

**Oracle® Project Portfolio Management
Integration Pack for Primavera P6 and JD
Edwards EnterpriseOne 3.1 - Implementation
Guide**

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Oracle Project Portfolio Management Integration Pack for Primavera P6 and JD Edwards EnterpriseOne 3.1 -
Implementation Guide

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Preface

Welcome to the Oracle Project Portfolio Management Integration Pack for Primavera P6 and JD Edwards EnterpriseOne 3.1.

Oracle Application Integration Architecture (AIA) provides the following guides and resources for this release:

Oracle AIA Guides

- Oracle Fusion Middleware Infrastructure Components and Utilities User's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1 (11.1.1.5.0)
- Oracle Fusion Middleware Installation and Upgrade Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1 (11.1.1.5.0)
- Oracle Fusion Middleware Concepts and Technologies Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1 (11.1.1.5.0)
- Oracle Fusion Middleware Reference Process Models User's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1 (11.1.1.5.0)
- Oracle Fusion Middleware Migration Guide for Oracle Application Integration Architecture 11g Release 1 (11.1.1.5.0)
- Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release 1 (11.1.1.5.0)

Additional Resources

The following resources are also available:

| Resource | Location |
|---|--|
| Oracle Application Integration Architecture: Product-to-Guide Index | Oracle Technology Network: http://www.oracle.com/technetwork/index.html |
| Known Issues and Workarounds | My Oracle Support: https://support.oracle.com/ |
| Release Notes | Oracle Technology Network: http://www.oracle.com/technetwork/index.html |
| Documentation updates | My Oracle Support: https://support.oracle.com/ |

Oracle Fusion Middleware Infrastructure Components and Utilities Guide for Oracle Application Integration Architecture Foundation Pack 11g Release (11.1.1.4.0)

Oracle Fusion Middleware Infrastructure Components and Utilities Guide for Oracle Application Integration Architecture Foundation Pack 11g Release (11.1.1.4.0) is a companion volume to Oracle Fusion Middleware Concepts and Technologies Guide for Oracle Application Integration Architecture Foundation Pack 11g Release (11.1.1.4.0) and Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release (11.1.1.4.0).

Oracle Fusion Middleware Infrastructure Components and Utilities Guide for Oracle Application Integration Architecture Foundation Pack 11g Release (11.1.1.4.0) discusses how to:

- Work with the Composite Application Validation System (CAVS).
- Work with the Oracle Enterprise Repository (OER).
- Set up and use error handling and logging.
- Work with the diagnostics framework.

Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release (11.1.1.4.0)

Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release (11.1.1.4.0) is a companion volume to Oracle Fusion Middleware Concepts and Technologies Guide for Oracle Application Integration Architecture Foundation Pack 11g Release (11.1.1.4.0) and Oracle Fusion Middleware Infrastructure Components and Utilities Guide for Oracle Application Integration Architecture Foundation Pack 11g Release (11.1.1.4.0).

Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release (11.1.1.4.0) discusses how to:

- Create an integration scenario.
- Define business service patterns.
- Design and develop enterprise business services.
- Design and develop enterprise business flows.
- Design and construct application business connector services.
- Work with message transformation, enrichment, and configuration.
- Develop custom XPath functions.
- Design and construct JMS Adapter services.
- Work with enterprise message headers.
- Work with message routing.

- Work with transactions.
- Develop Oracle AIA services to work with the Composite Application Validation System (CAVS).
- Configure Oracle AIA processes to be eligible for error handling and logging.
- Extend enterprise business objects.

In addition, the Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11g Release (11.1.1.4.0) provides:

- Application Integration Architecture naming standards.
- Sample and template WSDLs for use with Oracle AIA.

Common Terms Used in this Guide

This table lists the common terms used in the Project Portfolio Management: Primavera P6 - JDE E1 PIP:

| | |
|----------|--|
| Account | A term used in JD Edwards EnterpriseOne to describe a general ledger account. |
| Activity | An activity in Primavera P6 is subordinate to a WBS in a project. Activity data is not sent from Primavera P6 to EnterpriseOne. |
| Calendar | <p>Calendars exist in both EnterpriseOne and in Primavera P6. These calendars define the available work hours in each calendar day. You can also specify national holidays, your organization's holidays, project-specific work and non-work days, and resource vacation days.</p> <p>There are several different kinds of calendars, including:</p> <ul style="list-style-type: none"> • Global calendars (P6) • Project calendars (P6) • Resource calendars (P6) • Work day calendars (E1) <p>See the definition for the specific calendar type for additional information.</p> <p>For more information about calendars in the Primavera P6 system, see the Primavera P6 online help, <i>Structuring Projects</i>, "Project Calendars."</p> <p>For more information about calendars in the EnterpriseOne system, see <i>JD Edwards EnterpriseOne Address Book 9.0 Implementation Guide</i>, "Using Foundation Calendar."</p> |

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| Chart Type | <p>Chart Type in EnterpriseOne is the equivalent of WBS Category in Primavera P6. Note that the WBS Category field in the Primavera P6 user interface can have a user-defined name. The default name for the WBS Category field is Project Phase.</p> <p>For more information about chart types, see <i>JD Edwards EnterpriseOne Job Cost 9.0 Implementation Guide, "Setting Up Cost Code Structures."</i></p> |
| Employee | <p>Employee in EnterpriseOne is the equivalent of a labor resource in Primavera P6.</p> <p>For more information about employees, see <i>JD Edwards EnterpriseOne Human Capital Management Fundamentals 9.0 Implementation Guide, "Entering Employees."</i></p> |
| Equipment | <p>Equipment in EnterpriseOne is the equivalent of a non labor resource in Primavera P6.</p> <p>For more information about equipment, see <i>JD Edwards EnterpriseOne Capital Asset Management 9.0 Implementation Guide.</i></p> |
| Foundation Calendar | <p>Foundation Calendar is a module within the JD Edwards EnterpriseOne Address Book system that enables users to create calendars for various entities, such as employees, sales representatives, and resources.</p> <p>For more information about Foundation Calendar, see <i>JD Edwards EnterpriseOne Address Book 9.0 Implementation Guide, "Using Foundation Calendar."</i></p> |
| Global Calendar | <p>Global calendars are using in the Primavera P6 system, and they pertain to all projects in the system.</p> <p>For more information about calendars, see the Primavera P6 online help, <i>Structuring Projects, "Project Calendars."</i></p> |
| Item | <p>Item in EnterpriseOne is the equivalent of a material resource in Primavera P6.</p> <p>For more information about items, see <i>JD Edwards EnterpriseOne Inventory Management 9.0 Implementation Guide, "Entering Item Information."</i></p> |

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| Labor Resource | <p>Labor resource in Primavera P6 is the equivalent of an employee or address book entry for a person in EnterpriseOne. Labor resources are always time-based.</p> <p>For more information about resources, see the Primavera P6 online help, <i>Structuring Projects, “Defining Resources and Roles.”</i></p> |
| Material Resource | <p>Material resource in Primavera P6 is the equivalent of an item in EnterpriseOne. Material resources, such as consumable items, are defined by units of measure.</p> <p>For more information about resources, see the Primavera P6 online help, <i>Structuring Projects, “Defining Resources and Roles.”</i></p> |
| Model Job | <p>A model business unit that is set up in EnterpriseOne, and then is specified on the Primavera P6 project in the Project Code field. The system uses this job as a model or template when creating a new project in EnterpriseOne.</p> <p>You specify the number of the model job, or business unit, in either the Project Code field during project creation in Primavera P6, or in the business service properties of the processProject web service operation. If no model job exists, the project being sent from Primavera P6 will not be created in EnterpriseOne.</p> |
| Nonlabor Resource | <p>Nonlabor resource in Primavera P6 is the equivalent of equipment in EnterpriseOne. Nonlabor resources are always time-based.</p> <p>For more information about resources, see the Primavera P6 online help, <i>Structuring Projects, “Defining Resources and Roles.”</i></p> |
| Project | <p>In Primavera P6, a project is a set of activities and associated information that constitutes a plan for creating a product or service. A project has a start and finish date, work breakdown structure (WBS), and any number of activities, relationships, baselines, expenses, risks, issues, thresholds, and work products and documents.</p> <p>In EnterpriseOne, a project is defined as a job. A job is a specific type of business unit that is structured for tracking and reporting costs by cost type. The system stores jobs (as a business unit) in the F0006 table.</p> |

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| Project Calendar | <p>Project calendars are used in the Primavera P6 system. They are calendars that are specific to a project. You can link a project calendar to a global calendar.</p> <p>For more information about calendars, see the Primavera P6 online help, <i>Structuring Projects</i>, “Project Calendars.”</p> |
| Project Phase | See WBS Category. |
| Resource | <p>Resources include the personnel and equipment that perform work on activities across all projects.</p> <p>For more information about resources, see the Primavera P6 online help, <i>Structuring Projects</i>, “Defining Resources and Roles.”</p> |
| Resource Calendar | <p>Resource calendars are used in the Primavera P6 system. Resource calendars are assigned to a specific resource.</p> <p>For more information about calendars, see the Primavera P6 online help, <i>Structuring Projects</i>, “Project Calendars.”</p> |
| Resource Rate | The rate that is associated with a resource. |
| Role | <p>Roles are project personnel job titles or skills, such as mechanical engineer, inspector, or carpenter. They represent a type of resource with a certain level of proficiency rather than a specific individual.</p> <p>For more information about roles, see the Primavera P6 online help, <i>Structuring Projects</i>, “Defining Resources and Roles.”</p> |
| WBS (Work Breakdown Structure) | <p>A work breakdown structure (WBS) is a hierarchy of work that must be accomplished to complete a project, which defines a product or service to be produced. The WBS is structured in levels of work detail, beginning with the deliverable itself, and is then separated into identifiable work elements. WBS is a term that is used in the Primavera P6 system.</p> <p>For more information about WBS, see the Primavera P6 online help, <i>Structuring Projects</i>, “Defining the WBS.”</p> |
| WBS Category | <p>WBS category in Primavera P6 is the equivalent of chart type in EnterpriseOne. Note that the WBS Category field in the Primavera P6 user interface can have a user-defined name. The default name for the WBS Category field is Project Phase.</p> |

| | |
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| Work Day Calendar | <p>Work day calendars are used in the EnterpriseOne system. Work day calendars enable you to specify actual work days, weekends, holidays, and other user-defined types of days for your organization.</p> <p>For more information about work day calendars, see <i>JD Edwards EnterpriseOne Financial Management Application Fundamentals 9.0 Implementation Guide</i>, “Understanding Payment Terms.”</p> |
|-------------------|--|

Chapter 1: Understanding the Project Portfolio Management: Primavera P6 - JDE E1 PIP

This chapter provides an overview of the Project Portfolio Management: Primavera P6 - JDE E1 PIP, and discusses:

- Project Portfolio Management: Primavera P6 - JDE E1 PIP business process overview.
- Installation and implementation of the Project Portfolio Management: Primavera P6 - JDE E1 PIP.
- Project Portfolio Management: Primavera P6 - JDE E1 PIP solution assumptions and constraints.

Project Portfolio Management: Primavera P6 - JDE E1 PIP Overview

The Project Portfolio Management: Primavera P6 - JDE E1 PIP provides a seamless and robust project management business process. Leveraging the best-of-breed project management applications with best-of-breed back office financial applications, this PIP provides a solution that gives a streamlined, end-to-end project management business process that enables users to combine the project scheduling and management features of the Primavera P6 system with the JD Edwards EnterpriseOne financial management, inventory, and asset management functionality. The combination of the two systems provides users with a comprehensive project management system.

Users can create projects in either JD Edwards EnterpriseOne or Primavera P6, and synchronize the data to the other system.

This PIP is designed so that the main project scheduling tasks are completed in the Primavera P6 system, and the financial information that is associated with the project is processed in the JD Edwards EnterpriseOne system. Using this PIP, users can:

- Create a project in EnterpriseOne and synchronize data to P6.
- Update a project in EnterpriseOne and synchronize data to P6.
- Create a project in P6 and synchronize data to EnterpriseOne.
- Update a project in P6 and synchronize data to EnterpriseOne.
- Create timesheets in P6 and send them to EnterpriseOne for financial and/or payroll processing.

A prerequisite for a successful integration between JD Edwards EnterpriseOne and Primavera P6 Project Portfolio Management is the consistency of global system information. Global data is set up and maintained in the EnterpriseOne system and transferred to Primavera P6 so that your organization has one central workforce repository.

Global system data includes accounting information, resource data, and capacity and calendar definitions. This transfer enables Primavera P6 to perform leveling tasks in order to optimize resource utilization.

Using the process integrations in this PIP, you can:

- Bulk load global data from JD Edwards EnterpriseOne to Primavera P6.

This is a master data flow that enables users to load project resource data from EnterpriseOne to Primavera P6. Once this data is available in Primavera P6, it can be used to schedule resources to work on projects. Master data includes:

- Project resource availability calendars.
- Project resource, company, business unit, and other calendars.
- Schedulable resources for assets.
- Schedulable resources for items.
- Schedulable resources for address book and employee records.
- Schedulable resources for roles.
- Project resource rates for equipment.
- Project resource rates for items.
- WBS categories (chart types).

This data flow is completed using batch programs in the EnterpriseOne system.

- Create and update projects in Primavera P6 and synchronize data to the JD Edwards EnterpriseOne system.

This is a data flow that enables users to create and update project information in the Primavera P6 system, and send that information to the EnterpriseOne system for processing.

Users can utilize the robust project management scheduling features to assign resources to tasks and activities that are associated with a project. The project data, which also includes WBS and project budget data, can then be sent to EnterpriseOne for financial processing.

This data flow uses the Send to ERP functionality in the Primavera P6 system to send batches of data to EnterpriseOne.

- Create and update projects in JD Edwards EnterpriseOne and synchronize the data to the Primavera P6 system.

This is a data flow that enables users to create and update projects in EnterpriseOne, and send that data to Primavera P6. Once the data is available in Primavera P6, users can then utilize the advanced project management functions that are available in Primavera P6 to schedule resources, update WBS data, and manage project budgets.

This data flow uses EnterpriseOne batch programs to select and send data to the Primavera P6 system.

- Create timesheets in Primavera P6 and synchronize timesheet data to the JD Edwards

EnterpriseOne system.

This is a data flow that enables users to enter project-related and non-project-related time for people in the Primavera P6 system, and then transfer that data to the EnterpriseOne system. Once available in the EnterpriseOne system, time data can be processed through multiple payroll or financial processes.

This data flow uses the Send to ERP functionality in the Primavera P6 system to send batches of data to EnterpriseOne.

Implementing the Project Portfolio Management: Primavera P6 - JDE E1 PIP can help an organization by:

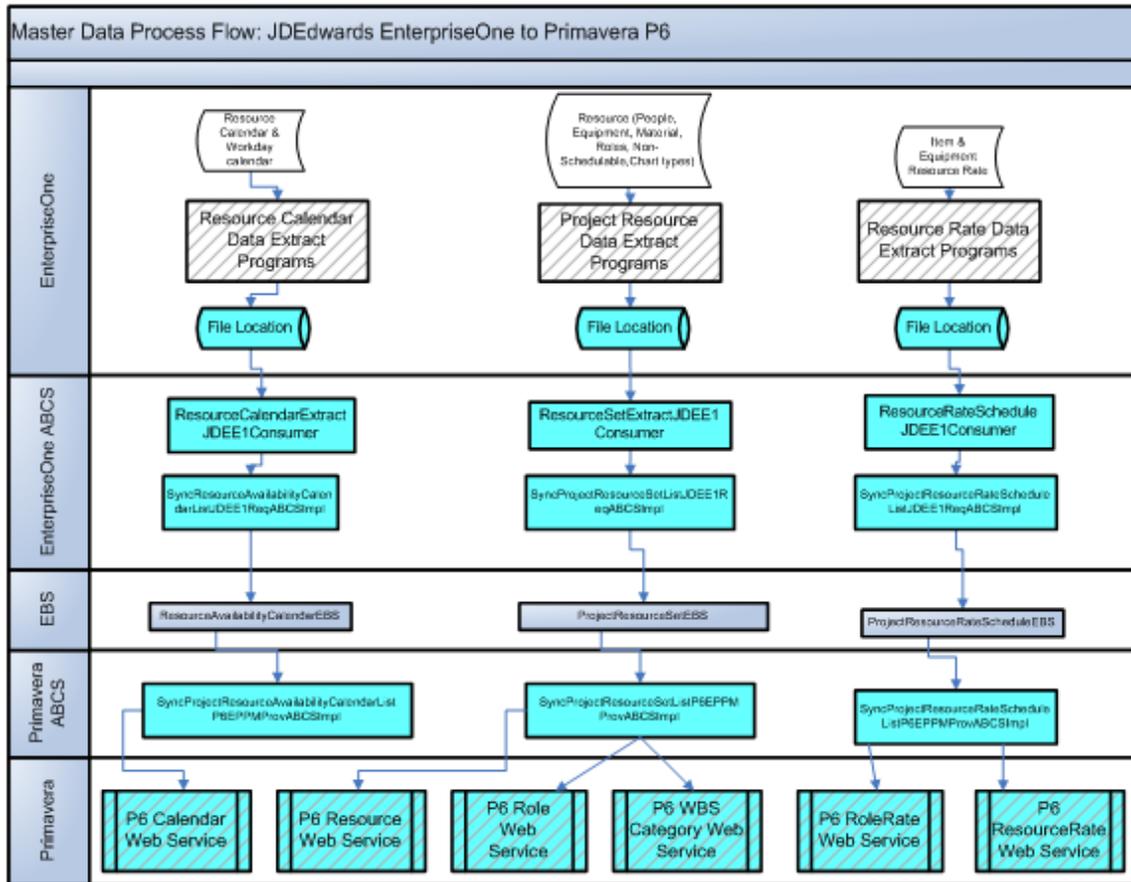
- Enabling users to quickly and easily add Primavera project management solutions to their existing ERP system.
- Enhancing your investment in Oracle products by:
 - Providing an easy, and fast, implementation of the integration process.
 - Lowering the cost of implementing a new system.
- Improving operational efficiencies by eliminating duplicate data entry of resources, projects, calendars and timesheets.

Project Portfolio Management: Primavera P6 - JDE E1 PIP Business Process Flows

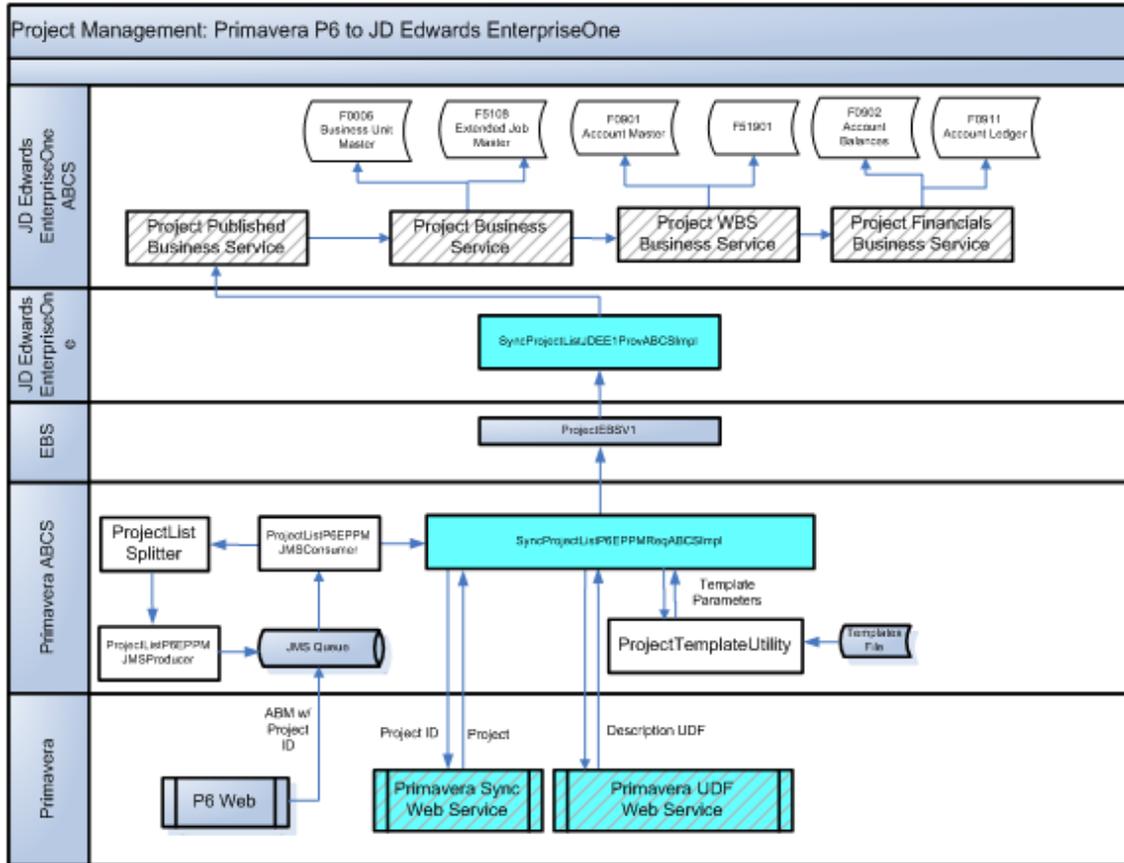
The Project Portfolio Management: Primavera P6 - JDE E1 PIP consists of these business process flows:

- Master data loads.
- Project management from Primavera P6 to EnterpriseOne.
- Project management from EnterpriseOne to Primavera P6.
- Timesheet management.

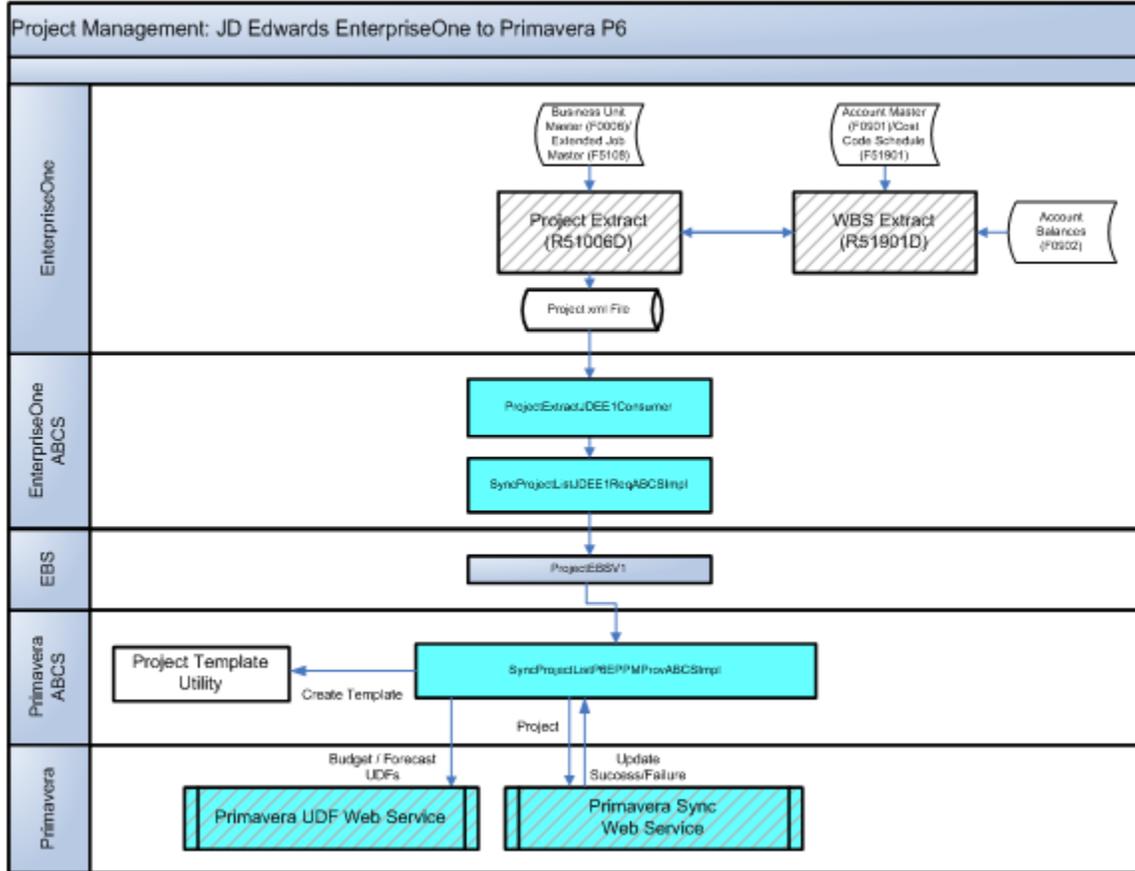
These diagrams illustrate the individual process flows that are included in the Project Portfolio Management: Primavera P6 - JDE E1 PIP:



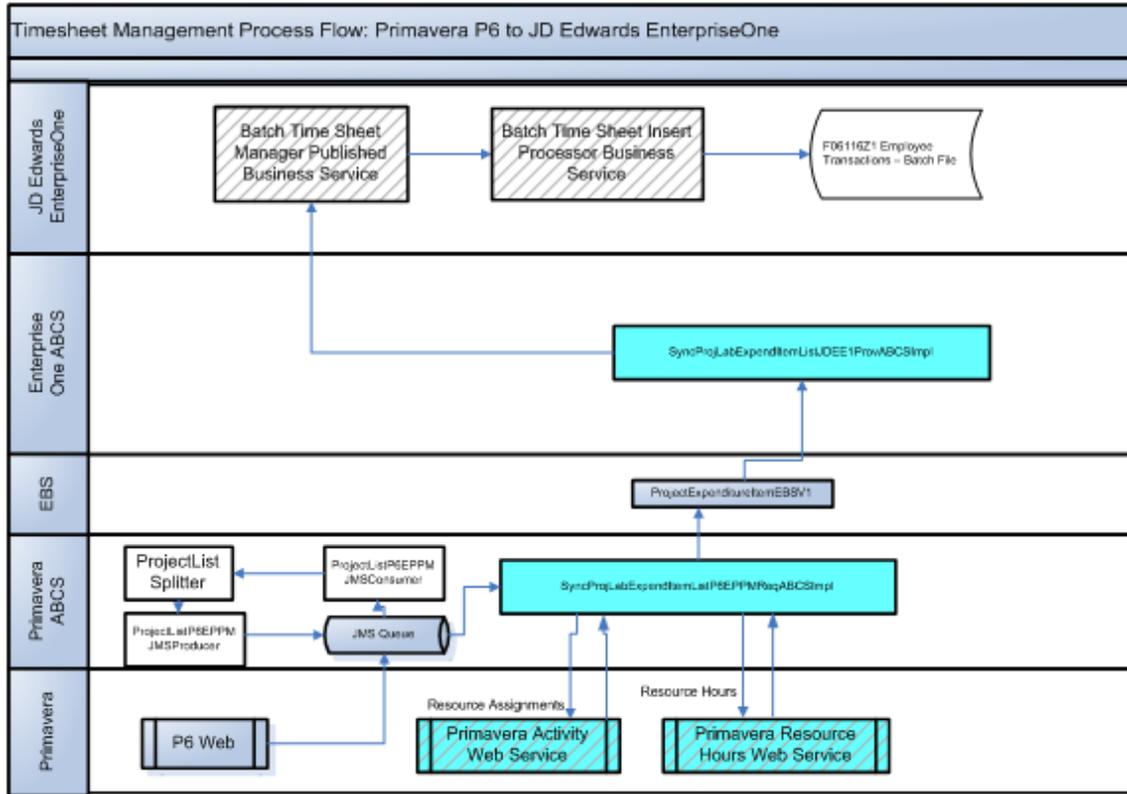
Master data load process flow



Project management process flow from Primavera P6 to EnterpriseOne



Project management process flow from EnterpriseOne to Primavera P6



Timesheet management process flow

Project Portfolio Management Process

Using the Project Portfolio Management: Primavera P6 - JDE E1 PIP, the project management process might look like this:

1. A user verifies employee, asset, item, calendar, and other project-related master data, such as non-schedulable resources and chart types, in EnterpriseOne.
2. Master data is loaded from EnterpriseOne to Primavera P6.

Master data, such as item, equipment, and employee records, are now available for use in creating or maintaining projects in the Primavera P6 system.

3. A user creates a new project in Primavera P6, and completes all standard project management tasks that are available in the Primavera P6 system.

These tasks might include, but are not limited to:

- Managing the project WBS.
- Creating activities for the project.
- Assigning schedulable and non-schedulable resources to the project and project activities.
- Entering timesheet data.
- Entering or updating project budget data

4. The Primavera P6 user sends project, WBS, project budget, and/or timesheet data from Primavera P6 to EnterpriseOne using the Send to ERP functionality.

Users select the projects to include in the data synchronization process.

5. Once Primavera P6 data is received by the EnterpriseOne system, EnterpriseOne users can:
 - Process financial reports and programs.
 - Process timesheet data through financial and/or payroll processes.
 - Forecast project costs.
 - Invoice customers using the EnterpriseOne Contract and Service Billing or Project and Government Contract Accounting systems.
 - Recognize revenue.

Installation and Implementation of the PIP

Before you can utilize any of the integration processes that are included with this PIP, you must install all of the participating applications, making sure that each system meets the minimum technical requirements to support the AIA Foundation Pack and the PIP.

For more information about installing AIA Foundation Pack and the Project Portfolio Management: Primavera P6 - JDE E1 PIP, see *Oracle Fusion Middleware Installation and Upgrade Guide for Oracle Application Integration Architecture Foundation Pack 11g Release (11.1.1.5.0)*.

After the installation process is complete, users must complete the implementation steps for this PIP.

For more information about implementing the Project Portfolio Management: Primavera P6 - JDE E1 PIP, see *Chapter 6: Configuring the Project Management: Primavera - JDE E1 PIP*.

Project Portfolio Management: Primavera P6 - JDE E1 PIP Solution Assumptions and Constraints

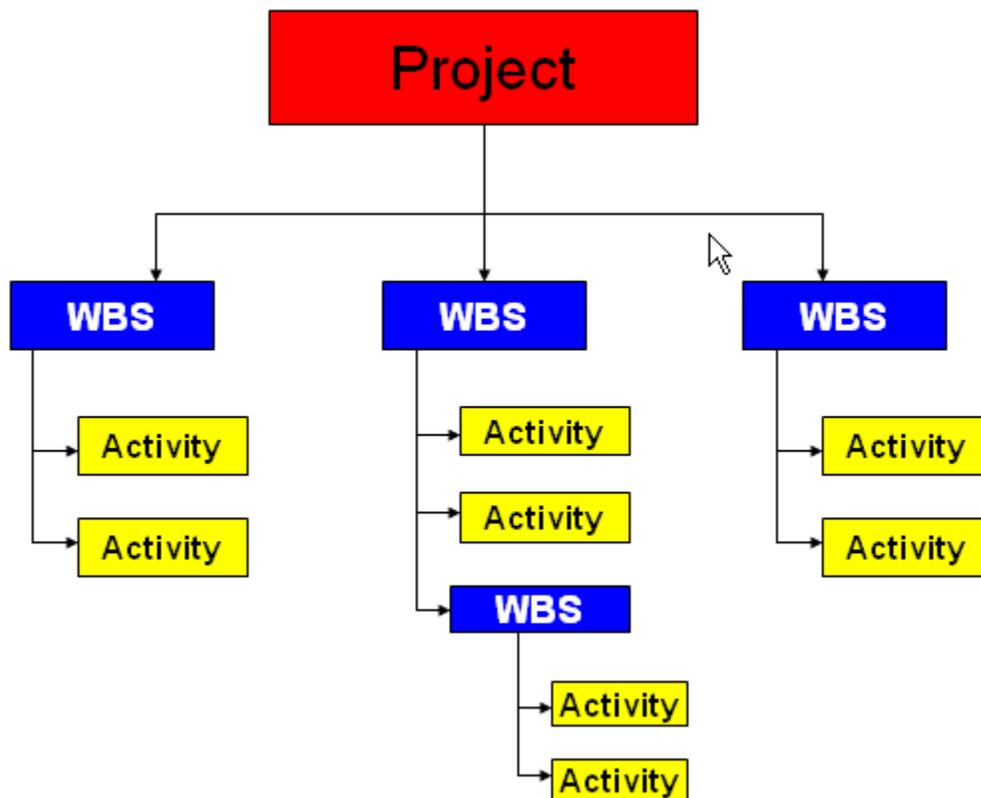
These are the solution assumptions and constraints for the Project Portfolio Management: Primavera P6 - JDE E1 PIP:

1. Synchronizing project data in both directions (EnterpriseOne to Primavera P6, and Primavera P6 to EnterpriseOne) can cause data integrity issues.

Warning! If you choose to synchronize project data in both directions, each synchronization overlays existing data in the target system. For example, if you make an update to budget data in both Primavera P6 and in EnterpriseOne, and then synchronize project data from Primavera P6 to EnterpriseOne, the changes that were made in the EnterpriseOne system will be overwritten with the data from the Primavera P6 system. The same is true of synchronizing data from EnterpriseOne to P6. To avoid these data issues, Oracle strongly recommends that your organization synchronizes project data in **only** one direction, either from EnterpriseOne to Primavera P6, or from Primavera P6 to EnterpriseOne. This PIP enables you to synchronize data in either direction to accommodate the needs of your organization.

- Resource assignments for project activities can be completed in the Primavera P6 system only.

Projects in Primavera have a hierarchical structure as follows:



Primavera P6 project hierarchy

EnterpriseOne does not consume data related to Primavera P6 activities when data is synchronized. Therefore, if project creation is initiated in EnterpriseOne, activities must be created, and resources assigned to them, in the Primavera P6 system after the sync from EnterpriseOne to Primavera P6 is complete.

- This integration does not support deleting objects that have been synchronized between systems. Deleting objects that have previously been synchronized can result in data integrity issues between systems.

For example, you can create a project in EnterpriseOne, and synchronize that project to Primavera P6. If you delete the project from EnterpriseOne after it exists in Primavera P6, running the synchronization process **will not** delete the project from the Primavera P6 system.

This includes all objects, such as WBS, timesheets, resources, chart types, and calendar entries.

This is true for deletions and synchronizations from Primavera P6 to EnterpriseOne as well.

4. Primavera P6 uses only one currency, and JD Edwards EnterpriseOne can use multiple currencies.

This currency is used for all amounts that are sent from Primavera P6.

To ensure that amounts are converted into the correct currencies in EnterpriseOne, users must specify the Primavera P6 currency in the configuration settings for these services:

- SyncProjectListP6EPPMReqABCImpl
- SyncProjLabExpendItemListP6EPPMReqABCImpl
- SyncProjectResourceRateScheduleListP6EPPMProvABCImpl

Chapter 2: Loading and Synchronizing Master Data from JD Edwards EnterpriseOne to Primavera P6

This chapter provides an overview of the master data load and synchronization process, lists solution assumptions, constraints, and prerequisites, and discusses:

- Core AIA Components.
- Loading resource calendar data.
- Loading project resource data.
- Loading resource rate data.

Understanding the Master Data Load and Synchronization Process

The Project Portfolio Management: Primavera P6 - JDE E1 PIP requires that certain pieces of business data exist in both the JD Edwards EnterpriseOne and Primavera P6 databases. This data must remain synchronized for the PIP to function properly. The Project Portfolio Management: Primavera P6 - JDE E1 PIP enables users to:

- Initially load business data in bulk.
- Synchronize business data after the initial bulk load.

The bulk loading of business data is a one-way process that loads data from the JD Edwards EnterpriseOne system into the Primavera P6 system. You can perform bulk data loads for master data, such as:

- Project resource availability calendars.
- Project resource project calendars.
- Schedulable resources for assets.
- Schedulable resources for items.
- Schedulable resources for address book and employee records.
- Schedulable resources for roles.
- Project resource rates for equipment.
- Project resource rates for items.
- WBS categories (chart types).

You must bulk load this master business data before you can utilize the process flows that are included with this PIP. After loading master data, you can bulk-synchronize the data periodically to ensure that the data in the two systems is current and synchronized.

Additionally, after you complete the initial master data load, you can rerun the bulk load programs to load large amounts of new data. This type of bulk load might be required in the event of a business data purchase, the addition of a new line of business, or the acquisition of a new organization.

Note: The process for bulk loading and bulk synchronization are almost the same. The process either adds records to the Primavera P6 system if the record does not already exist, or synchronizes (updates) the record in the Primavera P6 system if it already exists.

Also be aware that if you delete a record in the JD Edwards EnterpriseOne database, the synchronization process will not delete the record from Primavera P6.

To bulk load and synchronize data from the JD Edwards EnterpriseOne system to the Primavera P6 system, you run extract programs in the JD Edwards EnterpriseOne system. These programs generate XML files that contain the data that will be uploaded into the Primavera P6 system. These files are written to folders on the JD Edwards EnterpriseOne Enterprise server. You specify the location of these folders in the processing options of the extract programs.

The files are named using this naming convention:

```
<program name>_<date in mmddyy format>_<time in hhmmss format>.xml
```

For example, if you run the Project Resource Availability Calendar XML Extract (R01311D) program on January 25, 2010, the file that is created might be named ***R01311D_012510_081548.xml***.

File Processing

For more information about setting processing options for data extract programs, see *Setting Up Data Extract Programs*.

After you create XML files for data extraction, there are two methods you can use to pass that data to the Primavera P6 system:

- FTP
- Weblogic Server (WLS)

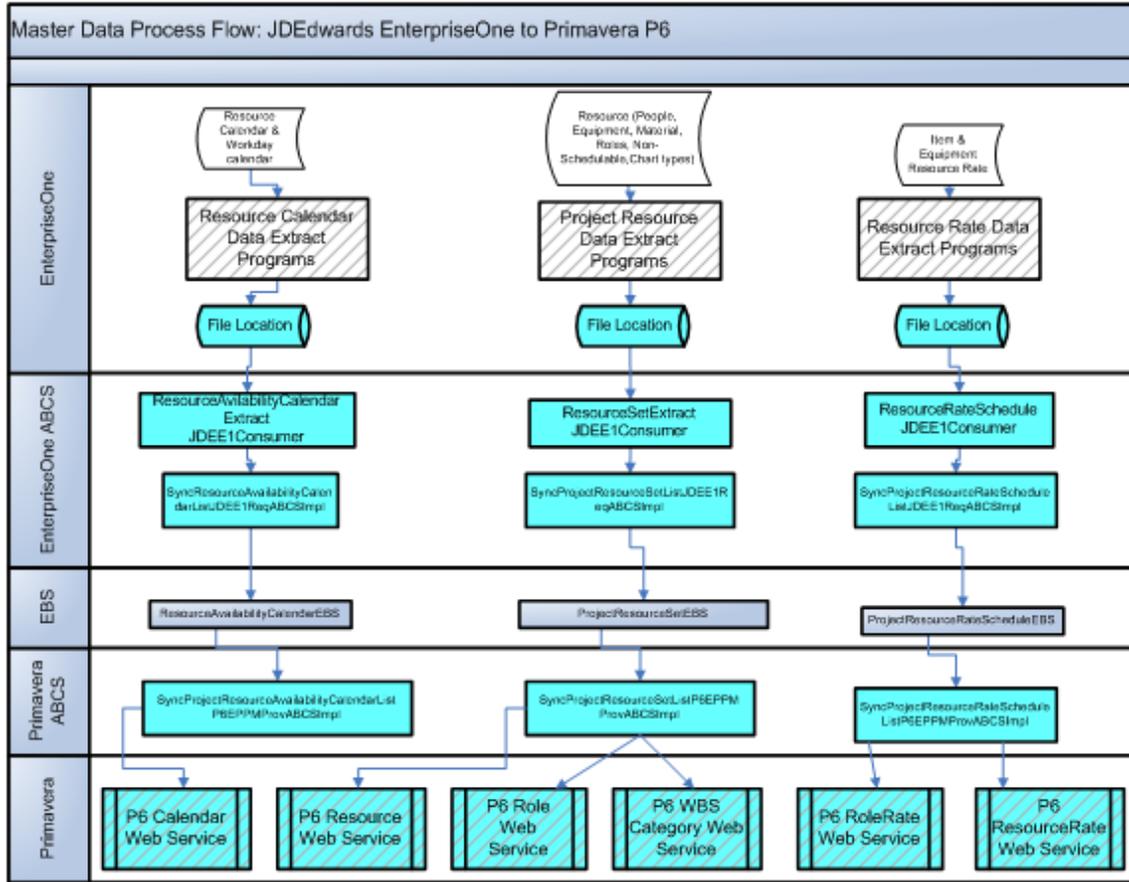
If you are using the FTP method, the bulk data load and synchronization process for master data requires that you configure an FTP adapter to monitor the folders for newly created extract files. When the FTP adapter locates a new file, the appropriate mediator consumer process debatches the files into separate instances. Debatching is used to split large XML files into several smaller, more manageable XML files.

Alternatively, you can manually move the XML files to the JDEE1In folder on the Weblogic Server. If you use this method, the appropriate mediator process detects the file and debatches it into separate instances.

After the files are debatched, routing services route each individual XML file to the appropriate JD Edwards EnterpriseOne requestor service, and then to the appropriate enterprise business service (EBS), which passes the message to the appropriate Primavera P6 routing service. The routing service calls a Primavera P6 provider service, which routes the message to a Primavera P6 web service. The web service then performs the appropriate add or update function.

Process Flow

This graphic illustrates the master data load process:



Master data load process flow

Process-Related Data Loads

In addition to master data loads, the Project Portfolio Management: Primavera P6 - JDE E1 PIP also includes these data extract programs, which are used to transfer project-related information from JD Edwards EnterpriseOne to Primavera P6:

- Project Extract (R51006D)
- WBS Extract (R51901D)

These data extract programs are used to support the integration processes for the PIP. You run these programs on a predetermined schedule to ensure that as projects and project-related records are created and updated, those changes are synchronized between the Primavera P6 and JD Edwards EnterpriseOne systems.

Additional information about these data extract programs can be found in the chapters that discuss main process integrations that use the programs.

Solution Assumptions and Constraints

This section discusses the assumptions and constraints that are associated with master data loads.

When loading master data, be aware of these issues:

1. Users must process master data loads in a specific order.

Each step is a manual process and must be complete prior to running the next step. These master data loads must also be complete prior to processing any other project integration information processes. Run the master data loads in this order:

- Resource calendar data.
- Project resource data.
- Resource rate data.

2. Employee resource rates are not sent to P6. P6 uses a default rate.
3. For the extract programs that include currency information, users define the currency that the system uses when generating the XML file in the processing options of the extract programs.

Currency conversions are handled in the EnterpriseOne system. For example, if the P6 system currency is EUR and the EnterpriseOne currency is USD, set the processing option of the extract program to EUR. The extract program performs all of the currency-related calculations and builds the XML file with a currency code of EUR. This is an initial installation process.

4. In non-currency environments, set the processing option of the extract program to the specific currency used in the Primavera P6 system.

A non-currency environment applies to EnterpriseOne only, and is created when an organization decides not to use any currency for their rates. Typically, this type of environment is necessary when an organization deals with only one currency, and therefore doesn't need to setup the overheads that come with currency conversion processing.

Primavera P6 uses only one currency. Therefore, to ensure that all currency amounts that are sent to Primavera P6 are in the correct currency, all data extract processing options that specify currency code must be set to the Primavera P6 currency. If amounts that are coming from EnterpriseOne are in a currency different than the one in the processing option, the program converts the amounts to the currency from the processing option before inserting the data into Primavera P6.

5. Be aware of how Primavera P6 handles name and resource rate data. This information is described in detail following this list.
6. Be aware of how Primavera P6 and JD Edwards EnterpriseOne handle start and end times for calendar activities. This information is described in detail later in this section.
7. When synchronizing resource rates, there are two different types of rates that you can send:
 - Item resource rates
 - Equipment resource rates

In EnterpriseOne there can only be one rate effective on a given date for items. However, there can be multiple rates effective on a given date for equipment. Primavera P6 allows only one rate for a given date for any resource. To accommodate the differences in the systems, additional filters have been created to specify which rates the Primavera P6 system should process for equipment if multiple rates exist.

For equipment records in EnterpriseOne, in addition to effective date, there are two fields which make up a unique record:

- Rate Group
- Rate Table

These two values will be passed into the EBM via the AlternateObjectKey element when synchronizing equipment rates. The AlternateObjectKey element is not populated for item rates.

There are two properties in the configuration properties for the P6 Resource Rate Schedule Provider that are used to identify which rates to process if the AlternateObjectKey is populated. The filters are:

- P6.MULTIRATE.EFFECTIVEDATE.FILTER1
- P6.MULTIRATE.EFFECTIVEDATE.FILTER2

These properties apply to the Rate Group and Rate Table values, respectively. Using these filters, resource rates are processed as follows:

- a. If AlternateObjectKey is empty, process the rate. This would be true for item rates.
- b. If AlternateObjectKey is populated, compare the Rate Group and Rate Table values to the two filter fields from the provider's configuration properties. If they match, process the rate. If they do not match, ignore the rate. This would be true for equipment rates.

Primavera P6 Name and Resource Rate Data

Some of that data that exists in the Primavera P6 system is handled differently than in other systems. To accommodate the differences in each system, some of the items in Primavera P6 are handled differently so that this PIP will function properly.

Role Name

Role Name in Primavera P6 can have a maximum of 100 characters and should be unique. Other applications may not have unique names for roles. Therefore, to ensure that role names are unique, this PIP utilizes this formula when inserting a role name into Primavera P6, using attributes from the ProjectResourceSetEBO:

```
Role name + space + [AlternateObjectKey (if exists) OR Application
Object key].
```

Calendar Name

Calendar names in Primavera P6 can have maximum of 60 characters and should be unique. Other applications may not have unique names for calendars. Therefore, to ensure that calendar names are unique when inserted into Primavera P6, this PIP concatenates different attributes of the ResourceAvailabilityCalendarEBO to determine the calendar name, as follows:

```
Name + Space + (Alternate key (if exists) OR Application Object Key) .
```

If the name is empty, the system adds ERP in front of it. User can change the default prefix by editing the P6CalendarDefaultPrefix=ERP AIA configuration property.

Resource Rate Unit of Measure

Primavera P6 supports only **Hourly** as a valid unit of measure for labor and non-labor resources.

Therefore, Primavera P6 can support only those unit codes [UOM] which can be converted into the hourly unit code. Supported UOM codes include Daily, Weekly, and Monthly. If the UOM code is not supported, it is ignored during processing.

Primavera P6 uses standard conversion rates for the following incoming unit codes when converting to hourly units:

- Hourly = 1 hour
- Daily = 8 hours
- Weekly = 40 hours
- Monthly = 160 hours

Note: This unit of measure conversion applies only to objects mapped as labor and nonlabor resources. If the basicUnitCode is not sent in the message, the system uses a default rate of **0** (zero). Material type resource rates are mapped as they are sent, and the system uses the UOM that is set on the object.

Start and End Times for Calendar Activities

In Primavera P6 all calendar activities use a start time of XX:00 or XX:30 (where XX is the hour), and they use end times of either XX:29 or XX:59. If you synchronize calendar data from EnterpriseOne, and your start and end times differ from those listed here, the system converts the times during synchronization to conform to the Primavera P6 start and end time format, as described here:

- Any EnterpriseOne records with a start time between XX:00 and XX: 29 will be stored in Primavera P6 with a start time of XX:00.
- Any EnterpriseOne records with a start time between XX:30 and XX:59 will be stored in Primavera P6 with a start time of XX:30.
- Any EnterpriseOne records with an end time between XX:00 and XX:29 will be stored in Primavera P6 with an end time of XX:29.
- Any EnterpriseOne records with an end time between XX:30 and XX:59 will be stored in Primavera P6 with an end time of XX:59.

For example, if an activity in EnterpriseOne is scheduled to start at 12:15 and end at 1:30, the corresponding record in Primavera P6, after synchronization is complete, has a start time of 12:00 and an end time of 1:59.

To avoid having calendars in EnterpriseOne and Primavera P6 that contain different start and end times, Oracle recommends that, whenever possible, you use the Primavera P6 format for start and end times when creating activities or calendar events in EnterpriseOne that will be synchronized to Primavera P6.

For example, if you would normally schedule a meeting from 1:00 to 2:00, schedule the meeting from 1:00 to 1:59. Similarly, use start and end times such as 8:00 to 4:59 to designate a work day.

Alternatively, you can synchronize calendar activities using any start and end times that you desire. Just be aware that there might be discrepancies between your EnterpriseOne and Primavera P6 calendars.

For more information about creating calendars and activities in EnterpriseOne, see *JD Edwards EnterpriseOne Address Book 9.0 Implementation Guide, Using Foundation Calendar*.

Prerequisites

Before loading or synchronizing data between JD Edwards EnterpriseOne and Primavera P6, you must:

1. Verify that all required data exists in the EnterpriseOne system.
2. Set up versions of each extract program in JD Edwards EnterpriseOne.
3. Set up batch processing information.

For more information about data extract programs, see *Setting Up Data Extract Programs*.

For more information about setting up batch processing, see *Setting Up Batch Processing Information*.

Core AIA Components

The master data load and synchronization processes use these core AIA components:

- ProjectResourceRateScheduleEBO
- ProjectResourceSetEBO
- ResourceAvailabilityCalendarEBO
- ResourceAvailabilityCalendarEBSV1
- ProjectResourceSetEBSV1
- ProjectResourceRateScheduleEBSV1

For more information about using the Oracle Enterprise Repository and configuring it to provide the AIA Reference Doc link, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11G Release 1 (11.1.1.4.0)*, "Configuring and Using Oracle Enterprise Repository as the Oracle AIA SOA Repository."

Loading Resource Calendar Data

The first step in the initial data load process for this PIP is to load calendar data from JD Edwards EnterpriseOne to Primavera P6. You use these programs to load and synchronize calendar data:

- Project Resource Availability Calendar XML Extract (R01311D)
- Project Resource Project Calendar XML Extract (R0007D)

Loading Project Resource Availability Calendar Data

Project resource availability calendar data is stored in these tables in the JD Edwards EnterpriseOne system:

- Calendar Master (F01311)
- Activity Detail (F01301D)

The Project Portfolio Management: Primavera P6 - JDE E1 PIP uses this data to determine resource availability when assigning resources to projects.

To extract project resource availability calendar data, you run the Project Resource Availability Calendar XML Extract (R01311D) program. This program writes an XML file to a folder on the EnterpriseOne Enterprise server. You specify the location of the file in the processing options of the extract program.

You also set the processing options of this program to specify the type of calendar to include in the extract file.

After the file is created, the mediator consumer service `ResourceAvailabilityCalendarExtractJDEE1Consumer` calls either the `ResourceAvailabilityCalendarExtractJDEE1FileConsumer_ep` or the `ResourceAvailabilityCalendarExtractJDEE1FTPConsumer_ep`, which locates and debatches the file. The routing service `ResourceAvailabilityCalendarExtractJDEE1FileConsumer_RS` or `ResourceAvailabilityCalendarExtractJDEE1FTPConsumer_RS` then routes each individual XML file to the `SyncResourceAvailabilityCalendarListJDEE1ReqABCSImpl`. The messages are then passed to the `ResourceAvailabilityCalendarEBS`, which sends the message to the `SyncProjectResourceAvailabilityCalendarListP6EPPMProvABCSImpl`. Finally, the provider service calls the P6 `CalendarService` web service and the records are inserted or updated in the Primavera P6 database, as necessary.

Loading Project Resource Project Calendar Data

Project resource project calendar data is stored in Work Day Calendar table (F0007) in the JD Edwards EnterpriseOne system. The Project Portfolio Management: Primavera P6 - JDE E1 PIP uses this data to determine resource availability when assigning resources to projects.

To extract project resource project calendar data, you run the Project Resource Project Calendar XML Extract (R0007D) program. This program writes an XML file to a folder on the EnterpriseOne Enterprise server. You specify the location of the file in the processing options of the extract program.

After the file is created, the mediator consumer service ResourceAvailabilityCalendarExtractJDEE1Consumer calls either the ResourceAvailabilityCalendarExtractJDEE1FileConsumer_ep or the ResourceAvailabilityCalendarExtractJDEE1FTPConsumer_ep, which locates and debatches the file. The routing service ResourceAvailabilityCalendarExtractJDEE1FileConsumer_RS or ResourceAvailabilityCalendarExtractJDEE1FTPConsumer_RS then routes each individual XML file to the SyncResourceAvailabilityCalendarListJDEE1ReqABCSImpl. The messages are then passed to the ResourceAvailabilityCalendarEBS, which sends the message to the SyncProjectResourceAvailabilityCalendarListP6EPPMProvABCSImpl. Finally, the provider service calls the P6 CalendarService web service and the records are inserted or updated in the Primavera P6 database, as necessary.

Loading Project Resource Data

After you complete the calendar data load, you can then load schedulable and non-schedulable resource data from JD Edwards EnterpriseOne to Primavera P6. You use these programs to load and synchronize resource data:

- Project Planning Schedulable Resources for Asset Master XML Extract (R1201D)
- Project Planning Schedulable Resources for Item Master XML Extract (R4101D)
- Project Planning Schedulable Resources for Address Book XML Extract (R0101D)
- Project Planning Schedulable Resources for Role Information XML Extract (R08001D)
- Project Resource Set for Chart Type Master XML Extract (R5109D)

Loading Project Planning Schedulable Resources for Assets Data

Data related to the schedulable resources for assets is stored in these tables in the JD Edwards EnterpriseOne system:

- Asset Master (F1201)
- Equipment Master Extension (F1217)

The Project Portfolio Management: Primavera P6 - JDE E1 PIP uses this data to schedule assets and equipment for a project.

To extract schedulable resources for assets data, you run the Project Planning Schedulable Resources for Asset Master XML Extract (R1201D) program. This program writes an XML file to a folder on the EnterpriseOne Enterprise server. You specify the location of the file in the processing options of the extract program.

After the file is created, the mediator consumer service ResourceSetExtractJDEE1Consumer calls either the ResourceSetExtractJDEE1FileConsumer_ep or the ResourceSetExtractJDEE1FTPConsumer_ep, which locates and debatches the file. The routing service ResourceSetExtractJDEE1FileConsumer_RS or ResourceSetExtractJDEE1FTPConsumer_RS then routes each individual XML file to the SyncProjectResourceSetListJDEE1ReqABCImpl. The messages are then passed to the ProjectResourceSetEBS, which sends the message to the SyncProjectResourceSetListP6EPPMProvABCImpl. Finally, the provider service calls the P6 ResourceService web service and the records are inserted or updated in the Primavera P6 database, as necessary.

Note: To minimize the selection of unwanted asset or equipment records, the extract program is delivered with data selection that selects records based on the Equipment Status (AV), Allow Work Order Y/N (1), and the Last Updated Status (greater than 01/01/2008) fields.

Loading Project Planning Schedulable Resources for Items Data

Data related to the schedulable resources for items is stored in these tables in the JD Edwards EnterpriseOne system:

- Item Master (F4101)
- Branch Plant (F4102)

The Project Portfolio Management: Primavera P6 - JDE E1 PIP uses this data to schedule item resources for a project.

To extract schedulable resources for items data, you run the Project Planning Schedulable Resources for Item Master XML Extract (R4101D) program. This program writes an XML file to a folder on the EnterpriseOne Enterprise server. You specify the location of the file in the processing options of the extract program.

After the file is created, the mediator consumer service ResourceSetExtractJDEE1Consumer calls either the ResourceSetExtractJDEE1FileConsumer_ep or the ResourceSetExtractJDEE1FTPConsumer_ep, which locates and debatches the file. The routing service ResourceSetExtractJDEE1FileConsumer_RS or ResourceSetExtractJDEE1FTPConsumer_RS then routes each individual XML file to the SyncProjectResourceSetListJDEE1ReqABCImpl. The messages are then passed to the ProjectResourceSetEBS, which sends the message to the SyncProjectResourceSetListP6EPPMProvABCImpl. Finally, the provider service calls the P6 ResourceService web service and the records are inserted or updated in the Primavera P6 database, as necessary.

Note: To minimize the selection of unwanted item records, the extract program is delivered with data selection that selects records based on the Item Branch (not equal to zero), Last Updated Date (greater than 01/01/2008), and the Stocking Type (not equal to blank) fields.

Loading Project Planning Schedulable Resources for Address Book Data

Data related to the schedulable resources for address book entities is stored in these tables in the JD Edwards EnterpriseOne system:

- Address Book (F0101)
- Employee Master (F060116)
- Electronic Addresses (F01151)
- Address Book Phone Numbers (F0115)

The Project Portfolio Management: Primavera P6 - JDE E1 PIP uses this data to schedule employees to work on projects.

To extract schedulable resources for address book data, you run the Project Planning Schedulable Resources for Address Book XML Extract (R0101D) program. This program writes an XML file to a folder on the EnterpriseOne Enterprise server. You specify the location of the file in the processing options of the extract program.

After the file is created, the mediator consumer service ResourceSetExtractJDEE1Consumer calls either the ResourceSetExtractJDEE1FileConsumer_ep or the ResourceSetExtractJDEE1FTPConsumer_ep, which locates and debatches the file. The routing service ResourceSetExtractJDEE1FileConsumer_RS or ResourceSetExtractJDEE1FTPConsumer_RS then routes each individual XML file to the SyncProjectResourceSetListJDEE1ReqABCImpl. The messages are then passed to the ProjectResourceSetEBS, which sends the message to the SyncProjectResourceSetListP6EPPMProvABCImpl. Finally, the provider service calls the P6 ResourceService web service and the records are inserted or updated in the Primavera P6 database, as necessary.

Note: This program can select resources (employees) who have only an Address Book record in EnterpriseOne, and do not have an Employee Master Record. However, if an Employee Master record exists for the resource, the record will be included only if the Employee Master record is active.

Additionally, to minimize the selection of unwanted address book or employee records, the extract program is delivered with data selection that selects records based on the Job Category (008), Search Type (E), and the Cost Center Home (not equal to blank) fields.

Loading Project Planning Schedulable Resources for Role Data

Data related to the schedulable resources for roles (or jobs) is stored in the Job Information table (F08001) in the JD Edwards EnterpriseOne system. The Project Portfolio Management: Primavera P6 - JDE E1 PIP uses this data to ensure that, when assigning resources to projects in Primavera P6, users have a complete list of the resources that are available for the project.

To extract schedulable resources for job data, you run the Project Planning Schedulable Resources for Role Information XML Extract (R08001D) program. This program writes an XML file to a folder on the EnterpriseOne Enterprise server. You specify the location of the file in the processing options of the extract program.

After the file is created, the mediator consumer service ResourceSetExtractJDEE1Consumer calls either the ResourceSetExtractJDEE1FileConsumer_ep or the ResourceSetExtractJDEE1FTPConsumer_ep, which locates and debatches the file. The routing service ResourceSetExtractJDEE1FileConsumer_RS or ResourceSetExtractJDEE1FTPConsumer_RS then routes each individual XML file to the SyncProjectResourceSetListJDEE1ReqABCImpl. The messages are then passed to the ProjectResourceSetEBS, which sends the message to the SyncProjectResourceSetListP6EPPMProvABCImpl. Finally, the provider service calls the P6 RoleService web service and the records are inserted or updated in the Primavera P6 database, as necessary.

Note: To minimize the selection of unwanted job records, the extract program is delivered with data selection that selects records based on the Job Category (0P-2), Job Step (not equal to null), and the Job Group (FINAN) fields.

Loading Project WBS Categories for Chart Type Data

Project WBS categories for chart type data is stored in the Chart Type Master file (F5109) in the JD Edwards EnterpriseOne system. The Project Portfolio Management: Primavera P6 - JDE E1 PIP uses this data in Primavera P6 when creating a new project or WBS task.

Chart types in EnterpriseOne represent a predefined account structure. When you extract chart types from EnterpriseOne, they are inserted into Primavera P6 as WBS categories. When you create a project, and add WBS categories to that project, you should use only the WBS categories that have been created as a result of the integration with EnterpriseOne.

When a Primavera P6 project is synchronized to JD Edwards EnterpriseOne, a WBS category that represents a valid chart type in EnterpriseOne is needed in order to create the account that defines the WBS tasks in the JD Edwards EnterpriseOne system.

Chart type data is considered non-schedulable resource data.

To extract WBS category data, you run the Project Resource Set for Chart Type Master XML Extract (R5109D) program. This program writes an XML file to a folder on the EnterpriseOne Enterprise server. You specify the location of the file in the processing options of the extract program.

After the file is created, the mediator consumer service ResourceSetExtractJDEE1Consumer calls either the ResourceSetExtractJDEE1FileConsumer_ep or the ResourceSetExtractJDEE1FTPConsumer_ep, which locates and debatches the file. The routing service ResourceSetExtractJDEE1FileConsumer_RS or ResourceSetExtractJDEE1FTPConsumer_RS then routes each individual XML file to the SyncProjectResourceSetListJDEE1ReqABCImpl. The messages are then passed to the ProjectResourceSetEBS, which sends the message to the SyncProjectResourceSetListP6EPPMProvABCImpl. Finally, the provider service calls the P6 WbsCategoryService and the records are inserted or updated in the Primavera P6 database, as necessary.

Be aware that this program includes only unique occurrences of the Subsidiary and Object Account field combinations. For example, assume the following data:

| CTY | SUB | OBJ | DL01 |
|-----|-------|------|---------|
| | 02200 | 1340 | Labor |
| | 02200 | 1341 | Regular |

| CTY | SUB | OBJ | DL01 |
|-----|-------|------|----------|
| | 02200 | 1342 | Overtime |
| ETO | 02200 | 1340 | Labor |
| ETO | 02200 | 1341 | Regular |
| ETO | 02210 | 1340 | Labor |

This would result in the following output to the XML file:

02200.1340 Labor

02200.1341 Regular

02200.1342 Overtime

02210.1340 Labor

Loading Resource Rate Data

After you load calendar and project resource data, you can then load resource rate information from JD Edwards EnterpriseOne to Primavera P6. You use these programs to load and synchronize resource rate data:

- Project Resource Rates for Equipment Rates XML Extract (R1301D)
- Project Resource Rates for Item Master XML Extract (R4101E)

Loading Project Resource Rates for Equipment Data

Data related to the resource rates for equipment is stored in the Equipment Rate table (F1301) in the JD Edwards EnterpriseOne system. The Project Portfolio Management: Primavera P6 - JDE E1 PIP uses this data to load equipment rates into the Primavera P6 system. These rates are then used to calculate costs.

To extract equipment resource rate data, you run the Project Resource Rates for Equipment Rates XML Extract (R1301D) program. This program writes an XML file to a folder on the EnterpriseOne Enterprise server. You specify the location of the file in the processing options of the extract program.

After the file is created, the mediator consumer service ResourceRateExtractJDEE1Consumer calls either the ResourceRateExtractJDEE1FileConsumer_ep or the ResourceRateExtractJDEE1FTPConsumer_ep, which locates and debatches the file. The routing service ResourceRateExtractJDEE1FileConsumer_RS or ResourceRateExtractJDEE1FTPConsumer_RS then routes each individual XML file to the SyncProjectResourceRateScheduleListJDEE1ReqABCImpl. The messages are then passed to the ProjectResourceRateScheduleEBS, which sends the message to the SyncProjectResourceRateScheduleListP6EPPMProvABCImpl. Finally, the provider service calls the P6 ResourceRateService web service and the records are inserted or updated in the Primavera P6 database, as necessary.

Note: To minimize the selection of unwanted equipment rate records, the extract program is delivered with data selection that selects records based on the Equipment Rate Table (not equal to null) and Equipment Rate Group (not equal to null) fields.

Loading Project Resource Rates for Item Master Data

Data related to the resource rates for items is stored in these tables in the JD Edwards EnterpriseOne system:

- Item Master (F4101)
- Item Branch (F4102)
- Item Base Price (F4106)

The Project Portfolio Management: Primavera P6 - JDE E1 PIP uses this data to load item rates into the Primavera P6 system. These rates are then used for project costing and billing purposes.

To extract item rate data, you run the Project Resource Rates for Item Master XML Extract (R4101E) program. This program writes an XML file to a folder on the EnterpriseOne Enterprise server. You specify the location of the file in the processing options of the extract program.

After the file is created, the mediator consumer service ResourceRateExtractJDEE1Consumer calls either the ResourceRateExtractJDEE1FileConsumer_ep or the ResourceRateExtractJDEE1FTPConsumer_ep, which locates and debatches the file. The routing service ResourceRateExtractJDEE1FileConsumer_RS or ResourceRateExtractJDEE1FTPConsumer_RS then routes each individual XML file to the SyncProjectResourceRateScheduleListJDEE1ReqABCImpl. The messages are then passed to the ProjectResourceRateScheduleEBS, which sends the message to the SyncProjectResourceRateScheduleListP6EPPMProvABCImpl. Finally, the provider service calls the P6 ResourceRateService web service and the records are inserted or updated in the Primavera P6 database, as necessary.

Chapter 3: Describing the Process Integration for Project Management: Primavera P6 to JD Edwards EnterpriseOne

This chapter provides an overview of the project management process integration from Primavera P6 to JD Edwards EnterpriseOne, lists prerequisites, and discusses:

- Solution assumptions and constraints.
- Creating projects in Primavera P6 and synchronizing to JD Edwards EnterpriseOne.
- Updating projects in Primavera P6 and synchronizing to JD Edwards EnterpriseOne.
- Project management data requirements.
- Core AIA components.
- Project management integration services.

Project Management Process Integration from Primavera P6 to JD Edwards EnterpriseOne Overview

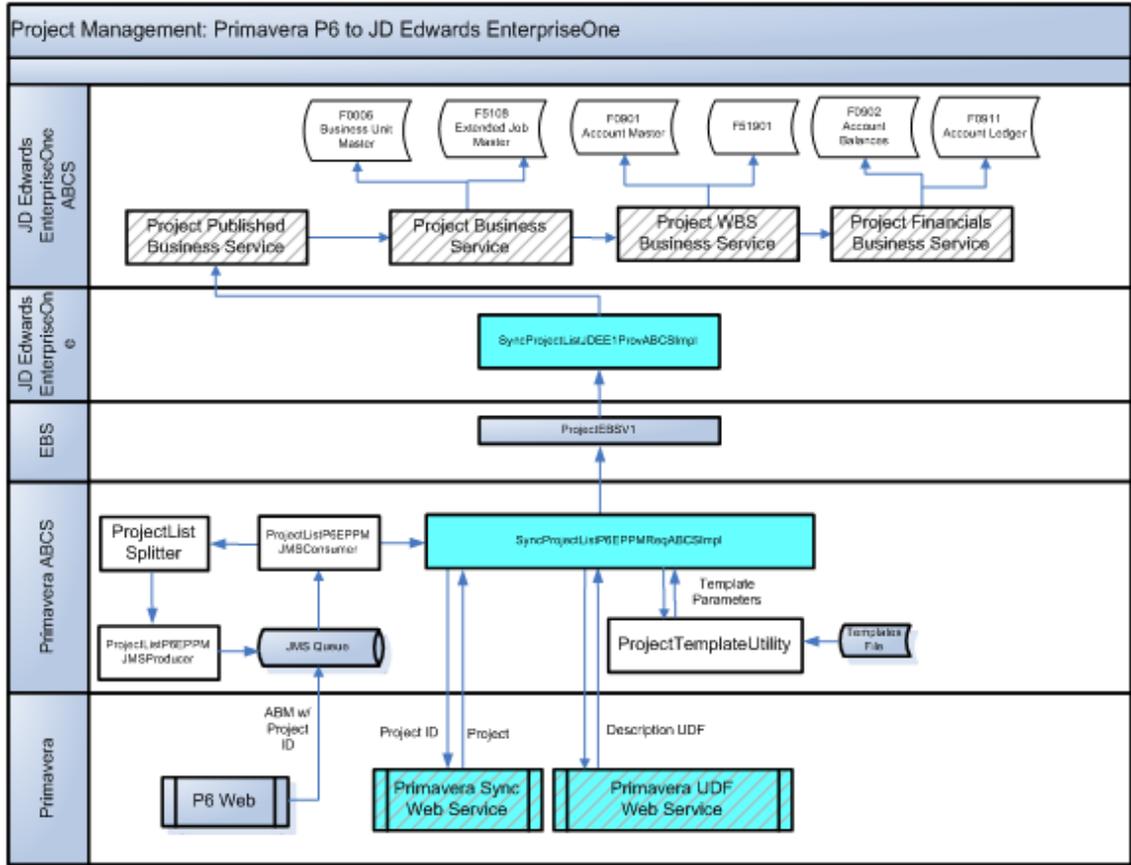
The process integration for project management from Primavera P6 to JD Edwards EnterpriseOne supports these process flows:

- Create project in Primavera P6 and synchronize to JD Edwards EnterpriseOne.

This process flow enables you to create a project in the Primavera P6 system and synchronize the new project data to the JD Edwards EnterpriseOne database. This flow uses the Primavera P6 Send to ERP function to collect and send data from the Primavera P6 system.
- Update project in Primavera P6 and synchronize to JD Edwards EnterpriseOne.

This process flow enables you to update an existing project in the Primavera P6 system and synchronize the changes to an existing project in the JD Edwards EnterpriseOne database. This flow uses the Primavera P6 Send to ERP function to collect and send data from the Primavera P6 system.

This diagram illustrates the project management process from Primavera P6 to JD Edwards EnterpriseOne:



Project Management Process Flow: Primavera P6 to JD Edwards EnterpriseOne

Model Projects and Model Jobs

When users create new projects in Primavera P6, they must specify a model project, or model job. This model job is used when creating a new project in EnterpriseOne when a project is sent from Primavera P6. There are two methods for specifying the model job that the system uses:

- Select a valid EnterpriseOne job (business unit) from the ERP Project Template field when you create a new project in Primavera P6.

The ERP Project Template field is a project code that is created specifically for this PIP using the Primavera P6 setup utility. Using a drop down menu, you can select from template job records that have been synchronized from EnterpriseOne to Primavera P6.

- Enter a default model job in the business service properties of the processProject web service operation (J51000010).

If you enter a valid job or template job ID in the ERP Project Template field, the system uses that value as the model job when creating the new project in EnterpriseOne. If no value exists in this field, the system uses the value from the processProject business service properties. If no value exists in either place, and a model job value is not included in the message, a project is not created in EnterpriseOne.

The specified model job is used only to copy job header information. The WBS is built from the chart type stored in the WBS Category.

To send template jobs from EnterpriseOne to Primavera P6, so that the values are available in the Project Code field, users create a job in EnterpriseOne, and then run the Project Extract program (R51006D) to send the job data to Primavera P6. Before running the program to send templates to Primavera, you set the processing options to specify that the jobs that are included in the process are template jobs, and not actual projects.

Note: To send an EnterpriseOne job to Primavera P6 as both a project and a project template (model job), you must send data for that project to Primavera P6 twice using the R51006D program. First, run the program once with the processing option set to send template data, and then run it again without the processing option set to send template data.

For more information about model jobs and the Project Extract program, see *Chapter 4: Describing the Process Integration for Project Management: JD Edwards EnterpriseOne to Primavera P6*.

For more information about the processProject web service operation, see *Using the JD Edwards EnterpriseOne ProjectManager Web Services*.

For more information about creating the ERP Project Template field, see *Running the Primavera P6 Setup Utility*.

Prerequisites

Before you can use the project management integration process from Primavera P6 to JD Edwards EnterpriseOne, you must:

- Perform all master data loads.

For more information about master data loads, see *Chapter 2: Loading and Synchronizing Master Data from JD Edwards EnterpriseOne to Primavera P6*.

- Complete all Primavera P6 setup that is required for this PIP.

A Primavera P6 administrator must grant access to any user who is authorized to send project data from Primavera P6 to EnterpriseOne.

You must also run the Primavera P6 setup utility to create the necessary UDFs, update specific configuration settings, and create the ERP Project Template field.

For more information about setting up Primavera P6 for this PIP, *Setting Up the Primavera P6 System*.

- Create at least one model job in EnterpriseOne and synchronize the job to Primavera P6.

A model job number must be entered in the business service properties for the processProject web service operation, or you specify the model job number in the ERP Project Template field when you create a new project in Primavera P6. A model job must exist before you synchronize data from Primavera P6 to EnterpriseOne.

Solution Assumptions and Constraints

These are the solution assumptions and constraints for the project management process flow:

1. Synchronizing project data in both directions (EnterpriseOne to Primavera P6, and Primavera P6 to EnterpriseOne) can cause data integrity issues.

Warning! If you synchronize project data in both directions, each synchronization overlays existing data in the target system. For example, if you make an update to budget data in both Primavera P6 and in EnterpriseOne, and then synchronize project data from Primavera P6 to EnterpriseOne, the changes that were made in the EnterpriseOne system will be overwritten with the data from the Primavera P6 system. The same is true of synchronizing data from EnterpriseOne to P6.

To avoid these data issues, Oracle strongly recommends that your organization synchronizes project data in only one direction, either from EnterpriseOne to Primavera P6, or from Primavera P6 to EnterpriseOne. This PIP enables you to synchronize data in either direction to accommodate the needs of your organization.

2. If you create a project in Primavera P6 that contains only one WBS, and you sync that project to EnterpriseOne, the system creates a business unit, an account, and also a header account for the project with a blank object and subsidiary. This header account record is created based on functionality in the EnterpriseOne Job Cost system.

At this point that account only resides in EnterpriseOne. However, if the budget is updated in EnterpriseOne and the job is synced back to Primavera P6, that header account is written to Primavera P6. This header account record does not cause any issues in the Primavera P6 system, but it also does not serve any purpose. Therefore, you can either allow the record to be sent to Primavera P6, or you can add data selection to the R51901D extract program to prevent that account from being included in the synchronization process.

3. Sending future budget amounts from Primavera P6 to EnterpriseOne might result in overstated budget amounts for the current period and or the current fiscal year in EnterpriseOne.

Budget information that is sent from Primavera P6 to EnterpriseOne contains the total budget amount, which might include future values for the WBS. When that data is received by EnterpriseOne, the amounts are placed into the company's current period or the period for the current system date. The period in which the data is included is determined by the business service properties that are set up for this integration process flow.

Therefore, if budgets containing future amounts are sent to EnterpriseOne, the entire amount (current and future) is included in the revised budget field of the current period. If the budget amount contains future data that falls within the current fiscal year, only the revised budget for the current period is overstated, and the current fiscal year totals are correct.

If the budget amount contains future data that falls in a future fiscal year, budget amounts will be overstated for both the current period and the current fiscal year.

Users can utilize one of these methods to avoid overstated budget amounts in EnterpriseOne:

- Do not to use future budgeting features in Primavera P6.

- Manually adjust budgets in EnterpriseOne if future values are included in the synchronization process.

If you choose to send future budget data to EnterpriseOne, be aware that future budget data can be sent for:

- Budget Amount
 - Budget Units
 - Projected Final Amounts
 - Projected Final Units
 - Percent of Job Complete
4. If a task (WBS in P6, account in E1) exists in both Primavera P6 and EnterpriseOne, deletion of the task in either system requires you to also manually delete that task in the other system to preserve data integrity.

For example, when you delete an account that is associated with a project in EnterpriseOne, and the WBS that corresponds to that account exists in Primavera P6, you must manually delete that WBS in the Primavera P6 system. To delete the WBS, use the Activities view in P6 Web Access.

If you delete a WBS in Primavera P6, and the account that corresponds to that WBS exists in EnterpriseOne, you must manually delete that account in the EnterpriseOne system. To delete the account in EnterpriseOne, use the Job Cost Code Structure (P51091) or the Account (P0901) program. If there is financial information associated with the account it can not be deleted, but it's posting edit code can be changed to 'I' (inactive) status.

5. When a project is synchronized from Primavera P6 to EnterpriseOne, the project level of detail is determined by the model job, and not by the level of detail in Primavera P6.
6. Primavera P6 uses only one currency, and JD Edwards EnterpriseOne can use multiple currencies.

To ensure that amounts are converted into the correct currencies in EnterpriseOne, users must specify the Primavera P6 currency in the configuration settings for the SyncProjectListP6EPPMReqABCImpl service. This currency is used for all amounts that are sent from Primavera P6.

During the synchronization process, the system determines which EnterpriseOne company the selected project belongs to, and identifies the currency associated with that company. If the company's currency is different than the Primavera P6 currency, the EnterpriseOne system converts the amounts to the company's currency using standard EnterpriseOne currency conversion processing.

EnterpriseOne uses currency that is assigned at the project level for all amounts that are associated with that project.

7. The Original Budget Amount and Budget Amount fields at the project level in Primavera P6 are not consumed by EnterpriseOne when a project is synchronized.
8. EnterpriseOne does not track labor and non labor amounts within a single account or WBS.

To track labor and non labor amounts separately, you must not include both labor and non labor activities in a single WBS. Each WBS should include only labor activities or non labor activities.

If you include both labor and non labor activities in a WBS, amounts associated with those activities are added together during the synchronization process and inserted into EnterpriseOne under a single account.

Create Project in Primavera P6 and Synchronize to JD Edwards EnterpriseOne

The create project integration flow is initiated in the Primavera P6 system when a user creates a new project and adds the record to the database.

This is the business process for creating projects in Primavera P6 and synchronizing to JD Edwards EnterpriseOne:

1. A new project record is created in Primavera P6 and is committed to the database.

Note: When creating a new project, users add WBS records to the project. Each WBS must include a valid WBS category. Valid WBS categories must also exist as chart types in the EnterpriseOne system. If a WBS category is not assigned, or if a WBS category that does not exist as an EnterpriseOne chart type is assigned, the WBS is not consumed by EnterpriseOne, and no account is created in the EnterpriseOne system.

You use the Activities view in P6 Web Access to create WBS records. Also be aware that the name of the WBS Category field in Primavera P6 is user defined, and by default is named Project Phase.

2. The creation of the new project record in Primavera P6 results in new records in these JD Edwards EnterpriseOne tables:
 - Business Unit Master (F0006)
 - Extended Job Master (F5108)
 - Account Master (F0901)
 - Cost Code Schedule (F51901)
 - Account Balances (F0902)
 - Account Ledger (F0911)

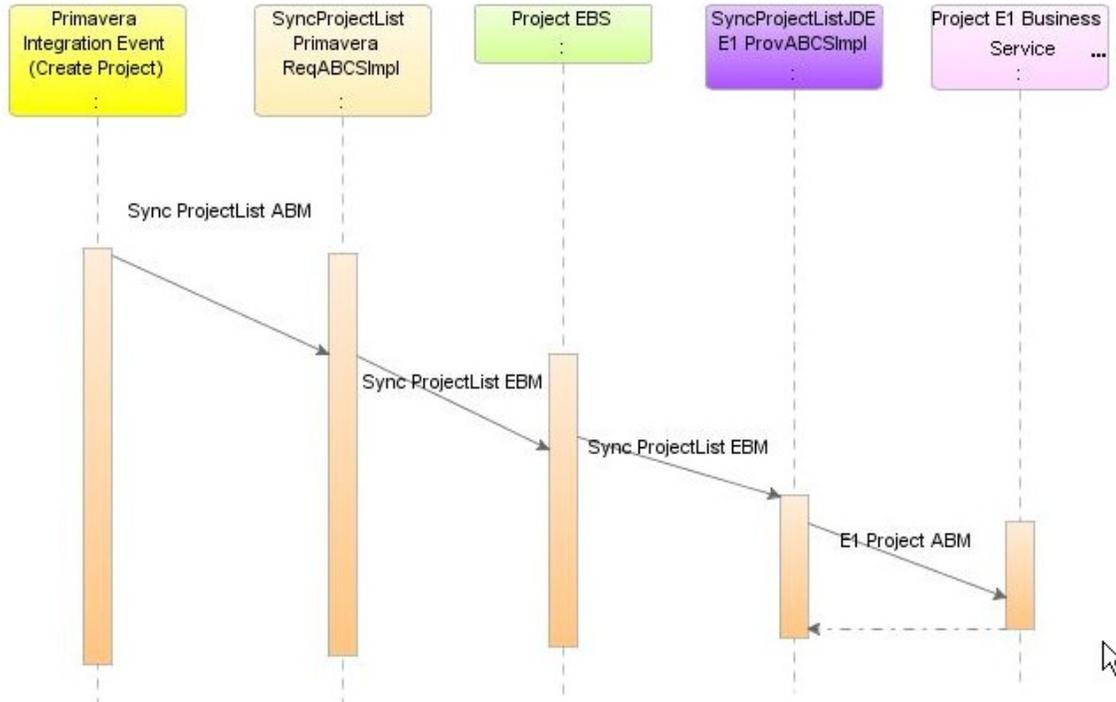
Interfaces

This integration flow uses these interfaces:

- Primavera P6 web service ProjectSync
- Primavera P6 integration event Create Project
- SyncProjectListP6EPPMReqABCImpl
- ProjectEBSV1

- SyncProjectListJDEE1ProvABCSImpl
- JD Edwards EnterpriseOne published business service ProjectManager

This diagram illustrates the create project from Primavera P6 to JD Edwards EnterpriseOne process flow:



Create Project in Primavera P6 and Sync to JD Edwards EnterpriseOne

Program Logic

When you initiate the create project from Primavera P6 to JD Edwards EnterpriseOne process flow, these events occur:

1. A user creates a new project in Primavera P6 and commits it to the database.
A new project in Primavera P6 can consist of project header data, WBS data, financial forecast data, and budget data. A project might also include activities that are associated with project tasks. However, activities are not consumed by the EnterpriseOne system.
2. The user assigns WBS categories to the project.
If the WBS Category field is blank, or if the WBS category that is assigned does not exist as a valid chart type in EnterpriseOne, the WBS is not consumed by EnterpriseOne, and no account is created for that WBS. Be aware that the WBS Category field name is user-defined, and is called Project Phase as a default.
3. Optionally, the user specifies a model job in the ERP Project Template field.
If you do not enter a value in this field, you must verify that a model job value exists in the business service properties for the processProject web service operation. If no model job value is sent with the message, EnterpriseOne does not create a project.

4. The user runs the Send to ERP function, selecting the projects and data that they want to include in the synchronization to EnterpriseOne.
5. The Send to ERP function initiates the Create Project integration event.
6. The Create Project integration event calls the ProjectSync web service, which creates the SyncProjectListABM message, and sends it to the AIA_ProjP6EPPMJMSQueue.
7. The ProjectListP6EPPMJMSConsumer retrieves the SyncProjectListABM.
8. If more than one project is included in the message, ProjectListSplitter separates the message into messages that include only one project and returns the newly-created messages to the queue, where it is again consumed by the ProjectListP6EPPMJMSConsumer.
9. The message is routed to the SyncProjectListP6EPPMReqABCImpl, which transforms the message into a common format of an enterprise business message (EBM), in this case, the SyncProjectListEBM.

The SyncProjectListP6EPPMReqABCImpl also creates the Primavera P6 side of the necessary cross-reference records.

10. The EBM is then sent to the enterprise business service (EBS) ProjectEBSV1.
11. The ProjectEBSV1 routes the message to the JD Edwards EnterpriseOne ABCS, in this case, the SyncProjectListJDEE1ProvABCImpl.
12. The SyncProjectListJDEE1ProvABCImpl transforms the EBM into an EnterpriseOne business message, in this case, the E1ProjectABM.
13. The E1ProjectABM is consumed by the EnterpriseOne published web service, ProjectManager (JP510010).
14. The ProjectManager published web service calls the processProject web service (J5100010), which calls the CreateProjectHeader (B5100120) and CreateProjectAccount (B5100140) business functions. These functions create the basic project records in the EnterpriseOne system.

The B5100120 function creates new project records in these JD Edwards EnterpriseOne tables:

- Business Unit Master (F0006)
- Extended Job Master (F5108)

The B5100140 function creates new records in these JD Edwards EnterpriseOne tables:

- Account Master (F0901)
- Account Balances (F0902)

15. If WBS data is included in the incoming message, the batchProjectProcessor web service calls the processWBS web service (J5100030), which calls the UpdateProjectAccount business function.

This function updates, reads, or creates records in these JD Edwards EnterpriseOne tables:

- Account Master (F0901)
- Account Balances (F0902)

- Chart Type Master (F5109)
 - Cost Code Schedule (F51901)
16. If financial forecast data is included in the incoming message, the processWBS web service calls the processFinancialForecast web service (J5100020), which calls the UpdateProjectAccount business function.
- This function updates or creates financial records in these JD Edwards EnterpriseOne tables:
- Account Master (F0901)
 - Account Balances (F0902)
17. The ProjectManager published web services receive any return messages from their associated web services, and updates the appropriate cross reference records.

Update Project in Primavera P6 and Synchronize to JD Edwards EnterpriseOne

The update project integration flow is initiated in the Primavera P6 system when a user updates an existing project and commits the changes to the database.

This is the business process for updating projects in Primavera P6 and synchronizing to JD Edwards EnterpriseOne:

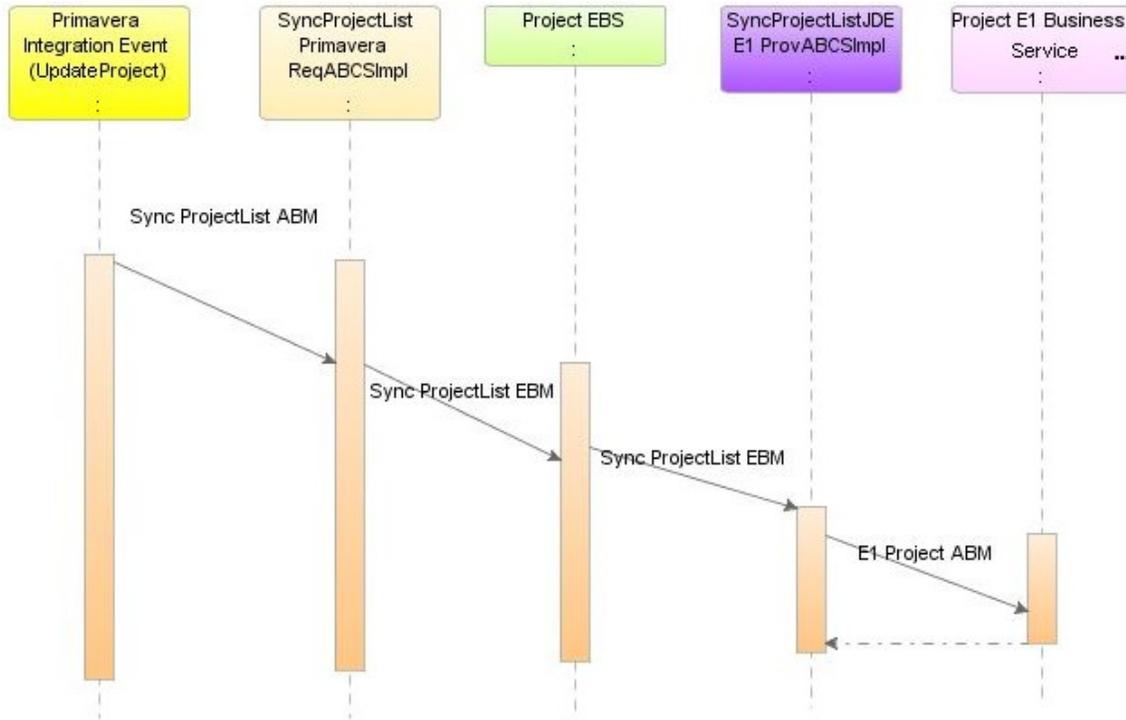
1. An existing project record is updated in Primavera P6 and the change is committed to the database.
2. The update to the project record in Primavera P6 might result in the update of records in these JD Edwards EnterpriseOne tables, depending on the nature of the change:
 - Business Unit Master (F0006)
 - Extended Job Master (F5108)
 - Account Master (F0901)
 - Cost Code Schedule (F51901)
 - Account Balances (F0902)
 - Account Ledger (F0911)

Interfaces

This integration flow uses these interfaces:

- Primavera P6 web service ProjectSync
- Primavera P6 integration event Update Project
- SyncProjectListP6EPPMReqABCImpl
- ProjectEBSV1
- SyncProjectListJDEE1ProvABCImpl
- JD Edwards EnterpriseOne published business service ProjectManager

This diagram illustrates the update project from Primavera P6 to JD Edwards EnterpriseOne process flow:



Update Project in Primavera P6 and Sync to JD Edwards EnterpriseOne

Program Logic

When you initiate the update project from Primavera P6 to JD Edwards EnterpriseOne process flow, these events occur:

1. A user updates an existing project in Primavera P6, and commits the change to the database.
Updating a project can include updating the project header, WBS data, financial forecast data, and or budget data.
2. The user runs the Send to ERP function, specifying which projects and types of data to include in the synchronization to EnterpriseOne.
3. The Send to ERP function triggers the Update Project integration event.
4. The Update Project integration event calls the ProjectSync web service, which creates the SyncProjectListABM message, and sends it to the AIA_ProjP6EPPMJMSQueue.
5. The ProjectListP6EPPMJMSConsumer retrieves the SyncProjectListABM.
6. If more than one project is included in the message, ProjectListSplitter separates the message into messages that include only one project and returns the newly-created messages to the queue, where it is again consumed by the ProjectListP6EPPMJMSConsumer.
7. The messages are routed to the SyncProjectListP6EPPMReqABCSImpl, which transforms the message into a common format of an enterprise business message (EBM), in this case, the SyncProjectListEBM.

The SyncProjectListP6EPPMReqABCImpl also creates or updates the Primavera P6 side of the necessary cross-reference records.

8. The EBM is then sent to the enterprise business service (EBS) ProjectEBSV1.
9. The ProjectEBSV1 routes the message to the JD Edwards EnterpriseOne ABCS, in this case, the SyncProjectListJDEE1ProvABCImpl.
10. The SyncProjectListJDEE1ProvABCImpl transforms the EBM into an EnterpriseOne business message, in this case, the E1ProjectABM.
11. The E1ProjectABM is consumed by the EnterpriseOne published web service, ProjectManager (JP510010).
12. The ProjectManager published web service calls the processProject web service (J5100010), which calls the UpdateProjectHeader (B5100120) and UpdateProjectAccount (B5100140) business functions. These functions update the basic project records in the EnterpriseOne system.

The B5100120 function updates project records in these JD Edwards EnterpriseOne tables:

- Business Unit Master (F0006)
- Extended Job Master (F5108)

The B5100140 function updates records in these JD Edwards EnterpriseOne tables:

- Account Master (F0901)
- Account Balances (F0902)

13. If WBS data is included in the incoming message, the batchProjectProcessor web service calls the processWBS web service (J5100030), which calls the UpdateProjectAccount business function.

This function updates or creates records in these JD Edwards EnterpriseOne tables:

- Account Master (F0901)
- Account Balances (F0902)
- Chart Type Master (F5109)
- Cost Code Schedule (F51901)

14. If financial forecast data is included in the incoming message, the processWBS web service calls the processFinancialForecast web service (J5100020), which calls the UpdateProjectAccount business function.

This function updates or creates financial records in these JD Edwards EnterpriseOne tables:

- Account Master (F0901)
- Account Balances (F0902)

15. The ProjectManager published web services receive any return messages from their associated web services, and updates the cross reference tables.

Project Management Data Requirements

Data requirements indicate the mandatory data that must be provided to make the flow successful. For project management creation and updates, users must specify a project name in Primavera P6. EnterpriseOne creates a project header record using this project name.

Additionally, Primavera P6 users should specify WBS categories (project phases) for each WBS so that corresponding records are created in the EnterpriseOne system. If a WBS does not include a valid WBS category, the WBS is not consumed by EnterpriseOne.

Core AIA Components

These core AIA components are used by the project management process integration:

- ProjectEBSV1
- ProjectEBO
- SyncProjectListEBM

The core EBO and EBM XSD files can be located by EBO within AIA MetaData:

`$AIA_HOME/AIAMetaData/AIAComponents/EnterpriseObjectLibrary/Core/EBO`

The core EBS WSDL files can be located by EBO within AIA MetaData:

`$AIA_HOME/AIAMetaData/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO`

For detailed documentation of individual EBOs and EBMs, click the AIA Reference Doc link on EBO and EBM detail pages in Oracle Enterprise Repository.

For more information about using the Oracle Enterprise Repository and configuring it to provide the AIA Reference Doc link, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11G Release 1 (11.1.1.4.0)*, "Configuring and Using Oracle Enterprise Repository as the Oracle AIA SOA Repository."

Project Management Integration Services

These are the services delivered with this integration:

- ProjectEBSV1
- SyncProjectListP6EPPMReqABCImpl
- SyncProjectListJDEE1ProvABCImpl

Many of the services listed in this section include preprocesses to ensure that the services are extensible.

For more information about extensibility, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11G Release 1 (11.1.1.4.0)*, "Extensibility for AIA Artifacts."

For detailed documentation of individual EBOs and EBMs, click the AIA Reference Doc link on EBO and EBM detail pages in Oracle Enterprise Repository.

For more information about using the Oracle AIA Console, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11G Release 1 (11.1.1.4.0), "Configuring and Using Oracle Enterprise Repository as the Oracle AIA SOA Repository."*

In addition to the services listed in this section, the project management process integration also uses Primavera P6 integration services and JD Edwards EnterpriseOne published business services and business services (web services).

For more information about Primavera P6 integration events and web services, see the *Primavera P6 Programmer's Guide*.

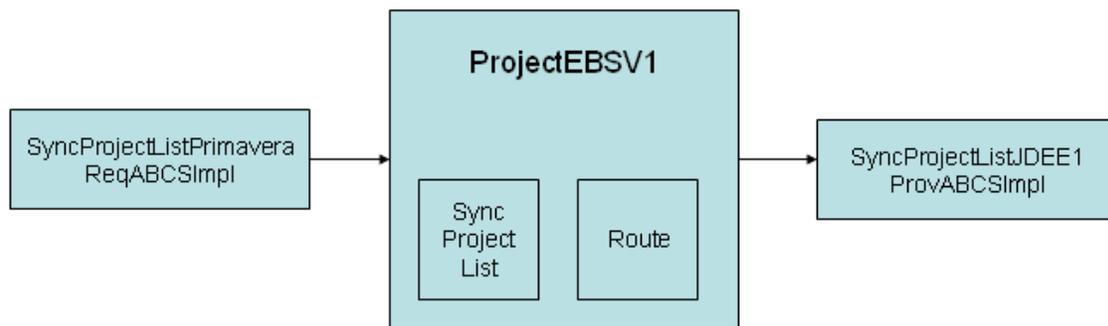
For more information about the specific EnterpriseOne services used by this process integration, see *Chapter 6: Configuring the Project Management: Primavera - JDE E1 PIP*.

For more information about JD Edwards EnterpriseOne business services, see *JD Edwards EnterpriseOne 9.0 Business Services Reference Guide*.

ProjectEBSV1

The ProjectEBSV1 enterprise business service exposes the SyncProjectList enterprise operation that can be performed with a ProjectList enterprise object. All of the project management integration flows use the operation provided by this EBS. This service is implemented as a lightweight mediator.

This graphic illustrates where the ProjectEBSV1 lies within the project management process flow:



ProjectEBSV1 for Primavera P6 to JD Edwards EnterpriseOne

Routing Rules

Most of the operations associated with the ProjectEBSV1 provide simple pass-through functionality to an appropriate provider ABCS implementation. In such cases, the only program logic for the operation is the routing rules. Routing rules specify which target provider ABCS to route the message to.

For more information about modifying default routing rules, see *Chapter 6: Configuring the Project Management: Primavera - JDE E1 PIP*

| Operation | If EBM Header Contains... | Route Message To... |
|----------------|---------------------------|-------------------------------------|
| Create Project | JDEE1 | SyncProjectListPrimaveraProvABCImpl |
| | Primavera | SyncProjectListJDEE1ProvABCImpl |
| Update Project | JDEE1 | SyncProjectListPrimaveraProvABCImpl |
| | Primavera | SyncProjectListJDEE1ProvABCImpl |

SyncProjectListP6EPPMReqABCImpl

The SyncProjectListP6EPPMReqABCImpl service transforms the SyncProjectListABM into the appropriate SyncProjectListEBM format and invokes the ProjectEBSV1 operation. This service is implemented as a BPEL service.

One asynchronous one-way operation is provided by this interface service:

SyncProjectListP6EPPMReqABCImpl

These preprocesses are included in the SyncProjectListP6EPPMReqABCImpl to ensure that ABC services are extensible:

- PreprocessABM
- PreprocessEBM

No post processes are included, because no response message is returned to the caller.

SyncProjectListJDEE1ProvABCImpl

The SyncProjectListJDEE1ProvABCImpl service transforms the SyncProjectListEBM messages into the appropriate SyncProjectListJDEE1ProvABCImpl ABM and invokes the ProjectManager published business service (web service) in the EnterpriseOne system. The service is implemented as a BPEL service.

One asynchronous one-way operation is provided by this interface service:

SyncProjectListJDEE1ProvABCImpl

These preprocesses are included in the SyncProjectListJDEE1ProvABCImpl to ensure that ABC services are extensible:

- PreprocessABM
- PreprocessEBM

No post processes are included, because no response message is returned to the caller.

Chapter 4: Describing the Process

Integration for Project Management: JD Edwards EnterpriseOne to Primavera P6

This chapter provides an overview of the project management process integration from JD Edwards EnterpriseOne to Primavera P6, lists prerequisites, and discusses:

- Solution assumptions and constraints.
- Synchronizing JD Edwards EnterpriseOne project data to Primavera P6.
- Project management data requirements.
- Core AIA components.
- Project management integration services.

Project Management Process Integration from JD Edwards EnterpriseOne to Primavera P6 Overview

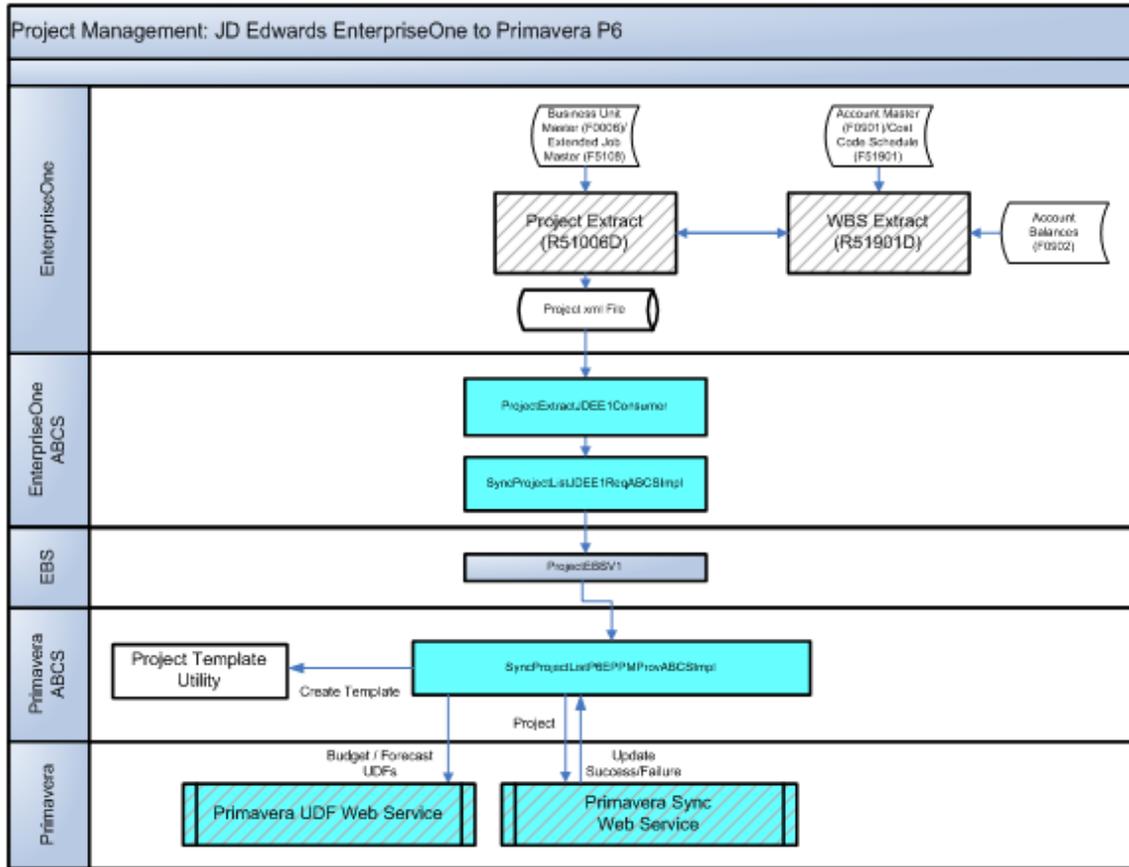
The process integration for project management from JD Edwards EnterpriseOne to Primavera P6 supports this process flow:

- Creating project data in JD Edwards EnterpriseOne and synchronizing to Primavera P6.
- Updating project data in JD Edwards EnterpriseOne and synchronizing to Primavera P6.

These process flows enable you to create or update project data in the JD Edwards EnterpriseOne system and synchronize the new or changed data to the Primavera P6 database. These flows are essentially the same, and they use XML data extract programs to extract data from the JD Edwards EnterpriseOne system.

Project data is included in the extraction process based on selection criteria that the user enters before running the data extract programs. Data that is included in the extract file can be for both new and updated projects, therefore, both the create project and update project process flows are described as a single flow; synchronizing project data.

This diagram illustrates the project management process from JD Edwards EnterpriseOne to Primavera P6:



Project Management Process Flow: Synchronizing JD Edwards Project Data to Primavera P6

Model Projects and Model Jobs

When users create new projects in Primavera P6, they must specify a model project, or model job. This model job is used when creating a new project in EnterpriseOne when a project is sent from Primavera P6.

Model jobs are business units in EnterpriseOne. When you create a business unit (job or project), you can send that business unit to Primavera P6 as a project template. P6 users can use these project templates as the model jobs on any subsequent projects they create.

To send a project template from EnterpriseOne to Primavera P6, complete these steps:

1. Create a job in EnterpriseOne that you want to be used as a project template.
2. Run the Project Extract program (R51006D), data selecting the job, and specifying in the processing options that the job should be sent to Primavera P6 as a template.
3. After the template has been created and sent to Primavera P6, there are two methods for specifying the model job on a Primavera P6 project:
 - Select a valid EnterpriseOne job (business unit) from the ERP Project Template field when you create a new project in Primavera P6.

Using the drop down menu, you select from template job records that have been synchronized from EnterpriseOne to Primavera P6.

- Enter a default model job in the business service properties of the processProject web service operation (J5100010).

Note: To send an EnterpriseOne job to Primavera P6 as both a project and a project template (model job), you must send data for that project to Primavera P6 twice using the R51006D program. First, run the program with the processing option set to send template data, and then run it again without the processing option set to send template data.

For more information about how model jobs are used by this PIP, see *Chapter 3: Describing the Process Integration for Project Management: Primavera P6 to JD Edwards EnterpriseOne*.

For more information about processing options for data extract programs, see *Setting Up Data Extract Programs*.

For more information about the processProject web service operation, see *Using the JD Edwards EnterpriseOne ProjectManager Web Services*.

Prerequisites

Before you can use the project management integration process, you must:

- Perform all master data loads.

For more information about master data loads, see *Chapter 2: Loading and Synchronizing Master Data from JD Edwards EnterpriseOne to Primavera P6*.

- Set up file transfer information in JD Edwards EnterpriseOne.

For more information about file transfer setup, see *Setting Up Batch Processing Information*.

- Set up versions of these data extract programs:
 - Project Extract (R51006D)
 - WBS Extract (R51901D)

Setting up extract programs includes copying the standard program version, setting processing option values, and defining data selection for your version.

For more information about setting up extract programs, see *Setting Up Data Extract Programs*.

- Verify that EnterpriseOne Business Unit Master (F0006), Extended Job Master (F5108), and Account Master (F0901) records exist for the project you want to synchronize to Primavera P6.

Cost Code Schedule (F51901) and Account Balance (F0902) records might also exist for the project, but are not required.

When you synchronize a project from EnterpriseOne to Primavera P6, the system converts the accounts to WBS.

For more information about business unit and extended job master records, see *JD Edwards EnterpriseOne Job Cost 9.0 Implementation Guide, "Setting Up Jobs."*

For more information about account master and balance information, see *JD Edwards EnterpriseOne Job Cost 9.0 Implementation Guide, "Setting Up Cost Code Structures."*

For more information about chart types and WBS categories, see *Chapter 2: Loading and Synchronizing Master Data from JD Edwards EnterpriseOne to Primavera P6.*

- Set up AAIs for labor and non labor accounts in EnterpriseOne.

New AAI ranges (JCLAx-JCLAx+1) will be used to determine which accounts are considered labor accounts. There can be up to 49 ranges (JCLA01-JCLA02 through JCLA97-JCLA98). Any accounts that do not fall within one of these ranges will be considered non-labor.

When you run the Project Extract program, the program determines whether any of the accounts that are included in the process fall within one of these AAI ranges. If the account falls within the range, the LaborOrNonLaborIndicator in the generated xml file is set to L (labor). If the account does not fall within one of these ranges, the indicator is set to N (non labor). This data is then passed to Primavera P6.

For more information about AAIs, see *JD Edwards EnterpriseOne General Accounting 9.0 Implementation Guide, "Setting Up the General Accounting System."*

Solution Assumptions and Constraints

These are the solution assumptions and constraints for the project management process flow:

1. Synchronizing project data in both directions (EnterpriseOne to Primavera P6, and Primavera P6 to EnterpriseOne) can cause data integrity issues.

Warning! If you synchronize project data in both directions, each synchronization overlays existing data in the target system. For example, if you make an update to budget data in both Primavera P6 and in EnterpriseOne, and then synchronize project data from Primavera P6 to EnterpriseOne, the changes that were made in the EnterpriseOne system will be overwritten with the data from the Primavera P6 system. The same is true of synchronizing data from EnterpriseOne to P6.

To avoid these data issues, Oracle strongly recommends that your organization synchronizes project data in only one direction, either from EnterpriseOne to Primavera P6, or from Primavera P6 to EnterpriseOne. This PIP enables you to synchronize data in either direction to accommodate the needs of your organization.

2. Primavera P6 uses only one currency, and EnterpriseOne can use multiple currencies.

To ensure that currency conversions are accurate, you must specify the currency that is used in the Primavera P6 system in the processing options of the Project Extract program.

When you synchronize a project from EnterpriseOne to Primavera P6, the system identifies the currency that is associated with the amounts in the project, and compares that currency to the processing option value. If the project currency is different than the currency that is specified in the processing options, the EnterpriseOne system converts the amounts to the Primavera P6 currency before sending the data.

All currency conversions are handled in the EnterpriseOne system using standard currency conversion processing.

For example, if the Primavera P6 system uses currency EUR, and the EnterpriseOne rates for a project are in currency USD, set the processing option for the data extract program to EUR. The extraction process then performs all of the currency-related calculations and builds the XML file with a currency code of EUR.

In a non-currency environment, you must set the processing option of the extract program to the specific currency that used in the EnterpriseOne system. It is assumed that this currency is the same as the Primavera P6 currency. This value is required to indicate the currency for the amounts that are sent to Primavera P6.

A non-currency environment applies only to EnterpriseOne. An organization uses a non-currency environment when they do not want to use any currency in their rates. The assumption is made that the organization deals with only one currency and therefore doesn't need to setup the overheads that come with currency conversion processing. It is also assumed that the Primavera P6 instance uses that same base currency, and no conversion of the amounts is required.

3. Because balances are stored in the EnterpriseOne system by period, users can retrieve financial information at the period level and not at the daily level.

Users must specify the fiscal year and century to select the appropriate account balance records.

4. If a task (WBS in P6, account in E1) exists in both Primavera P6 and EnterpriseOne, deletion of the task in either system requires you to also manually delete that task in the other system to preserve data integrity.

For example, when you delete an account that is associated with a project in EnterpriseOne, and the WBS that corresponds to that account exists in Primavera P6, you must manually delete that WBS in the Primavera P6 system. To delete the WBS, use the Activities view in P6 Web Access.

If you delete a WBS in Primavera P6, and the account that corresponds to that WBS exists in EnterpriseOne, you must manually delete that account in the EnterpriseOne system. To delete the task in EnterpriseOne, use the Job Cost Code Structure (P51091) or the Account (P0901) program. If there is financial information associated with the account it can not be deleted, but it's posting edit code can be changed to I (inactive) status.

5. The Original Budget Amount and Budget Amount fields are not passed from EnterpriseOne to Primavera P6 at the project header level when a project is synchronized. The integration synchronizes budget amounts from EnterpriseOne to Primavera, but only at the WBS or task level.

6. When you create a job in EnterpriseOne, and synchronize the job to Primavera P6, the Primavera P6 is created using the EnterpriseOne job (business unit) number as the project ID, and the business unit description is used as the project description.

Be aware that if the business unit ID is already being used as a project ID in Primavera P6, the synchronization process will fail. Therefore, before you create projects (business units) in EnterpriseOne that you want to synchronize to Primavera P6, verify that the project ID is available.

7. Be aware of how Primavera P6 handles name and resource rate data. This information is described in detail following this list.
8. Be aware of how Primavera P6 and JD Edwards EnterpriseOne handle start and end times for calendar events. This information is described in detail later in this section.

Start and End Times for Calendar Activities

In Primavera P6 all calendar activities use a start time of XX:00 or XX:30 (where XX is the hour), and they use end times of either XX:29 or XX:59. If you synchronize calendar data from EnterpriseOne, and your start and end times differ from those listed here, the system converts the times during synchronization to conform to the Primavera P6 start and end time format, as described here:

- Any EnterpriseOne records with a start time between XX:00 and XX: 29 will be stored in Primavera P6 with a start time of XX:00.
- Any EnterpriseOne records with a start time between XX:30 and XX:59 will be stored in Primavera P6 with a start time of XX:30.
- Any EnterpriseOne records with an end time between XX:00 and XX:29 will be stored in Primavera P6 with an end time of XX:29.
- Any EnterpriseOne records with an end time between XX:30 and XX:59 will be stored in Primavera P6 with an end time of XX:59.

For example, if an activity in EnterpriseOne is scheduled to start at 12:15 and end at 1:30, the corresponding record in Primavera P6, after synchronization is complete, has a start time of 12:00 and an end time of 1:59.

To avoid having calendars in EnterpriseOne and Primavera P6 that contain different start and end times, Oracle recommends that, whenever possible, you use the Primavera P6 format for start and end times when creating activities or calendar events in EnterpriseOne that will be synchronized to Primavera P6.

For example, if you would normally schedule a meeting from 1:00 to 2:00, schedule the meeting from 1:00 to 1:59. Similarly, use start and end times such as 8:00 to 4:59 to designate a work day.

Alternatively, you can synchronize calendar activities using any start and end times that you desire. Just be aware that there might be discrepancies between your EnterpriseOne and Primavera P6 calendars.

For more information about creating calendars and activities in EnterpriseOne, see *JD Edwards EnterpriseOne Address Book 9.0 Implementation Guide*, “Using Foundation Calendar.”

Synchronize JD Edwards EnterpriseOne Project Data to Primavera P6

To ensure that project data between JD Edwards EnterpriseOne and Primavera P6 remains synchronized, you can periodically run data extraction programs in the JD Edwards EnterpriseOne system. These programs extract project-related data based on the selection criteria that you enter, and create XML files that includes the data to be transferred to Primavera P6.

Project data in the EnterpriseOne system is stored in these tables:

- Business Unit Master (F0006)
- Extended Job Master (F5108)
- Account Master (F0901)
- Cost Code Schedule (F51901)
- Account Balances (F0902)
- Account Ledger (F0911)

In EnterpriseOne, a project is defined by the existence of a Business Unit Master record (F0006) and a related Extended Job Master record (F5108).

There are two batch programs that extract project-related data from the EnterpriseOne system:

- Project Extract program (R51006D)

You run this program to extract project data from the F0006 and F5108 tables.

- WBS Extract program (R51901D)

This program is called from the Project Extract program (R51006D), and extracts account cost data that is related to the projects that were extracted using the R51006D.

This program is not intended to be run alone, and can only be processed as a result of being called by the Project Extract program.

The Project Extract program includes a processing option that you use to specify the location where the files will be created. The program generates files in the specified location using this naming convention:

```
<program name>_<date in mmddyy format>_<time in hhmmss
format>_<sequence number>.xls
```

For example, if you run the R51006D program on January 25, 2010, the file name might be ***R51006D_012510_081543_1.xml***.

Note: The R51901D program does not create a separate xml file. This program appends financial data to the xml file that is created by the R51006D. The R51901D uses the same data selection that is defined on the R51006D to ensure that financial data is extracted only for those projects that have been selected for data extraction.

After the file has been created in the specified location, a file or FTP consumer service retrieves the file and debatches it into smaller, more easily managed files. These smaller files are then transformed into the appropriate format so that they can be read by the AIA objects, and subsequently, by the Primavera P6 system.

Primavera P6 web services then update the Primavera P6 database with the new or changed data from the EnterpriseOne system.

For more information about running data extract programs, see *Chapter 2: Loading and Synchronizing Master Data from JD Edwards EnterpriseOne to Primavera P6*.

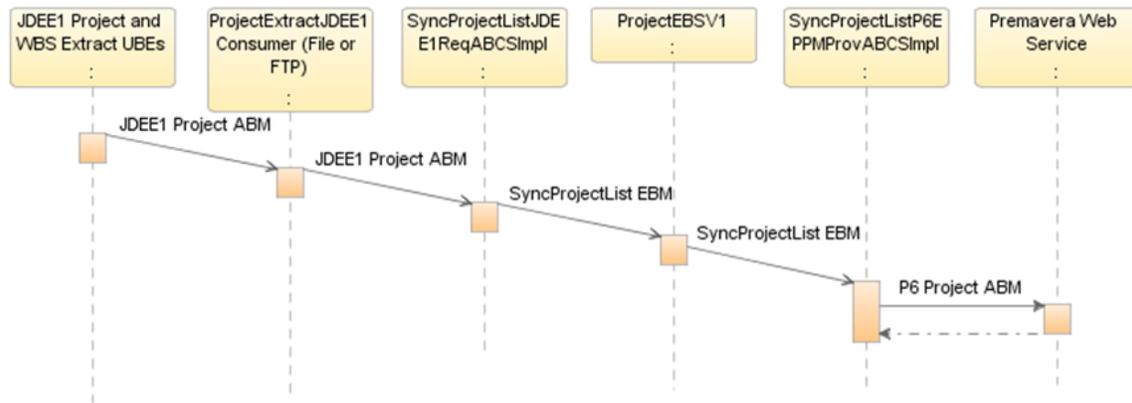
For more information about setting up data extract programs, see *Chapter 6: Configuring the Project Management: Primavera - JDE E1 PIP*.

Interfaces

This integration flow uses these interfaces:

- Project Extract program (R51006D)
- WBS Extract program (R51901D)
- ProjectExtractJDEE1Consumer
- SyncProjectListJDEE1ReqABCSImpl
- ProjectEBSV1
- SyncProjectListP6EPPMProvABCSImpl
- Primavera P6 web service ProjectSync

This diagram illustrates the create project from JD Edwards EnterpriseOne to Primavera P6 process flow:



Synchronize JD Edwards EnterpriseOne Project Data to Primavera P6

Program Logic

When you initiate the project data synchronization from JD Edwards EnterpriseOne to Primavera P6, these events occur:

1. User creates a project in EnterpriseOne.
2. User sets up and runs the Project Extract program (R51006D), which subsequently calls the WBS Extract program (R51901D).
3. The extract programs create one or more xml files that contain project and financial data in a predefined location. This file includes project data in JDEE1ProjectABM format.
4. The ProjectExtractJDEE1Consumer service retrieves the JDEE1ProjectABM message, and debatches it into smaller, more efficiently processed messages.

Note: The ProjectExtractJDEE1Consumers (File or FTP) have the ability to debatch the JDEE1ProjectABM message into multiple messages. This might cause multiple instances of SyncProjectListJDEE1ReqABCImpl and subsequent services.

5. The debatched messages are sent to the SyncProjectListJDEE1ReqABCImpl, which transforms the messages into a common format of an enterprise business message (EBM), in this case, the SyncProjectListEBM.

The SyncProjectListJDEE1ReqABCImpl also creates the EnterpriseOne side of the necessary cross-reference records.

6. The EBM is then sent to the enterprise business service (EBS) ProjectEBSV1.
7. The ProjectEBSV1 routes the message to the Primavera P6 ABCS, in this case, the SyncProjectListP6EPPMProvABCImpl.
8. The SyncProjectListP6EPPMProvABCImpl transforms the EBM into a Primavera P6 business message, in this case, the P6ProjectABM.
9. The P6ProjectABM is consumed by the Primavera P6 web service, ProjectSync.
10. The ProjectSync web service creates or updates records in the Primavera P6 database, and updates the cross reference records with the Primavera P6 object IDs.

Project Management Data Requirements

Data requirements indicate the mandatory data that must be provided to make the flow successful. For project management creation and updates, the message must include these fields, at a minimum:

- Project ID
- Description

Core AIA Components

These core AIA components are used by the project management process integration:

- ProjectEBSV1
- ProjectEBO
- SyncProjectListEBM

The core EBO and EBM XSD files can be located by EBO within AIA MetaData:

\$AIA_HOME/AIAMetaData/AIAComponents/EnterpriseObjectLibrary/Core/EBO

The core EBS WSDL files can be located by EBO within AIA MetaData:

\$AIA_HOME/AIAMetaData/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO

For detailed documentation of individual EBOs and EBMs, click the AIA Reference Doc link on EBO and EBM detail pages in Oracle Enterprise Repository.

For more information about using the Oracle Enterprise Repository and configuring it to provide the AIA Reference Doc link, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11G Release 1 (11.1.1.4.0)*, "Configuring and Using Oracle Enterprise Repository as the Oracle AIA SOA Repository."

Project Management Integration Services

These are the services delivered with this integration:

- ProjectEBSV1
- ProjectExtractJDEE1Consumer
- SyncProjectListP6EPPMPProvABCImpl
- SyncProjectListJDEE1ReqABCImpl

Many of the services listed in this section include midprocesses to ensure that the services are extensible.

For more information about extensibility, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11G Release 1 (11.1.1.4.0)*, "Extensibility for AIA Artifacts."

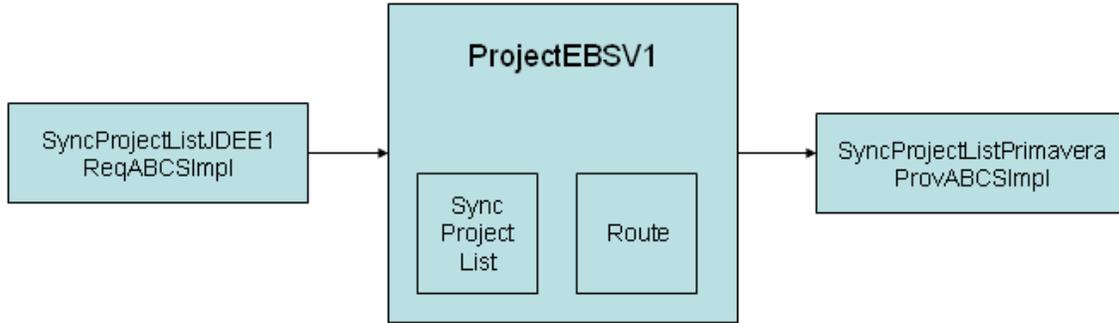
For detailed documentation of individual EBOs and EBMs, click the AIA Reference Doc link on EBO and EBM detail pages in Oracle Enterprise Repository.

For more information about using the Oracle Enterprise Repository and configuring it to provide the AIA Reference Doc link, *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11G Release 1 (11.1.1.4.0)*, "Configuring and Using Oracle Enterprise Repository as the Oracle AIA SOA Repository."

ProjectEBSV1

The ProjectEBSV1 enterprise business service exposes the SyncProjectList enterprise operation that can be performed with a ProjectList enterprise object. All of the project management integration flows use the operation provided by this EBS. This service is implemented as a lightweight mediator.

This graphic illustrates where the ProjectEBSV1 lies within the project management process flow:



ProjectEBSV1 for JD Edwards EnterpriseOne to Primavera P6

Routing Rules

Most of the operations associated with the ProjectEBSV1 provide simple pass-through functionality to an appropriate provider ABCS implementation. In such cases, the only program logic for the operation is the routing rules. Routing rules specify which target provider ABCS to route the message to.

For more information about modifying default routing rules, see *Chapter 6: Configuring the Project Management: Primavera - JDE E1 PIP*

| Operation | If EBM Header Contains... | Route Message To... |
|----------------|---------------------------|-----------------------------------|
| Create Project | JDEE1 | SyncProjectListP6EPPMProvABCSImpl |
| | P6EPPM | SyncProjectListJDEE1ProvABCSImpl |
| Update Project | JDEE1 | SyncProjectListP6EPPMProvABCSImpl |
| | P6EPPM | SyncProjectListJDEE1ProvABCSImpl |

ProjectExtractJDEE1Consumer

The ProjectExtractJDEE1Consumer contains these adapter services:

- ProjectExtractJDEE1FileConsumer_ep
- ProjectExtractJDEE1FTPConsumer_ep

The system calls the appropriate adapter service depending on the type of file transfer process you are using.

ProjectExtractJDEE1FileConsumer_ep

The ProjectExtractJDEE1FileConsumer_ep adapter service process retrieves and debatches xml files that are created when EnterpriseOne batch extract programs are processed. These files contain project-related information for multiple projects. These files can be retrieved only from the SOA server.

The R51006D batch program generates an xml file with project data that this service will pick up for processing. No public interface is available for this service. An instance for this service is created only when a message is pulled from the queue.

Unlike the ProjectExtractJDEE1FTPConsumer_ep service, this service does not use an FTP adapter to retrieve the xml files. However, the endpoint configuration property for this service must be set up with the location of the XML files. The XML files exist on the SOA Server for this service to function properly.

You can either specify SOA server file location on the processing option of the extract program, or manually move the files to this location. The consumer will only retrieve the files once they are on the SOA server.

This adapter service has several configurable properties:

- **DeleteFile**

This setting determines whether the adapter deletes files. If set to **true**, the file/FTP adapter deletes the file after it has been processed.
- **PollingFrequency**

This is the interval in seconds to check the arrival of project extract xml files. The default value for this property is 30 seconds.
- **UseHeaders**

This setting determines whether you use header information. Set to **true** if the file/FTP adapter must publish metadata (for example, the file name, directory name, last modified data, file size, and to exclude the payload). This is typically used in large payload scenarios where you want to use the inbound adapter as a notifier.
- **IncludeFiles**

This setting indicates the regex pattern against which the file names are matched. If the name of a certain file matches this pattern, it is processed by the file/FTP adapter.
- **PhysicalDirectory**

This is the location of the project extract xml files in the SOA Application Server. You must update this property with the file location.
- **MinimumAge**

This parameter specifies the time interval after which to pick up a file for processing. For example, this enables a large file to be completely copied into the directory before it is retrieved for processing. The age is determined by the last modified time stamp. For example, if you know that it takes three to four minutes for a file to be written, set the minimum age of pollable files to five minutes or higher. If a file is detected in the input directory and its modification time is less than 5 minutes older than the current time (or higher, depending on your setting), the file is not retrieved because it is still potentially being written to.
- **PublishSize**

This is the number of records that each message will contain. You must use a value of 1 for this PIP. Primavera P6 has a limitation of 1 record when processing project information. Therefore, to ensure successful processing of project data, do not use a value other than 1 in this property.

- Recursive

If set to **true**, the file/FTP adapter processes files recursively in subdirectories.

For more information about configuring properties, see *Oracle Fusion Middleware Developer's Guide for Oracle AIA FP 11g Release (11.1.1.4.0), "Configuring Oracle AIA Processes for Error Handling and Trace Logging"*

ProjectExtractJDEE1FTPConsumer_ep

The ProjectExtractJDEE1FTPConsumer_ep adapter service process retrieves and debatches xml files that are created when EnterpriseOne batch extract programs are processed. These files contain project-related information for multiple projects.

The R51006D batch program generates an xml file with project data that this service will pick up for processing. No public interface is available for this service. An instance for this service is created only when a message is pulled from the queue.

This service uses an FTP adapter to pull the xml files directly from the EnterpriseOne server for processing. An FTP Server must be configured on the EnterpriseOne Enterprise Server. The FTP adapter must be configured to use the FTP connection that is set up on the EnterpriseOne Enterprise Server. Additionally, the endpoint configuration property for this service must be set up with the location of the XML files.

This service has several configurable properties:

- UseHeaders

This setting determines whether you use header information. Set to **true** if the file/FTP adapter must publish metadata (for example, the file name, directory name, last modified data, file size, and to exclude the payload). This is typically used in large payload scenarios where you want to use the inbound adapter as a notifier.

- Recursive

If set to **true**, the file/FTP adapter processes files recursively in subdirectories.

- FileType

This parameter specifies the type of file to include in the process.

- MinimumAge

This parameter specifies the time interval after which to pick up a file for processing. For example, this enables a large file to be completely copied into the directory before it is retrieved for processing. The age is determined by the last modified time stamp. For example, if you know that it takes three to four minutes for a file to be written, set the minimum age of pollable files to five minutes or higher. If a file is detected in the input directory and its modification time is less than 5 minutes older than the current time (or higher, depending on your setting), the file is not retrieved because it is still potentially being written to.

- IncludeFiles

This setting indicates the regex pattern against which the file names are matched. If the name of a certain file matches this pattern, it is processed by the file/FTP adapter.

- PollingFrequency

This is the interval in seconds to check the arrival of project extract xml files. The default value for this property is 30 seconds.

- PhysicalDirectory

This is the location of the project extract xml files in the SOA Application Server. You must update this property with the file location.

- DeleteFile

This parameter specifies whether the file is deleted after it has been processed. If set to **true**, the file/FTP adapter deletes the file after it has been processed.

- PublishSize

This is the number of records that each message will contain. You must use a value of 1 for this PIP. Primavera P6 has a limitation of 1 record when processing project information. Therefore, to ensure successful processing of project data, do not use a value other than 1 in this property.

For more information about configuring properties, see *Oracle Fusion Middleware Developer's Guide for Oracle AIA FP 11g Release (11.1.1.4.0), "Configuring Oracle AIA Processes for Error Handling and Trace Logging"*

SyncProjectListP6EPPMProvABCServiceImpl

The SyncProjectListP6EPPMProvABCServiceImpl service transforms the SyncProjectListEBM messages into the appropriate SyncProjectListP6EPPMProvABCServiceImpl ABM and invokes the ProjectSync web service in the Primavera P6 system. The service is implemented as a BPEL service.

One asynchronous one-way operation is provided by this interface service:

SyncProjectListP6EPPMProvABCServiceImpl

These preprocesses are included in the SyncProjectListP6EPPMProvABCServiceImpl to ensure that ABC services are extensible:

- PreprocessABM
- PreprocessEBM

No post processes are included, because no response message is returned to the caller.

SyncProjectListJDEE1ReqABCImpl

The SyncProjectListJDEE1ReqABCImpl service receives and transforms the JDEE1 Project ABM into the appropriate SyncProjectListEBM format and invokes the SyncProjectList EBS operation. This service is implemented as a BPEL service.

One asynchronous one-way operation is provided by this interface service:

SyncProjectListJDEE1ReqABCImpl

These preprocesses are included in the SyncProjectListJDEE1ReqABCImpl to ensure that ABC services are extensible:

- PreprocessABM
- PreprocessEBM

No post processes are included, because no response message is returned to the caller.

Chapter 5: Describing the Process Integration for Timesheet Management

This chapter provides an overview of the timesheet management process, lists prerequisites, and discusses:

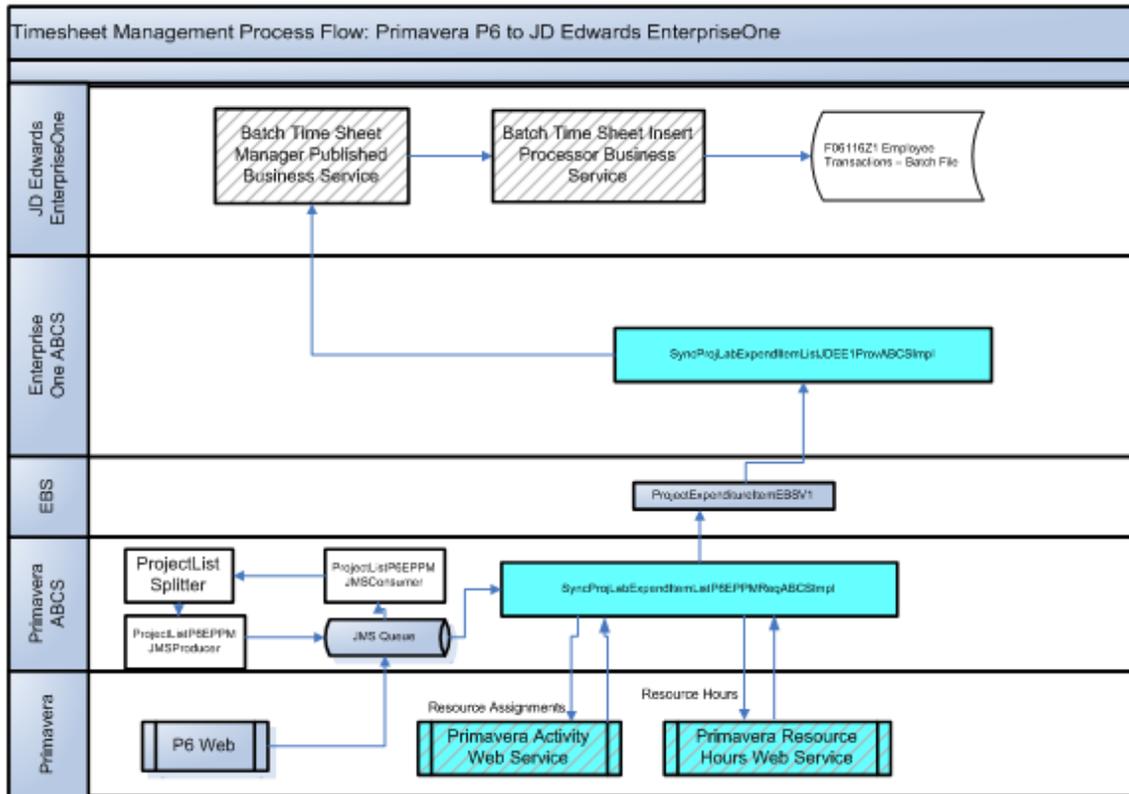
- Solution assumptions and constraints.
- Loading timesheet data from Primavera P6 to JD Edwards EnterpriseOne.
- Timesheet data requirements.
- Core AIA components.
- Timesheet integration services.

Timesheet Management Process Integration Overview

The process integration for timesheet management supports the process flow for creating timesheet data in Primavera P6 and synchronizing to JD Edwards EnterpriseOne.

This process flow enables users to track the time that labor resources spend on specific projects and tasks, and load that information into the JD Edwards EnterpriseOne system, where it can be included in financial and payroll processing. This process also enables users to send non-project (overhead) time to EnterpriseOne for processing.

This diagram illustrates the timesheet management integration process:



Timesheet Management Process Flow

Prerequisites

Before you can use the timesheet management integration process, you must:

- Perform all master data loads.

For more information about master data loads, see *Chapter 2: Loading and Synchronizing Master Data from JD Edwards EnterpriseOne to Primavera P6*.

- Map the Primavera P6 pay codes to the EnterpriseOne pay types using DVMs.

Map Primavera P6 overhead pay codes to EnterpriseOne pay types using the PROJECTEXPENDITURE_TYPECODE DVM.

Map Primavera P6 project-related pay codes to EnterpriseOne pay types using the PROJECT_EXPENDITURE_SRCDOCUMENT_ENTITY_TYPECODE DVM.

If the timesheet record from Primavera contains a common cross-reference value in the ExpenditureTypeCode element, then the timesheet record is for an overhead activity and the provider will look in the PROJECTEXPENDITURE_TYPECODE DVM for an overhead pay code.

Otherwise, it is assumed that the timesheet record is for a project-related activity, so it will look in the PROJECT_EXPENDITURE_SRCDOCUMENT_ENTITY_TYPECODE using the regular or overtime pay code from the timesheet record. If an EnterpriseOne pay type is not found, then the Batch Time Sheet Manager web service throws an error when attempting to insert the timecard into the F06116Z1.

Oracle recommends that you map every Primavera P6 pay code to a valid EnterpriseOne pay type. If you do not correctly map pay codes between the systems, and the message does not include a pay type, the timesheet batch synchronization process will fail.

For more information about creating pay types in EnterpriseOne, see *JD Edwards EnterpriseOne Human Capital Management Application Fundamentals 9.0 Implementation Guide*, “Setting Up Pay Types.”

For more information about creating activity codes in Primavera P6, see *Primavera P6 Online Help*, “Administration,” *Defining Administrative Categories*.

For more information about DVMs, see “Describing the Domain Value Maps.”

- Define timesheet periods in Primavera P6 and define pay period and/or labor distribution period dates in EnterpriseOne.

Oracle recommends that the Primavera P6 timesheet periods use the same dates as the master pay cycles or labor distribution periods in EnterpriseOne.

For more information about creating master pay cycles in EnterpriseOne, see *JD Edwards EnterpriseOne Payroll 9.0 Implementation Guide*, “Setting Up Payroll Cycle Information.”

For more information about creating labor distribution periods in EnterpriseOne, see *JD Edwards EnterpriseOne Human Capital Management Self-Service 9.0 Implementation Guide*, “Setting Up Self-Service Time Entry,” *Working with Labor Distribution Periods*.

For more information about creating timesheet periods in Primavera P6, see *Primavera P6 Online Help*, “Timesheet Dates Administration.”

- Complete all Primavera P6 setup that is required for the PIP.

A Primavera P6 administrator must grant access to any user who is authorized to send timesheet data from Primavera P6 to EnterpriseOne. Additionally, you must verify that the Primavera P6 setup utility has been processed to set up necessary UDFs and configuration settings.

For more information about setting up Primavera P6 for this PIP, see *Setting Up the Primavera P6 System*.

Solution Assumptions and Constraints

These are the solution assumptions and constraints for the timesheet management process flow:

1. It is assumed that employees who do not enter project-related time in the Primavera P6 system will enter their time using the JD Edwards EnterpriseOne system.

This integration process retrieves project and overhead time only for employees who are, or have been, assigned to selected projects.

There are additional considerations to be aware of regarding overhead time. These issues are documented in detail at the end of this section.

2. Only approved timesheets associated with selected projects are sent from Primavera P6 to EnterpriseOne.

It is assumed that Primavera P6 users will enter and approve timesheets in a timely manner to ensure that timesheet data is synchronized to the EnterpriseOne system before payroll processing begins for each time period.

Note: Oracle strongly recommends that you run the Apply Actual process before sending timesheet data to EnterpriseOne. Running Apply Actuals ensures that project data remains in sync between the two systems.

For more information about approving timesheets, see *Primavera P6 Online Help, "Tools," Time Approval*.

For more information about processing timesheets using Apply Actuals, see *Primavera P6 Online Help, "Managing Projects," Updating Projects*.

3. Values for the EnterpriseOne field Address Book Number and Pay Type are validated by the BatchTimesheetManager business service. Therefore, a valid address book number and pay type must be included in the message for the timesheet to be sent to EnterpriseOne. An invalid Address Book Number will result in the entire batch of timesheets failing.

Valid values in the Address Book Number, Pay Type, and Hours fields are required to create a timecard in EnterpriseOne.

If no value exists for the Hours field, the system inserts the records into the F06116Z1 table using 0 as a value. However, this value must be corrected in the F06116Z1 to include valid data before they can be uploaded to the F06116.

For more information about the time entry batch upload process, see *JD Edwards EnterpriseOne Time and Labor 9.0 Implementation Guide, "Setting Up Time Entry Batch Processing."*

4. As with the Pay Type field, the Account Number and Charge Out Business Unit fields are also not validated until you run the Time Entry Batch Processor program (R05116Z1I).

If errors occur on any of the fields in the F06116Z1, the records are not uploaded from the F06116Z1 table to the F06116 table. You must enter valid data in all fields, including account numbers, before the records are transferred to the F06116.

If necessary, you can leave the fields blank and allow the payroll AAls to automatically update this data directly on the timecard records in the F06116. However, if the AAls do not contain a valid account number for the timecard, the record is not uploaded to the F06116.

5. Any mismatch between the size of fields in the EBM and EnterpriseOne will result in a truncation of data.

6. This process flow enables users to insert time records into EnterpriseOne, but does not include the functionality to update existing time records in EnterpriseOne. Once you have synchronized timesheet records to EnterpriseOne, all updates to those records must be done in the EnterpriseOne system.
7. You can enter time against equipment in the Primavera P6 system. However, this time is not sent to the JD Edwards EnterpriseOne system. To cost time against a piece of equipment, you must enter time against that piece of equipment directly in the JD Edwards EnterpriseOne system.

Overhead Time Considerations

When using the timesheet process integration, you must be aware of how overhead time is retrieved from the Primavera P6 system.

Overhead time is any time that a labor resource works that is not related to a specific project. Overhead might include such items as:

- Sick or vacation time.
- Administrative time.
- Training time (not related to a specific project).
- Any other non-project time that is paid.

Overhead Issue 1: No Project Work Included on Timesheet for Employees with No Previous Project Work

Another scenario that users must be aware of relates to overhead time for employees who typically work on projects, but who have no project work for a given time period. For example, your organization might hire a new employee. This employee must complete internal training during the first pay period worked, and does not log any time towards a particular project.

In this scenario, the system will not find the employee's overhead time because no time records exist for a specific project. In such cases, there are multiple methods you can use to ensure that the employee's overhead is included in EnterpriseOne processing. These methods include:

- Enter the overhead time directly into the EnterpriseOne system.
- Create a fake project in Primavera P6. Have the employee enter their overhead time, and create an entry for at least one hour towards the fake project. Include the fake project ID when selecting projects to include in the synchronization process. The system will find the overhead when it finds the time entry for the fake project ID. After time records have been inserted into the EnterpriseOne database, you can delete the time that was entered towards the fake project before processing payroll.

Overhead Issue 2: No Project Work Included on Timesheet for Employees with Previous Project Work

The final scenario that users must be aware of relates to employees who have previously logged time to projects, but who do not have any project time logged in the current period. In this scenario, the system would not find the overhead time using the standard search methods. Therefore, the system will continue searching through previous timesheets until it can find one of the selected projects for an employee. If the system does find a timesheet from a previous period that includes a selected project, the system will include the overhead time from the current period.

Loading Timesheet Data from Primavera P6 to JD Edwards EnterpriseOne

This process flow enables users to track the time that labor resources spend on specific projects and tasks, and load that information into the JD Edwards EnterpriseOne system, where it can be included in financial and payroll processing.

Primavera P6 timesheets contain lists of time records. Each of these records represents an individual timecard record in the EnterpriseOne system. Each timesheet record must contain this data in order to be successfully processed by the EnterpriseOne system:

- Resource Object ID (Address Book Number in EnterpriseOne)
- Overhead Code or Project Activity Code (Pay Type in EnterpriseOne)
- Hours Worked
- Date Worked

For more information about creating timesheets in Primavera P6, see *Primavera P6 Project Management Online Help*, “Administration,” *Managing Timesheets*.

Users can load both project and non-project timecards into the EnterpriseOne system from the P6 system. Project timecards contain a reference value that the system uses to retrieve the appropriate account number from a cross-reference table. Non-project timecards do not include this project reference. Therefore, account numbers are assigned to those timecards by the EnterpriseOne Payroll automatic accounting instructions (AAIs) after they have been uploaded into the EnterpriseOne database.

Note: All users should review the Solution Assumptions and Constraints section of this chapter to ensure that they fully understand how non-project (overhead) time is processed.

For more information about AAIs, see *JD Edwards EnterpriseOne Time and Labor 9.0 Implementation Guide*, “Setting Up Automatic Accounting Instructions for JD Edwards EnterpriseOne Human Capital Management.”

The timesheet management integration process utilizes the Primavera P6 Send to ERP function in the Primavera P6 Web application, Primavera P6 web services, an EBS, a requestor and a provider ABCS, and an EnterpriseOne web service to insert timecard data into the F06116Z1 table in the EnterpriseOne database. This is a temporary table that holds the timecard data. Users can review and update the data in this table, and then run the Time Entry Batch Upload program (R05116Z1I) to transfer the timecards from the F06116Z1 to the F06116 table. Once timecards are in the F06116 table, they can be processed by the EnterpriseOne Time and Labor and/or Payroll systems.

Note: After you load timesheet data into the EnterpriseOne system, all queries, updates, and deletes of that timecard data should be done in the EnterpriseOne system. If you use the Primavera P6 system to update timesheets that have already been loaded to EnterpriseOne, those updates are ignored by the EnterpriseOne system. The updated timesheet will not overwrite the timesheet that was initially loaded into EnterpriseOne.

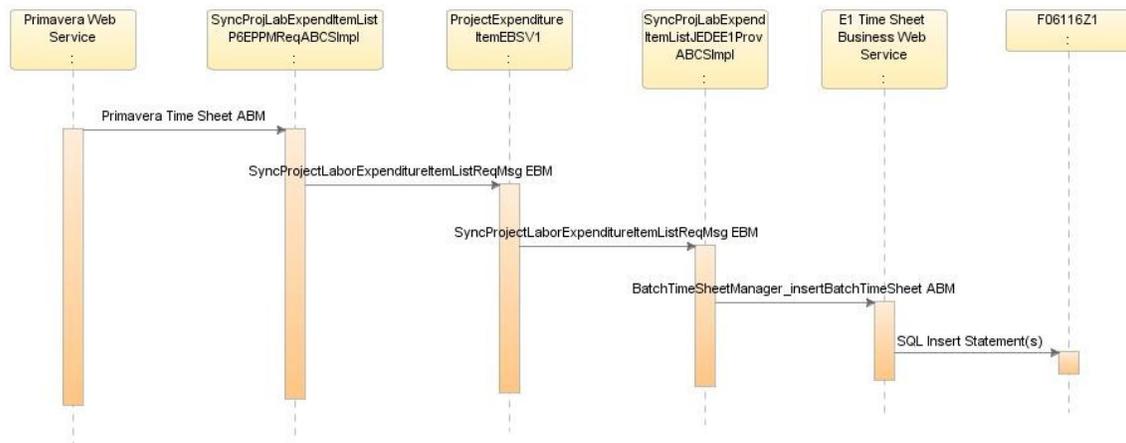
For more information about the batch timescard upload process in EnterpriseOne, see *JD Edwards EnterpriseOne Time and Labor 9.0 Implementation Guide, "Setting Up Time Entry Batch Processing."*

Interfaces

This integration flow uses these interfaces:

- Send to ERP option in Primavera P6 Web application
- Primavera P6 web service ResourceHourService
- SyncProjLabExpendItemJDEE1ProvABCSImpl
- ProjectExpenditureItemEBSV1
- SyncProjLabExpendItemP6EPPMReqABCSImpl
- EnterpriseOne published business service BatchTimeSheetManager (JP050001)

This diagram illustrates the timesheet process flow:



Timesheet data process flow

Program Logic

When you initiate the timesheet management process flow from Primavera P6, these events occur:

1. Primavera P6 user creates a timesheet and commits it to the database.
2. Primavera user approves the timesheets.
3. Optionally, the Primavera user runs Apply Actuals.

This step is optional, but recommended in order to keep project data synchronized between systems.

4. Using the Send to ERP function in Primavera P6, user specifies the projects to be included and the timesheet date range, and selects the Timesheet Hours option.
5. The Send to ERP process calls the ResourceHourService web service, which creates the Primavera Timesheet ABM message and places it in the AIA_ProjP6EPPMJMSQueue.

6. The ProjectListP6EPPMJMSConsumer retrieves the message from the queue and sends it to the SyncProjLabExpendItemEBSV1.
7. The SyncProjLabExpendItemEBSV1 transforms the message into SyncProjectLaborExpenditureItemReqMsgEBM format and sends it to the ProjectExpenditureItemEBSV1.
8. The ProjectExpenditureItemEBSV1 sends the message to the SyncProjLabExpendItemEBSV1.
9. The SyncProjLabExpendItemEBSV1 transforms the EBM into the BatchTimesheetManager_InsertBatchTimesheetABM format so that it can be consumed by the EnterpriseOne published business service.
10. The SyncProjLabExpendItemEBSV1 also retrieves cross-reference values for PROJECTEXPENDITUREITEM_ID, PROJECT_TASK_ID, and PROJECTRESOURCESET_RESOURCEID, and retrieves the appropriate pay type code from the PROJECTEXPENDITURE_TYPECODE or PROJECT_EXPENDITURE_SRCDOCUMENT_ENTITY_TYPECODE DVMS, depending on whether the time sheet record is an overhead activity or a project activity.
11. The BatchTimeSheetManager published business service receives the ABM and invokes the BatchTimeSheetInsertProcessor business service, which inserts the records into the F06116Z1 table in EnterpriseOne.
12. EnterpriseOne users then utilize the standard batch timecard process to upload records from the F06116Z1 table, and include them in all necessary payroll and/or financial processes.

Timesheet Management Data Requirements

Data requirements indicate the mandatory data that must be provided to make the flow successful. For the timesheet integration process to be successful, each timesheet records must include:

- Resource Object ID (Address Book Number in EnterpriseOne)
- Overhead Code or Project Activity Code (Pay Type in EnterpriseOne)
- Hours Worked
- Date Worked

Note: Sending timesheets with blank hours will result in creation of timecards in EnterpriseOne F06116Z1 table with zero values in this field. This value must be updated with valid data before the timecards can be processed and moved to the F06116 table.

Core AIA Components

These core AIA components are used by the timesheet management process integration:

- ProjectExpenditureItemEBSV1
- ProjectExpenditureItemEBO
- SyncProjectLaborExpenditureItemReqMsgEBM

The core EBO and EBM XSD files can be located by EBO within this parent folder:

\$AIA_HOME/AIAMetaData/AIAComponents/EnterpriseObjectLibrary/Core/EBO/

The core EBS WSDL files can be located by EBO within this parent folder:

\$AIA_HOME/AIAMetaData/AIAComponents/EnterpriseBusinessServiceLibrary/Core/EBO/

For detailed documentation of individual EBOs and EBMs, click the AIA Reference Doc link on EBO and EBM detail pages in Oracle Enterprise Repository.

For more information about using the Oracle Enterprise Repository and configuring it to provide the AIA Reference Doc link, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11G Release 1 (11.1.1.4.0)*, "Configuring and Using Oracle Enterprise Repository as the Oracle AIA SOA Repository."

Timesheet Management Integration Services

These are the services delivered with this integration:

- ProjectExpenditureItemEBSV1
- SyncProjLabExpendItemListP6EPPMReqABCImpl
- SyncProjLabExpendItemListJDEE1ProvABCImpl
- ProjectListP6EPPMJMSConsumer

Many of the services listed in this section include midpreprocesses to ensure that the services are extensible.

For more information about extensibility, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11G Release 1 (11.1.1.4.0)*, "Extensibility for AIA Artifacts."

For detailed documentation of individual EBOs and EBMs, click the AIA Reference Doc link on EBO and EBM detail pages in Oracle Enterprise Repository.

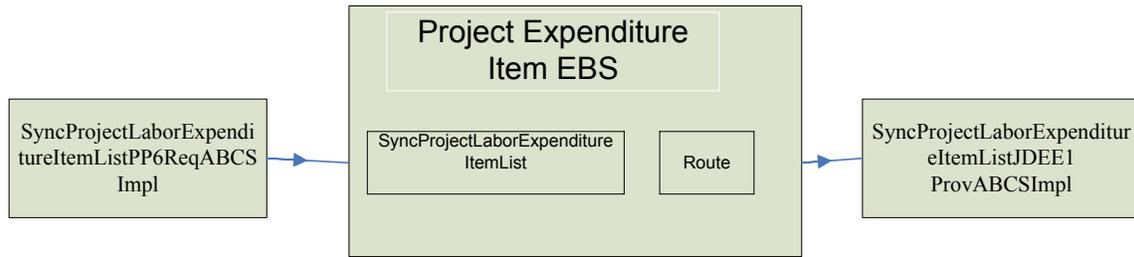
For more information about using the Oracle Enterprise Repository and configuring it to provide the AIA Reference Doc link, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11G Release 1 (11.1.1.4.0)*, "Configuring and Using Oracle Enterprise Repository as the Oracle AIA SOA Repository."

ProjectExpenditureItemEBSV1

The ProjectExpenditureItemEBSV1 enterprise business service exposes the SyncProjectLaborExpenditureItemList enterprise operation that can be performed with a ProjectLaborExpenditureItemList enterprise object.

This service is implemented as a lightweight mediator.

This graphic illustrates where the ProjectExpenditureItemEBSV1 lies within the timesheet management process flow:



ProjectExpenditureItemEBSV1

Routing Rules

The operations associated with the ProjectExpenditureItemEBSV1 provide simple pass-through functionality to an appropriate provider ABCS implementation. In such cases, the only program logic for the operation is the routing rules. Routing rules specify which target provider ABCS to route the message to.

SyncProjLabExpendItemReqP6EPPMReqABCSImpl

The SyncProjLabExpendItemReqP6EPPMReqABCSImpl service receives the Primavera Timesheet ABM message, transforms it into SyncProjectLaborExpenditureItemReqMsgEBM format, and sends it to the ProjectExpenditureItemEBS.

The service is implemented as a BPEL service.

One asynchronous one-way operation is provided by this interface service:

SyncProjLabExpendItemReqP6EPPMABCSImpl

These preprocesses are included in the SyncProjLabExpendItemReqP6EPPMABCSImpl to ensure that ABC services are extensible:

- PreprocessABM
- PreprocessEBM

No post processes are included, because no response message is returned to the caller.

SyncProjLabExpendItemReqJDEE1ProvABCSImpl

The SyncProjLabExpendItemReqJDEE1ProvABCSImpl service receives the SyncProjectLaborExpenditureItemReqMsgEBM message and transforms it into BatchTimesheetManager_InsertBatchTimesheetABM format so that it can be consumed by the EnterpriseOne published business service.

The SyncProjLabExpendItemReqJDEE1ProvABCSImpl also retrieves cross-reference values for PROJECTEXPENDITUREITEM_ID, PROJECT_TASK_ID, and PROJECTRESOURCESET_RESOURCEID, and retrieves the appropriate pay type code from either the PROJECTEXPENDITURE_TYPECODE or PROJECT_EXPENDITURE_SRCDOCUMENT_ENTITY_TYPECODE DVM, depending on whether the timesheet record is an overhead activity or a project activity.

This service is implemented as a BPEL service.

One asynchronous one-way operation is provided by this interface service:

SyncProjLabExpendItemListJDEE1ProvABCImpl

These preprocesses are included in the SyncProjLabExpendItemListJDEE1ProvABCImpl to ensure that ABC services are extensible:

- PreprocessABM
- PreprocessEBM

No post processes are included, because no response message is returned to the caller.

ProjectListP6EPPMJMSConsumer

The Send to ERP process calls the ResourceHourService web service, which creates the Primavera Timesheet ABM message and places it in the AIA_ProjP6EPPMJMSQueue. The ProjectListP6EPPMJMSConsumer retrieves the message from the queue and sends it to the SyncProjLabExpendItemListP6EPPMReqABCImpl.

Chapter 6: Configuring the Project Management: Primavera - JDE E1 PIP

Before using the Project Management: Primavera - JDE E1 PIP, you must complete all of the necessary implementation and configuration tasks. You complete these tasks after you have installed the appropriate AIA foundation pack and the Project Management: Primavera - JDE E1 PIP.

For more information about installation and deployment of your PIP, see *Oracle Fusion Middleware Installation and Upgrade Guide for Oracle Application Integration Architecture Foundation Pack*.

This chapter discusses how to:

- Set up JD Edwards EnterpriseOne applications.
- Use JD Edwards EnterpriseOne web services.
- Set up FTP adapter information.
- Set up batch processing information.
- Set up Oracle Web Services Manager security information.
- Set up the Primavera P6 system.
- Describe cross-references.
- Handle errors.
- View EBO implementation maps.
- Describe domain value maps.
- Set configuration properties.
- Review default routing rules.

Setting Up JD Edwards EnterpriseOne Applications

Before you can use the Project Management: Primavera - JDE E1 PIP, you must set up several EnterpriseOne applications that are used by the PIP. The integration processes and flows that are supported in this PIP generally require that data is entered into the JD Edwards EnterpriseOne system before any data loads or synchronizations occur to the Primavera P6 system. Therefore, it is critical that users understand how to accurately enter data into the JD Edwards EnterpriseOne system so that data loads and synchronization processes are successful.

This section discusses how to:

- Enter data in JD Edwards EnterpriseOne.
- Set up data extract programs.

Entering Data in JD Edwards EnterpriseOne

To successfully use the Project Management: Primavera - JDE E1 PIP, you must verify that the data in the JD Edwards EnterpriseOne system has been entered, and is accurate, before running any process integrations. To fully utilize the Project Management: Primavera - JDE E1 PIP, these records must exist in JD Edwards EnterpriseOne:

- Calendar records.

The Project Management: Primavera - JDE E1 PIP uses calendar records to schedule resources for projects. You use the Calendar Maintenance program (P01311) to create and maintain calendars for various entities such as employees, suppliers, and resources.

For more information about creating and maintaining calendar records, see *JD Edwards EnterpriseOne Address Book 9.0 Implementation Guide, "Using Foundation Calendar."*

- Activity records.

The Project Management: Primavera - JDE E1 PIP uses activity records to show resource availability when scheduling resources for projects. You use either the Calendar Maintenance program (P01311) or the Activity Homepage program (P01312) to create and maintain activities. Activities include any schedulable task or event, and they can be added to calendars.

For more information about creating and maintaining calendar records, see *JD Edwards EnterpriseOne Address Book 9.0 Implementation Guide, "Using Foundation Calendar."*

- Employee and address book records.

The Project Management: Primavera - JDE E1 PIP uses employee and/or address book records when scheduling labor resources for a project. Employees in the JD Edwards EnterpriseOne system can have both an Employee Master record (F060116) and an Address Book record (F0101), depending on several different factors. At a minimum, each employee has an Address Book record.

For more information about entering address book records, see *JD Edwards EnterpriseOne Address Book 9.0 Implementation Guide, "Entering Address Book Records."*

For more information about entering employee records, see *JD Edwards EnterpriseOne Human Capital Management Application Fundamentals 9.0 Implementation Guide, "Setting Up Employee Information."*

- Item records.

The Project Management: Primavera - JDE E1 PIP uses item records to add non-schedulable resources to a project. For example, a project for building a house might require nails, shingles, and windows. These can be set up as items, and added to the project. You use the Item Master program (P4101) to create and maintain item information.

For more information about entering item records, see *JD Edwards EnterpriseOne Inventory Management 9.0 Implementation Guide, "Entering Item Information."*

- Asset records.

The Project Management: Primavera - JDE E1 PIP uses asset records to add equipment resources to a project. For example, a project for building a house might require a forklift and a concrete truck. You set these resources up as assets, and then schedule them to be included in the project. You use the Equipment Master program (P1701) or the Asset Master program (P1201) to enter and maintain equipment asset information.

For more information about entering equipment records, see *JD Edwards EnterpriseOne Capital Asset Management 9.0 Implementation Guide, "Understanding Capital Asset Management"* and *JD Edwards EnterpriseOne Fixed Asset Management 9.0 Implementation Guide, "Understanding Fixed Assets."*

- Chart Types

Chart types are predefined account structures in EnterpriseOne. The Project Management: Primavera - JDE E1 PIP uses chart types to map WBS categories (project phases) in Primavera P6 to accounts in EnterpriseOne. Before using this PIP, you must create chart types and run the data extraction program that sends chart types to Primavera P6. Primavera P6 receives chart types as WBS categories. Users must assign WBS categories to each WBS in a Primavera P6 project before synchronizing that project to EnterpriseOne. If the WBS does not have a WBS category, or has a WBS category that does not exist as a valid chart type in EnterpriseOne, the system does not create an account for that WBS when the project is sent from Primavera P6 to EnterpriseOne.

Be aware that the name of the WBS Category field in Primavera P6 is user-defined. The default name for this field is Project Phase.

For more information about chart types, see *JD Edwards Job Cost 9.0 Implementation Guide, "Setting Up Cost Code Structures."*

Setting Up Data Extract Programs

Before you can use the Project Management: Primavera - JDE E1 PIP effectively, you must load master data from the JD Edwards EnterpriseOne system into the Primavera P6 system. Master data includes calendar, resource, and resource rate information.

To load this master data, you run data extract programs in the JD Edwards EnterpriseOne system. These programs gather data from the EnterpriseOne database and create XML files that are consumed by AIA middleware. The AIA middleware reformats the data in the XML files so that it can be read by the Primavera P6 system.

In addition to the master data extract programs, there are also process integration data extract programs that you can run periodically to sync project-related information from JD Edwards EnterpriseOne to Primavera P6.

Before you run these programs, you must set the processing options for each program. Oracle recommends that you copy the version of the program that is delivered with the software, and then set the processing options on the copied version of the program.

Note: Each data extract program contains a processing option to specify the location where the resulting XML file is stored. You must specify this location for each data extract program that you run, or the system will not create a file.

These programs include the file location processing option:

- R01311D
- R0007D
- R1201D
- R4101D
- R0101D
- R08001D
- R5109D
- R1301D
- R4101E
- R51006D

These data extract programs also include additional processing options that determine how the system processes the data that is included in the file:

- R01311D
Set a processing option to specify the calendar type to include in the data extraction process.
- R51006D
Set the processing options for this program to specify how the system extracts project-related data. This program is used on a recurring basis, after master data has been loaded, to synchronize project data between JD Edwards EnterpriseOne and Primavera P6.

For more information about copying versions of programs, see *JD Edwards EnterpriseOne Tools 8.98 Fundamentals Guide*, “Understanding Development Tools.”

For more information about setting processing options, see *JD Edwards EnterpriseOne Tools 8.98 Foundation Guide*, “Using Processing Options.”

Setting the File Location Processing Option for Data Extract Programs

Set this processing option for each data extract program:

| Term | Definition |
|---|---|
| Path Where the XML File Will Be Written | <p>Enter the path where the XML file that is created by the extract program is stored after the process is complete. The name of the resulting XML file is in the format of <program ID>_MMDDYY_hhmmss.xml.</p> <p>The file name appends to the value that you enter in this processing option to determine the fully qualified path and name. For example if you enter a value of: C:\B9\DV900\Export\</p> <p>The resulting XML file is written as follows: C:\B9\DV900\Export\ <program ID>_MMDDYY_hhmmss.xml.</p> <p>All directories that you specify in the path must already exist. If this processing option is left blank, the resulting XML file is written to the B9 directory where the extract program is running. For example C:\B9\.</p> |

Setting Additional Processing Options for the Calendar Master XML Extract Program (R01311D)

In addition to the file location option, set this processing option before running the R01311D program:

| Term | Definition |
|-----------------|--|
| Calendar To Use | Specify the type of calendar data to extract. For example, to extract individual calendar data, enter AN8. |

Setting Additional Processing Options for the R51006D

In addition to the file location option, set these processing options before running the R51006D program:

| Term | Definition |
|-----------------|---|
| Fiscal Year | Specify the fiscal year to use when extracting WBS data from the F0902 table. If you leave this option blank, the extract process uses the current fiscal year. |
| Period Number | Specify the fiscal period number to use when extracting WBS data from the F0902 table. If you leave this option blank, the extract process uses the current fiscal period. |
| Amount Currency | <p>Enter the currency code that is used by the Primavera P6 system. This code is used for amount conversions when the project has a different currency in EnterpriseOne and Primavera P6.</p> <p>If you leave this option blank, the extract process uses the currency code from the company master. If you enter</p> |

| Term | Definition |
|---|---|
| | <p>a currency code in this processing option that is different than the currency code on the F0010 company record, the amount will be converted.</p> |
| Project WBS Version (R51901D) | <p>Specify the version of the Project WBS data extract program (R51901D) to process. The R51901D program is called directly from the R51006D program. If you leave this option blank, the system uses version XJDE0001.</p> |
| Total to display | <p>Specify which total the system includes in the XML file. Values include:</p> <p>I: Inception to Date - Include balances rolled forward along with totals from period 1 through the period number that is entered in the Period Number option.</p> <p>C: Cumulative - The sum of period 1 though the period number that is entered in the Period Number option.</p> <p>P: Period - Include totals from only the period that is specified in the Period Number option.</p> <p>If you leave this option blank, the system includes inception to date totals.</p> |
| Number of Projects to Include in XML File | <p>Specify the number of projects to include in each XML file. If you leave this option blank, the system includes only one project per XML file.</p> <p>Primavera P6 accepts only one project per file. You can either set this processing option to send only one project per file, or you can set the file consumers to debatch the file that you create into separate files that contain only one project.</p> <p>The file consumers that retrieve this xml file are ProjectExtractJDEE1FTPConsumer or ProjectExtractJDEE1FileConsumer, which are contained in the ProjectExtractJDEE1Consumer.</p> |
| Project Templates | <p>Specify whether the selected projects are sent to Primavera P6 as project templates, or as standard projects. If you want to send a project to Primavera P6 as both a template and a project, you must process the project twice. Once with this option set to 1, and once with this option blank. Values include:</p> <p>blank: Project is not written as a template.</p> <p>1: Project is written as a template.</p> |

Using the JD Edwards EnterpriseOne ProjectManager Web Services

The ProjectManager published business service (JP510010) manages the processing of project-related web service operations. This table includes a description of each project web service operation:

| Operation | Description |
|-------------------------------------|---|
| processProject (J5100010) | This service processes adds and updates of job cost data in the EnterpriseOne system. |
| processWBS (J5100030) | This service processes adds and updates of WBS and task data in the EnterpriseOne system. |
| processFinancialForecast (J5100020) | This service processes adds and updates of financial forecast data in the EnterpriseOne system. |

For more information about business services, see *JD Edwards EnterpriseOne Business Services 9.0 Reference Guide*.

Note. JD Edwards EnterpriseOne business services must be built with the option for migration from 10g to 11g turned on.

For more information about the migration option, see JD Edwards EnterpriseOne Release 8.98.3 Building Business Services Packages with Migration (My Oracle Support Document ID 1233332.1).

processProject (J5100010)

The processProject web service operation is an inbound transaction operation that processes adds and updates of job cost data in JD Edwards EnterpriseOne.

The processProject operation is called from the ProjectManager published business service. The net change utility is called for each project that is being updated. The processProject operation calls the CreateProjectHeader business function (B5100120) for adds and updates to the Extended Job Cost Master record (F5108) and the Business Unit Master record (F0006). Users can specify a model business unit in the business service properties of this operation. When a new project is added, the system copies the model business unit that is specified in the properties.

Within the called business function, when a model business unit is passed, the model is copied to create the new project. After processing the project header, if there are no errors, the processProject operation calls the processWBS operation if activity records exist within the value object.

When a project is added, the business function returns the business unit and the company number values. These values are then passed to the processWBS operation.

The operation returns either a success message or an error if the operation fails.

Setup Considerations

Before you use this operation, you set business service properties to specify how the system processes data. This table includes information about the business service properties that the processProject operation uses:

| Group | Key | Description | Default Value |
|----------|----------------------------------|---|---------------|
| J5100010 | J5100010_DEFAULT_PROJECT_MODEL | Specify the Job Code to copy when adding a new project. | JB |
| J5100010 | J5100010_PROJECT_JOB_COST_PREFIX | Specify a two-character prefix to add to a next number. The combination of the prefix and the next number are then used as the job cost number. | AA |

For more information about business service properties, see *JD Edwards EnterpriseOne 8.98 Business Services Development Methodology Guide, "Creating a Business Service," Managing Business Service Properties.*

Implementation Details

This table includes details that can help you determine whether the processProject operation is functioning correctly:

| Question | Answer |
|---|--|
| How can I tell if the operation completes successfully? | <p>If the operation completes successfully, zero to many records are returned, based on the selection criteria.</p> <p>The records that are returned to the consumer include all of the fields that are listed in the response interface for this operation. However, some of those fields can contain blank or zero values, depending on the data that exists in the message.</p> <p>At a minimum, the system returns non-zero values for these fields:</p> <ul style="list-style-type: none"> businessUnit commonID numberProjectRecordsProcessed |
| If I encounter errors while processing a transaction, do I need to reverse the transaction? | No. If any part of the transaction fails, all of the changes are rolled back to their original state. |
| Does this operation use record reservation? | No. |

processWBS (J5100030)

The processWBS web service operation is an inbound transaction operation that processes adds and updates of WBS/task data in JD Edwards EnterpriseOne.

The processWBS operation is called from the processProject operation. The processWBS operation calls the CreateProjectAccount business function (B5100410) to add and UpdateProjectAccount business function (B5100140) to update the Account Master record (F0901).

After processing the F0901 records, if there are no errors and financial forecast records exist in the value object, the processWBS operation calls the processFinancialForecast operation.

In add mode, business function B5100140 returns the AccountId and passes it to the processFinancialForecast operation to process financial records.

The processWBS operation collects messages that are returned by the business functions and adds them to an E1MessageList. If any portion of the add fails, all other changes will be rolled back.

Setup Considerations

Before you use this operation, you set business service properties to specify how the system processes data. This table includes information about the business service properties that the processWBS operation uses:

| Group | Key | Description | Default Value |
|----------|-----------------------------|---|--|
| J5100030 | J5100030_DEFAULT_CHART_TYPE | Specify the Chart Type from UDC 51/TC that is used when creating a new account. | There is no default value for this property. |

For more information about business service properties, see *JD Edwards EnterpriseOne 8.98 Business Services Development Methodology Guide, "Creating a Business Service," Managing Business Service Properties.*

Implementation Details

This table includes details that can help you determine whether the processWBS operation is functioning correctly:

| Question | Answer |
|---|--|
| How can I tell if the operation completes successfully? | If the operation completes successfully, zero to many records are returned, based on the selection criteria. The records that are returned to the consumer include all of the fields that are listed in the response interface for this operation. However, some of those fields can contain blank or zero values, depending on the data that exists in the message. At a minimum, the system returns non-zero values for the accountID field. |
| If I encounter errors while processing a transaction, do I need to reverse the transaction? | No. If any part of the transaction fails, all of the changes are rolled back to their original state. |
| Does this operation use record reservation? | No. |

processFinancialForecast (J5100020)

The processFinancialForecast web service operation is an inbound transaction operation that processes adds and updates of financial forecast data in JD Edwards EnterpriseOne.

The processFinancialForecast operation is called from the processWBS operation. The processFinancialForecast operation calls the CreateProjectFinancialForecasts business function (B5100160) to add, and the UpdateProjectFinancialForecasts business function (B5100160) when updating financial forecast data.

The processFinancialForecast operation collects the number of records processed, and all messages that are returned by the business functions, and add them to an E1MessageList.

If any portion of the add fails, all other changes will be rolled back.

Setup Considerations

Before you use this operation, you set business service properties to specify how the system processes data. This table includes information about the business service properties that the processFinancialForecast operation uses:

| Group | Key | Description | Default Value |
|----------|-----------------------------|--|---------------|
| J5100020 | J5100020_AMOUNT_LEDGER_TYPE | Specify the ledger type code to use for amount financial forecasts. If this value is null, the system will also populate the budget amount with the system default, JA. You can use any other value from UDC 09/LT in this property, with the exception of HA, which is used for projected amounts. | JB |
| J5100020 | J5100020_UNIT_LEDGER_TYPE | Specify the ledger type code to use for unit financial forecasts. If this is null, the system also populates the budget unit with the system default, JU. You can enter any other valid value from UDC 09/LT in this property, with the exception of HU, which is used for projected amounts. | AA |
| J5100020 | J5100020_CURRENT_PERIOD | Specify whether to use the company current financial period or base on current date. If this property is set to 1, the current period is based on the company current period setting in the F0010, which is the General Accounting Current Period, PNC. Otherwise, the system uses the period by date setup in the F0008. | 1 |

For more information about business service properties, see *JD Edwards EnterpriseOne 8.98 Business Services Development Methodology Guide, "Creating a Business Service," Managing Business Service Properties.*

Implementation Details

This table includes details that can help you determine whether the processFinancialForecast operation is functioning correctly:

| Question | Answer |
|---|---|
| How can I tell if the operation completes successfully? | If the operation completes successfully, zero to many records are returned, based on the selection criteria. The records that are returned to the consumer include all of the fields that are listed in the response interface for this operation. However, some of those fields can contain blank or zero values, depending on the data that exists in the message. |
| If I encounter errors while processing a transaction, do I need to reverse the transaction? | No. If any part of the transaction fails, all of the changes are rolled back to their original state. |
| Does this operation use record reservation? | No. |

Using the JD Edwards EnterpriseOne BatchTimeSheetManager Web Services

The BatchTimeSheetManager published business service (JP05001) manages the processing of the BatchTimeSheetInsertProcessor web service operation (J0500010). This service processes inserts to the Employee Transactions Batch File (F06116Z1) in EnterpriseOne.

For more information about business services, see *JD Edwards EnterpriseOne Business Services 9.0 Reference Guide.*

Note. JD Edwards EnterpriseOne business services must be built with the option for migration from 10g to 11g turned on.

For more information about the migration option, see JD Edwards EnterpriseOne Release 8.98.3 Building Business Services Packages with Migration (My Oracle Support Document ID 1233332.1).

BatchTimeSheetInsertProcessor (J0500010)

The BatchTimeSheetInsertProcessor web service operation is a database insert operation that processes inserts into the Employee Transactions Batch File (F06116Z1) in JD Edwards EnterpriseOne.

The BatchTimeSheetInsertProcessor operation is called from the BatchTimeSheetManager published business service. The operation assigns a unique identifier using next number processing to each record before inserting it into the table. Any errors that are encountered are returned to the user in an E1MessageList.

Implementation Details

This table includes details that can help you determine whether the BatchTimeSheetInsertProcessor operation is functioning correctly:

| Question | Answer |
|---|--|
| How can I tell if the operation completes successfully? | If the operation completes successfully, records are inserted into the F06116Z1 table. If errors are encountered, they are returned to the user. |
| If I encounter errors while processing a transaction, do I need to reverse the transaction? | No. If there are errors during the process, you must correct the error in Primavera P6 and resend the records. |
| Does this operation use record reservation? | No. |
| Does this operation include sensitive data? | This operation processes records that include employee work data such as hours worked, date worked, and project worked. However, these records do not contain information such as the employee's Social Security Number or pay rate. |

Setting Up FTP Adapter Information

To support the data loading and synchronization processes for the Project Management: Primavera - JDE E1 PIP, you must set up FTP adapter information, which includes:

- Configuring the JNDI name for FTP adapters.
- Setting up FTP information in the SOA Enterprise Manager console.
- Troubleshooting the FTP adapter.

Configuring the JNDI Name for FTP Adapters

1. To configure the JNDI name for the FTP adapters, open the Weblogic console, navigate to Deployments, and look for FtpAdapter.

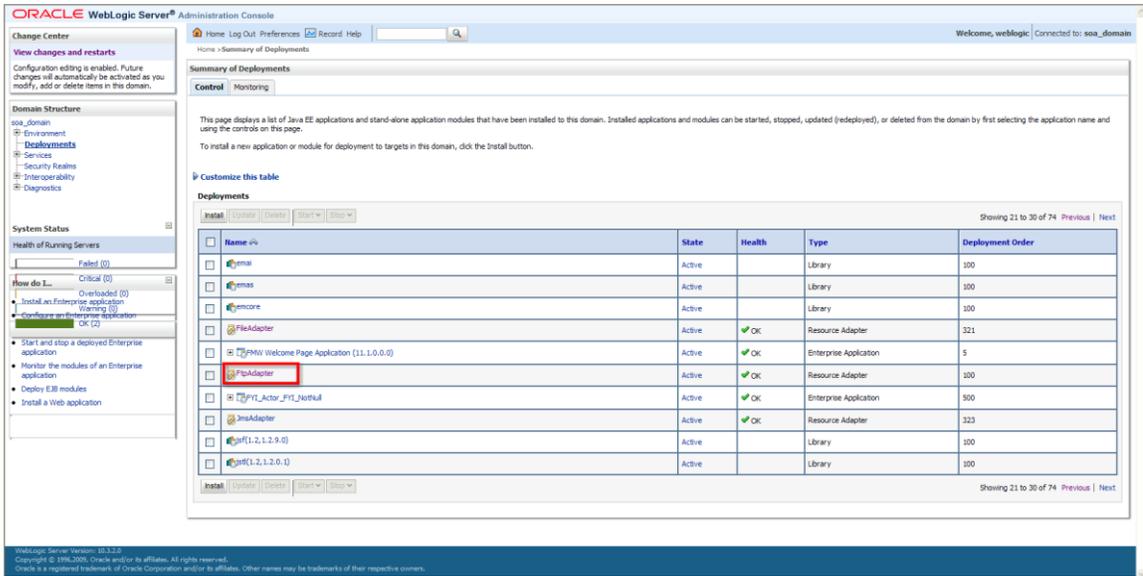


Figure 1: Configuring the JNDI name for FTP adapters

2. Click on the FtpAdapter link.
3. Select Configuration tab, and then select Outbound Connection Pools, and then click New.

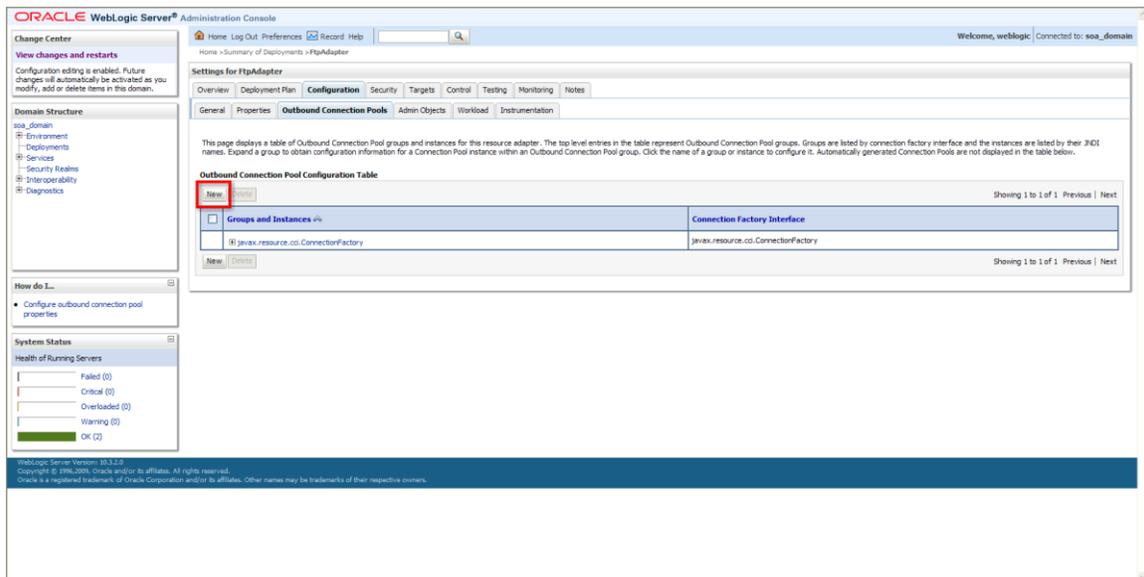


Figure 2: Configuring the JNDI name for FTP adapters

4. Select the javax.resource.cci.ConnectionFactory group and then click Next.

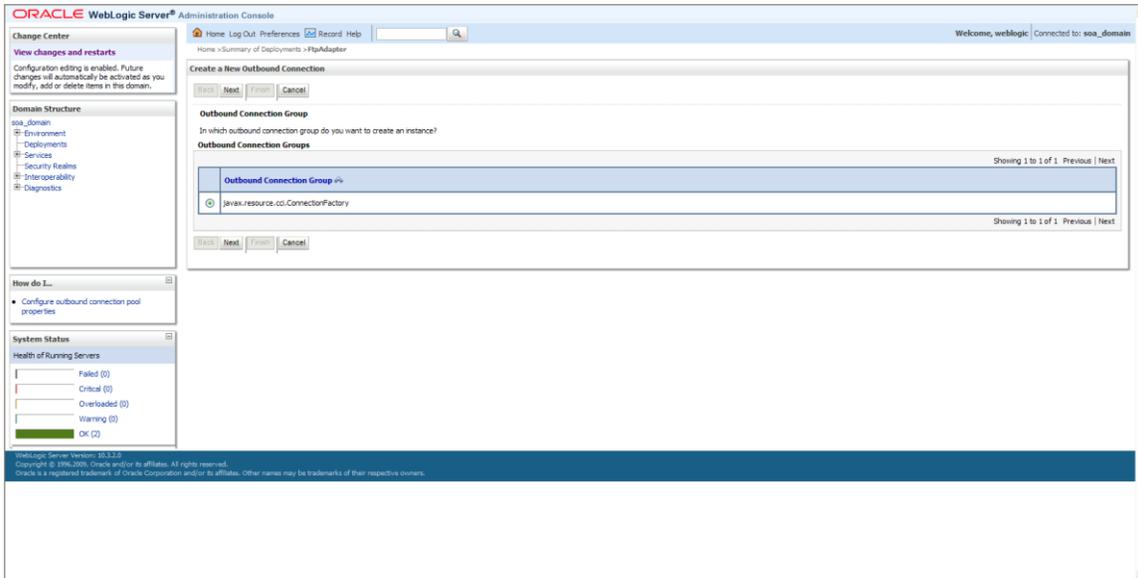


Figure 3: Configuring the JNDI name for FTP adapters

5. Enter *eis/Ftp/JDEE1FtpAdapter* as the JNDI name and then click Finish.

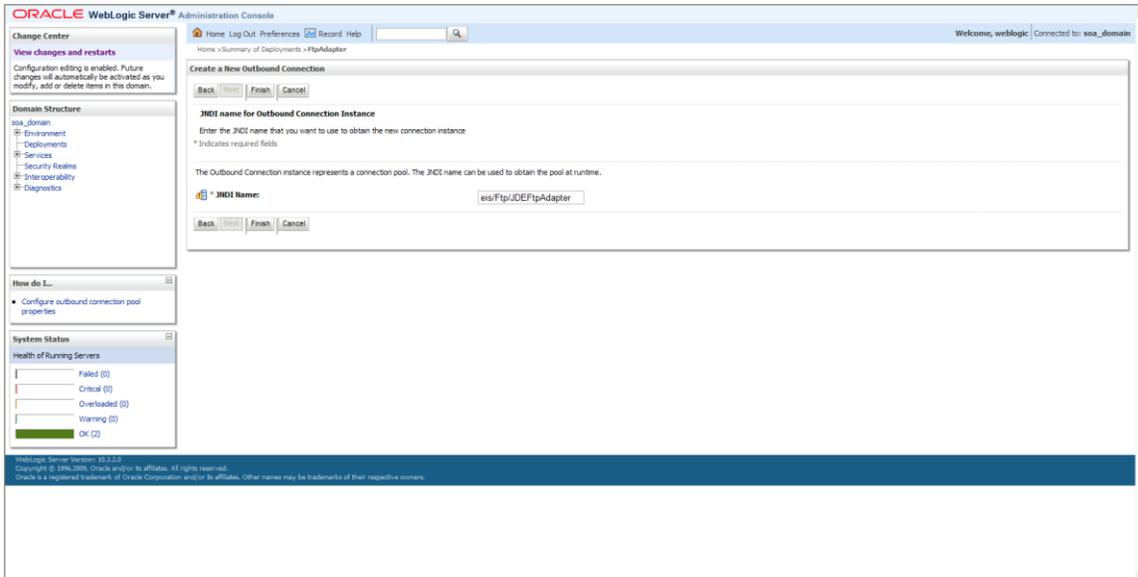


Figure 4: Configuring the JNDI name for FTP adapters

6. Verify that the JNDI name now appears on the Outbound Connection Pools tab.

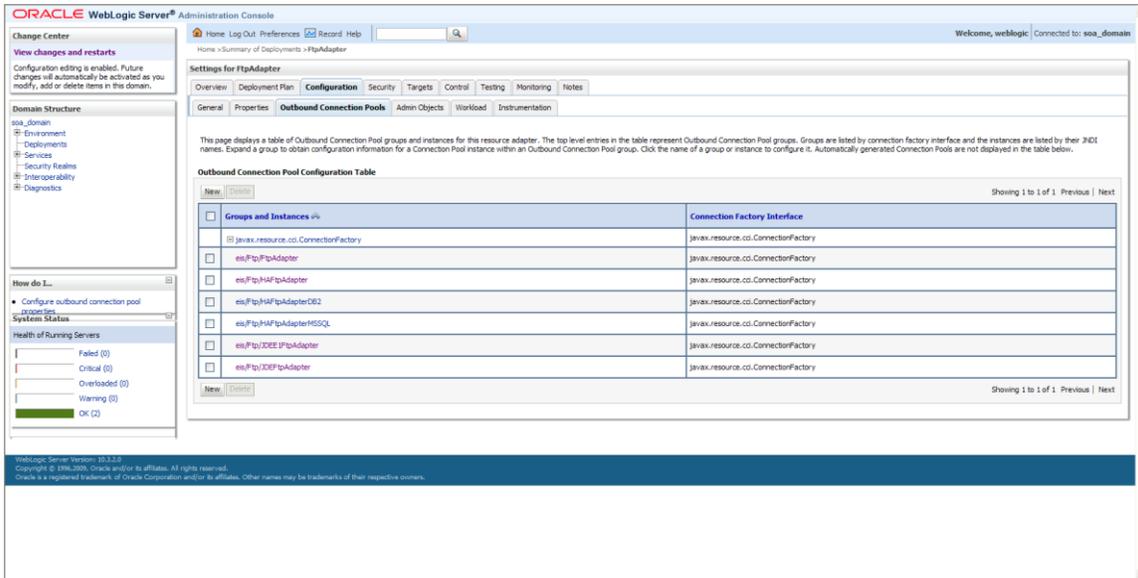


Figure 5: Configuring the JNDI name for FTP adapters

7. Click on the created JNDI Name. The system displays the Outbound Connection Properties page.

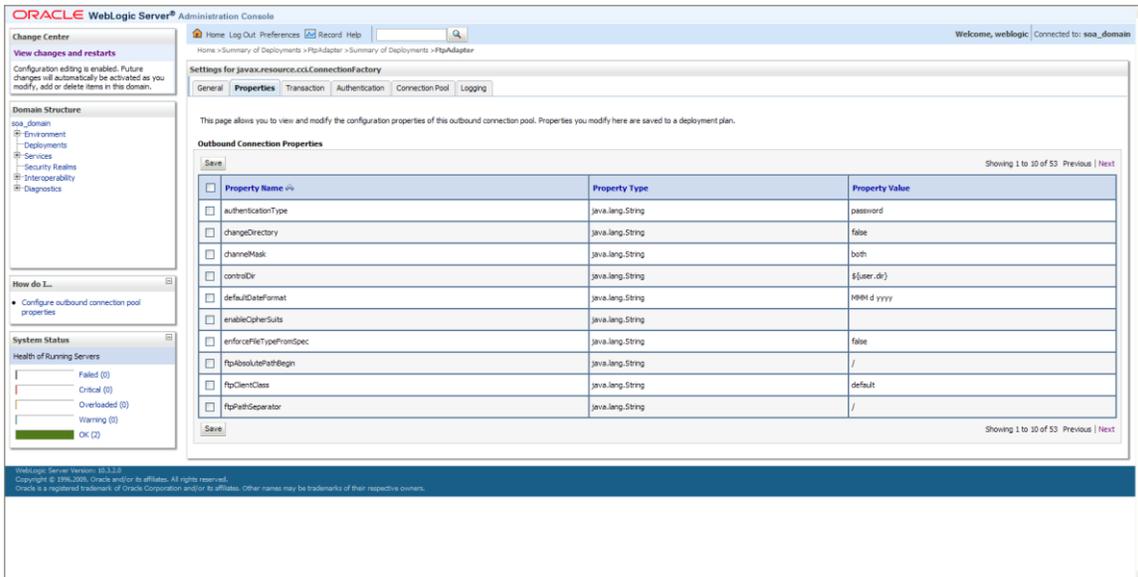


Figure 6: Configuring the JNDI name for FTP adapters

8. Edit the ftpAbsolutePathBegin. For example, enter /slot/ems4309/appmgr in this field.

9. Click Next and complete these fields:

- Host
- Password
- Port
- ServerType

- Username

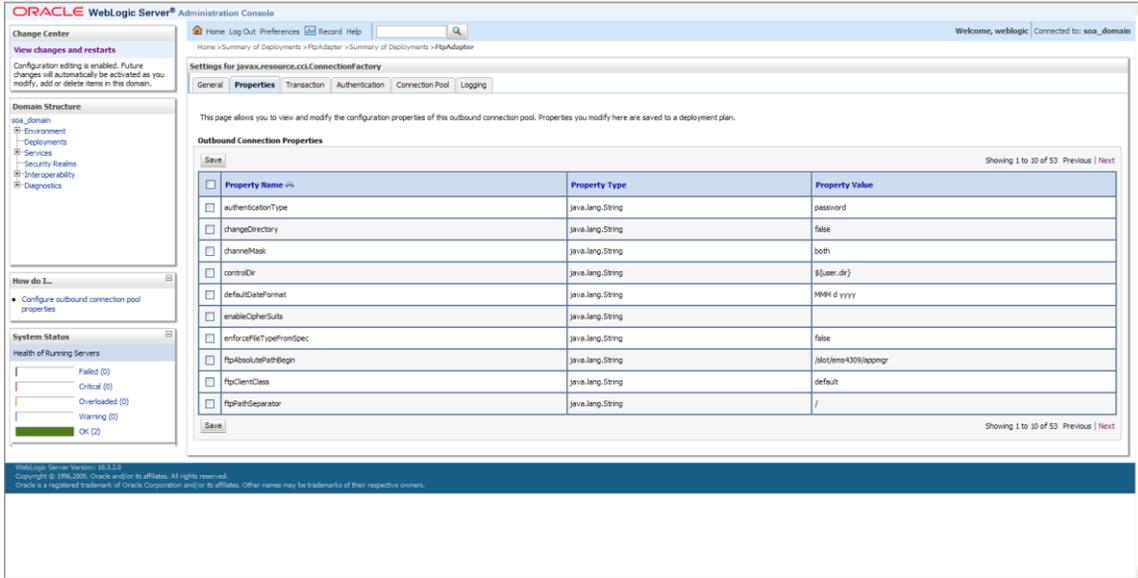


Figure 7: Configuring the JNDI name for FTP adapters

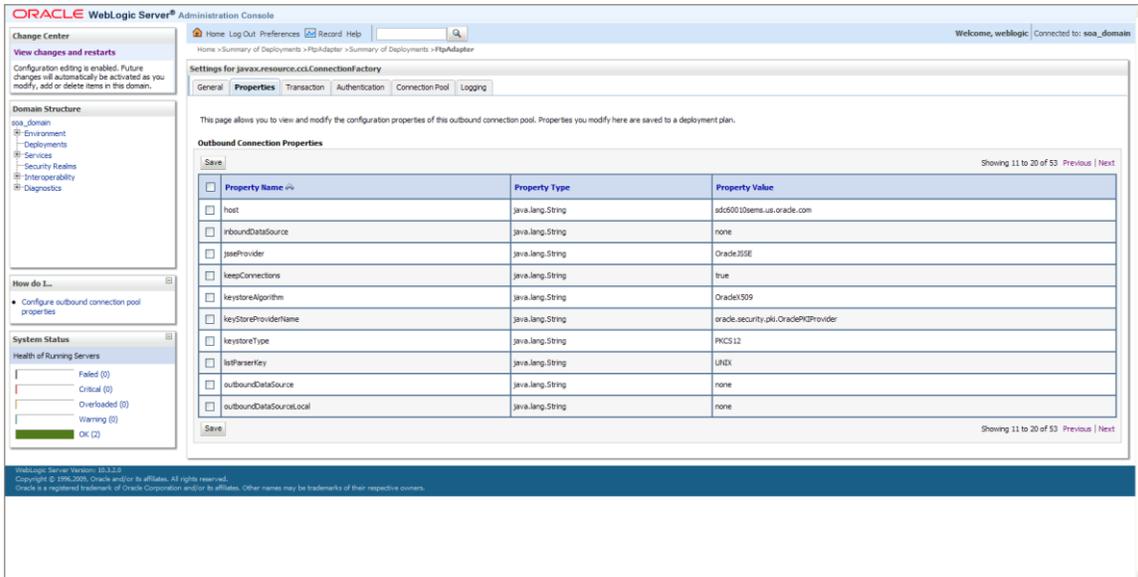


Figure 8: Configuring the JNDI name for FTP adapters

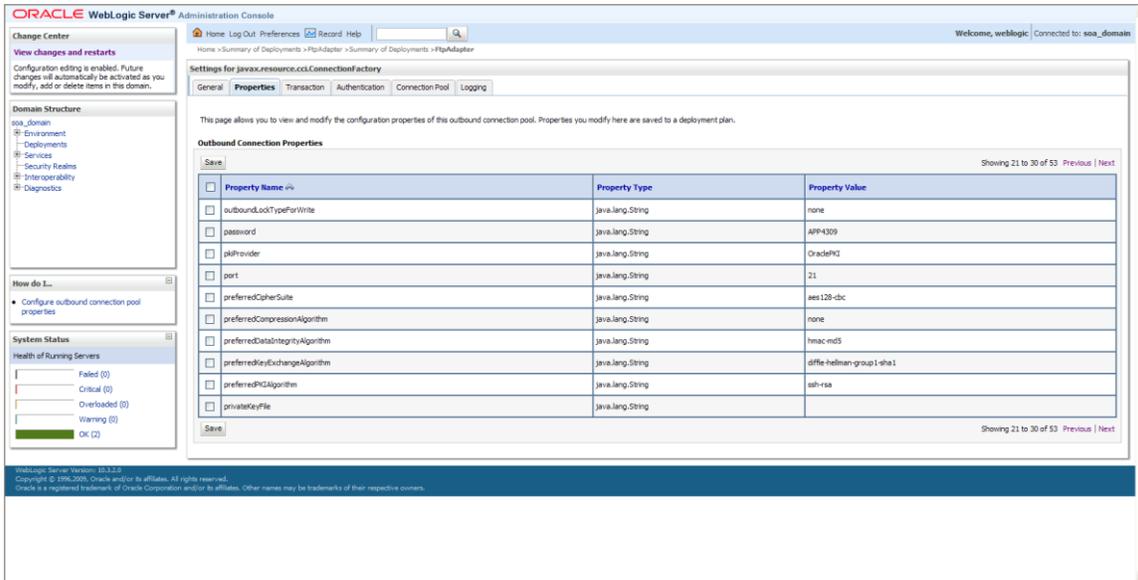


Figure 9: Configuring the JNDI name for FTP adapters

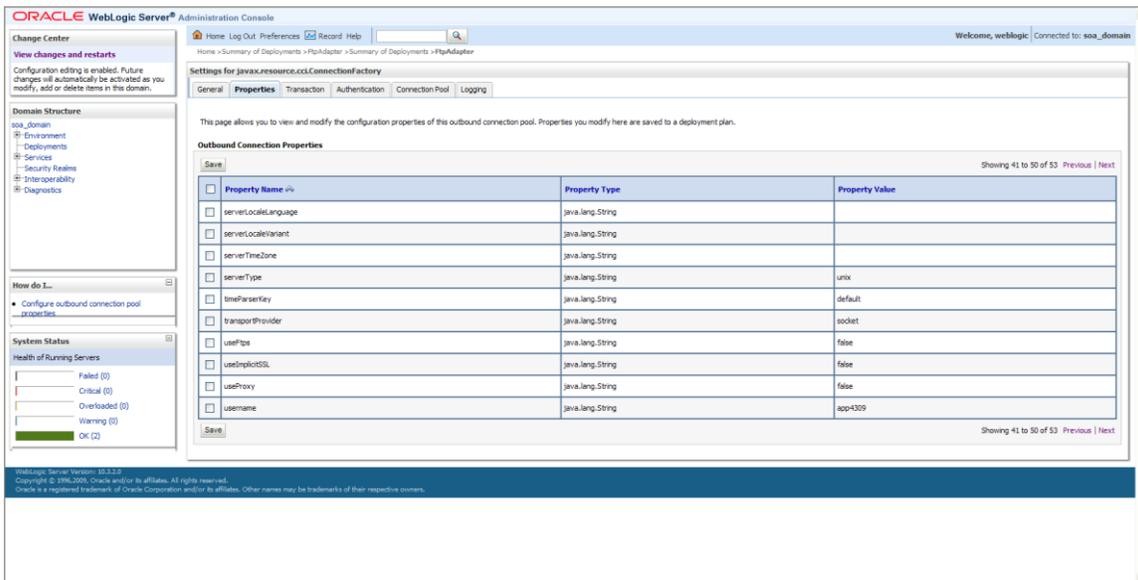


Figure 10: Configuring the JNDI name for FTP adapters

10. Once the properties are set, click Save.
11. To update the deployment plan go to Deployments page, select the FtpAdapter check box, and then click Update.

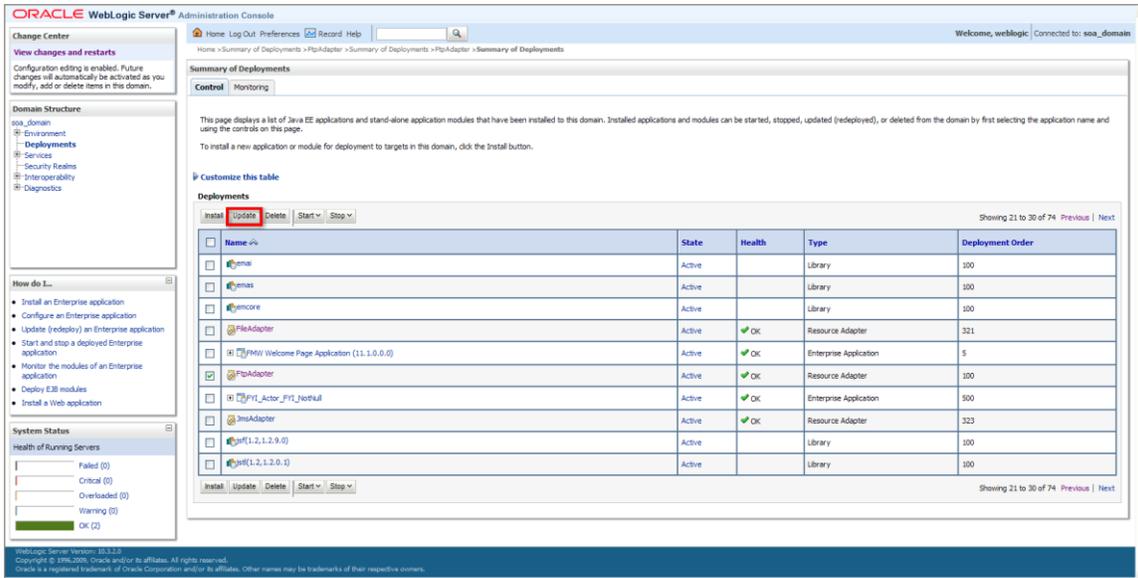


Figure 11: Configuring the JNDI name for FTP adapters

12. Click Next.

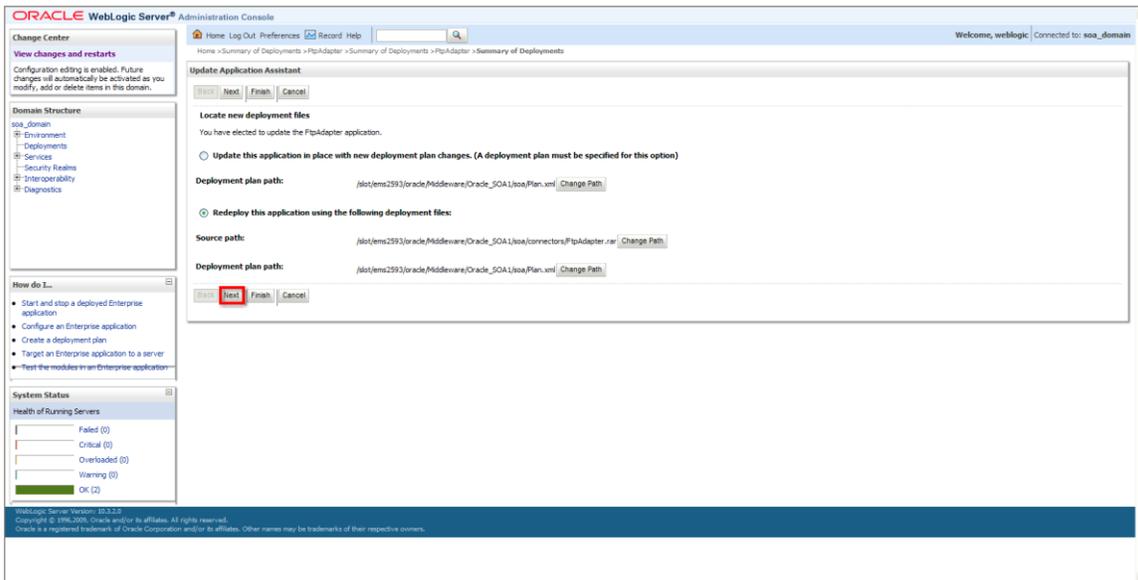


Figure 12: Configuring the JNDI name for FTP adapters

13. Click Finish.

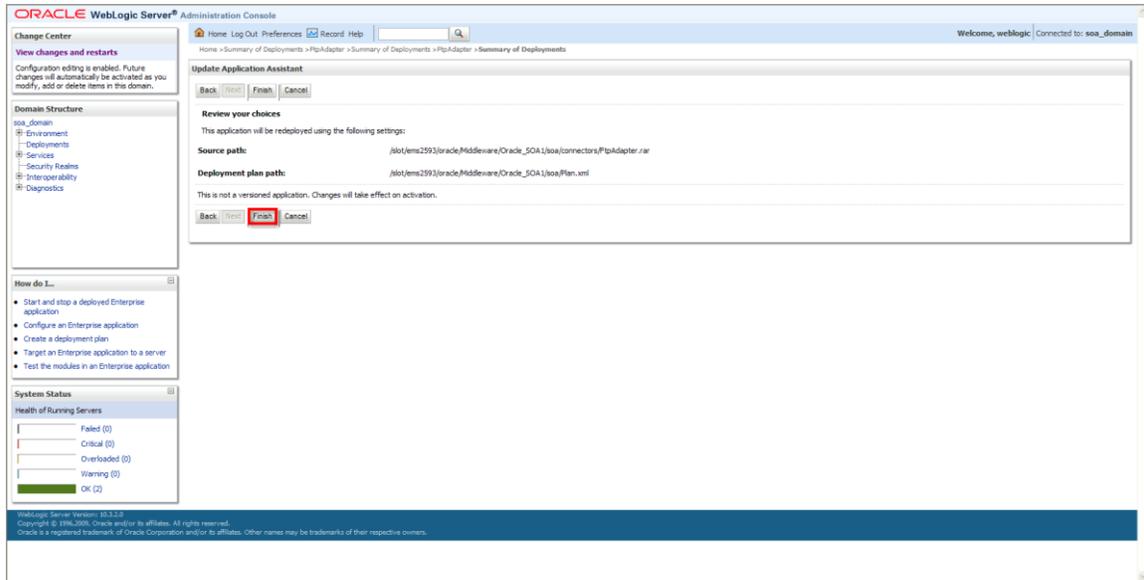


Figure 13: Configuring the JNDI name for FTP adapters

14. The configured JNDI properties are now updated in plan.xml under the target location, which is:

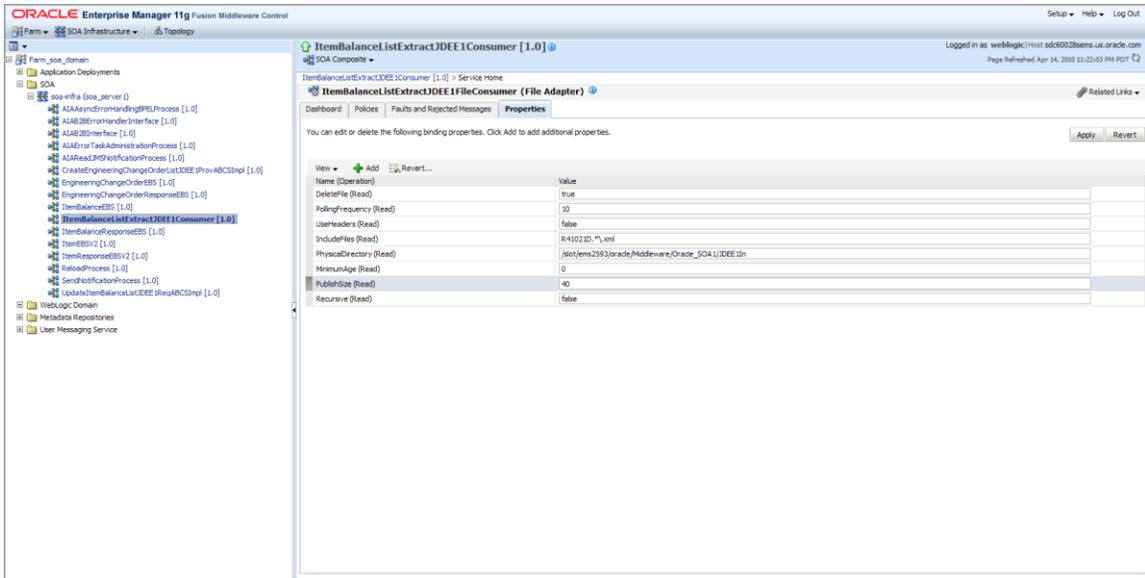
```
/slot/ems2593/oracle/Middleware/user_projects/domains/soa_domain/servers/soa_server1/stage/FtpAdapter/plan/plan.xml.
```

15. Restart the soa_server and the AdminServer to implement the FtpAdapter changes.

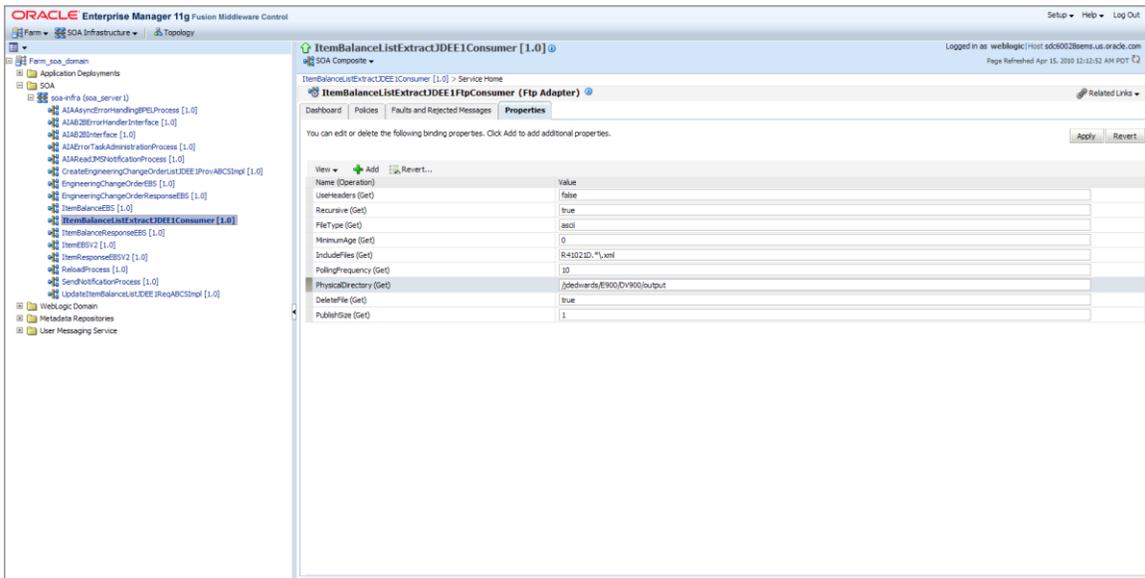
Setting up FTP Information in the SOA Enterprise Manager Console

To support the FTP adapter, you must set up FTP adapter information from the WebLogic Administration Console.

1. To set up FTP information, open the SOA 11g Enterprise Manager console.
2. Navigate to SOA ->soa-infra->servicename->properties.



JCA properties of FileAdapter



JCA properties of FtpAdapter

Troubleshooting the FTP Adapter

If the FtpAdaptor is not listed on the Deployments page, complete the following steps:

1. On the Deployments page, click the Install button.

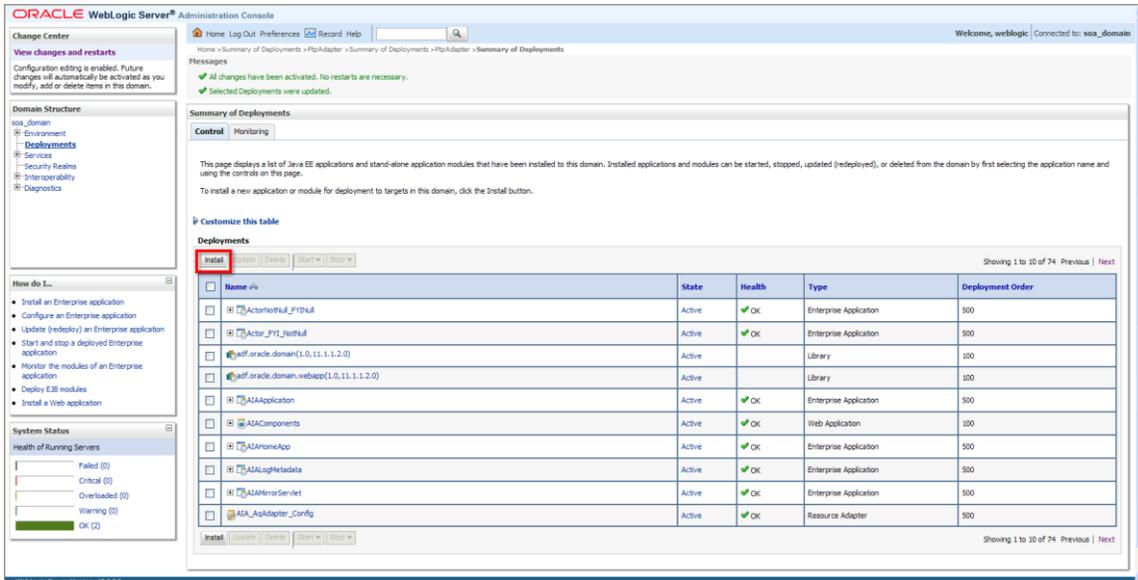


Figure 1: Troubleshooting the FTP adapter

2. Click on Connectors.

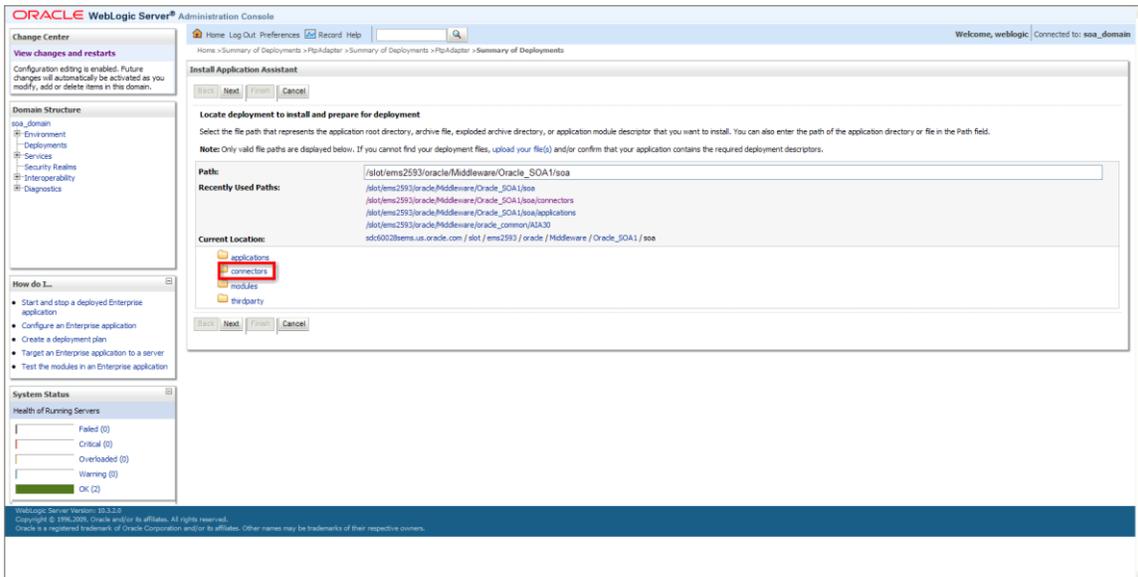


Figure 2: Troubleshooting the FTP adapter

3. Select FileAdapter.rar

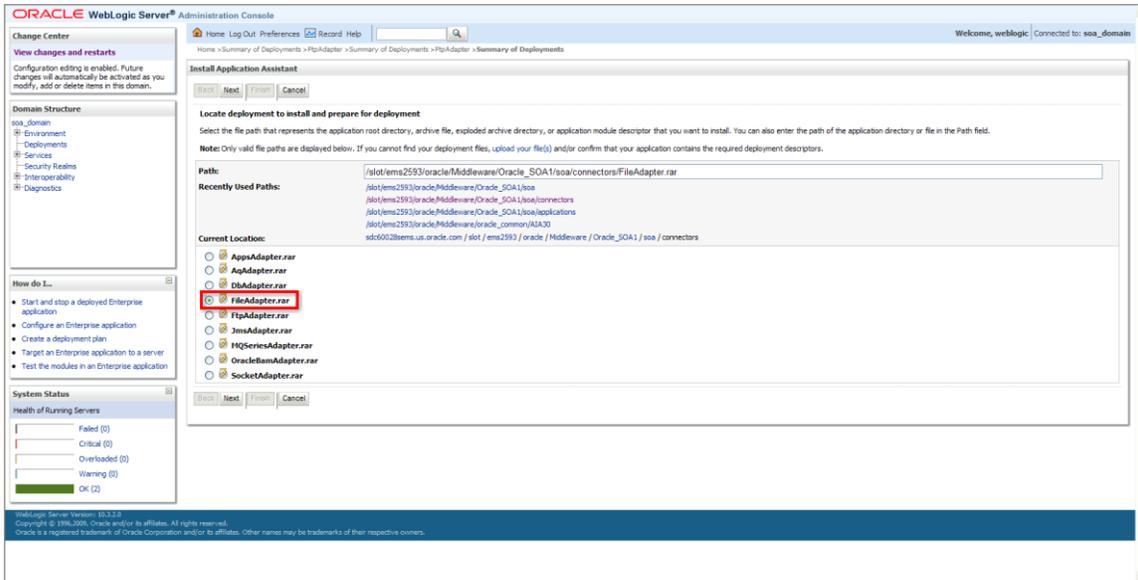


Figure 3: Troubleshooting the FTP adapter

4. Click Next.

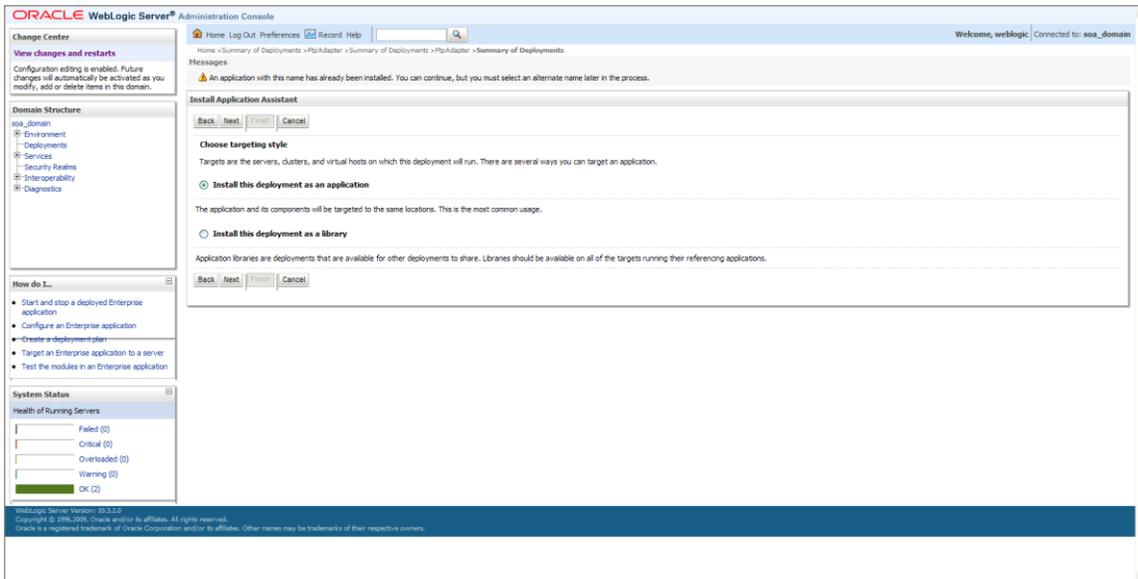


Figure 4: Troubleshooting the FTP adapter

5. Select soa_server1.

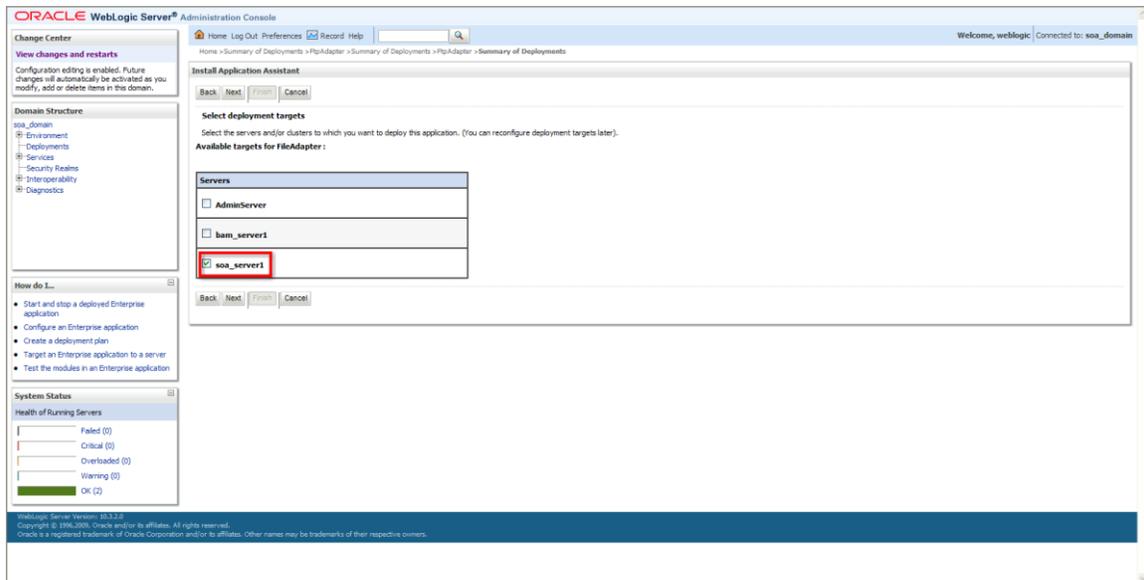


Figure 5: Troubleshooting the FTP adapter

6. Click Next.

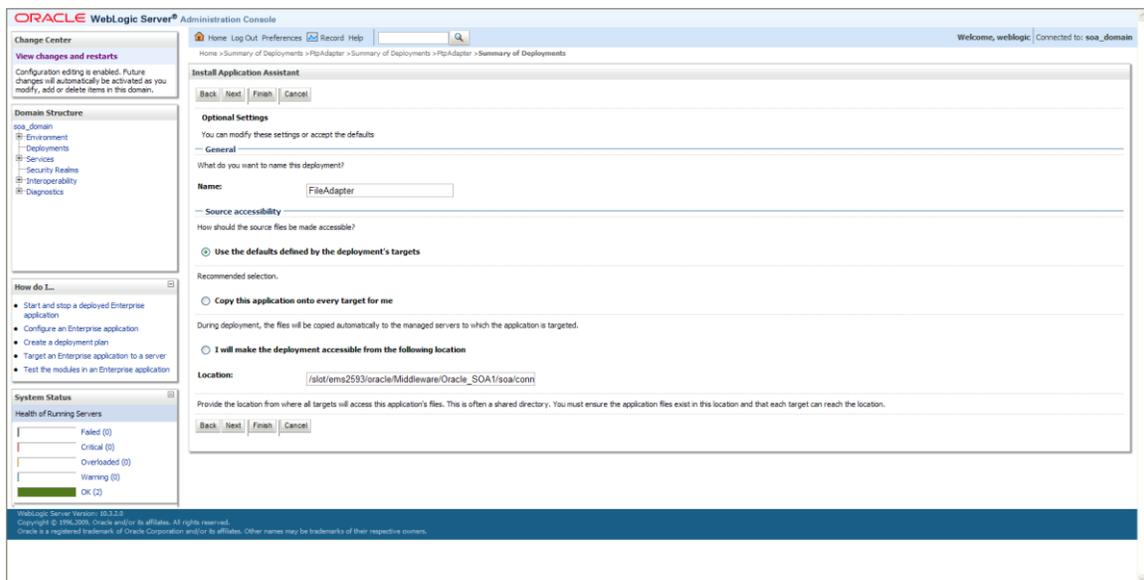


Figure 6: Troubleshooting the FTP adapter

7. Click Next and then click Finish.

Setting Up Batch Processing Information

To use the master data load and synchronization programs, you must first set up batch information. This section discusses how to:

- Set transaction timeout values.
- Set up batch consumer properties.

Setting Transaction Timeout Values

When you send information between JD Edwards EnterpriseOne and Primavera P6, you are sending batches of data, not individual transactions. The timeout value in many systems is set to accommodate transactional processing, which typically takes a shorter amount of time than processing a batch of data.

To ensure that the system is able to process all of the data in a batch before timing out, you must verify that the timeout values are set to a higher number than is used for standard transactional processing.

This table lists the configuration files and minimum timeout settings that you must update to accommodate larger timeout values. You might need to increase these settings depending on SOA setup and message size.

| Configuration Steps | Setting | Value |
|--|---------------------|-------|
| <p>This property controls the maximum time the process result receiver will wait for a result before returning for Sync processes.</p> <ul style="list-style-type: none"> • Login into EM • Expand SOA and right click on "soa-infra" and select: SOA Administration -> BPEL Properties • Click on "More BPEL Configuration Properties..." link • Locate syncMaxWaitTime and change it. | transaction-timeout | 420 |

| Configuration Steps | Setting | Value |
|--|---------------------|-------|
| <p>The timeout properties for the EJB's control the particular timeout setting for the SOA application, overriding the global setting specified by the JTA timeout.</p> <p>Log into Oracle WebLogic Administration Console.</p> <p>Click Deployments.</p> <p>Expand soa-infra -> EJBs.</p> <p>For these BPEL EJBs:</p> <ul style="list-style-type: none"> BPELActivityManagerBean BPELDeliveryBean BPELDispatcherBean BPELEngineBean BPELFinderBean BPELInstanceManagerBean BPELKeyGeneratorBean BPELProcessManagerBean BPELSensorValuesBean BPELServerManagerBean BPELTestInstanceManager | transaction-timeout | 380 |
| <p>This property controls the transaction timeout seconds for active transactions. If the transaction is still in the "active" state after this time, it is automatically rolled back.</p> <ul style="list-style-type: none"> • Log into Oracle WebLogic Administration Console. • Click JTA. • Change the value of Timeout Seconds (the default is 30). • Click Save. | syncMaxWaitTime | 360 |

Note: The syncMaxWaitTime setting must be set using the Enterprise Manager. From SOA Infrastructure Home, access the BPEL Properties page and click the More BPEL Configuration Properties link. This setting should not be manually updated. Also, the values here are suggested values, and might need to be increased to accommodate large batches of data.

Setting Up Batch Consumer Properties

For the Project Management: Primavera - JDE E1 PIP to function properly, you must set up properties for these batch consumer services:

- ProjectExtractJDEE1FileConsumer_ep

- ProjectExtractJDEE1FTPConsumer_ep
- ResourceSetExtractJDEE1FileConsumer_ep
- ResourceSetExtractJDEE1FTPConsumer_ep
- ResourceRateExtractJDEE1FileConsumer_ep
- ResourceRateExtractJDEE1FTPConsumer_ep
- ResourceAvailabilityCalendarExtractJDEE1FileConsumer_ep
- ResourceAvailabilityCalendarExtractJDEE1FTPConsumer_ep

To set these properties, open the Enterprise Manager, locate the composite service, and then in the Dashboard, Services and References section, select the JCA Adapter you would like to configure. Select the Properties tab and configure as needed.

All of the consumer services listed in this section have these properties, which you can configure in the following way:

| Property | Configuration Information |
|------------------|---|
| PublishedSize | <p>This property determines how many records are included in each message.</p> <p>Note: For the ProjectExtract consumers, the value for this property must be set to 1. Primavera P6 accepts only one project per file.</p> <p>For all other services, set this property to 512 or lower. Primavera P6 web services cannot process batches that contain more than 512 records.</p> |
| PollingFrequency | <p>This property specifies the time interval, in seconds, when the file consumers check the PhysicalLocation for new files to process. The default value for this property is 30.</p> |
| PhysicalLocation | <p>These properties specify the location of the xml file. This location must be the same as the location that you enter in the processing options of the corresponding EnterpriseOne data extract program.</p> <p>The PhysicalLocation must also correspond to the location of the FTP adapter or file adapter.</p> <p>For example, enter: jdedwards/ddp/output/Project</p> <p>This location must be the same as the location indicated in the processing option only for the FTP adapter. The file adapter points to a location on the SOA server itself, whereas the ftp adapter would point to a location on the E1 enterprise server.</p> |

Note: Oracle recommends that you do not change the PublishedSize or PollingFrequency properties for the FTP adapter.

For more information about properties, *Oracle Fusion Middleware Developer's Guide for Oracle AIA FP 11g Release (11.1.1.4.0)*, "Configuring Oracle AIA Processes for Error Handling and Trace Logging".

Setting Up Oracle Web Services Manager Security Information

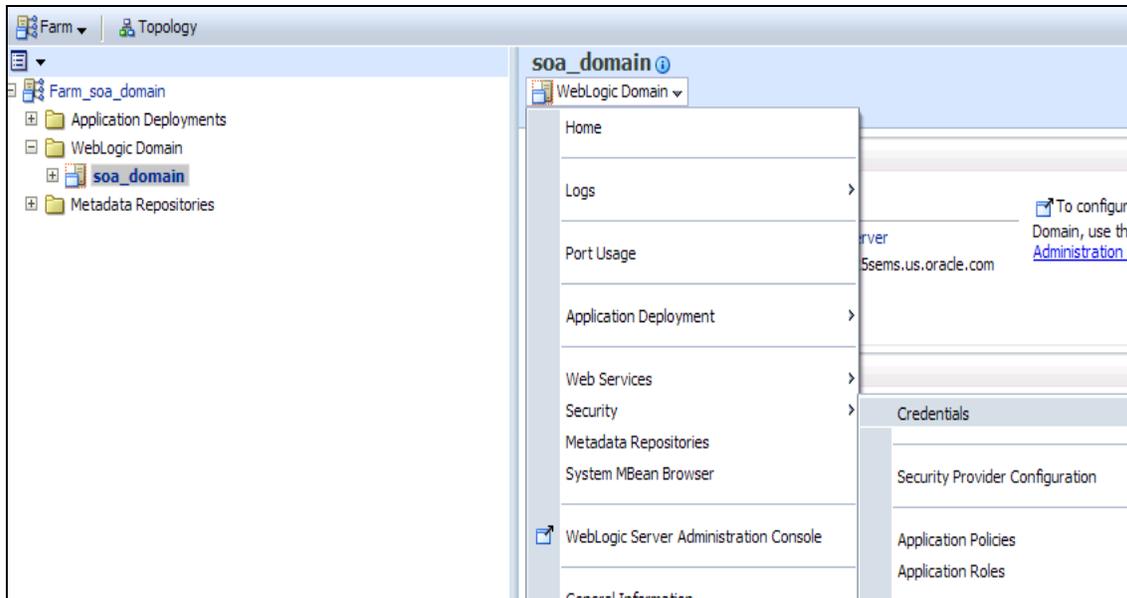
An Oracle Web Service Manager (OWSM) client policy is automatically configured during PIP deployment for all of the provider calls to EnterpriseOne web services. This configuration refers to a credential key, which must be manually configured after the PIP is installed.

This section discusses how to create the credential map and the credential key.

Creating the Credential Map and Credential Key

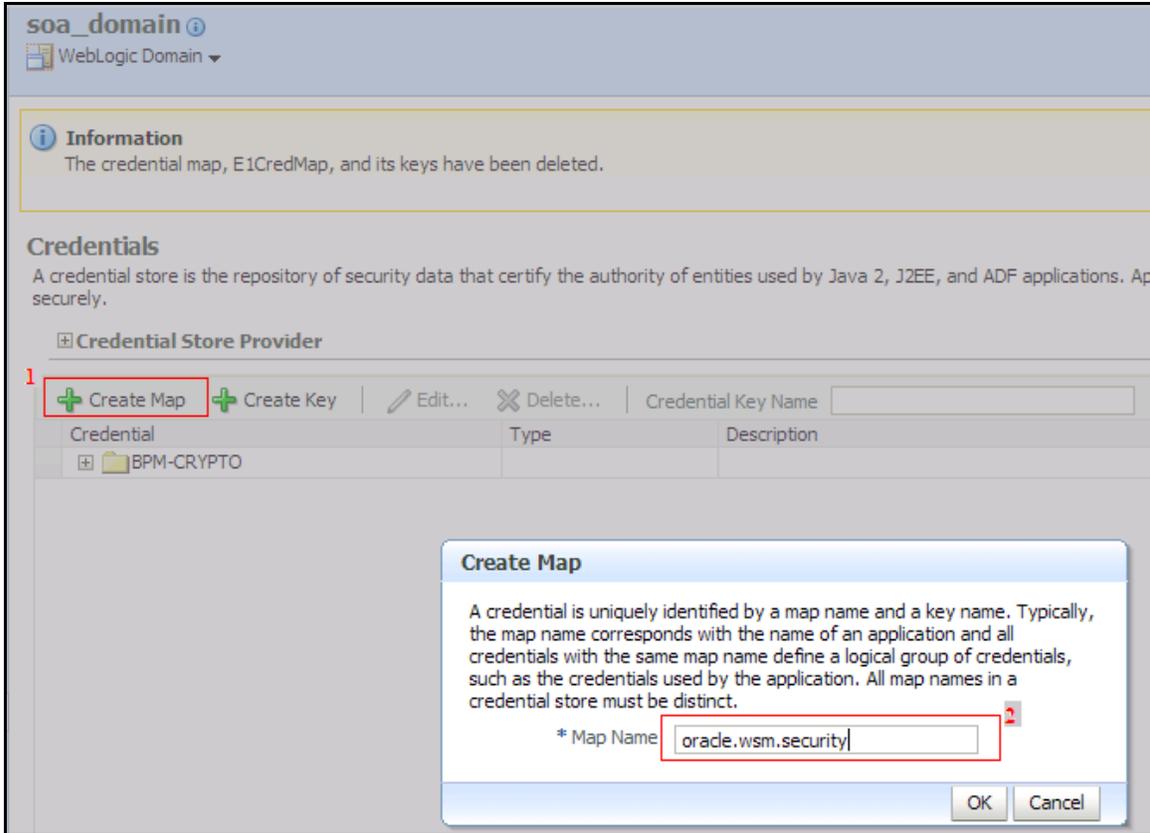
You create a credential map and credential key to store the user name and password for web service calls. To create the map and key:

1. In FMW Control, navigate to WebLogic Domain, and then soa_domains.
2. Select Security, and then select Credentials from the drop-down list.



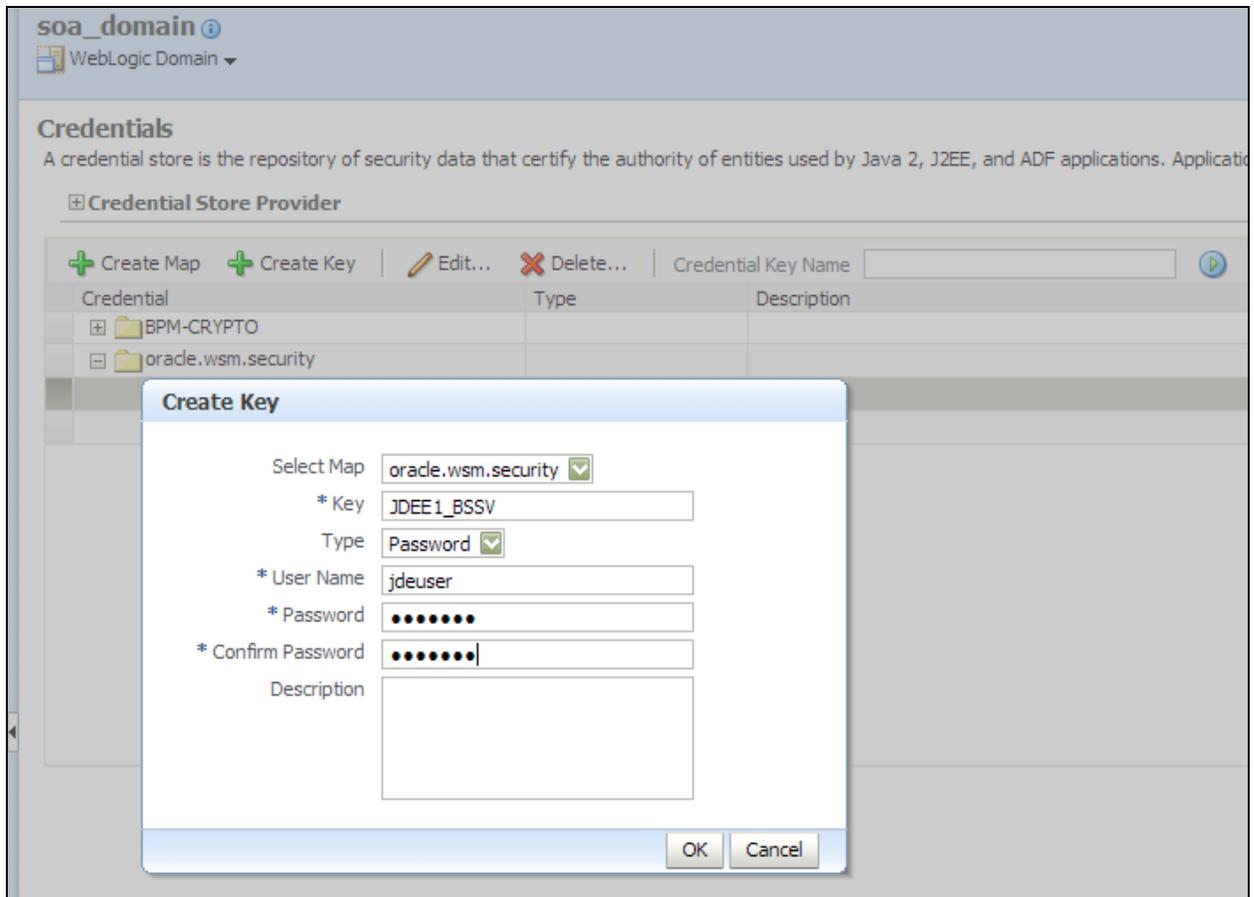
Example of Selecting Security Credentials

3. In the Credentials section, click the Create Map button.
4. Enter **oracle.wsm.security** in the Map Name field. This value is required and should not be changed.



Create Map form

5. Click OK.
6. Highlight the oracle.wsm.security record in the Credentials area of the form and then click the Create Key button.
7. On the Create Key form, enter **JDEE1_BSSV** in the Key field.
8. Complete the User Name, Password, and Confirm Password fields, and then click OK.



Create Key form

Setting Up the Primavera P6 System

Before you can send any data from the Primavera P6 system to the JD Edwards EnterpriseOne system, you must set up Primavera P6 to work with the JD Edwards EnterpriseOne ERP system.

Setting up Primavera P6 includes:

- Setting up Primavera P6 servers.
- Setting the configuration settings.
- Setting administrative settings in Primavera P6.
- Setting up WebLogic for Primavera P6.
- Authorizing users to send data to ERP systems.
- Running the Primavera P6 setup utility.

Setting Up Primavera P6 Servers

Before you can synchronize any data between JD Edwards EnterpriseOne and Primavera P6, you must turn off the keep-alives switch in the Weblogic Application server.

After Primavera P6 has been installed, and the web services and the web application have been deployed, complete these steps listed here for the appropriate server.

Weblogic Application Server

1. Log into the Weblogic Application server console from a browser.
2. Click Lock & Edit.
3. Expand Environments and then select Servers.
4. Select the server that is used by Primavera P6.
5. Select the Protocols tab from Settings for <Server Name>.
6. From the list of tabs, select HTTP.
7. Deselect Enable Keepalives.
8. Click Save.
9. Click Activate Changes from left-hand menu.

Setting the Configuration Settings

Before you can send data from Primavera P6 to JD Edwards EnterpriseOne, you must set up the Primavera system to integrate with ERP systems. You use configuration settings to specify how the Primavera P6 system integrates with outside ERP systems. This PIP utilizes the values that are entered in the configuration settings that begin with **Database/Instance/AIA**.

This PIP is configured to use the standard default configuration settings. However, if you choose to change any of these values in the AIAConfigurationProperties.xml file, you must make sure that the value that you enter in the corresponding configuration property in Primavera P6 is also updated.

Warning! Only an experienced Primavera P6 administrator should use the P6 Administration application to modify configuration settings.

For more information about Primavera P6 configuration settings, see *Oracle's Primavera P6 Administrator's Guide, "Installing P6 Web Access," Configuration Settings for P6 Web Access*.

Setting Administrative Settings in Primavera P6

In order for the Primavera P6 system to communicate with the AIA system, you must set up administrative information.

1. Navigate to the Administration Application URL. For example, <http://localhost:7001/p6/admin.jsp>
2. Login as a Primavera P6 user with database privileges.
3. Set the following configuration for AIA integration settings, which are located at Configuration\Custom\Primavera P6 Configuration\Database\AIA:
 - Set Enabled to **true**.
 - Enter a valid value in the Username setting. For example, enter **jmsuser**.

- Enter a valid value in the Target System ID setting. For example, enter **JDEE1_01**.
 - Leave all other AIA integration settings as they are, with default values.
4. Change the Configuration\Custom\Primavera P6 Configuration\Web Services\Security setting as follows:
 - Under Authentication\User Name Token Profile\Nonce, set Require Nonce to **false**.
 - Under Authentication\User Name Token Profile\Created, set Require Created to **false**.
 - Under Message protection, set these to **false**:
 - Require Timestamp
 - Require Digital Signatures for Incoming Messages
 - Require Encryption for Incoming Messages
 - Under Fusion Integration\Outgoing Messages, set Require Encryption for Incoming Messages to **false**.
 5. Verify that the 'Configuration\Custom\Primavera P6 Configuration\Application\Ignore Daylight Saving Time' value in the Administration Application matches the 'Ignore Daylight Savings Time' setting in the P6 Project Reporter configuration application.

To verify this setting, open the Project Reporter configuration application URL, (for example, <http://localhost:7001/pr/admin>), log in as a user with privileges, and view the 'Ignore Daylight Savings Time' option on the Configuration tab.

Setting Up WebLogic for Primavera P6

Before you can use the PIP successfully, you must set up WebLogic to work with the Primavera P6 system.

1. Log in to the WebLogic console. For example, <http://localhost:7001/console> to create a data source.
2. Click the Lock & Edit button.
3. At Domain Structure, expand Services-JDBC-DataSources.
4. Click the New button at Summary of JDBC Data Sources.
5. On the Create a New JDBC Data Source screen, complete these items:
 - Set Name to **AIA_ProjP6EPPM_DS**
 - Set JNDI Name to **AIA_ProjP6EPPM_DS**
6. Click the Next button twice.
7. Provide the following AIA database connection information:
 - Database Name
 - Host Name
 - Port
 - Database Username and Password.

By default, this user name is <AIA_Instance>_JMSuser. The password is the AIA admin password.

8. Click the Next button.
9. Click the Test Configuration button to test the connection.
10. Click the Next button.
11. Select the server that is used by Primavera P6.
12. Click the Finish button.
13. Click the Activate Changes button.
14. To turn off the Enable Keepalives switch, click the Lock & Edit button.
15. At Domain Structure, expand Environment-Servers.
16. Select the server that is used by Primavera P6.
17. Select the Protocols tab from Settings for <Server Name>.
18. From the list of tabs, select HTTP.
19. Deselect Enable Keepalives.
20. Click the Save button, and then click the Activate Changes button.

Authorizing Users to Send Data to ERP Systems

To initiate the integration processes from Primavera P6 to JD Edwards EnterpriseOne, users must access the Send to ERP option from the Primavera P6 menu. In order to access this menu option, users must have authorization. A Primavera P6 administrator can set up specific user security profiles with the appropriate privileges to access this menu option and application.

In the Primavera P6 Project Management client, administrators follow these steps to set the appropriate security privileges:

1. Log into the Primavera P6 web application.
2. Select Administer from the menu, and then User Access.
3. On the User Access screen, select Project Security Profiles on the right panel.
4. On the Related Applications tab, select the Allow Integration with ERP System option in the Privilege table.

After the administrator has set these privileges, the user who has been granted the privilege can view the Send to ERP command from the Open Projects menu on the Activities page of Web Access.

For more information about Primavera P6 security settings, see *Oracle's Primavera P6 Administrator's Guide, "Application Administration," Defining Project Profiles*.

Running the Primavera P6 Setup Utility

Before you can use this PIP, you must run the runAIAP6EPPMSetup.bat utility. This utility:

- Maximizes the data limits on ID fields.

- Creates and validates UDF fields for AIA integrations.
- Creates and validates the project code that is required for the integration.
- Creates and validates the EPS node that is required for the integration.

The utility and detailed instructions are located within the AIAP6EPPMSetupUtility.zip file. This file is located at:

```
<AIAInstallHome>/services/core/PrimaveraP6/UtilityServices/AIAP6EPPM
SetupUtility/AIAP6EPPMSetupUtility.zip
```

UDF Information

When you run the utility several UDFs are created in Primavera P6. Each UDF corresponds to a setting in the AIAConfigurationProperties.xml file. If you update any of the UDFs that this utility creates, you must also update the associated tag in the AIAConfigurationProperties.xml file.

After you run this utility, you must use the customize columns functionality in Primavera P6 to add the UDFs to the current page or table.

For more information about the customize columns function, see the *Primavera P6 Online Help, "Working With Enterprise Data"*.

This table includes information about the UDFs that are created by this utility:

| UDF Name | UDF Subject Area | UDF Data Type | AIA Configuration Property Tag |
|---------------------------------------|------------------|---------------|---|
| ERP Description | Project | Text | Project.Description.Field.Name |
| ERP Description | WBS | Text | WBS.Description.Field.Name |
| ERP Description | Activity | Text | Activity.Description.Field.Name |
| ERP Chargeable Indicator | WBS | Text | WBS.ChargeableIndicator.Field.Name |
| ERP Actual Raw Total Cost Amount | WBS | Cost | WBS.ActualRawTotalCostAmount.Field.Name |
| ERP Actual Raw Total Cost Amount | Activity | Cost | Activity.ActualRawTotalCostAmount.Field.Name |
| ERP Actual Burdened Total Cost Amount | WBS | Cost | WBS.ActualBurdenedTotalCostAmount.Field.Name |
| ERP Actual Burdened Total Cost Amount | Activity | Cost | Activity.ActualBurdenedTotalCostAmount.Field.Name |

| UDF Name | UDF Subject Area | UDF Data Type | AIA Configuration Property Tag |
|---------------------------------|---------------------|---------------|---|
| ERP Total Raw Cost Amount | WBS | Cost | WBS.TotalRawCostAmount.Field.Name |
| ERP Total Burdened Cost Amount | WBS | Cost | WBS.TotalBurdenedCostAmount.Field.Name |
| ERP Actual Burdened Cost Amount | Resource Assignment | Cost | ResAssignment.ActualBurdenedCostAmount.Field.Name |
| ERP Total Burdened Cost Amount | Resource Assignment | Cost | ResAssignment.TotalBurdenedCostAmount.Field.Name |
| ERP Planned Labor Quantity | WBS | Number | WBS.PlannedLaborQuantity.Field.Name |
| ERP Planned Non Labor Quantity | WBS | Number | WBS.PlannedNonLaborQuantity.Field.Name |
| ERP Actual Labor Quantity | WBS | Number | WBS.ActualLaborQuantity.Field.Name |
| ERP Actual Non Labor Quantity | WBS | Number | WBS.ActualNonLaborQuantity.Field.Name |
| ERP EAC Labor Quantity | WBS | Number | WBS.EstimateAtCompletionLaborQuantity.Field.Name |
| ERP EAC Cost Amount | WBS | Cost | WBS.EstimateAtCompletionCostAmount.Field.Name |
| ERP Physical Percent Complete | WBS | Number | WBS.PhysicalPercentComplete.Field.Name |

Enterprise Project Structure

When you create projects in Primavera P6, the system must know what Enterprise Project Structure (EPS) to use so that the project is at the correct hierarchical level. The utility defines the EPS for this PIP as **Imported Projects**.

If you change the EPS for this PIP, you must also update the EPS.Default.ID tag in the AIAConfigurationProperties.xml file.

ERP Project Template Field

The utility creates the project code ERP Project Template, which is used when creating a new project in Primavera P6.

Users select a model job, or project template, from the available values in this field so that the EnterpriseOne system knows which job to use as the model when creating a new project.

If you change the name of the ERP Project Template project code, you must also update the TemplateNameProjectCode property in the AIAConfigurationProperties.xml file.

Understanding Primavera P6 Name and Resource Rate Data

Some of that data that exists in the Primavera P6 system is handled differently than in other systems. To accommodate the differences in each system, some of the items in Primavera P6 are handled differently so that this PIP will function properly.

Role Name

Role Name in Primavera P6 can have a maximum of 100 characters and should be unique. Other applications may not have unique names for roles. Therefore, to ensure that role names are unique, this PIP utilizes this formula when inserting a role name into Primavera P6, using attributes from the ProjectResourceSetEBO:

```
Role name + space + [AlternateObjectKey (if exists) OR Application
Object key].
```

Calendar Name

Calendar names in Primavera P6 can have maximum of 60 characters and should be unique. Other applications may not have unique names for calendars. Therefore, to ensure that calendar names are unique when inserted into Primavera P6, this PIP concatenates different attributes of the ResourceAvailabilityCalendarEBO to determine the calendar name, as follows:

```
Name + Space + (Alternate key (if exists) OR Application Object
Key).
```

If the name is empty, the system adds ERP in front of it. User can change the default prefix by editing the P6CalendarDefaultPrefix=ERP AIA configuration property.

Resource Rate Unit of Measure

Primavera P6 supports only *Hourly* as a valid unit of measure for labor and non-labor resources.

Therefore, Primavera P6 can support only those unit codes [UOM] which can be converted into the hourly unit code. Supported UOM codes include Daily, Weekly, and Monthly. If the UOM code is not supported, it is ignored during processing.

Primavera P6 uses standard conversion rates for the following incoming unit codes when converting to hourly units:

- Hourly = 1 hour
- Daily = 8 hours
- Weekly = 40 hours
- Monthly = 160 hours

Handling Multiple Resource Rates for a Given Date

On occasion, multiple equipment rates are sent from JD Edwards EnterpriseOne to Primavera P6. These resource rate records are sent from EnterpriseOne with key information in the AlternateObjectKey of the ResourceRate record.

Additionally, there are two AIA configuration properties that are used to define the filter that the system uses to identify the rate record that should be used in Primavera P6 when multiple rates exist. The properties are:

- P6.MULTIRATE.EFFECTIVEDATE.FILTER1 = RateTable_Key
- P6.MULTIRATE.EFFECTIVEDATE.FILTER2 = RateGroup_Key

For example, EnterpriseOne might send a multi-part key in AlternnateObjectKey as follows:

```
RATETABLE::RATEGROUP::KEY1::KEY2::KEY4
```

When the rates are received, Primavera P6 checks the AlternateObjectKey. If this data exists, the system reads the two filters from the AIA Configuration properties and uses the resource rate record that matches the filter criteria. Other records will be skipped.

If AlternatnateObjectKey does not exist, Primavera P6 receives the rates as they are, and no filtering is applied.

Describing Cross-References

Cross-references map and connect the records within the application network and enable these applications to communicate in the same language. The integration server stores the relationships in a persistent way so that others can refer to it.

For more information, see Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11G Release 1 (11.1.1.4.0), and the *Oracle Fusion Middleware Concepts and Technologies Guide for Oracle Application Integration Architecture Foundation Pack 11G Release 1 (11.1.1.4.0)*.

This table lists the cross-references for the PIP:

| XREFTABLENAME | COLUMN NAME | DESCR | USAGE |
|----------------------|-------------|---|--------------------------------------|
| PROJECT_ID | JDEE1_01 | Cost Center | Lookup/populate during project flow. |
| | COMMON | System Generated Project Identifier | Lookup/populate during project flow. |
| | P6EPPM_01 | Project Identifier | Lookup/populate during project flow. |
| PROJECT_STRUCTURE_ID | JDEE1_01 | Cost Center | Lookup/populate during project flow. |
| | COMMON | System Generated Project Structure Identifier | Lookup/populate during project flow. |

| XREFTABLENAME | COLUMN NAME | DESCR | USAGE |
|-----------------------------------|-------------|--|--|
| | P6EPPM_01 | Project Structure | Lookup/populate during project flow. |
| PROJECT_TASK_ID | JDEE1_01 | CostCenter::Subsidiary:: Object Account | Lookup/populate during project flow. |
| | COMMON | System Generated Project Task Identifier | Lookup/populate during project flow. |
| | P6EPPM_01 | WBS and Activity Object IDs. The WBS IDs are prefixed with WBS:: and the activity IDs are prefixed with ACTIVITY:: | Lookup/populate during project flow. |
| RESOURCE_CALENDAR_ID | JDEE1_01 | In EnterpriseOne, calendars can be retrieved from the F01311 table or the F0007 table. For calendars that originate in the F01311, the key is: IdentifierID::IdentifierIDT ype::CalendarType. For calendars originating from the F0007, the key is: CostCenterAlt::WorkDay CalendarType::WorkDay CalendarKey::Century:: CalendarYear::Calendar Month::ShiftCode | Lookup/populate during resource calendar availability flow. |
| | COMMON | System Generated Resource Calendar ID | Lookup/populate during resource calendar availability flow. |
| | P6EPPM_01 | Calendar ID | Lookup/populate during resource calendar availability flow. |
| PROJECTRESOURCESET_ RESOURCEID | JDEE1 | In EnterpriseOne, resources can be retrieved from five sources. For people (labor resources), the key is: AddressNumber::P. For assets, the key is: AssetNumber::A. | Lookup/populate during project resource set flow. |

| XREFTABLENAME | COLUMN NAME | DESCR | USAGE |
|-------------------------------------|-------------|---|---|
| | | For items, the key is: ItemNumber::BranchPlant. For roles, the key is: JobType::JobStep. For non-scheduable (chart types), the key is: Subsidiary::ObjectAccount. | |
| | COMMON | System Generated Resource Identifier | Lookup/populate during project resource set flow. |
| | P6EPPM_01 | Resource, WBS category, and Role object IDs. The Resource IDs are prefixed with RESOURCE:: and the WBS Category IDs are prefixed with NON_SCHEDULABLE:: and the Role IDs are prefixed with ROLE:: | Lookup/populate during project resource set flow. |
| PROJECTRESOURCERATE SCHEDULE_LINEID | JDEE1_01 | In EnterpriseOne, resource rates can be retrieved from two sources. For item rates, the key is: ItemNumber::BranchPlant::StartDateActive. For equipment rates, the key is: Equipment#::StartDateActive::RateUnit::RateGroup::RateTable. | Lookup/populate during project resource rate schedule flow. |
| | COMMON | System Generated Resource Rate Line Identifier | Lookup/populate during project resource rate schedule flow. |
| | P6EPPM_01 | Resource Rate and Role Rate object IDs. The Resource Rate IDs are prefixed with RESOURCERATE:: and the Role Rate IDs are | Lookup/populate during project resource rate schedule flow. |

| XREFTABLENAME | COLUMN NAME | DESCR | USAGE |
|------------------------------------|-------------|--|--|
| | | prefixed with ROLERATE:: | |
| PROJECTRESOURCERATE SCHEDULE_ID | JDEE1_01 | In EnterpriseOne, resource rates can be retrieved from two sources. For item rates, the key is: ItemNumber::BranchPla nt::StartDateActive. For equipment rates, the key is: Equipment#::StartDateA ctive::RateUnit::RateGro up::RateTable. | Lookup/populate during project resource rate schedule flow. |
| | COMMON | System Generated Resource Rate Identifier | Lookup/populate during project resource rate schedule flow. |
| | P6EPPM_01 | Not used by Primavera P6. | Not used by Primavera P6. |
| PROJECTEXPENDITUREIT EM_ID | JDEE1_01 | Payroll Transaction Number | Lookup/update during timesheet (expenditure item) flow. |
| | COMMON | System Generated Expenditure Item Identifier | Lookup/update during timesheet (expenditure item) flow. |
| | P6EPPM_01 | SourceDocumentEntityT ypeCode::ObjectID Where SourceDocumentEntityT ypeCode can have one of the following values: REGULAR_HRS, OVERTIME_HRS or OVERHEAD_HRS. Where ObjectID is ResourceHour's Object ID. | Lookup/update during timesheet (expenditure item) flow. |

Handling Errors

The Project Management: Primavera - JDE E1 PIP uses the Enterprise Manager 11g console to manage errors and failures during web service processing.

If a message errors in the consumer mediator, requester, EBS mediator, provider, or Primavera P6 web service, the message is rolled back to the mediator store, from where it can be updated and you can attempt to reprocess it.

These consumer services have error handling capabilities:

- ProjectExtractJDEE1Consumer
- ProjectListP6EPPMJMSConsumer
- ResourceAvailabilityCalendarExtractJDEE1Consumer
- ResourceRateExtractJDEE1Consumer
- ResourceSetExtractJDEE1Consumer

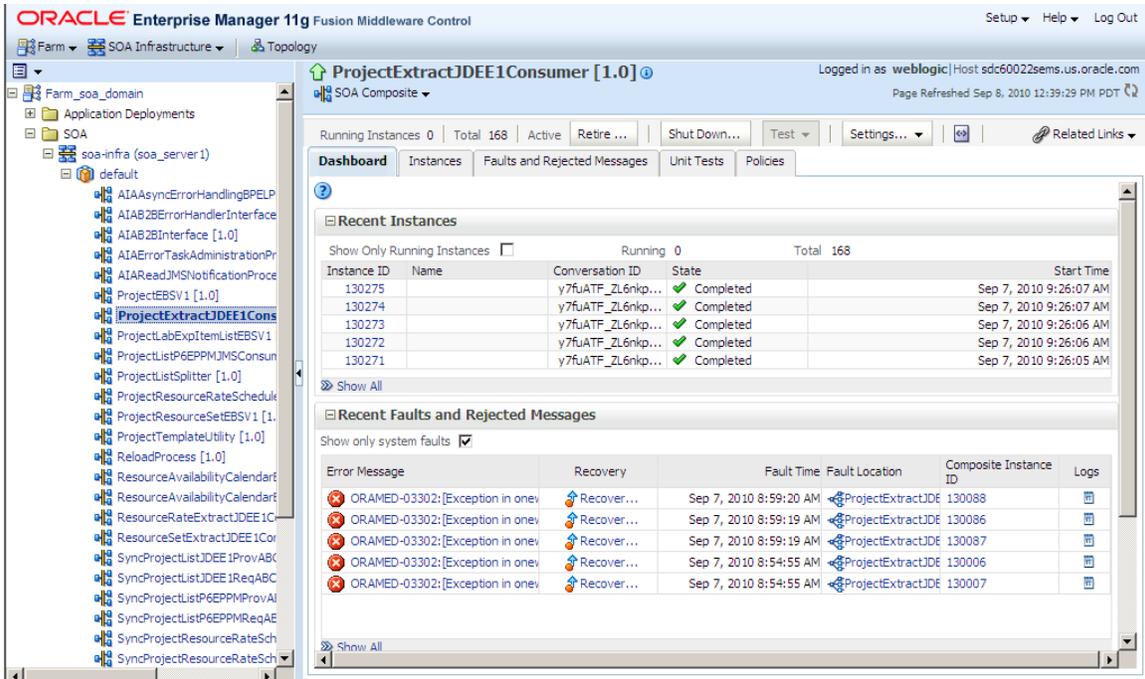
For more information about the errors caused by Primavera P6 or JD Edwards EnterpriseOne, review the product documentation for the programs or objects that you are using.

For more information, see *Oracle Fusion Middleware Infrastructure Components and Utilities User's Guide for Application Integration Architecture Foundation Pack 11G Release (11.1.1.4.0): Infrastructure Components and Utilities Guide*, "Setting Up and Using Error Handling and Logging."

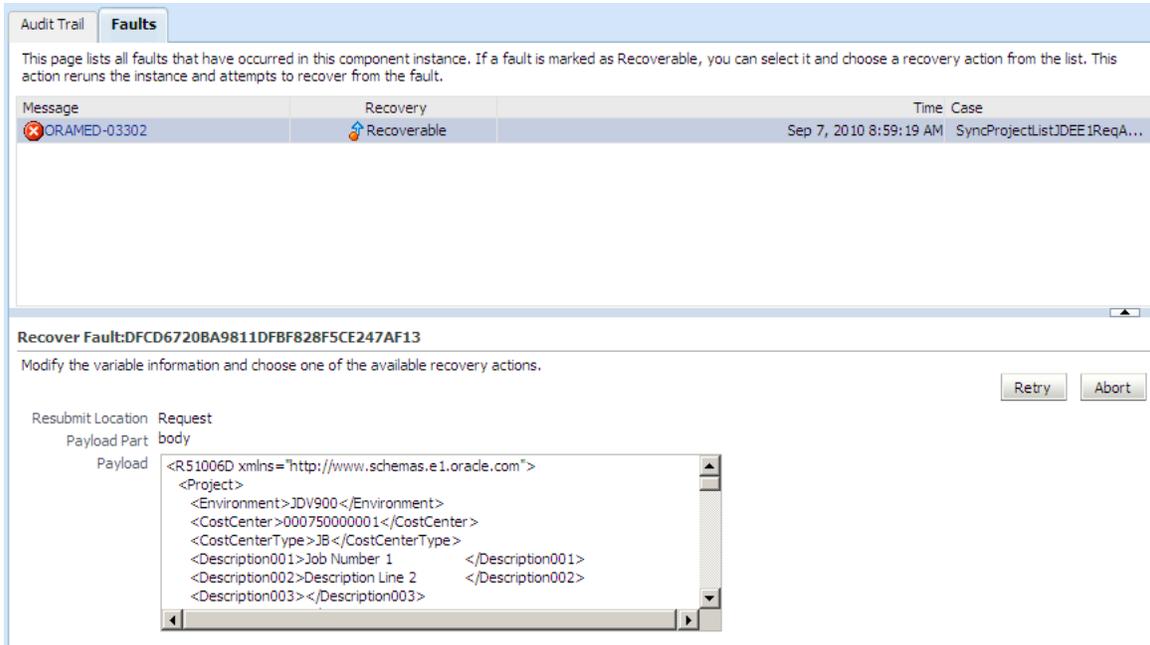
Reviewing Errors and Retrying Message Processing

To review errors and attempt to retry message processing:

1. Log into Enterprise Manager 11g and expand the SOA folder.
2. Select the appropriate SOA server, and then select the appropriate consumer service under the **default** option.



3. In the Recent Faults and Rejected Messages section, click on the link under the **Recovery** column for the rejected message that you want to review.
4. On the Instance Details of <service name> form, click on the error message link.
5. If necessary, update the information in the Payload section, and then click **Retry**.



Describing the Domain Value Maps

Domain value maps (DVMs) are a standard feature of the Oracle SOA Suite and enable you to equate lookup codes and other static values across applications. For example, FOOT and FT or US and USA.

DVMs are static in nature, though administrators can add additional maps as needed. Transactional business processes never update DVMs; they only read from them. They are stored in XML files and cached in memory at runtime. DVMs are stored in MDS.

DVM types are seeded for the Project Management: Primavera - JDE E1 PIP flows, and administrators can extend the list of mapped values by adding more maps. The DVM data should be in sync with what the participating applications use. This sync-up should be done prior to running any initial loads, or initiating any incremental transactional flows.

Note: DVMs are not automatically synchronized. Therefore, if new UDC values are added in JD Edwards EnterpriseOne, or new values are added in Primavera P6, those values must be manually added to the appropriate DVM, if applicable.

This section contains the DVMs for the Project Management: Primavera - JDE E1 PIP.

For more information, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11G Release 1 (11.1.1.4.0)*, "Developing Custom XPath Functions."

| DVM | DVM Column Name | Comments |
|--|-----------------------------|--|
| RESOURCE_AVAIL_EXCEPTION_TYPE_CODE | JDEE1_01, COMMON, P6EPPM_01 | Resource availability exception type code. |
| RESOURCE_AVAIL_EXCEPTION_WHOLE_DAY_INDICATOR | JDEE1_01, COMMON, P6EPPM_01 | Resource availability exception whole day indicator. |
| DAYS_OF_WEEK | JDEE1_01, COMMON, P6EPPM_01 | Days of the week. |
| RESOURCE_AVAIL_CALENDAR_SCOPE_CODE | JDEE1_01, COMMON, P6EPPM_01 | Resource availability calendar scope code. |
| PROJECTRESOURCE_RATESCHEDULE_TYPE_CODE | JDEE1_01, COMMON, P6EPPM_01 | Project resource rate schedule type code. |
| PROJECTRESOURCE_CLASSIFICATION_CODE | JDEE1_01, COMMON, P6EPPM_01 | Project resource classification code. |
| PHONENUMBER_TYPE | JDEE1_01, COMMON, P6EPPM_01 | Phone number type. |

| DVM | DVM Column Name | Comments |
|---|-----------------------------|--|
| PROJECTRESOURCESET_ENABLED_INDICATOR | JDEE1_01, COMMON, P6EPPM_01 | Project resource set enabled indicator. |
| JDEE1_ENABLED_INDICATOR | JDEE1_01, COMMON | JDEE1 specific resource set enabled indicator. |
| CURRENCY_CODE | JDEE1_01, COMMON, P6EPPM_01 | Currency code. |
| PROJECT_TYPECODE | JDEE1_01, COMMON, P6EPPM_01 | Project type code. |
| PROJECT_STATUSCODE | JDEE1_01, COMMON, P6EPPM_01 | Project status code. |
| UNIT_OF_MEASURE | JDEE1_01, COMMON, P6EPPM_01 | Unit of measure. |
| PROJECTEXPENDITUREITEM_ID | JDEE1_01, COMMON, P6EPPM_01 | Unique identifier for timesheet records. |
| PROJECT_EXPENDITURE_SRCDOCUMENT_ENTITY_TYPECODE | JDEE1_01, COMMON, P6EPPM_01 | Pay code. |
| PROJECTEXPENDITURE_TYPECODE | JDEE1_01, COMMON, P6EPPM_01 | Overhead pay codes. |
| RESOURCE_AVAIL_WORKDAYDEFAULT | JDEE1_01, COMMON, P6EPPM_01 | Default values for calendar work week start day and work week end day. |

Viewing EBO Implementation Maps (EIMs)

For more information about how services are mapped, see the Oracle support document: EBO Implementation Maps (EIMs) 1095494.1.

Setting Configuration Properties

Before you can use the Project Management: Primavera - JDE E1 PIP services, you must set up configuration properties in the AIAConfigurationProperties.xml file. The file is located in <AIA_HOME>/aia_instances/\$INSTANCE_NAME/AIAMetaData/config.

For more information about requirements for working with AIAConfigurationProperties.xml, see *Oracle Fusion Middleware Developer's Guide for Oracle Application Integration Architecture Foundation Pack 11G Release 1 (11.1.1.4.0)*, "Building AIA Integration Flows," How to Set Up AIA Workstation.

For more information, see *Oracle Fusion Middleware Infrastructure Components and Utilities User's Guide for Oracle Application Integration Architecture 11g Release (11.1.1.4.0)*, "Working with the OER," Loading Oracle AIA Configuration Properties File Updates.

SyncProjectListJDEE1ProvABCSImpl

This table lists the properties for the SyncProjectListJDEE1ProvABCSImpl service:

| Property Name | Values/Default Value | Description and Values |
|---|--|---|
| Default.SystemID | JDEE1_01 | System code defined in OER from which requests originate for this process. |
| ABCSExtension.PreXformEBMtoABM | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |
| Routing.ProjectManager.RouteToCAVS | True/false Default value = false | Property to govern whether the service should route the message to the CAVS endpoint. Default value is false, which does not route to CAVS. If set to true, it routes to CAVS using the endpoint specified in the CAVS. Endpoint URI property. Values are true and false. |
| Routing.ProjectManager.CAVS.Endpoint URI | http://<SOA_HOST>:<SOA_PORT>/AIA ValidationSystemServlet/asyncrequestrecipient | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.ProjectManager.JDEE1_01.EndpointURI | http://<ENTERPRISE_HOST>:<ENTERPRISE_PORT>/DV900/ProjectManager | Endpoint URI of JD Edwards EnterpriseOne service. |

| Property Name | Values/Default Value | Description and Values |
|---|-------------------------------------|---|
| Routing.ProjectManager.MessageProcessingInstruction.EnvironmentCode | PRODUCTION | Property that governs whether the ABM is a production system level message where it should go through its standard path, or whether it is a testing level message where it should go through the testing/simulation path. Values include CAVS or PRODUCTION. |
| ABCSExtension.PreInvokeABS | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |

SyncProjLabExpendItemListJDEE1ProvABCSExtImpl

This table lists the properties for the SyncProjLabExpendItemListJDEE1ProvABCSExtImpl service:

| Property Name | Values/Default Value | Description and Values |
|---|-------------------------------------|---|
| Default.SystemID | JDEE1_01 | System code defined in OER from which requests originate for this process. |
| ABCSExtension.PreXformEBMtoABM | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |
| Routing.BatchTimeSheetManager.RouteToCAVS | True/false Default value = false | Property to govern whether the service should route the message to the CAVS endpoint. Default value is false, which does not route to CAVS. If set to true, it routes to CAVS using the endpoint specified in the CAVS.EndpointURI property. Values are true and false. |

| Property Name | Values/Default Value | Description and Values |
|--|--|---|
| Routing.BatchTimeSheetManager.CAVS.EndpointURI | http://<SOA_HOST>:<SOA_PORT>/AIAValidationSystemServlet/syncrequestrecipient | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.BatchTimeSheetManager.JDEE1_01.EndpointURI | http://<ENTERPRISE_HOST>:<ENTERPRISE_PORT>/DV900/BatchTimeSheetManager | Endpoint URI of JD Edwards EnterpriseOne service. |
| Routing.BatchTimeSheetManager.MessageProcessingInstruction.EnvironmentCode | PRODUCTION | Property that governs whether the EBM is a production system level message where it should go through its standard path, or whether it is a testing level message where it should go through the testing/simulation path. Values include CAVS or PRODUCTION. |
| ABCSExtension.PreInvokeABS | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |

SyncProjectResourceRateScheduleListJDEE1ReqABCSExtension

This table lists the properties for the SyncProjectResourceRateScheduleListJDEE1ReqABCSExtension service:

| Property Name | Values/Default Value | Description |
|--------------------------------|-------------------------------------|---|
| Default.SystemID | JDEE1_01 | System code defined in OER from which requests originate for this process. |
| ABCSExtension.PreXformABMtoEBM | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |

| Property Name | Values/Default Value | Description |
|---|---|---|
| ABCSExtension.PostInvokeEBS | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |
| Routing.ProjectResourceRateScheduleEBSV1.SyncProjectResourceRateScheduleList.RouteToCAVS | True/false Default value = false | Property to govern whether the service should route the message to the CAVS endpoint. Default value is false, which does not route to CAVS. If set to true, it routes to CAVS using the endpoint specified in the CAVS.EndpointURI property. Values are true and false. |
| Routing.ProjectResourceRateScheduleEBSV1.SyncProjectResourceRateScheduleList.CAVS.EndpointURI | http://<SOA_HOST>:<SOA_PORT>/AIAValidationSystemServlet/asyncrequestrecipient | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.ProjectResourceSetEBSV1.SyncProjectResourceSetList.MessageProcessingInstruction.EnvironmentCode | PRODUCTION | Property that governs whether the EBM is a production system level message where it should go through its standard path, or whether it is a testing level message where it should go through the testing/simulation path. Values include CAVS or PRODUCTION. |

SyncProjectResourceSetListJDEE1ReqABCSEImpl

This table lists the properties for the SyncProjectResourceSetListJDEE1ReqABCSEImpl service:

| Property Name | Values/Default Value | Description and Values |
|--------------------------------|-------------------------------------|---|
| Default.SystemID | JDEE1_01 | System code defined in OER from which requests originate for this process. |
| ABCSExtension.PreXformABMtoEBM | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |

| Property Name | Values/Default Value | Description and Values |
|---|---|---|
| ABCSExtension.PreInvokeEBS | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |
| Routing.ProjectResourceSetEBSV1.SyncProjectResourceSetList.RouteToCAVS | True/false Default value = false | Property to govern whether the service should route the message to the CAVS endpoint. If set to true, it routes to CAVS using the endpoint specified in the CAVS.Endpoint URI property. Values are true and false. |
| Routing.ProjectResourceSetEBSV1.SyncProjectResourceSetList.CAVS.Endpoint URI | http://< SOA_HOST>:<SOA_PORT >/AIAValidationSystemServlet/asyncrequestrecipient | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.ProjectResourceSetEBSV1.SyncProjectResourceSetList.MessageProcessingInstruction.EnvironmentCode | PRODUCTION | Property that governs whether the EBM is a production system level message where it should go through its standard path, or whether it is a testing level message where it should go through the testing/simulation path. Values include CAVS or PRODUCTION. |

SyncProjectListJDEE1ReqABCSEImpl

This table lists the properties for the SyncProjectListJDEE1ReqABCSEImpl service:

| Property Name | Values/Default Value | Description and Values |
|--------------------------------|-------------------------------------|---|
| Default.SystemID | JDEE1_01 | System code defined in OER from which requests originate for this process. |
| ABCSExtension.PreXformABMtoEBM | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |
| ABCSExtension.PreInvokeEBS | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |

| Property Name | Values/Default Value | Description and Values |
|---|---|---|
| Routing.ProjectEBSV1.SyncProjectList.RouteToCAVS | True/false Default value = false | Property to govern whether the service should route the message to the CAVS endpoint. Default value is false, which does not route to CAVS. If set to true, it routes to CAVS using the endpoint specified in the CAVS.EndpointURI property. Values are true and false. |
| Routing.ProjectEBSV1.SyncProjectList.CAVS.EndpointURI | http://< SOA_HOST>:<SOA_PORT >/AIAValidationSystemServlet/asyncrequestrecipient | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.ProjectEBSV1.SyncProjectList.MessageProcessingInstruction.EnvironmentCode | PRODUCTION | Property that governs whether the EBM is a production system level message where it should go through its standard path, or whether it is a testing level message where it should go through the testing/simulation path. Values include CAVS or PRODUCTION. |

SyncProjectListP6EPPMReqABCImpl

This table lists the properties for the SyncProjectListP6EPPMReqABCImpl service:

| Property Name | Values/Default Value | Description and Values |
|---------------------------------|-------------------------------------|---|
| ABCSExtension.PreXformABMtoEBM | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |
| ABCSExtension.PreInvokeEBS | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |
| Default.SystemID | P6EPPM_01 | System code defined in OER from which requests originate for this process. |
| System.P6EPPM_01.TimezoneOffset | No default value. | Use this property to specify the time zone that the service uses. |

| Property Name | Values/Default Value | Description and Values |
|---|-------------------------------------|---|
| System.P6EPPM_01.CurrencyCode | Entered through installation UI | Use this property to specify the default system currency of Primavera P6. |
| Description.Field.Name | ERP Description | Use this property to specify the name of the field that contains the EBO description. |
| Routing.ProjectEBSV1.CAVS.EndpointURI | No default value. | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.ProjectEBSV1.RouteToCAVS | True/false Default value = false | Property to govern whether the service should route the message to the CAVS endpoint. Default value is false, which does not route to CAVS. If set to true, it routes to CAVS using the endpoint specified in the CAVS. Endpoint URI property. Values are true and false. |
| Routing.ProjectEBSV1.SyncProject.RouteToDSL | True/false Default value = false | Use this property to specify whether to route the EBM to internal DSL testing tool. |
| Routing.ProjectEBSV1.SyncProject.DSL.Endpoint | No default value | DSL Endpoint URL, when DSL testing tool routing is enabled. |
| Routing.SyncPortType.CAVS.EndpointURI | No default value | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.SyncPortType.P6EPPM_01.EndpointURI | Entered through installation UI | Endpoint URL of Primavera P6 service. |

| Property Name | Values/Default Value | Description and Values |
|---|-------------------------------------|---|
| Routing.SyncPortType.RouteToCAVS | True/false Default value = false | Property to govern whether the service should route the message to the CAVS endpoint. Default value is false, which does not route to CAVS. If set to true, it routes to CAVS using the endpoint specified in the CAVS. Endpoint URI property. Values are true and false. |
| Routing.UDFTypePortType.CAVS.EndpointURI | No default value | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.UDFTypePortType.RouteToCAVS | True/false Default value = false | Property to govern whether the service should route the message to the CAVS endpoint. Default value is false, which does not route to CAVS. If set to true, it routes to CAVS using the endpoint specified in the CAVS. Endpoint URI property. Values are true and false. |
| Routing.UDFTypePortType.P6EPPM_01.EndpointURI | Entered through installation UI | Endpoint URL of Primavera P6 service. |
| User.P6EPPM_01.Name | Entered through installation UI | The username to login to P6 web application. |
| User.P6EPPM_01.password | Entered through installation UI | The password to login to P6 web application. |

SyncProjectFinancialPlanListP6EPPMReqABCSEImpl

This table lists the properties for the SyncProjectFinancialPlanListP6EPPMReqABCSEImpl service:

| Property Name | Values/Default Value | Description and Values |
|--|-------------------------------------|--|
| ABCSExtension.PreXformABMtoEBM | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |
| ABCSExtension.PreInvokeEBS | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |
| Default.SystemID | P6EPPM_01 | System code defined in OER from which requests originate for this process. |
| System.P6EPPM_01.TimezoneOffset | No default value. | Use this property to specify the time zone that the service uses. |
| System.P6EPPM_01.CurrencyCode | Entered through installation UI | Use this property to specify the default system currency of P6 installation. |
| Routing.ProjectFinancialPlanEBSV1.CAVS.EndpointURI | No default value. | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.ProjectFinancialPlanEBSV1.RouteToCAVS | True/false Default value = false | Property to govern whether the service should route the message to the CAVS endpoint. Default value is false, which does not route to CAVS. If set to true, it routes to CAVS using the endpoint specified in the CAVS.Endpoint URI property. Values are true and false. |

| Property Name | Values/Default Value | Description and Values |
|--|-------------------------------------|---|
| Routing.ProjectFinancialPlanEBSV1.SyncProject.RouteToDSL | True/false Default value = false | Use this property to specify whether to route the EBM to internal DSL testing tool. |
| Routing.ProjectFinancialPlanEBSV1.SyncProject.DSL.Endpoint | No default value | DSL Endpoint URL, when DSL testing tool routing is enabled. |
| Routing.SyncPortType.CAVS.EndpointURI | No default value | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.SyncPortType.P6EPPM_01.EndpointURI | Entered through installation UI | Endpoint URL of Primavera P6 service. |
| User.P6EPPM_01.Name | Entered through installation UI | The username to login to P6 web application. |
| User.P6EPPM_01.password | Entered through installation UI | The password to login to P6 web application. |

SyncProjLabExpendItemListP6EPPMReqABCSEImpl

This table lists the properties for the SyncProjLabExpendItemListP6EPPMReqABCSEImpl service:

| Property Name | Values/Default Value | Description and Values |
|--------------------------------|-------------------------------------|---|
| ABCSExtension.PreXformABMtoEBM | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |

| Property Name | Values/Default Value | Description and Values |
|--|-------------------------------------|---|
| ABCSExtension.PreInvokeEBS | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |
| Default.SystemID | P6EPPM_01 | System code defined in OER from which requests originate for this process. |
| Routing.ProjectExpenditureItemEBSV1.RouteToCAVS | True/false Default value = false | Use this property to specify whether to route the EBM to CAVS. |
| Routing.ProjectExpenditureItemEBSV1.CAVS.EndpointURI | No default value | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.ResourceHoursPortType.RouteToCAVS | True/false Default value = false | Use this property to specify whether to route the EBM to CAVS. |
| Routing.ResourceHoursPortType.CAVS.EndpointURI | No default value | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.ResourceHoursPortType.P6EPPM_01.EndpointURI | Entered through installation UI | Endpoint URL of Primavera P6 service. |
| System.P6EPPM_01.TimezoneOffset | No default value | Use this property to specify the time zone that the service uses. |
| Routing.ProjectResourcePortType.RouteToCAVS | True/false Default value = false | Use this property to specify whether to route the EBM to CAVS. |
| Routing.ProjectResourcePortType.CAVS.EndpointURI | No default value | CAVS Endpoint URL, when CAVS is enabled. |

| Property Name | Values/Default Value | Description and Values |
|---|-------------------------------------|---|
| Routing.ProjectResourcePortType.P6EPPM_01.EndpointURI | Entered through installation UI | Endpoint URL of Primavera P6 service. |
| Routing.ProjectExpenditureItemEBSV1.SyncProjectLaborExpenditureItemList.RouteToDSL | True/false Default value = false | Use this property to specify whether to route the EBM to internal DSL testing tool. |
| Routing.ProjectExpenditureItemEBSV1.SyncProjectLaborExpenditureItemList.SL.Endpoint | No default value | DSL Endpoint URL, when DSL testing tool routing is enabled. |
| User.P6EPPM_01.Name | Entered through installation UI | The username to login to P6 web application. |
| User.P6EPPM_01.password | Entered through installation UI | The password to login to P6 web application. |

SyncProjectListP6EPPMProvABCSEImpl

This table lists the properties for the SyncProjectListP6EPPMProvABCSEImpl service:

| Property Name | Values/Default Value | Description and Values |
|--------------------------------|-------------------------------------|---|
| Default.SystemID | P6EPPM_01 | System code defined in OER from which requests originate for this process. |
| ABCSExtension.PreXformEBMtoABM | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |

| Property Name | Values/Default Value | Description and Values |
|--|-------------------------------------|---|
| ABCSExtension.PostInvokeABS | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |
| Routing.SyncPortType.CAVS.EndpointURI | No default value | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.SyncPortType.P6EPPM_01.EndpointURI | Entered through installation UI | Endpoint URL of Primavera P6 service. |
| Routing.SyncPortType.RouteToCAVS | True/false Default value = false | Property to govern whether the service should route the message to the CAVS endpoint. Default value is false, which does not route to CAVS. If set to true, it routes to CAVS using the endpoint specified in the CAVS. Endpoint URI property. Values are true and false. |
| Routing.EPSPortType.RouteToCAVS | True/false Default value = false | Property to govern whether the service should route the message to the CAVS endpoint. Default value is false, which does not route to CAVS. If set to true, it routes to CAVS using the endpoint specified in the CAVS. Endpoint URI property. Values are true and false. |
| Routing.EPSPortType.CAVS.EndpointURI | No default value | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.EPSPortType.P6EPPM_01.EndpointURI | Entered through installation UI | Endpoint URL of Primavera P6 service. |
| EPS.Default.ID | Imported Projects | Name of the default EPS to create the projects under. |

| Property Name | Values/Default Value | Description and Values |
|--|---------------------------------------|--|
| Project.Description.Field.Name | ERP Description | Stores the description from project EBO in this UDF in Primavera P6. |
| Project.Description.Field.Type | Text | Type of the Description UDF in Primavera P6. |
| WBS.Description.Field.Name | ERP Description | Stores the description from WBS EBO in this UDF in Primavera P6. |
| WBS.Description.Field.Type | Text | Type of the WBS Description UDF in Primavera P6. |
| WBS.ChargeableIndicator.Field.Name | ERP Chargeable Indicator | Chargeable indicator in P6. |
| WBS.ChargeableIndicator.Field.Type | Text | Chargeable indicator in P6. |
| WBS.ActualRawTotalCostAmount.Field.Name | ERP Actual Raw Total Cost Amount | Actual Raw Total Cost Amount in P6. |
| WBS.ActualRawTotalCostAmount.Field.Type | Cost | Actual Raw Total Cost Amount in P6. |
| WBS.ActualBurdenedTotalCostAmount.Field.Name | ERP Actual Burdened Total Cost Amount | Actual Burdened Total Cost Amount in P6. |
| WBS.ActualBurdenedTotalCostAmount.Field.Type | Cost | Actual Burdened Total Cost Amount in P6. |
| WBS.TotalRawCostAmount.Field.Name | ERP Total Raw Cost Amount | Total Raw Cost Amount in P6. |

| Property Name | Values/Default Value | Description and Values |
|--|--------------------------------|-------------------------------------|
| WBS.TotalRawCostAmount.Field.Type | Cost | Actual Raw Total Cost Amount in P6. |
| WBS.TotalBurdenedCostAmount.Field.Name | ERP Total Burdened Cost Amount | Total Burdened Cost Amount in P6. |
| WBS.TotalBurdenedCostAmount.Field.Type | Cost | Total Burdened Cost Amount in P6. |
| WBS.PlannedLaborQuantity.Field.Name | ERP Planned Labor Quantity | Planned Labor Quantity in P6. |
| WBS.PlannedLaborQuantity.Field.Type | Double | Planned Labor Quantity in P6. |
| WBS.PlannedNonLaborQuantity.Field.Name | ERP Planned Non Labor Quantity | Planned Non Labor Quantity in P6 |
| WBS.PlannedNonLaborQuantity.Field.Type | Double | Planned Non Labor Quantity in P6. |
| WBS.ActualLaborQuantity.Field.Name | ERP Actual Labor Quantity | Actual Labor Quantity in P6. |
| WBS.ActualLaborQuantity.Field.Type | Double | Actual Labor Quantity in P6. |
| WBS.ActualNonLaborQuantity.Field.Name | ERP Actual Non Labor Quantity | Actual Non Labor Quantity in P6. |
| WBS.ActualNonLaborQuantity.Field.Type | Double | Actual Non Labor Quantity in P6. |
| WBS.EstimateAtCompletionLaborQuantity.Field.Name | ERP EAC Labor Quantity | EAC Labor Quantity in P6. |

| Property Name | Values/Default Value | Description and Values |
|---|---------------------------------------|---|
| WBS.EstimateAtCompletionLaborQuantity.Field.Type | Double | EAC Labor Quantity in P6. |
| WBS.EstimateAtCompletionCostAmount.Field.Name | ERP EAC Cost Amount | EAC Cost Amount in P6. |
| WBS.EstimateAtCompletionCostAmount.Field.Type | Double | EAC Cost Amount in P6. |
| WBS.PhysicalPercentComplete.Field.Name | ERP Physical Percent Complete | Physical Percent Complete in P6. |
| WBS.PhysicalPercentComplete.Field.Type | Double | Physical Percent Complete in P6. |
| Activity.Description.Field.Name | ERP Description | Stores the description from Activity EBO in this UDF in Primavera P6. |
| Activity.Description.Field.Type | Text | Type of the Activity Description UDF in Primavera P6. |
| Activity.ActualRawTotalCostAmount.Field.Name | ERP Actual Raw Total Cost Amount | Actual Raw Total Cost Amount in P6. |
| Activity.ActualRawTotalCostAmount.Field.Type | Cost | Actual Raw Total Cost Amount in P6. |
| Activity.ActualBurdenedTotalCostAmount.Field.Name | ERP Actual Burdened Total Cost Amount | Actual Burdened Total Cost Amount in P6. |
| Activity.ActualBurdenedTotalCostAmount.Field.Type | Cost | Actual Burdened Total Cost Amount in P6. |

| Property Name | Values/Default Value | Description and Values |
|---|------------------------------------|--|
| ResAssignment.ActualBurdenedCostAmount.Field.Name | ERP Actual Burdened Cost Amount | Actual Burdened Cost Amount in P6. |
| ResAssignment.ActualBurdenedCostAmount.Field.Type | Cost | Actual Burdened Cost Amount in P6. |
| ResAssignment.TotalBurdenedCostAmount.Field.Name | ERP Total Burdened Cost Amount | Total Burdened Cost Amount in P6. |
| ResAssignment.TotalBurdenedCostAmount.Field.Type | Cost | Total Burdened Cost Amount in P6. |
| Delete.WBS.Activity.Support | True/false Default value = true | Property that determines whether the ABCS deletes the WBSs/activities if they are present in Primavera P6 but not in incoming project structure through EBM. |
| TimezoneOffset | -08:00 | Use this property to specify the time zone that the service uses. |
| Calendar.StartTime | 08:00:00 | Calendar start time when the date doesn't contain time in incoming start date. |
| Calendar.EndTime | 16:00:00 | Calendar end time when the date doesn't contain time in incoming end date. |
| User.P6EPPM_01.Name | Entered through installation UI | The username to login to P6 web application. |
| User.P6EPPM_01.password | Entered through installation UI | The password to login to P6 web application. |

SyncProjectResourceSetListP6EPPMProvABCSEImpl

This table lists the properties for the SyncProjectResourceSetListP6EPPMProvABCSEImpl service:

| Property Name | Values/Default Value | Description and Values |
|--|-------------------------------------|---|
| Default.SystemID | P6EPPM_01 | System code defined in OER from which requests originate for this process. |
| ABCSExtension.PreXformEBMtoABM | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |
| ABCSExtension.PostInvokeABS | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |
| Routing.ResourcePortType.RouteToCAVS | True/false Default value = false | Use this property to specify whether to route the EBM to CAVS. |
| Routing.ResourcePortType.CAVS.EndpointURI | No default value | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.ResourcePortType.P6EPPM_01.EndpointURI | Entered through installation UI | Endpoint URL of Primavera P6 service. |
| Routing.RolePortType.RouteToCAVS | True/false Default value = false | Use this property to specify whether to route the EBM to CAVS. |
| Routing.RolePortType.CAVS.EndpointURI | No default value | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.RolePortType.P6EPPM_01.EndpointURI | Entered through installation UI | Endpoint URL of Primavera P6 service. |

| Property Name | Values/Default Value | Description and Values |
|---|-------------------------------------|--|
| Routing.ExpenseCategoryPortType.RouteToCAVS | True/false Default value = false | Use this property to specify whether to route the EBM to CAVS. |
| Routing.ExpenseCategoryPortType.CAVS.EndpointURI | No default value | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.ExpenseCategoryPortType.P6EPPM_01.EndpointURI | Entered through installation UI | Endpoint URL of Primavera P6 service. |
| Routing.WBSCategoryPortType.RouteToCAVS | True/false Default value = false | Use this property to specify whether to route the EBM to CAVS. |
| Routing.WBSCategoryPortType.CAVS.EndpointURI | No default value | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.WBSCategoryPortType.P6EPPM_01.EndpointURI | Entered through installation UI | Endpoint URL of Primavera P6 service. |
| Routing.UnitOfMeasurePortType.RouteToCAVS | True/false Default value = false | Use this property to specify whether to route the EBM to CAVS. |
| Routing.UnitOfMeasurePortType.CAVS.EndpointURI | No default value | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.UnitOfMeasurePortType.P6EPPM_01.EndpointURI | Entered through installation UI | Endpoint URL of Primavera P6 service. |
| Routing.ResourceRatePortType.RouteToCAVS | True/false Default value = false | Use this property to specify whether to route the EBM to CAVS. |

| Property Name | Values/Default Value | Description and Values |
|--|---------------------------------|---|
| Routing.ResourceRatePortType.CAVS.EndpointURI | No default value | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.ResourceRatePortType.P6EPPM_01.EndpointURI | Entered through installation UI | Endpoint URL of Primavera P6 service. |
| WBSCategoryPrefix | GL- | Prefix used by chart type being synced as WBS category. |
| User.P6EPPM_01.Name | Entered through installation UI | The username to login to P6 web application. |
| User.P6EPPM_01.password | Entered through installation UI | The password to login to P6 web application. |

SyncProjectResourceRateScheduleListP6EPPMProvABCSEImpl

This table lists the properties for the SyncProjectResourceRateScheduleListP6EPPMProvABCSEImpl service:

| Property Name | Values/Default Value | Description and Values |
|--------------------------------|-------------------------------------|---|
| Default.SystemID | P6EPPM_01 | System code defined in OER from which requests originate for this process. |
| ABCSExtension.PreXformEBMtoABM | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |
| ABCSExtension.PostInvokeABS | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |

| Property Name | Values/Default Value | Description and Values |
|--|-------------------------------------|---|
| Routing.ResourceRatePortType.RouteToCAVS | True/false Default value = false | Property to govern whether the service should route the message to the CAVS endpoint. Default value is false, which does not route to CAVS. If set to true, it routes to CAVS using the endpoint specified in the CAVS. Endpoint URI property. Values are true and false. |
| Routing.ResourceRatePortType.CAVS.EndpointURI | | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.ResourceRatePortType.P6EPPM_01.EndpointURI | Entered through installation UI | Endpoint URL of Primavera P6 service. |
| Routing.RoleRatePortType.RouteToCAVS | True/false Default value = false | Property to govern whether the service should route the message to the CAVS endpoint. Default value is false, which does not route to CAVS. If set to true, it routes to CAVS using the endpoint specified in the CAVS. Endpoint URI property. Values are true and false. |
| Routing.RoleRatePortType.CAVS.EndpointURI | | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.RoleRatePortType.P6EPPM_01.EndpointURI | Entered through installation UI | Endpoint URL of Primavera P6 service. |
| System.P6EPPM_01.CurrencyCode | Entered through installation UI | Use this property to specify the default system currency of P6 installation. |
| P6.MULTIRATE.EFFECTIVEDATE.FILTER1 | No default value | This is used to filter the rates if there is more than one rate for a given effective date. |

| Property Name | Values/Default Value | Description and Values |
|------------------------------------|---------------------------------|---|
| P6.MULTIRATE.EFFECTIVEDATE.FILTER2 | No default value | This is used to filter the rates if there is more than one rate for a given effective date. |
| User.P6EPPM_01.Name | Entered through installation UI | The username to login to P6 web application. |
| User.P6EPPM_01.password | Entered through installation UI | The password to login to P6 web application. |

SyncResourceAvailabilityCalendarListP6EPPMProvABCSEImpl

This table lists the properties for the SyncResourceAvailabilityCalendarListP6EPPMProvABCSEImpl service:

| Property Name | Values/Default Value | Description and Values |
|--------------------------------|-------------------------------------|---|
| Default.SystemID | P6EPPM_01 | System code defined in OER from which requests originate for this process. |
| ABCSExtension.PreXformEBMtoABM | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |
| ABCSExtension.PostInvokeABS | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |

| Property Name | Values/Default Value | Description and Values |
|--|-------------------------------------|---|
| Routing.CalendarPortType.RouteToCAVS | True/false Default value = false | Property to govern whether the service should route the message to the CAVS endpoint. Default value is false, which does not route to CAVS. If set to true, it routes to CAVS using the endpoint specified in the CAVS.EndpointURI property. Values are true and false. |
| Routing.CalendarPortType.CAVS.EndpointURI | True/false Default value = false | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.CalendarPortType.P6EPPM_01.EndpointURI | Entered through installation UI | Endpoint URL of Primavera P6 service. |
| P6CalendarDefaultPrefix | ERP | Default prefix for calendar name. |
| User.P6EPPM_01.Name | Entered through installation UI | The username to login to P6 web application. |
| User.P6EPPM_01.password | Entered through installation UI | The password to login to P6 web application. |

SyncResourceAvailabilityCalendarListP6EPPMProvABCServiceImpl

This table lists the properties for the SyncResourceAvailabilityCalendarListP6EPPMProvABCServiceImpl service:

| Property Name | Values/Default Value | Description and Values |
|------------------|----------------------|--|
| Default.SystemID | P6EPPM_01 | System code defined in OER from which requests originate for this process. |

| Property Name | Values/Default Value | Description and Values |
|--|-------------------------------------|---|
| ABCSExtension.PreXformEBMtoABM | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |
| ABCSExtension.PreInvokeABS | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |
| ABCSExtension.PostInvokeABS | True/false Default value = false | Property that governs whether ABCS extension is enabled at the pre-defined plug-in point. If set to true, the extension process (defined along AIA ABCS extension guidelines) is invoked. |
| Routing.SyncPortType.RouteToCAVS | True/false Default value = false | Property to govern whether the service should route the message to the CAVS endpoint. Default value is false, which does not route to CAVS. If set to true, it routes to CAVS using the endpoint specified in the CAVS. Endpoint URI property. Values are true and false. |
| Routing.SyncPortType.CAVS.EndpointURI | True/false Default value = false | CAVS Endpoint URL, when CAVS is enabled. |
| Routing.SyncPortType.P6EPPM_01.EndpointURI | Entered through installation UI | Endpoint URL of Primavera P6 service. |
| System.P6EPPM_01.CurrencyCode | Entered through installation UI | Use this property to specify the default system currency of Primavera P6. |

| Property Name | Values/Default Value | Description and Values |
|-------------------------|---------------------------------|--|
| User.P6EPPM_01.Name | Entered through installation UI | The username to login to P6 web application. |
| User.P6EPPM_01.password | Entered through installation UI | The password to login to P6 web application. |

ProjectTemplateUtility

This table lists the properties for the ProjectTemplateUtility service:

| Property Name | Values/Default Value | Description and Values |
|--|---------------------------------|--|
| TemplateNameProjectCode | ERP Project Template | The project code used to store the names of templates/model jobs coming from ERP system. |
| TemplateOptionsUDF | ERP Project Template Parameters | The UDF is set on the project to store the default integration options attached to a template. |
| DefaultMaximumWBSLevel | 0 | Default maximum WBS level up to which the integration happens between two systems. |
| DefaultActivityTrackingIndicator | True | Does the integration include Activities in P6 system or not. |
| DefaultResourceAssignmentTrackingLevel | All | Does the integration include resource assignments in P6 system or not. |

| Property Name | Values/Default Value | Description and Values |
|-------------------------|--|---|
| DefaultBudgetSyncLevel | Lowest | When the budget/financial plan sync happens, this property defines the WBS level up to which the budget data is summarized. |
| TemplateFileLocation | <AIAInstallHome>/config/ProjectTemplates.xml | The template parameters are stored in a file under same location as AIAConfigurationProperties.xml file. |
| User.P6EPPM_01.Name | Entered through installation UI | The username to login to P6 web application. |
| User.P6EPPM_01.password | Entered through installation UI | The password to login to P6 web application. |

Modifying Default Routing Rules

Each PIP is delivered with a default set of routing rules. Routing rules are used to control where messages are sent in the system. In some instances, users might choose to update the default routing rules to better suit their business needs.

To modify routing rules users need to copy the EBS project to their local machine where JDeveloper is installed. The EBS projects are located in this directory on the SOA server:

```
\Setup\JDEE1toE6EPPM\EBS\Project\ProjectEBSV1\ProjectEBSV1.mplan
```

After you have copied the EBS project, complete these steps to modify the default routing rules.

1. Open .jpr file in JDeveloper. For example, open ProjectEBSV1.jpr.
2. In JDeveloper, open .mplan file within that project directory. For example, ProjectEBSV1.mplan.
3. Modify the routing rules in via design mode or source mode.
4. Save your changes.
5. Deploy the EBS projects to the target server.

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