. You have the option to disable resource availability for resources who do not have an active primary assignment in HCM.

After all conditions are processed, the Maintain Project Resource Search Index Job Set process runs. This process updates the index that enables resources to appear on the Search and Evaluate Resources page when searching for resources to fulfill project resource request. You can also submit the job set for the index on its own. It is not necessary to always run the maintain process first.

The Maintain Project Enterprise Labor Resources process creates resources only for HCM people that meet the selection criteria for a condition and are not already linked to a project enterprise labor resource. The list of exceptions appears in the Last Process Details region and refreshes each time you run the process.

Project Enterprise Labor Resource Components: How They Work Together

A project enterprise labor resource is a resource that you can assign to multiple projects. If you manage resource availability and staffing in Oracle Fusion Project

Resource Management, use project enterprise labor resources to fulfill project resource requests.

Consider the following attributes when creating a project enterprise labor resource.

- Select the resource calendar
- Select the primary project role
- Associate an employee or contingent worker
- Manage resource availability and staffing
- Select a resource pool

Selecting the Resource Calendar

Resource calendars are used to determine resource availability, schedule tasks, and assign resources to tasks.

The main purpose of the calendar is for daily scheduling of work using hours per day as the unit. The duration of tasks is measured in days and not hours.

A predefined calendar with eight hours per day and five days per week with no holidays is used as a default if no calendar is available for a project or resource.

Selecting the Primary Project Role

Available values are based on Oracle Fusion Project Management project roles. The primary project role represents the role that a resource most often fulfills on a project.

Note

The default value is Project Team Member.

Associating an Employee or Contingent Worker

An HCM person is a named person in the HCM database with a person type of Employee or Contingent Worker and an active assignment. In Oracle Fusion Project Resource Management, if you associate an HCM person with a project enterprise labor resource and manage the resource's availability and staffing, then the resource is eligible to fulfill project resource requests.

Managing Resource Availability and Staffing

Select this option for the resource to be eligible to fulfill project resource requests.

If you deselect this option after selecting it, the resource availability and staffing is no longer managed in Oracle Fusion Project Resource Management, and the following changes occur:

- If the resource is not used in Project Resource Management, then the resource is no longer eligible to fulfill project resource requests and is removed completely from pools.

- If the resource is used in Project Resource Management, then resource is no longer eligible to fulfill project resource requests and remains in pools for historical reporting purposes. If the resource is already associated with an unfulfilled request, then the resource is no longer eligible to be assigned to fulfill the request.

Selecting a Resource Pool

You must select a resource pool if you manage the resource availability and staffing in Project Resource Management.

Note

The default value is the Resources with No Pool Membership.

Resource Pools: Explained

A resource pool is a logical group of resources organized in a hierarchy for purposes of staffing and managing resources, and reporting on utilization.

Creating and Deleting Resource Pools

Use the Manage Resource Pools page to build a resource pool hierarchy that reflects how the organization manages and reports on resources. For example, resource pools can group resources in a hierarchy by geographic locations, cost centers, skill sets, or primary project roles.

The pools named **All Resources** and **Resources with No Pool Memberships** are predefined. The **All Resources** pool is always at the top of the resource pool hierarchy. The **Resources with No Pool Memberships** pool is a direct child of the **All Resources** pool.

You can revise the resource pool hierarchy, such as moving a child pool from a parent pool in one hierarchy to a parent pool in a different hierarchy. However, you cannot move or delete the **All Resources** pool or **Resources with No Pool Membership** pool.

You can assign any project enterprise labor resource as a resource pool owner. Typically resource managers own the resource pools. When a resource manager searches for resources to fulfill a request, by default the application searches for resources who are members of resources pools that the resource manager owns. The search also includes any resource pools that are children of the resource pools that the resource manager owns.

You must remove all resources that are members of a pool before you can delete that pool. You must remove all resources that are members of child pools of a parent pool before you can delete the parent pool. If you delete a parent pool, the child pools are also deleted.

Maintaining Resource Pool Membership

All managed project enterprise labor resources are members of a resource pool. Resources can belong to only one pool. The **Resources with No Pool Memberships** pool is the default pool for new resources.

You can move resources to different resource pools individually or as a group. Use the Manage Resource Pools page to change the resource pool that resources belong to. You can select the source pool on the resource pool hierarchy and then drag and drop pool members onto the target pool. You can also move resources by selecting pool members and clicking the **Move Resources** button to open a window to select the target resource pool.

If you deselect the option to manage a resource's availability and staffing in Oracle Fusion Project Resource Management, then the resource is no longer eligible to fulfill project resource requests. If you deselect this option after selecting it, the resource's pool membership is affected as follows:

- If the resource is not used in Oracle Fusion Project Resource Management, then the application automatically removes the resource from any resource pool.
- If the resource's name appears in the Resource field on a project resource request in any status, then the resource remains in a resource pool for historical reporting purposes.

Using Resource Pools

When resource managers search for resources to fulfill project resource requests, they can search from pools that they own, or select one or more resource pools to focus the search to specific groups of resources. There is no restriction to the resource pools that resource managers can search to find qualified resources to fulfill project resource requests.

Resource managers use the resource pool hierarchy to review projected utilization on the Resource Manager Dashboard. The dashboard monitors utilization of resources and resource pools and other related analytics.

Project Resource Search Index: How It Is Maintained

The Maintain Project Resource Search Index job set consists of processes that facilitate efficient and rapid searching for qualified resources to fulfill project resource requests.

The job set maintains the search index of project resource qualifications, qualification proficiencies, and filters. The application uses the index to calculate resource Qualification scores and filter counts during the search for resources, and to display resource details.

These actions depend on indexed resource data:

- Initiating a search for resources for a project resource request
- Modifying search criteria on the Search and Evaluate Resources page and conducting a new search
- Modifying the resource pools that the search uses
- Increasing the resource match thresholds for the Qualification or Available Capacity scores

- Selecting new search filters, such as competencies, languages, locations, and project roles
- Displaying resource details

How the Project Resource Search Index Is Maintained

You can run or schedule the Maintain Project Resource Search Index job set on the Scheduled Processes page. In addition, the Maintain Project Resource Search Index job set starts automatically after you run the Maintain Project Enterprise Labor Resources process to create resources or remove resource availability for staffing.

The Maintain Project Resource Search Index job set starts the following processes to update the search index.

- Maintain Project Resource Qualification Index process

Maintains the index of active qualifications and qualification proficiencies for project resources. A qualification is indexed if the date the process runs is within the effective dates of the qualification. The index is used to calculate project resource qualification scores when searching for qualified resources to fulfill a project resource request.

- Maintain Project Resource Qualification Filters process

Maintains the qualification filters and count of resources that have each qualification.

- Maintain Project Resource Single Attribute Filters process

Maintains the filters for attributes for which a resource can have only a single value, such as location and project role. Maintains the count of resources that have each attribute.

Run the Maintain Project Resource Search Index job set often enough to account for the following changes:

- Changes in qualifications and proficiencies for an HCM person who is associated with a project enterprise labor resource.
- Enabling a resource's eligibility to fulfill project resource requests, which is indicated on the resource profile with the option to manage the resource availability and project staffing.
- New or terminated resources.

For example, assume that you require resources to update their qualifications when they complete a project, and the average project duration is two weeks. You can schedule the Maintain Project Resource Search Index job set to run once every two weeks to update the index with the latest resource qualification changes.

Important

Resource managers cannot search for resources or view resource details if the search index is not available. The search index will not be available if the

Maintain Project Resource Search Index process fails, or during the time that the process is running.

FAQs for Define Project Enterprise Labor Resources

What's the difference between a project enterprise labor resource and a managed project enterprise labor resource?

A project enterprise labor resource is a resource that you can assign to multiple projects.

A managed project enterprise labor resource is a project enterprise resource who is associated with a named person in HCM, and whose availability and staffing are managed in Oracle Fusion Project Resource Management. You use managed project enterprise labor resources to fulfill project resource requests.

Who can be a member of a resource pool?

To be a member of a resource pool, you must be a managed project enterprise labor resource whose availability and staffing are managed in Oracle Fusion Project Resource Management.

A resource who was previously eligible for staffing and fulfilled a project resource request will remain a member of the pool even if the Manage Resource Availability and Staffing option is subsequently disabled for the resource.

Can I delete a resource from a resource pool?

No. Instead, you can move the resource to another resource pool. For example, you can create a pool for inactive resources.

How can I change the resource pool for resources?

To change the resource pool that resources belong to, go to the Manage Resource Pools page. Select the source pool on the resource pool hierarchy and then select, drag, and drop pool members onto the target pool in the resource pool hierarchy.

Alternatively, you can select pool members and click the **Move Resources** button to open a window to select the target resource pool.

What is the processing order of project enterprise labor resource maintenance conditions?

Records are processed by the Maintain Project Enterprise Labor Resources process in ascending order based on the process order value that you specify on the Create Condition page. For example, assume that an HCM person is included in a condition with a process order value of 1. If a resource does not already exist

for that HCM person, then the process creates a resource for the condition with the process order value of 1, even if subsequent conditions also apply to the HCM person.

If multiple conditions have the same process order value, then records are processed in ascending alphabetical order based on the condition name.

How can I diagnose issues with resource eligibility when creating project enterprise labor resources?

Run the Project Enterprise Labor Resource Eligibility diagnostic test from the **Help - Troubleshooting - Run Diagnostic Tests** menu to determine whether a person in Oracle Fusion HCM is eligible to become a project enterprise labor resource. The test generates a report showing the results of three eligibility parameters.

- **Project Enterprise Labor Resource:** Validates that a project enterprise labor resource does not exist for the person.
- **Work E-Mail:** Validates that the person has a valid work e-mail, and the e-mail is not associated with an existing project enterprise labor resource.
- **Primary Assignment:** Validates that the person has an active primary assignment for a person type of Employee or Contingent Worker.

Manage Target Utilization Percentages

Resource Target Utilization Percentage: How It Is Determined

Target utilization is the percentage of hours that project enterprise labor resources are expected to work on project assignments compared to their available hours. The project administrator specifies the default target utilization for the enterprise, and then specifies target utilization overrides for individual jobs.

Factors That Affect Resource Target Utilization Percentage

The following factors affect the Resource Target Utilization Percentage.

- **Enterprise Target Utilization Percentage:** Target utilization percentage that applies to all managed project enterprise labor resources in the enterprise unless specific override percentages exist for a resource's job.
- **Target Utilization Percentage Overrides:** Target utilization percentages that override the enterprise target utilization percentage for resources with specific jobs.

How the Resource Target Utilization Percentage Is Determined

The application uses the enterprise target utilization percentage for a resource if no override percentage exists for the resource's job. The default target utilization

is 100%. The project application administrator can enter a new value in the Enterprise Target Utilization Percentage field on the Manage Target Utilization Percentages page.

If you enter a target utilization percentage override on the Manage Target Utilization Percentages page for a resource's job, then the application uses that percentage to compare to the resource's projected utilization on the Resource Manager Dashboard. The job is based on the resource's active primary HCM assignment.

Target utilization percentages can be whole numbers from 0 - 100. You can enter one override percentage for each job.

Example

Assume that the target utilization for the enterprise is 80%. To set up the target utilization, change the default enterprise target utilization percentage from 100% to 80% on the Manage Target Utilization Percentages page.

Also assume that Senior Architects spend half their time on internal activities. To set up the target utilization for Senior Architects, enter 50% as the target utilization override for the job of Senior Architect.

The application will use 50% as the target utilization for all project enterprise labor resources with the job of Senior Architect, and 80% utilization for all other project enterprise labor resources.

Other Common Setup and Maintenance Tasks

Define Transactional Business Intelligence Configuration

Define Transactional Business Intelligence Configuration: Highlights

Configure Oracle Transactional Business Intelligence for ad hoc reporting, review certain setup objects to be used in Transactional Business Intelligence, and manage the presentation catalog and currency type display.

Defining Transactional Business Intelligence Configuration

- Review details about the Transactional Business Intelligence tasks. Refer to the Oracle Fusion Transactional Business Intelligence Administrator's Guide.

Access to Person Data

Assigning Security Profiles to Job Roles for Oracle Fusion Transactional Business Intelligence Users: Explained

Users of Oracle Fusion Transactional Business Intelligence (Transactional Business Intelligence) need access to some person data for reporting purposes. To provide this access, you assign a predefined security profile to relevant job or abstract roles using the Oracle Fusion Human Capital Management (HCM) setup task Manage Data Role and Security Profiles. On completion of this task, Oracle Fusion Data Security is updated automatically for roles being used to access Transactional Business Intelligence.

Job or Abstract Roles and Related Security Profiles

The following table identifies, by Oracle Fusion product, the job and abstract roles that need access to person data and the predefined security profile that you assign to each role.

Product	Job or Abstract Role	Security Profile
Oracle Fusion Assets	Asset Accountant	View All Workers
Oracle Fusion Assets	Asset Accounting Manager	View All Workers
Oracle Fusion Enterprise Planning and Budgeting	Budget Analyst	View All Workers
Oracle Fusion Enterprise Planning and Budgeting	Budget Manager	View All Workers
Oracle Fusion Financial Consolidation Hub	Consolidation Accountant	View All Workers
Oracle Fusion Financial Consolidation Hub	Consolidation Manager	View All Workers
Oracle Fusion Financials Common Module	Intercompany Accountant	View All Workers
Oracle Fusion General Ledger	Financial Analyst	View All Workers
Oracle Fusion General Ledger	General Accountant	View All Workers
Oracle Fusion General Ledger	General Accounting Manager	View All Workers
Oracle Fusion Incentive Compensation	Incentive Compensation Participant Manager	View Manager Hierarchy
Oracle Fusion Inventory Management	Warehouse Manager	View All Workers
Oracle Fusion Project Foundation	Project Accountant	View All Workers
Oracle Fusion Project Foundation	Project Administrator	View All Workers
Oracle Fusion Project Foundation	Project Billing Specialist	View All Workers
Oracle Fusion Purchasing	Buyer	View All Workers
Oracle Fusion Sourcing	Category Manager	View All Workers
Oracle Fusion Sourcing	Sourcing Project Collaborator	View All Workers

For example, as part of their Transactional Business Intelligence setup:

- Oracle Fusion Assets implementors must assign the predefined security profile View All Workers to the Asset Accountant and Asset Accounting Manager job roles.
- Oracle Fusion Incentive Compensation implementors must assign the predefined security profile View Manager Hierarchy to the abstract role Incentive Compensation Participant Manager.

The security profiles that HCM roles need to access Transactional Business Intelligence are assigned during the setup of HCM data security: no additional setup is required for Transactional Business Intelligence purposes.

Enabling an Oracle Fusion Transactional Business Intelligence User to Access Person Data: Worked Example

This example shows how to assign a security profile to a job or abstract role to enable users with that role to access person data. This task is required for users of Oracle Fusion Transactional Business Intelligence (Transactional Business

Intelligence) who do not also use Oracle Fusion Human Capital Management (HCM).

The following table summarizes key decisions for this scenario. When performing this task, use the job or abstract role for your product and the name of the relevant predefined person security profile in place of those shown here.

Decisions to Consider	In This Example
What is the name of the Transactional Business Intelligence job or abstract role?	Warehouse Manager
What is the name of the person security profile?	View All Workers

Summary of the Tasks

To perform these tasks, you must have the role IT Security Manager.

1. Launch the task Manage Data Role and Security Profiles.
2. Search for the job or abstract role.
3. Assign the relevant predefined security profile to the job or abstract role.

Launching the Task Manage Data Role and Security Profiles

1. On the Overview page of the Setup and Maintenance work area, click the **All Tasks** tab.
2. In the Search region, complete the fields as shown in this table:

Field	Value
Search	Tasks
Name	Manage Data Role and Security Profiles

3. Click **Search**.
4. In the search results, click **Go to Task** for the Manage Data Role and Security Profiles task.

Searching for the Job or Abstract Role

1. On the Manage HCM Data Roles page, enter the job name Warehouse Manager in the **Role** field.
2. Click **Search**.
3. In the search results, highlight the entry for the Warehouse Manager job role.
4. Click **Assign**.

Assigning the Security Profile to the Job Role

1. In the **Person Security Profile** field on the Assign Data Role: Security Criteria page, select the security profile View All Workers.
2. Click **Review**.

3. On the Assign Data Role: Review page, click **Submit**.

Define Extensions: Define Custom Enterprise Scheduler Jobs for Project Execution Management

Managing Job Definitions: Highlights

Oracle Enterprise Scheduler jobs are run in Oracle Fusion Applications to process data and, in some cases, to provide report output. A job definition contains the metadata that determines what the job does and what options are available to users who run the job. You can create and maintain job definitions for use in Oracle Fusion Applications.

Managing job definitions is fully described in the Oracle Fusion Applications Administrator's Guide. As you read content from that guide, note that the guide describes managing Oracle Enterprise Scheduler, including job definitions, from Oracle Enterprise Manager Fusion Applications Control. You can also access job definitions by starting in the Setup and Maintenance Overview page and searching for the Enterprise Scheduler job tasks for your applications.

Selecting the Appropriate Implementation Task

Each Enterprise Scheduler job definition task uses one Java EE application, which is referenced in the task name. You must use the right task because, to access the product job definition that you want to view or work on, the view objects must be contained in the application. If you do not select the right task, then the job definition will not be displayed properly or function correctly. The application name is usually the same as the product that the job definition belongs to, but not always.

- For example, the Oracle Fusion Payables Java EE application contains the Oracle Fusion Expenses product view objects. To create or maintain a job definition for use in Expenses, you select the Manage Custom Enterprise Scheduler Jobs for Payables and Related Applications task.
- In another example, the Oracle Fusion Payments product view objects are contained in both Oracle Fusion Payables and Oracle Fusion Receivables Java EE applications. You need to select the task appropriate to the job definition for Payments. Use the Manage Custom Enterprise Scheduler Jobs for Receivables and Related Applications task if the job is for receivables functionality, or the Manage Custom Enterprise Scheduler Jobs for Payables and Related Applications task if the job is for payables functionality.
- Use the task description to see the products that correspond to the Java EE application specified in the task name. For example, the description for the Payables task lists Oracle Fusion Payables, Assets, Expenses, and Payments.
 - You can view task descriptions in the help window for the task, if any, or in the generated setup task lists and tasks report from the Getting Started page.
 - If you have access to the Manage Task Lists and Tasks page, you can also open the details for specific tasks to see the description.

- For general information about product and Java EE application relationships, use Oracle Enterprise Manager Fusion Applications Control (Fusion Applications Control).

See: Topology Section

Viewing and Creating Job Definitions

- You can access predefined and custom job definitions.

See: Viewing Job Definitions

- You can create jobs based on Java, PL/SQL, or any other supported technology.

See: Creating a Job Definition

- If you are using the Setup and Maintenance work area, then the Enable submission from Enterprise Manager check box is available for the job definition.
 - If you do not select this check box, then the job cannot be run from Enterprise Manager.
 - If you select this check box, then you can define parameters for this job definition only in Enterprise Manager. Save the rest of your work on the job definition, and then go to Enterprise Manager if you need to define parameters.

Managing List of Values Sources: Highlights

A list of values source for Oracle Enterprise Scheduler job definitions determines where a list of values comes from and what the specific values are. These lists of values are used in parameters and user properties of job definitions. For example, you can use a source of country values for a Country job parameter.

Managing list of values sources is fully described in the Oracle Fusion Applications Administrator's Guide. As you read content from that guide, note that the guide describes managing Oracle Enterprise Scheduler, including list of values sources, from Oracle Enterprise Manager Fusion Applications Control. You can also access list of values sources by starting in the Setup and Maintenance Overview page and searching for Enterprise Scheduler job tasks.

Registering and Searching for List of Values Sources

- Create list of values sources to register them for use in job definitions.

See: Registering Sources for Lists of Values

- Search for list of values sources to edit or delete, or to make sure a particular source does not already exist before you create it.

See: Searching for List of Value Sources

Customization and Sandboxes

Customizing Pages Using Page Composer: Highlights

You can customize dashboards and some work areas, where available, for all or some users based on a selected customization layer, for example only for users in a specific country or with a specific job role. When you select to customize a page from the **Administration** menu in the global area, you invoke Page Composer, which enables the customization. The Administration menu is only available if you have appropriate roles.

From the same menu, you can also:

- Customize the global area.
- Manage customizations by accessing a list of components in the current page and details about the layers in which each component is customized.
- Access sandboxes to make customizations to a runtime use session before deploying your changes to the mainline.

Customizing pages using Page Composer, managing customizations, and using sandboxes are described in the Oracle Fusion Applications Extensibility Guide. For more information on customization layers, see assets with the Customization Layer type in Oracle Enterprise Repository for Oracle Fusion Applications (<http://fusionappsoer.oracle.com>).

Editing Pages

- Customizations that you can make to existing pages include adding content and changing layout.

See: Editing a Page in Page Composer

- You can also update display and other options for specific components within the page.

See: Editing Component Properties in Page Composer

Global Page Template

- Customize the global area at the site layer.

See: Editing the UI Shell Template Used by All Pages

Managing Customizations

- Use the Manage Customizations dialog box to analyze and diagnose customization metadata, and to perform customization related tasks that cannot be done in the user interface, for example to revert customizations to a previous version. You can also do direct customization by manipulating the metadata and uploading it back.

See: Viewing and Diagnosing Runtime Customizations

Sandboxes

- Create or select an appropriate sandbox, and set it as active to capture your customizations using Page Composer. When you are ready, you publish the sandbox to make your changes available to users.

See: Using the Sandbox Manager

Sandboxes: Highlights

Use a sandbox to commit customizations to a runtime use session for validation before deploying changes to the mainline. Administrators create and manage sandboxes. An active sandbox isolates changes from the mainline and other users.

Sandboxes can contain the following types of customization changes.

- Metadata, such as non-flexfield UI page customizations
- Data security
- Generated flexfields business components

Metadata changes are captured in a metadata sandbox. Data security changes are additionally captured in a data security enabled sandbox. Changes to a flexfield are captured in a flexfield that is deployed as a single flexfield sandbox. Once you are ready to make sandbox changes available in the mainline, you either publish the metadata or data security sandbox, or deploy the flexfield. Only metadata and data security sandboxes can be downloaded as a sandbox file for import to another Oracle Fusion Applications instance.

The following table lists the differences among the types of sandboxes.

Type of Changes	Type of Sandbox	Method for Making Changes Available in Mainline	Downloadable?
Metadata	Sandbox	Publish sandbox	Yes
Data security	Sandbox enabled for data security changes	Publish sandbox	Yes
Flexfield	Flexfield deployed as a flexfield-enabled sandbox	Deploy flexfield	No

Only one sandbox can be active at a time. Changes made while a sandbox is active are captured in that sandbox.

For more information on using the Sandbox Manager, and customizing and securing pages, business objects, data, and custom objects in a sandbox, see the Oracle Fusion Applications Extensibility Guide.

Managing a Page Customization Sandbox

You can make metadata (MDS) type changes in a sandbox, including menu customizations, changes to the personalization menu, implicit ADF customizations, or changes made with Oracle Composer or CRM Application Composer.

- If you are entitled to do so, manage sandboxes in the Sandbox Manager.

See: Using the Sandbox Manager

- Implement customizations on an existing page to change the metadata of a sandbox before deploying the changes to the mainline.

See: Customizing Existing Pages

- Using CRM Application Composer, customize business objects in a sandbox before deploying the changes to the mainline.

See: Customizing Objects

Managing a Data Security Sandbox

You can create a sandbox for data security testing, or designate an existing sandbox to become enabled for data security testing.

- If you are entitled to do so, manage data security-enabled sandboxes in the Sandbox Manager.

See: Using the Sandbox Manager

- If you customize business objects in CRM Application Composer, you may need to define data security policies to make them accessible to users.

See: Defining Security Policies for Business Objects

- If you create new business objects, you need to secure them.

See: Customizing Security for Custom Business Objects

Managing a Flexfield Sandbox

You create a flexfield-enabled sandbox by deploying one flexfield to a sandbox using the Manage Flexfield task flow. The flexfield sandbox gets its name from the flexfield you deploy. You cannot test two flexfields in the same sandbox. Once you deploy a flexfield as a sandbox, you must sign out and back in to view how the sandbox runtime reflects the flexfield changes, such as new segments. You can redeploy the same flexfield to the same sandbox repeatedly as you make incremental changes to the flexfield setup.

- Since a flexfield sandbox cannot be published, any page customizations or data security in the flexfield sandbox cannot reach the mainline when the flexfield is deployed to the mainline. If you have entitlement to do so, see Deploying a Flexfield to a Sandbox: Points to Consider.
- If you are entitled to do so, manage flexfield-enabled sandboxes in the Sandbox Manager.

See: Using the Sandbox Manager

FAQs for Other Common Setup and Maintenance Tasks

How can I change the web mapping service for displaying contextual addresses?

Edit the Mapping Service for Contextual Addresses profile option value. A contextual address is marked with an orange square icon that can be clicked

to display the address on a map. The profile option value represents the web mapping service used to display the map. To update this value, use the Manage Administrator Profile Values task in the Setup and Maintenance work area.

External Integration

Web Services: Overview

Use web services to integrate web-based applications into your Oracle Fusion applications. Web services expose Oracle Fusion Applications business objects and processes to other applications through the use open standards-based technologies. Some of these technologies include Extensible Markup Language (XML), Simple Object Access Protocol (SOAP), Business Process Execution Language (BPEL), Web Services Description Language (WSDL), and XML schema definitions (XSD). Oracle Fusion Applications web services support development environments and clients that comply with these open standards. Oracle Fusion Applications includes two types of web services: Application Development Framework (ADF) services and composite services. The following table describes the two types.

Web Service Type	Description
ADF services	<p>ADF services usually represent business objects, such as employees or purchase orders. ADF services typically expose standard operations, such as create, update, and delete. However, for locally-persisted objects, ADF services are not limited to these operations.</p> <p>Examples of ADF services include:</p> <ul style="list-style-type: none"> • <code>Worker.changeHireDate</code> - a service that updates the hire date of the worker business object. • <code>ProjectTask.createTask</code> - a service that adds a task to the project task business object.
Composite services	<p>Composite services usually represent end-to-end business process flows that act on business events produced by the ADF services. Composite services orchestrate multiple object-based services, rules services, and human workflows. Examples of composite services include:</p> <ul style="list-style-type: none"> • <code>ProjectStatusChangeApproval.process</code> - a service that accepts the change in project status. • <code>ScheduleOrchestrationOrderFulfillmentLineService.scheduleOrder</code> - a service that schedules resources used to fulfill an order.

Access Oracle Enterprise Repository for Oracle Fusion Applications to find detailed information about integration assets, such as web services. To view lists of web services, select these asset types:

- ADF Service
- ADF Service Data Object
- Composite Service
- Composite

Service methods and parameters, the service path, the WSDL URL and other technical data, appear on the Detail tab of each web service. Step-by-step instructions regarding the invocation of a service and the service XSD appear on the Documentation tab.

Files for Import and Export

Files for Import and Export: Highlights

The File Import and Export page accesses repositories of content. For example, each Oracle Fusion Applications instance connects to a single Oracle WebCenter Content server for content management.

The following documents describe use and administration of content management:

- Oracle WebCenter Content User's Guide for Content Server
- Oracle WebCenter Content System Administrator's Guide for Content Server

Using Content Management

- For information about what objects to upload and download, including templates for external data integration, refer to the Oracle Enterprise Repository for Oracle Fusion Applications.
- For general access to content management, including to all metadata and to manage accounts, use the Oracle WebCenter Content Server's standard service user interface.

See: Oracle WebCenter Content User's Guide for Content Server

- For information on creating accounts in WebCenter Content accounts, refer to WebCenter Content System Administrator's Guide for Content Server.

See: Accounts

- For information about naming accounts involved with import and export, see Files for Import and Export: Points to Consider.
- For programmatic upload and download to content management, refer to Oracle WebCenter Content System Administrator's Guide for Content Server.

See: About Batch Loading

- For information about the Oracle WebCenter Content Server Document Transfer Utility, see documentation resources in Oracle Enterprise Repository for Oracle Fusion Applications (<http://fusionappsoer.oracle.com>).

Security in Content Management

- For information about security, see the Security tab in Oracle Enterprise Repository for Oracle Fusion Applications.
- For information about roles such as the integration specialist roles for each product family, see the Oracle Fusion Applications security reference manuals for each offering. For example:

See: Oracle Fusion Applications Common Security Reference Manual

Files for Import and Export: Explained

You can import data into or export data out of Oracle Fusion Applications using repositories of content and processes for import and export.

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.

- The File Import and Export page
- Interacting with content management
- Uploading for import
- Downloading for export
- File size

The File Import and Export Page

The File Import and Export page lets you upload content to, or download content from the document repository of Oracle WebCenter Content Management.

Search criteria on the page are limited to the minimum metadata of content management records needed for file import and export.

Navigation: **Navigator > Tools > File Import and Export.**

Interacting with Content Management

Everyone who uses the File Import and Export page is assigned to one or more accounts in content management.

Accounts organize and secure access to content items.

Uploading for Import

Uploading a file creates a record.

When you create a record, you must specify an account as well as the file. When you create a record, you must specify an account as well as the file. The account you specify determines which import process picks up that file to import it.

You can upload any file formats that can be parsed by the content repository being used, such as any MIME or content types. However, the format uploaded should conform to the requirements of the import process being used, such as a comma-separated values (CSV) file for the Load Interface File for Import process.

Downloading for Export

Processes you run to export data result in files in content management. Records in the search results table of the File Import and Export page provide links to the files for download.

Note

The owner of a data export file can be an application ID (APPID).

File Size

Upload and download does not intentionally apply the following:

- Data compression
- File chunking or splitting

The `UPLOAD_MAX_DISK_SPACE` parameter in the `web.xml` file determines the maximum allowable file size in content management. The default maximum size is 10240000 (10MB).

Files for Import and Export: Points to Consider

Interaction between the File Import and Export page and Oracle WebCenter Content Management requires securing content in an account. Oracle provides predefined accounts in Oracle WebCenter Content.

Areas of file import and export to consider involve the following.

- Security
- Searching records
- Accessing content in a new account
- Account names

- Deleting files

Security

The duty role needed for accessing the File Import and Export page is File Import and Export Management Duty. This duty role is included in the predefined role hierarchy for integration specialist roles and product family administrator roles.

Files in Oracle WebCenter are associated with an account so that only users who have permission to a particular account can work with content items that belong to that account. You can only upload and download files to and from content management that are associated with accounts that you are entitled to access.

Oracle WebCenter Content does not support trailing slashes (/). Account names are appended with a \$ to ensure each account is unique. Account names are dynamic so that if they overlap (one name is completely contained in another, longer name, such as US and USSales), each account is treated as discrete by access grants.

Security such as virus scanning is handled by the underlying integrated content management.

Searching Records

A record in Oracle WebCenter content management contains metadata used for accessing the file.

When a scheduled process has run to completion on a file, the record for the file includes a process ID.

Accessing Content in a New Account

When you create a new account in Oracle WebCenter Content and the Oracle WebCenter Content Server is not restarted, access to content in the new account from the File Import and Export page may be delayed until the policy store is updated.

Account Names

If you create custom accounts for importing or exporting data, use the following conventions for naming the account: Do not include a slash "/" at the beginning or end. End with "\$" to avoid partial string matching. Use "\$/" as a separator in the hierarchical structure.

For example: `fin$/journal$/import$`. The File Import and Export page transforms account names by removing the \$s. For example `fin$/journal$/import$` displays as `fin/journal/import`. The Remote Introdoc Client (RIDC) HTTP command-line interface (CLI) transforms the account name you specify without \$ symbols to one that includes them. For example, `fin/journal/import` becomes `fin$/journal$/import$` in WebCenter Content.

Deleting Files

In the File Import and Export page, you can delete one file at a time. To delete multiple files at a time from content management, use the content management server's standard service user interface.

External Data Integration Services for Oracle Cloud

External Data Integration Services for Oracle Cloud: Overview

Use External Data Integration Services for Oracle Cloud to load data into Oracle Fusion Applications from external sources, such as legacy systems and third-party applications.

Components of External Data Integration Services for Oracle Cloud include:

- Templates and control files for formatting, structuring, and generating the data file.
- A general file load process for loading values from the data file into interface tables.
- Application-specific data import processes for transferring data from interface tables to the application tables in your Oracle Fusion Applications.

To use External Data Integration Services for Oracle Cloud to load data into Oracle Fusion Applications tables:

1. Prepare your data and generate a data file by using the product-specific templates and control files.
2. Transfer the data file to the integrated content management server.
3. Run the Load Interface File for Import process.
4. Correct data load errors, if necessary.
5. Run the appropriate application-specific process for validating and inserting the data into application tables.
6. Correct data import errors, if necessary.

For templates and control files, see assets with the File-Based Data Import type in Oracle Enterprise Repository for Oracle Fusion Applications (<http://fusionappsoer.oracle.com>). For more information, see the Documentation tab for the Load Interface File for Import process in Oracle Enterprise Repository.

Accessing Templates to Prepare External Data: Explained

External data that you integrate into your Oracle Fusion Applications must be structured and formatted according to the properties of the fields and tables that store the data. To prepare external data so that data types, structural relationships, and other properties of the data correctly align to the data types, structural relationships, and properties of the target tables, use the product-specific templates and control files in Oracle Enterprise Repository for Oracle Fusion Applications.

You access these files from the Documentation tab of the scheduled process that corresponds to the interface tables that store the data. To find the process, you can search the interface table or you can search the specific process, if you know it.

Aspects of preparing external data using templates involve these tasks.

- Finding templates and control files
- Downloading the templates
 - Opening XLS templates
 - Opening XML templates

Finding Templates and Control Files

To find the templates and control files:

1. Sign in to Oracle Enterprise Repository.
2. Use the fields in the Search pane to find the templates.
3. Enter the information in the following table to search by scheduled process :

Field	Value
Search String	FBDI
Type	FusionApps: Scheduled Process

Note

You can further narrow the search by logical business area.

4. Click Search.
The search displays a Load Interface File for Import job.

Downloading the Templates

To download the templates:

1. Select the Load Interface File for Import job in the upper pane and then click the Documentation tab in the lower pane.
Notice the list of links to application-specific import jobs.
2. Click a link to access the job.
3. Click the Documentation tab.
4. Click the links at the bottom of the tab to access:
 - Control files, which describe the logical flow of the data load process
 - XLS templates, which include worksheets and macros that assist you in structuring, formatting, and generating your data file

- XML templates for Oracle Data Integrator

Opening the XLS Template

If you intend to prepare your data in a spreadsheet format, download the XLS template:

1. Open the XLS template. The first worksheet in each template provides instructions for using the template.

Important

If you omit or fail to complete the instructions, data load errors and data import failure are likely.

-
2. Save a copy of the file.
 3. Click the Generate CSV File button.

The macro generates a comma-separated values (CSV) file and compresses it into a ZIP file; you must transfer the ZIP file to the content management server.

Opening the XML Template

If you intend to prepare your data in using Oracle Data Integrator (ODI), download the XML template into ODI:

1. Import the family-level template as a model folder.
2. Import the product-level template as a model folder within the family-level model folder.
3. Import the product template as a model within the product-level model folder
4. Create the integration project.
5. Create the package.
6. Add and configure these elements:
 - a. The integration projects
 - b. ODIZip tool
 - c. The content management document transfer utility (Currently not available in Oracle Cloud implementations.)
7. Execute the package.

The package generates the CSV file and compresses it into a ZIP file.

Note

In Oracle Cloud implementations, you must upload the ZIP file to the content management server in Oracle Cloud. In non-Cloud implementations, you can streamline the data integration process by installing the content management document transfer utility so ODI performs the ZIP file transfer.

Using Excel Integration Templates to Generate Data Files: Points to Consider

Oracle Enterprise Repository for Oracle Fusion Applications includes 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. By following the instructions with exactness when you use the templates, you ensure that your data conforms to the structure and format of the target application tables.

Templates

This list details the characteristics of the templates:

- 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.
- The worksheet columns appear in the order that the control file processes the data file.
- The columns that you do not intend to use can be hidden, but not reordered or deleted.

Important

Deleting or reordering columns will cause the load process to fail and result in an unsuccessful data load.

-
- The external data must conform to the data type that the control file and process for the associated database column accepts.
 - Date column values must appear in the YYYY/MM/DD format.
 - Amount column values must appear with no 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.
 - Columns are formatted, where applicable, to match the expected data type to eliminate data entry errors.
 - For columns that require internal ID values, refer to the bubble text for additional guidance about finding these values.

- When using Microsoft Excel to generate or update the CSV file, you must select YYYY/MM/DD as your regional setting for date values.

Using XML Templates to Generate Data Files for Integration: Highlights

Oracle Enterprise Repository for Oracle Fusion Applications includes XML integration templates assets that you use with Oracle Data Integrator (ODI) to generate import files from your external data.

To use the XML templates and generate the import files, you must:

- Install and set up Oracle Data Integrator
- Create source and target models
- Create integration projects

Note

In Oracle Cloud implementations, you must upload the ZIP file to the content management server in Oracle Cloud. In non-Cloud implementations, you can streamline the data integration process by installing the content management document transfer utility so ODI performs the ZIP file transfer.

Oracle Data Integrator provides a solution for integrating complex data from a variety of sources into your Oracle Fusion applications. The Oracle Fusion Middleware Installation Guide for Oracle Data Integrator and the Oracle Fusion Middleware Developer's Guide for Oracle Data Integrator provide complete details pertaining to the installation and set up of this product.

Installing and Setting Up Oracle Data Integrator

- Install Oracle Data Integrator to use Oracle Fusion Applications XML integration templates. Refer to the Oracle Fusion Middleware Installation Guide for Oracle Data Integrator.

See: Installing Oracle Data Integrator

- Set up Oracle Data Integrator to use Oracle Fusion Applications XML integration templates. Refer to the Oracle Fusion Middleware Developer's Guide for Oracle Data Integrator.

See: Setting up the Topology

Creating Source and Target Models

- Create the ODI models for both the source and target datastores. You determine the source models that you use based on the system or technology of the external data that you to import into your Oracle Fusion application. You create the target models by importing the XML files, which you download from Oracle Enterprise Repository. For more information, refer to the Oracle Fusion Middleware Developer's Guide for Oracle Data Integrator.

See: Creating and Reverse-Engineering a Model

Configuring Integration Projects

- Create and configure an integration project, which entails selecting the knowledge modules, creating the interfaces, and mapping the source and target datastores. For more information, refer to the Oracle Fusion Middleware Developer's Guide for Oracle Data Integrator.

See: Creating an Integration Project

Using XML Integration Templates to Generate Data Files: Points to Consider

Use XML templates in Oracle Data Integrator to prepare your external data for loading and importing. Oracle Enterprise Repository for Oracle Fusion Applications includes three types of XML templates that you import as target models in your Oracle Data Integrator repository.

Oracle Enterprise Repository includes these three levels of XML files:

- Family-level
- Product-level
- Product

Family-Level XML Files

A family-level XML file is common to a group of product-level model folders and product models.

Consider the following points when you use family-level XML files:

- The family-level XML file supports all of the Oracle Enterprise Repository assets in the family, for example Oracle Fusion Financials or Human Capital Management.
- You import the family-level XML file into your Oracle Data Integrator repository prior to importing the other XML files.
- You import one family-level XML file as a model folder for each family of products.
- You import each family-level XML file as a top-level model folder.
- You import the family-level XML file one time; it supports all subsumed product-level model folders.
- You select Synonym mode Insert Update as the import type.

Product-Level XML Files

A product-level XML file is common to a group of product models.

Consider the following points when you use product-level XML files:

- The product-level XML file supports all of the Oracle Enterprise Repository assets in the product line, for example Fixed Assets, General Ledger, or Payables.
- You import one product-level XML file as a model folder for each line of products.
- You import the product-level XML file as a model folder into your Oracle Data Integrator repository after you import the family-level XML file, but before you import product XML files.
- You import each product-level XML file as a midlevel model folder within the appropriate family-level model folder.
- You import the product-level XML file one time; it supports all subsumed product models.
- You select Synonym mode Insert Update as the import type.

Product XML Files

A product XML file represents a specific Oracle Enterprise Repository interface table asset.

Consider the following points when you use product XML files:

- You import one product XML file as a model for each interface table or set of tables, for example Mass Additions.
- You import the product XML file as a model into your Oracle Data Integrator repository after you import the product-level XML file.
- You import each product XML file as a model within the appropriate product-level model folder.
- You import each product XML file one time.
- You select Synonym mode Insert Update as the import type.
- The model is based on File technology.
- After you import the product model, you connect the model to the correct logical schema.

Transferring Data Files to Content Management: Explained

After you generate the comma-separated values (CSV) file, transfer it to the content management server.

You can use the following methods to transfer files:

- File Import and Export page in Oracle Fusion Applications

- Oracle WebCenter Content Document Transfer Utility
- Oracle web service

For details about programmatic file transfer using the Oracle WebCenter Content Document Transfer Utility, refer to documentation resources in Oracle Enterprise Repository for Oracle Fusion Applications (<http://fusionappsoer.oracle.com>).

Aspects of transferring data files to content management involve the following:

- Target accounts
- Accessing transferred content

Target Accounts

You must transfer files to the predefined account in content management that corresponds to the interface table or assets.

Interface Table	Predefined Account
Payables Standard Invoice Import	fin/payables/import
<ul style="list-style-type: none"> • AutoInvoice Import • Receivables Standard Receipt Import • Customer Import • China Value Added Tax Invoice Import 	fin/receivables/import
<ul style="list-style-type: none"> • BAI2 Format Bank Statements Import • EDIFACT FINSTA Format Bank Statements Import • ISO200022 CAMT053 Format Bank Statements Import • SWIFT MT940 Format Bank Statements Import 	fin/cashManagement/import
<ul style="list-style-type: none"> • Fixed Asset Mass Additions Import • Fixed Asset Mass Adjustments Import • Fixed Asset Mass Retirements Import • Fixed Asset Mass Transfers Import • Fixed Asset Units of Production Import 	fin/assets/import
Intercompany Transaction Import	fin/intercompany/import
<ul style="list-style-type: none"> • Journal Import • Chart Of Account Segment Values and Hierarchies Import 	fin/generalLedger/import
General Ledger Budget Balance Import	fin/budgetBalance/import
Supplier Bank Account Import	fin/payables/import
Tax Configuration Content Import	fin/tax/import
Import Blanket Purchase Agreements	prc/blanketPurchaseAgreement/import
Import Contract Purchase Agreements	prc/contractPurchaseAgreement/import

Import Purchase Orders	prc/purchaseOrder/import
Import Requisitions	prc/requisition/import
<ul style="list-style-type: none"> • Import Suppliers • Import Supplier Sites • Import Supplier Site Contacts • Import Supplier Site Assignments 	prc/supplier/import
Project Enterprise Resource Import	prj/projectManagement/import
Project Unprocessed Expenditure Item Import	prj/projectCosting/import
Cycle Count Import	scm/cycleCount/import
Inventory Reservation Import	scm/inventoryReservation/import
Inventory Transaction Import	scm/inventoryTransaction/import
Item Import	scm/item/import
Receiving Receipt Import	scm/receivingReceipt/import
Shipment Request Import	scm/shipmentRequest/import

You can create subaccounts for further file organization. However you need to create the subaccount under the predefined account for the asset you are integrating.

Accessing Transferred Content

To access your transferred data you must access the account that corresponds to the interface table or asset appropriate for the data.

Available data integration processes move the content into and out of Oracle Fusion Applications tables. Running an import or export process creates a process ID in content management that you can use to identify the content you wish to overwrite or extract.

Oracle Enterprise Scheduler import process jobs result in the following hierarchy of items in Oracle WebCenter Content Management:

- A root import job is a list of all unprocessed files in an account. This job submits the child jobs that process each unprocessed file.
- A parent import job is a single file ID, account name, and the import steps (download, extract, import) for a single job, job set, or subrequests. This type of job tags the file with its request ID, provided the file is not deleted immediately after successful import.
- A child import job is a direct data load from a prepared file, typically a SQLLoader. Typically, the parent import job submits this job.

Load Interface File for Import Process

Loads external setup or transaction data from the data file on the content management server to interface tables.

You run this process from the Scheduled Processes page. You can run it on a recurring basis.

Before running this process, you must:

1. Prepare your data file.
2. Transfer the data file to the content management server.

Parameters

Import Process

Select the target import process.

Data file

Enter the relative path and the file name of the ZIP data file on the content management server.

Importing Data into Application Tables: Procedure

The final destination for your external data is the application data tables of your Oracle Fusion Applications product.

Aspects of importing data into application tables involve 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 system 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:

1. Sign in to Oracle Fusion Applications.
2. In the Navigator menu, select Tools, Scheduled Processes
3. Click the Schedule New Process button.
4. Search and select the Load Interface File for Import job.
5. When the Process Details page appears:
 - a. Select the target import process.
 - b. Enter the relative path of the data file.

Note

The path is relative to the account in the content management server. If the file exists in the account, enter the file name only. If the file exists in a subaccount subordinate to the account, you must include all subaccounts and the file name.

- c. The data file is retained on the content management server when the process is complete.
6. Submit the process.

If no errors exist in the data file, then the process populates the interface tables.

Finding and Submitting the Import Process

Run the import process appropriate to your data to import the data into application data tables into the application tables of your Oracle Fusion Applications product.

To import your data:

1. Sign in to Oracle Fusion Applications.
2. In the Navigator menu, select Tools, Scheduled Processes
3. Click the Schedule New Process button.
4. Find and select the import process that is specific to the target application tables.
5. When the Process Details page appears, select the process that corresponds to the data that you are importing.

If you prepared your data using the spreadsheet template, select the process named in the Overview section of the spreadsheet.

6. Submit the process.

Note

For more detailed information on the process used for data prepared using the spreadsheet template, see the Instructions and CSV Generation tab of the spreadsheet template

Correcting Import Load Process Errors: Explained

The Load Interface File for Import process ends in error if the load of the data file fails on any row.

The following conditions apply when the process ends in error:

- The Load File to Interface child process ends in either warning or error.
- All rows that were loaded by the process are deleted, even those rows that loaded successfully.

To correct errors:

1. Review the error logs.
2. Change any formatting or structural anomalies that exist in the data.
3. Recreate the CSV and ZIP files.
4. Transfer the file to the content management server.
5. Submit the Load Interface File for Import job.
6. Repeat these steps until the process successfully loads the data.
7. Import the data using the appropriate product-specific process.

Importing and Exporting Setup Data

Configuration Packages: Explained

Almost all Oracle Fusion application implementations require moving functional setup data from one instance into another at various points in the lifecycle of the applications. For example, one of the typical cases in any enterprise application implementation is to first implement in a development or test application instance and then deploy to a production application instance after thorough testing. You can move functional setup configurations of applications from one application instance into another by exporting and importing Configuration packages from the Manage Configuration Packages page.

A Configuration Package contains the setup import and export definition. The setup import and export definition is the list of setup tasks and their associated business objects that identifies the setup data for export as well as the data itself. When you create a configuration package only the setup export and import definition exists. Once you export the configuration package appropriate setup data is added to the configuration package using the definition. Once a configuration package is exported, the setup export and import definition is locked and cannot be changed.

You generate the setup export and import definition by selecting an implementation project and creating a configuration package. The tasks and their associated business objects in the selected implementation project define the setup export and import definition for the configuration package. In addition, the sequence of the tasks in the implementation project determine the export and import sequence.

Exporting and Importing Setup Data: Explained

A configuration package is required to export setup data. You can export a configuration package once you create it, or at any time in the future. During export, appropriate setup data will be identified based on the setup export definition and added to the configuration package. The setup data in the configuration package is a snapshot of the data in the source application instance at the time of export. After the export completes, you can download the configuration package as a zipped archive of multiple XML files, move it to the target application instance, and upload and import it.

Export

You can export a configuration package multiple times by creating multiple versions. While the export definition remains the same in each version, the setup

data can be different if you modified the data in the time period between the different runs of the export process. Since each version of the configuration package has a snapshot of the data in the source instance, you can compare and analyze various versions of the configuration package to see how the setup data changed.

Import

In the target application instance, the setup import process will insert all new data from the source configuration package that does not already exist and update any existing data with changes from the source. Setup data that exists in the target instance but not in source will remain unchanged.

Export and Import Reports

You can review the results of the export and import processes using reports. The results appear ordered by business objects and include information on any errors encountered during the export or import process. If a setup export or import process paused due to errors encountered or for a manual task to be performed outside of the application, then you can resume the paused process.

These reports show what setup data was exported or imported and by which specific process. You can change the reports to validate the setup data as well as to compare or analyze it. A report is generated for each business object. These reports show the same information as the export and import results seen directly in the application.

Process status details are available as text files showing the status of an export or import process including the errors encountered during the process.

Moving Common Reference Objects

Moving Common Reference Objects: Overview

The common reference objects in Oracle Fusion Middleware Extensions for Applications 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 is created for an implementation project. While moving the application content, for example, from the test phase to the production phase of an implementation, you must pay special attention 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 that is 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, it is necessary that all the dependencies are noted before the movement of objects so that there are no broken references among the objects.

Business Objects for Moving Common Reference Objects: Points to Consider

Common reference objects in Oracle Fusion Functional Setup Manager are represented by business objects. These business objects are the agents that contain the application content and carry them across whenever the application setup is moved from one environment to another, for example, test environment to production environment.

Choice of Parameters

The following table lists the business objects, the corresponding movement details, and the effect of the setup task parameter on the scope of the movement.

Note

- Only the translation in the current user language is moved.
- The Oracle Social Network business objects and the Navigator menu customizations are moved using the customization sets on the Customization Migration page instead of using the export and import function in the Setup and Maintenance work area.

Business Object Name	Moved Functional Item	Effect on the Scope of Movement
Application Message	Messages and associated tokens	No parameters: all messages are moved. moduleType/moduleKey: only messages belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved. 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. 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. 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	<p>No parameters: all categories are moved.</p> <p><code>moduleType/moduleKey</code>: only categories belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved.</p> <p><code>code/applicationId</code>: only the specified document sequence category code is moved.</p>
Application Document Sequence	Document sequences and their assignments	<p>No parameters: all sequences are moved.</p> <p><code>moduleType/moduleKey</code>: only document sequences belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved</p> <p><code>name</code>: only the specified document sequence is moved.</p>
Application Descriptive Flexfield	Descriptive flexfield registration data and setup data	<p>No parameters: all descriptive flexfields are moved.</p> <p><code>moduleType/moduleKey</code>: only descriptive flexfields belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved.</p> <p><code>descriptiveFlexfieldCode/applicationId</code>: only the specified descriptive flexfield is moved.</p> <hr/> <p>Note</p> <p>Importing a flexfield's metadata can change its deployment status and therefore, the affected flexfields must be redeployed. The import process automatically submits affected flexfields for redeployment.</p> <hr/> <p>Note</p> <p>Only flexfields with a deployment status of Deployed or Deployed to Sandbox are eligible to be moved.</p> <hr/>

Application Extensible Flexfield	Extensible flexfield registration data and setup data, including categories	<p>No parameters: all extensible flexfields are moved</p> <p><code>moduleType/moduleKey</code>: only extensible flexfields belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved.</p> <p><code>extensibleFlexfieldCode/applicationId</code>: only the specified extensible flexfield is moved.</p> <hr/> <p>Note</p> <p>Importing a flexfield's metadata can change its deployment status and therefore, the affected flexfields must be redeployed. The import process automatically submits affected flexfields for redeployment.</p> <hr/> <p>Note</p> <p>Only flexfields with a deployment status of Deployed or Deployed to Sandbox are eligible to be moved.</p>
Application Key Flexfield	Key flexfield registration data and setup data	<p>No parameters: all key flexfields are moved.</p> <p><code>moduleType/moduleKey</code>: only key flexfields belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved.</p> <p><code>keyFlexfieldCode/applicationId</code>: only the specified key flexfield is moved.</p> <hr/> <p>Note</p> <p>Importing a flexfield's metadata can change its deployment status and therefore, the affected flexfields must be redeployed. The import process automatically submits affected flexfields for redeployment.</p> <hr/> <p>Note</p> <p>Only flexfields with a deployment status of Deployed or Deployed to Sandbox are eligible to be moved.</p>

Application Flexfield Value Set	Value set setup data	<p>No parameters: all value sets are moved.</p> <p><code>moduleType/moduleKey</code>: only value sets belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved.</p> <p><code>valueSetCode</code>: only the specified value set is moved.</p> <hr/> <p>Note</p> <p>Importing a value set's metadata can change the deployment status of flexfields that use the value set, and therefore the affected flexfields must be redeployed. The import process automatically submits affected flexfields for redeployment.</p>
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.
Application Standard Lookup	Standard lookup types and their lookup codes	<p>No parameters: all standard lookups are moved.</p> <p><code>moduleType/moduleKey</code>: only standard lookups belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved.</p> <p><code>lookupType</code>: only the specified common lookup is moved.</p>

Application Common Lookup	Common lookup types and their lookup codes	<p>No parameters: all common lookups are moved.</p> <p><code>moduleType/moduleKey</code> - only common lookups belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved.</p> <p><code>lookupType</code>: only the specified common lookup is moved.</p>
Application Set-Enabled Lookup	Set-enabled lookup types and their lookup codes	<p>No parameters: all set-enabled lookups are moved.</p> <p><code>moduleType/moduleKey</code>: only set-enabled lookups belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved.</p> <p><code>lookupType</code>: only the specified set-enabled lookup is moved.</p>
Application Profile Category	Profile categories	<p>No parameters: all profile categories are moved.</p> <p><code>moduleType/moduleKey</code>: only categories belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved.</p> <p><code>name/applicationId</code>: only the specified category is moved.</p>
Application Profile Option	Profile options and their values	<p>No parameters: all profile options and their values are moved.</p> <p><code>moduleType/moduleKey</code>: only profile options and their values belonging to the specified module are moved.</p> <p><code>profileOptionName</code>: only the specified profile option and its values are moved.</p>

Application Profile Value	Profile options and their values	<p>No parameters: all profiles and their values are moved.</p> <p><code>moduleType/moduleKey</code>: only profiles and their values belonging to the specified module are moved.</p> <p><code>categoryName/categoryApplicationId</code>: only profiles and their values belonging to the specified category are moved.</p> <p><code>profileOptionName</code>: only the specified profile and its values are moved.</p>
Application Reference Data Set	Reference data sets	No parameters: all sets are moved.
Application Reference Data Set Assignment	Reference data set assignments	<p><code>determinantType</code>: only assignments for the specified determinant type are moved.</p> <p><code>determinantType/referenceGroupName</code>: only assignments for the specified determinant type and reference group are moved.</p>
Application Tree Structure	Tree structures and any labels assigned to the tree structure	<p>No parameters: all tree structures (and their labels) are moved.</p> <p><code>moduleType/moduleKey</code>: only tree structures (and their labels) belonging to the specified module are moved.</p> <p><code>treeStructureCode</code>: only the specified tree structure (with its labels) is moved.</p>
Application Tree	Tree codes and versions	<p>No parameters: all trees are moved.</p> <p><code>moduleType/moduleKey</code>: only trees belonging to the specified module are moved.</p> <p><code>treeStructureCode</code>: only trees belonging to the specified tree structure are moved.</p> <p><code>TreeStructureCode/TreeCode</code>: only trees belonging to the specified tree structure and tree code are moved.</p>

Application Tree Label	Tree structures and any labels assigned to the tree structure	<p>No parameters: all tree structures (and their labels) are moved.</p> <p><code>moduleType/moduleKey</code>: only tree structures (and their labels) belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved.</p> <p><code>treeStructureCode</code>: only the specified tree structure (with its labels) is moved.</p>
Application Data Security Policy	Database resources, actions, conditions, and data security policies	<p>No parameters: all database resources/actions/conditions/policies are moved.</p> <p><code>moduleType/moduleKey</code>: only database resources/actions/conditions/policies belonging to the specified module and its descendant modules in the taxonomy hierarchy are moved.</p> <p><code>objName</code>: only the specified database resource along with its actions/conditions/policies is moved.</p> <hr/> <p>Note</p> <ul style="list-style-type: none"> • 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.
Application Activity Stream Configuration	Activity stream options	No parameters: all activity stream options are moved.

Moving Related Common Reference Objects: Points to Consider

Certain common reference objects may use other common reference objects creating dependencies among the objects. During the movement of common reference objects, these dependencies or references need to be taken care of.

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 choose 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 choose to move only value sets and not lookups, or you may choose to move both value sets and their lookups as part of the same package. Whatever be the combination, it is recommended 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 guidelines and exactly follow the order as listed below.

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.

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 being moved have dependencies on newly created security roles, you must move the security roles before moving the security policies.

Using Seed Data Framework to Move Common Reference Objects: Points to Consider

To move the common reference objects, you can use the Seed Data Framework (SDF). You can also use the command line interface of SDF to move the object

setup data. For more information about seed data loaders including common reference object loaders, see Oracle Fusion Applications Developer's Guide.

Movement Dependencies

The seed data interface moves only the setup metadata. For example, if you use SDF to import flexfield metadata, the flexfield setup metadata is imported into your database. However, you must invoke the flexfield deployment process separately after seed data import to regenerate the runtime flexfield artifacts in the target environment. Similarly, if you use SDF 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 is not lost during the movement, certain guidelines are prescribed. It is recommended that you perform the movement of object data exactly in the order given below.

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.

Glossary

abstract role

A description of a person's function in the enterprise that is unrelated to the person's job (position), such as employee, contingent worker, or line manager. A type of enterprise role.

accounting flexfield

The chart of accounts that determines the structure, such as the number and order of individual segments, as well as the corresponding values per segment.

action

The kind of access named in a security policy, such as view or edit.

ADF

Acronym for Application Developer Framework. A set of programming principles and rules for developing software applications.

application identity

Predefined application level user with elevated privileges. An application identity authorizes jobs and transactions for which other users are not authorized, such as a payroll run authorized to access a taxpayer ID while the user who initiated the job is not authorized to access such personally identifiable information.

application role

A role specific to applications and stored in the policy store.

Applications Core

Abbreviation for Oracle Fusion Middleware Extensions for Applications. The technical product code is FND.

assignment

A set of information, including job, position, pay, compensation, managers, working hours, and work location, that defines a worker's or nonworker's role in a legal employer.

available hours

Hours on the resource's calendar that have been, or can be, consumed with project assignments and nonproject events.

beneficiary

A person or organization designated to receive benefits from a compensation plan on the death of the plan participant.

BPEL

Business Process Execution Language; a standard language for defining how to send XML messages to remote services, manipulate XML data structures, receive XML messages asynchronously from remote services, manage events and exceptions, define parallel sequences of execution, and undo parts of processes when exceptions occur.

business object

A resource in an enterprise database, such as an invoice or purchase order.

business unit

A unit of an enterprise that performs one or many business functions that can be rolled up in a management hierarchy.

competency

A type of qualification that represents a piece of knowledge, a skill, an aptitude, or an attribute that is measurable and demonstrated by a resource in the work context.

condition

An XML filter or SQL predicate WHERE clause in a data security policy that specifies what portions of a database resource are secured.

context

A grouping of flexfield segments to store related information.

context segment

The flexfield segment used to store the context value. Each context value can have a different set of context-sensitive segments.

context-sensitive segment

A flexfield segment that may or may not appear depending upon a context such as other information that has been captured. Context-sensitive segments are custom attributes that apply to certain entity rows based on the value of the context segment.

contingent worker

A self-employed or agency-supplied worker. Contingent worker work relationships with legal employers are typically of a specified duration. Any person who has a contingent worker work relationship with a legal employer is a contingent worker.

data dimension

A stripe of data accessed by a data role, such as the data controlled by a business unit.

data instance set

The set of human capital management (HCM) data, such as one or more persons, organizations, or payrolls, identified by an HCM security profile.

data role

A role for a defined set of data describing the job a user does within that defined set of data. A data role inherits job or abstract roles and grants entitlement to access data within a specific dimension of data based on data security policies. A type of enterprise role.

data role template

A template used to generate data roles by specifying which base roles to combine with which dimension values for a set of data security policies.

data security

The control of access to data. Data security controls what action a user can taken against which data.

data security policy

A grant of entitlement to a role on an object or attribute group for a given condition.

database resource

An applications data object at the instance, instance set, or global level, which is secured by data security policies.

department

A division of a business enterprise dealing with a particular area of activity.

descriptive flexfield

Customizable expansion space, such as fields used to capture additional descriptive information or attributes about an entity, such as customer cases. Information collection and storage may be configured to vary based on conditions or context.

determinant

A value that determines which reference data set will be used in a specific business context.

determinant type

Designates the field within transactional columns that controls how data is shared across organizations such as business unit, asset book, cost organization

or project unit. The type determines the reference data sets that would be used in a transaction.

determinant type

An additional and optional field within transactional columns (besides category and application) that is used to assign document sequences. The available determinant types are Business Unit, Ledger, Legal Entity, and Tax Registration.

determinant value

A value specific to the determinant type dimension of a document sequence. The determinant value is relevant in a document sequence assignment only if the document sequence has a determinant type. If Ledger is the determinant type for a document sequence, the determinant value is the specific ledger number whose documents are numbered by the document sequence.

document sequence

A unique number that is automatically or manually assigned to a created and saved document.

duty role

A group of function and data privileges representing one duty of a job. Duty roles are specific to applications, stored in the policy store, and shared within an Oracle Fusion Applications instance.

enterprise

An organization with one or more legal entities under common control.

enterprise role

Abstract, job, and data roles are shared across the enterprise. An enterprise role is an LDAP group. An enterprise role is propagated and synchronized across Oracle Fusion Middleware, where it is considered to be an external role or role not specifically defined within applications.

entitlement

Grants of access to functions and data. Oracle Fusion Middleware term for privilege.

extensible flexfield

Customizable expansion space, as with descriptive flexfields, but able to capture multiple sets of information within a context and multiple contexts grouped to appear in a named region of a user interface page. Some extensible flexfields allow grouping contexts into categories.

feature choice

A selection you make when configuring offerings that modifies a setup task list, or a setup page, or both.

flexfield

Grouping of extensible data fields called segments, where each segment is an attribute added to an entity for capturing additional information.

flexfield segment

An extensible data field that represents an attribute on an entity and captures a single atomic value corresponding to a predefined, single extension column in the Oracle Fusion Applications database. A segment appears globally or based on a context of other captured information.

function security

The control of access to a page or a specific widget or functionality within a page. Function security controls what a user can do.

global area

The region across the top of the user interface. It provides access to features and tools that are relevant to any page you are on.

HCM

Abbreviation for Human Capital Management.

HCM data role

A job role, such as benefits administrator, associated with specified instances of Oracle Fusion Human Capital Management (HCM) data, such as one or more positions or all persons in a department.

HCM person

A named person in the HCM database with a person type of Employee or Contingent Worker and an active assignment. In Oracle Fusion Project Resource Management, if you associate an HCM person with a project enterprise labor resource, you can enable the resource's eligibility to fulfill project resource requests.

identity

A person representing a worker, supplier, or customer.

job

A generic role that is independent of any single department or location. For example, the jobs Manager and Consultant can occur in many departments.

job role

A role for a specific job consisting of duties, such as an accounts payable manager or application implementation consultant. A type of enterprise role.

key flexfield

Configurable key consisting of multiple parts or segments, each of which may be meaningful individually or in combination with the others. Key flexfields are commonly implemented to represent part numbers and account numbers.

key flexfield segment instance

A single occurrence of a key flexfield segment in a key flexfield structure instance.

key flexfield structure

The arrangement of segments in a key flexfield. In some cases, multiple structures can be defined for a single key flexfield.

key flexfield structure instance

A single occurrence of a key flexfield structure that shares the same order of segments as every other instance of the key flexfield structure, but uses different value sets to validate the segments.

keyword

A word or phrase, entered as free-form, unstructured text on a project resource request, that does not exist as a predefined qualification content item. Keywords are matched against the resource's qualifications and the results are included in the qualification score calculation.

lookup code

A value available for lookup within a lookup type such as the code BLUE within the lookup type COLORS.

lookup type

A set of lookup codes to be used together as a list of values on a field in the user interface.

mainline

A branch of data that serves as a single source of truth.

managed project enterprise labor resource

A project enterprise labor resource who is associated with a named person in HCM, and whose availability and staffing are managed in Oracle Fusion Project Resource Management. You use managed project enterprise labor resources to fulfill project resource requests.

offering

A comprehensive grouping of business functions, such as Sales or Product Management, that is delivered as a unit to support one or more business processes.

party

A physical entity, such as a person, organization or group, that the deploying company has an interest in tracking.

pending worker

A person who will be hired or start a contingent worker placement and for whom you create a person record that is effective before the hire or start date.

person number

A person ID that is unique in the enterprise, allocated automatically or manually, and valid throughout the enterprise for all of a person's work and person-to-person relationships.

person type

A subcategory of a system person type, which the enterprise can define. Person type is specified for a person at the employment-terms or assignment level.

personally identifiable information

Any piece of information that can potentially be used to uniquely identify, contact, or locate a single person. Within the context of an enterprise, some PII data can be considered public, such as a person's name and work phone number, while other PII data is confidential, such as national identifier or passport number.

PL/SQL

Abbreviation for procedural structured queried language.

privilege

A grant or entitlement of access to functions and data. A privilege is a single, real world action on a single business object.

profile option

User preferences and system configuration options consisting of a name and a value, that can be set at hierarchical levels of an enterprise. Also called a profile or user option.

profile option level

A level at which profile option values are defined. Site, product, and user are predefined levels.

profile option level hierarchy

The ordering of profile option levels. The order of the levels in the hierarchy determines which levels take precedence.

profile option value

The value portion of a profile option's name and value. A profile option may have multiple values set at different levels, such as site or user.

project calendar

Defines the work schedule for project assignments. The project calendar includes working days and hours, such as Monday through Friday for 8 hours a day, and any exceptions, such as holidays.

project enterprise labor resource

A labor resource that you can assign to multiple projects.

project resource request

List of criteria used to find a qualified resource to fulfill an open resource demand on a project. Project resource requests include qualifications, keywords, requested date range, and other assignment information, such as project role and work location.

projected utilization

Percentage of hours that a resource or resources are assigned to work on project assignments compared to the available hours.

qualification

Items in structured content types such as competencies, degrees, and language skills that have specific values and proficiency ratings.

qualification score

A comparison of a resource's qualifications to the requested qualifications and keywords on a project resource request, expressed as a percentage.

reference data

Data in application tables that is not transactional and not high-volume such as sales methods, transaction types, or payment terms, and can be shared and used across organizational boundaries.

reference data set

Contains reference data that can be shared across a number of business units or other determinant types. A set supports common administration of that reference data.

reference group

A logical grouping of tables that correspond to logical entities such as payment terms defined across multiple tables or views. Grouping establishes common partitioning requirements across the entities causing them to share the same set assignments.

resource

People designated as able to be assigned to work objects, for example, service agents, sales managers, or partner contacts. A sales manager and partner contact can be assigned to work on a lead or opportunity. A service agent can be assigned to a service request.

resource calendar

A schedule of a resource's available work days and hours, such as Monday through Friday, 8 hours a day.

resource pool

A logical group of resources organized in a hierarchy for purposes of staffing, management, and reporting on utilization.

role

Controls access to application functions and data.

role hierarchy

Structure of roles to reflect an organization's lines of authority and responsibility. In a role hierarchy, a parent role inherits all the entitlement of one or more child roles.

role mapping

A relationship between one or more job roles, abstract roles, and data roles and one or more conditions. Depending on role-mapping options, the role can be provisioned to or by users with at least one assignment that matches the conditions in the role mapping.

role provisioning

The automatic or manual allocation of an abstract role, a job role, or a data role to a user.

sandbox

A runtime session that commits changes out of reach of mainline users.

security profile

A set of criteria that identifies one or more human capital management (HCM) objects of a single type for the purposes of securing access to those objects. Security profiles can be defined for persons, organizations, positions, countries, LDGs, document types, payrolls, payroll flows, and workforce business processes.

security reference implementation

Predefined function and data security in Oracle Fusion Applications, including role based access control, and policies that protect functions, data,

and segregation of duties. The reference implementation supports identity management, access provisioning, and security enforcement across the tools, data transformations, access methods, and the information life cycle of an enterprise.

segregation of duties

An internal control to prevent a single individual from performing two or more phases of a business transaction or operation that could result in fraud.

set

Reference data that is organized into groups appropriate to organizational entities, to enable reference data sharing.

set enabled

An entity, such as a lookup, customer, location, organization, or document attachment, that is allowed to participate in reference data sharing by drawing on the data of a reference data set.

SOA

Abbreviation for service-oriented architecture.

SQL predicate

A type of condition using SQL to constrain the data secured by a data security policy.

system person type

A fixed name that the application uses to identify a group of people.

territory

A legally distinct region that is used in the country field of an address.

tree

Information or data organized into a hierarchy with one or more root nodes connected to branches of nodes. A tree must have a structure where each node corresponds to data from one or more data sources.

tree structure

Characteristics applied to trees, such as what data to include or how the tree is versioned and accessed.

tree version

An instance of a tree. If a tree is associated with a reference data set, all versions belong to one set. Includes life cycle elements such as start and end date and a status indicator whether the tree is active or not.

value set

A set of valid values against which values entered by an end user are validated. The set may be tree structured (hierarchical).

work relationship

An association between a person and a legal employer, where the worker type determines whether the relationship is a nonworker, contingent worker, or employee work relationship.

worker type

A classification selected on a person's work relationship, which can be employee, contingent worker, pending worker, or nonworker.

workflow

An automated process in which tasks are passed from a user, a group of users, or the application to another for consideration or action. The tasks are routed in a logical sequence to achieve an end result.

XML

Abbreviation for eXtensible markup language.

XML filter

A type of condition using XML to constrain the data secured by a data security policy.