Oracle
Primavera
Gateway Instantis EnterpriseTrack Setup Guide

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Contents

Overview

Primavera Gateway is an application that facilitates sharing and synchronizing project, resource, and other data between Primavera applications and enterprise applications. By using providers, which are used as a channel to connect with the corresponding software application, Primavera Gateway enables you to combine management and scheduling functionality of Primavera applications with other enterprise software. Providers can reside on either side of a data flow connecting a source application with a destination application. For a quick synopsis, watch the ***Overview of Primavera Gateway*** (***https://players.brightcove.net/2985902027001/SyXjZnYeeb_default/index.html?videoId=6174404031001***) video.

Data can be exchanged between EnterpriseTrack and Sample and File providers in Primavera Gateway

To enable integration with the applications listed above, the following providers are delivered with Primavera Gateway:

- EnterpriseTrack provider

  The EnterpriseTrack provider enables you to share data with Oracle Instantis EnterpriseTrack application. Primavera Gateway supports Oracle Instantis EnterpriseTrack integration with a Sample provider and E-Business Suite. For more details, see the *Primavera Gateway E-Business Suite Setup Guide*.
- Sample provider

  The Sample provider is a provider for demonstration purposes only. The purpose of the Sample provider is to illustrate how to use Primavera Gateway to synchronize data between a Primavera application and the Sample provider.

  Integrating Oracle Instantis EnterpriseTrack with the Sample provider enables sharing of project details related to budget and costs. The Gateway integration tool facilitates the integration process. You can initiate projects in either Oracle Instantis EnterpriseTrack or the Sample provider and send them to the other application.
- File Provider

  The File provider enables you to send and receive data to and from a file in either XML or CSV file formats. For more details on setting up an integration with the File provider, refer to the *Primavera Gateway File Provider Setup Guide.*

This guide describes how to setup the environment to enable data exchange between Oracle Instantis EnterpriseTrack and the Sample provider.

IT professionals or administration personnel who are responsible for setting up the integration environment, and Gateway developers responsible for creating field-mapping templates, and business flows in the Gateway user interface for your organization should use this guide.

Setting Up the Integration Environment

This chapter describes how to setup the environment to exchange data between Oracle Instantis EnterpriseTrack and the Sample provider in Primavera Gateway.

In This Section

Integration Prerequisites

To set up an environment for data exchange through Primavera Gateway, with E-Business Suite, install and configure the following applications:

- Oracle Instantis EnterpriseTrack
- Oracle E-Business Suite

  For more details on setting up an EBS - EnterpriseTrack integration, see the *Primavera Gateway E-Business Suite Setup Guide*.
- Primavera Gateway selecting the Oracle Instantis EnterpriseTrack provider and the Sample provider and EBS provider

For detailed installation instructions, see the Installation and Configuration guide for each product. For specific supported software versions, see the *Tested Configurations* document for each application.

Managing Personal Information

Consent notices enable you to convey to your users how personal information (PI) is collected, processed, stored, and transmitted, along with details related to applicable regulations and policies. Consent notices also alert users that the action they are taking may risk exposing PI. Primavera Gateway helps you to ensure that you have requested the appropriate consent to collect, process, store, and transmit the PI your organization holds as part of Primavera Gateway data.

For more details on how to configure consent forms and manage PI data in Gateway, see *Primavera Gateway Administration Guide*.

Configuring Primavera Gateway

This section describes how to configure Primavera Gateway application for integration with EnterpriseTrack.

Configuring Gateway Settings

Use the **Settings** page to specify settings for the installed Gateway application. For example, specify the Help location, or the job timeout value in minutes.

> **Note**: The settings available in this dialog box may vary depending on the application connections that have been set up in Gateway.

To configure Gateway application settings:

1) Select ✂ and then select **Settings**.
2) Update the settings as necessary and select **Save** when finished.

   On the **General** tab:

   - **Help URL**: Enter the help system hosted by Oracle as *http://docs.oracle.com/cd/F51420_01/help/en/index.htm.* By default the Help URL displays the most recently delivered version.
   - **Maximum number of job logs to display per page**: Enter a value to control the number of logs displayed on the Monitoring page. By default displays 25 job logs.
   - **Auto delete jobs after XX days (0 turns off auto delete)**: Enter the number of days that a job log can be retained before it is auto deleted. Enter 0 to turn off auto delete. By default, displays 30 for new customers.
   - **Maximum wait time for the parallel load/convert steps to complete (in minutes):** Enter the number of minutes after which a synchronization job process is to be timed out. The job status of a timed-out synchronization is set to **Failed.** By default, the timeout is set to **30** minutes.
   - **Maximum concurrent jobs in a node:** Enter the maximum number of jobs that can be executed concurrently at a node. By default 4 jobs can be executed concurrently.
   - **Job polling Interval (in seconds):** Enter the wait time interval in seconds to check the database if there are new jobs to run. By default, the wait interval is set to 2 seconds.
   - **Job timeout value (in minutes)**: Enter the wait time interval in minutes to timeout a synchronization job. By default, the timeout is set to **300** minutes.
   - **Maximum File Size Limit (in MB)**: Enter the maximum file size limit for uploading files from Gateway user interface or from external applications. The file size limit applies to all providers and all supported file formats: CSV, XML, XLS, and XLSX. By default, the maximum file size limit is set to 1024 MB. Oracle Primavera Cloud
   - **Maximum job log size for XML format (in MB)**: Enter the maximum file size limit for job log size. Job log files over 10 MB (default) are saved in JSON format by default.
   - **Enable Configurable Consent Forms**: Select this check box to display the **Consent Forms** tab on the Configuration page in Gateway. If you enable this option and then proceed to configure and enable specific consent forms, your users will need to give their consent to gain full access to specific features and functions of Gateway. By default, the check box is deselected.
   - **Disable Logging For Jobs**: For integrations with Unifier, select this check box to improve performance with large sets of earned value management data. By default, the check box is deselected.

- **Enable Object Logging for Jobs**: Select this check box to disable the display of data at the object level in the **Data Details** tab of the **Monitoring** page, and improve performance.
- **Maximum wait time for GSL Custom Steps to Complete (in seconds)**: Enter the maximum wait time in seconds when processing a GSL custom step. By default, the wait time is set to *5* seconds.
- **Maximum wait time for HTTP request to timeout (in minutes)**: Select the maximum wait time for HTTP request timeouts. This timeout is applicable to Oracle Primavera Cloud, P6 EPPM, and Unifier providers only. By default, the maximum wait time is set to 15 minutes.

If you choose to integrate with P6, enter the following information on the **P6** tab:

- **Create new resource code values during synchronization to P6**: Select this check box to enable the creation of new resource code values in the P6 EPPM resource code dictionary if these values do not already exist. By default, the check box is selected.
- **Create new project code values during synchronization to P6**: Select this check box to enable the creation of new project code values in the P6 EPPM project code dictionary if these values do not already exist. By default, the check box is selected.
- **Create new activity code values during synchronization to P6**: Select this check box to enable the creation of new global activity code values in the P6 EPPM activity code dictionary if these values do not already exist. By default, the check box is selected.
- **Include time zone when exporting from P6:** Select this check box to export P6 server time zone information along with P6 date and time fields. By default, this option is **not** selected, except for spread interval data in P6.

  Note: This time zone setting applies only for a Primavera Cloud - P6 integration.

  Send P6 Spread to Unifier as a file: Select this check box to improve the performance of job runs related to a P6 - Unifier synchronizations that include daily spread fields. The daily spread fields on the P6 side are packaged into a separate zip file and sent direct to Unifier bypassing Gateway, whereas all non-spread fields in the synchronization are sent to Unifier using Gateway. By default, the check box is deselected.

  When this check box is deselected, Gateway packages all fields, including the daily spread fields in the synchronization, and sends it to Unifier.
- **Update activity resource assignments when assigned UDF values match**: Enter the UDF code value that is assigned to resource assignments which you want to update during a synchronization. Use this to update the resource assignment with the matching UDF value when the assignment exists multiple times on an activity. By default no UDF value is set.
- **Maximum wait time for the summarizer to complete (in seconds)**: Enter the amount of time in seconds to wait for the summarizer to complete before a warning is given. By default the wait time is set for 120 seconds.

On the **Mail Configuration** tab:

- **SMTP Server**: Enter the SMTP server address of your email server.
- **Port Number**: Enter the port number of your email server.

- **Email Security**: Select the applicable email security type. Choices include, **SSL**, **TLS**, and **None**.
- **Email Address**: Enter the email address for the user who is to be notified for a specific status of synchronization jobs. These statuses include: *Completed*, *Review*, *Cancelled*, *Completed with Errors*, *Completed with Warnings*, and *Failed*.
- **Authorized User**: Enter the user name for this email account.
- **Password**: Enter the password for the authorized user.
- **Bounce Email Address**: Enter an alternate email address to be used if mail fails to be delivered to the first email address.

On the **Server** tab:

- **Server Log Detail Level**: From th list, select the type of detailed information to be included in the server log file. Choices include:
  - **Error** (default): Select this value to display application errors in the log file.
  - **Info**: Select this value to display a brief description in the log file.
  - **Debug**: Select this value to display a general debugging event.
  - **Off**: Select this value to not generate any server log details.

Adding or Editing an EnterpriseTrack Deployment Connection

To move data between applications, Primavera Gateway needs to know where to get and send information. If you choose to integrate with Oracle Instantis EnterpriseTrack, add an application deployment connection for Oracle Instantis EnterpriseTrack by specifying an **Endpoint** URL.

For Oracle Instantis EnterpriseTrack Cloud service, contact Oracle Support to:

- add one or more Oracle Instantis EnterpriseTrack deployments
- copy an existing Oracle Instantis EnterpriseTrack deployment

For on-premises installations, add or edit an Oracle Instantis EnterpriseTrack deployment connection as follows:

1) Enter the Primavera Gateway URL in the format:

   http://<host name>:<port number>/gateway

   Where, <host name> and <port number> should match those of your Primavera Gateway domain.
2) Sign in to Primavera Gateway with administration credentials.
3) In the sidebar, select **Configuration**.
4) Select the **Deployments** tab.
5) Select + **Add...** or ✎ **Edit...**to invoke the **Deployment** wizard.
6) In the **General** step, select *EnterpriseTrack* from the **Select Application Provider** list, and name the deployment.
7) In the **Deployment** step, set up EnterpriseTrack connectivity from Gateway as follows:
   - **EnterpriseTrack Login ID:** Enter the login ID that has all the necessary permissions to update project attributes. Otherwise, project import may fail.
   - **EnterpriseTrack Password:** Enter the password of the EnterpriseTrack user.

- **EnterpriseTrack Login URL:** Enter the URL for accessing the application in the format: *http://<server_name>/SiteWand/Submission/<accountname>*
- **EnterpriseTrack Initiative:** Enter a valid initiative to create or update a project.
- **Date Format:** Enter a valid date format supported in EnterpriseTrack.
- **EnterpriseTrack Connector Debug Flag:** Set the flag value to *Y* if you want to enable debugging generate a log file.

8) Select **Test Connection** ensure connectivity with Gateway is established.
9) Select **Save**.

Tips

- You can also edit a deployment and select **Save** in any step to exit the wizard.

Adding a Sample Deployment Connection

To move data between applications, Primavera Gateway needs to know where to get and send information. If you choose to integrate with the Sample provider, add an application deployment connection for the Sample provider by specifying an **Endpoint** URL as follows:

1) Enter the Primavera Gateway URL in the format:

   http://<host name>:<port number>/gateway

   Where, <host name> and <port number> should match those of your Primavera Gateway domain.
2) Sign in to Primavera Gateway with administration credentials.
3) In the sidebar, select **Configuration**.
4) Select the **Deployments** tab.
5) Select + **Add...** or ✎ **Edit...** to invoke the **Deployment** wizard.
6) In the **General** step, select *Sample* from the **Select Application Provider** list, and name the deployment.
7) In the **Deployment** step, set up connectivity from Gateway as follows:
   - **User Name**: Enter the name of the user having access to the Sample provider deployment.
   - **Password:** Enter the user's password.
   - **XML File Source**: Enter the location of the XML file that is to be used by the Sample provider.
   - **Data Source Type**: Select the format of the data source being used. Choices include: **File**, **Database**.
8) (Optional) In the **Event Provider** step:
   - **Event File Path**: Enter the file path and file name (XML file) that is to be used to trigger Sample eventing.
9) Select **Test Connection** to ensure connectivity with Gateway is established.
10) Select **Save**.

Tips

- You can also edit a deployment and select **Save** in any step to exit the wizard.

Copying a P6 On-Premises Provider Deployment

To use a provider deployment in distinct environments, copy the current deployment and then edit the copied version by modifying the connection information to support the specific environment as needed. All the attributes and values of the current provider deployment are carried over to the copy by default.

To copy a P6 on-premises provider deployment:

1) In the sidebar, select **Configuration**.
2) Select the **Deployments** tab.
3) Select the deployment you want to copy, select the **Actions** ▼ menu, and then select **Copy**.
4) In the **General** step of the **Deployment** wizard:
   a. In the **Deployment Name** field, rename the deployment.

      The default name of the copied deployment is always created with the word, *Copy*. For example, a copy of the *P6 Deployment* will be named as *P6 Deployment Copy* by default.
   b. In the **Description** field, edit the description of the copied deployment.

> Note: Select Next on each screen to advance to the next step.

5) In the **Deployment** step:
   a. Edit the connection information from Gateway as needed.

> **Note**: Passwords cannot be copied, and must be entered manually.

   b. Select **Test Connection** to ensure connectivity with the source or destination application.
6) Select **Save** to add the deployment.

Working with Field Mapping Templates

A field mapping template contains a specific combination of objects and fields that will be selected in the source application when a business flow is picked up by a synchronization in Gateway. A business flow can include more than field mapping template. Using the data dictionaries, Gateway developers and administrators can add, edit, copy, view or delete field mapping templates to include specific objects and fields in the template. This in turn would include specific objects and fields that get selected in the source application.

This chapter describes how to use field mapping templates in Gateway.

In This Section

Adding or Editing Field Mapping Templates

Field mapping templates are used by master data and project data business flows to transfer data between any two applications supported by Primavera Gateway.

A field mapping template contains a list of business objects and fields that are to be transferred from the source application to the destination application. It also contains information on how each source business object and a destination business object is mapped with a corresponding Gateway business object. The field-mapping templates determine how a Gateway object, and the corresponding provider object with its supported fields are used in a business flow.

A business flow is a combination of a specific set of field mapping templates that fulfill a data transfer requirement. To create a business flow that processes specific data between any two applications, appropriate field-mapping templates must be created and included in a business flow to support data transfer in a business flow.

Gateway delivers field-mapping templates for Gateway objects that can be used in business flows. Alternatively, you can also create additional field-mapping templates to suit your requirements.

> **Note**: Field-mapping templates can be created using Groovy code or the canonical format (Direct) format of Gateway.

To add or edit field mapping templates:

1) In the sidebar, select **Configuration** and then select the **Field Mapping Templates** tab.
2) Select a Gateway business object from the drop-down.

   All field-mapping templates associated with the Gateway business object display in the field-mapping template table.
3) To add a field-mapping template, select + **Add...**.

   or

In the **Field Mapping Name** column, select a field mapping template and then select **Edit...**.

4) In the **General** step:
   a. In the **Template Name** field, enter a name for the field mapping template.
      This is the only field that can be changed if you choose to edit a field mapping template.
   b. Select the type of template being created from the **Template Type** list.
      - Select **Groovy** if the template will use Groovy code.
      - Select **Direct** if the template will use the canonical format of Gateway.
   c. Select a provider from the **Provider 1** list.
   d. Select a provider from the **Provider 2** list.
   e. Select the object to be supported by the field mapping template from the **Provider 1 Object** list.
   f. Select the object to be supported by the field mapping template from the **Provider 2 Object** list.
   g. (Optional) Select **Use Criteria Step** to set a specific condition to filter data within the field-mapping template.

> **Note:** Select **Next** on each screen to advance to the next step.

5) In the **Criteria** step, specify the condition for field mappings:
   a. Select the field from the **Fields** list of **Provider 1**.
   b. Select the field from the **Fields** list of **Provider 2**.
   c. Enter the **Conditions** to be satisfied by **Provider1** and **Provider 2** fields respectively.
   d. Select **Validate Condition** to validate the syntax entered in the **Condition** text box for the provider fields.
6) In the **Mappings** step, specify field mappings supported by the template:
   a. Select **Auto Generate** to generate mappings for fields that are common to both providers and Gateway.
      When you choose to autogenerate field mapping templates, the field mappings between Gateway and the source application, and Gateway and the destination application are automatically selected for the Gateway field based on the usage of the fields within the respective applications. However, you can override the autogenerated mappings by deleting the field mappings and add new mappings according to your organization's needs.
   b. Specify additional field mappings as follows:
      1. Select the fields supported by the template in the list of both providers, and **Gateway**.
      2. Select **Add**.
      3. Repeat Step b to add multiple fields.
7) In the **Summary** step:
   a. Review all the selections made in the previous steps.
   b. Select any of the following actions:
      - Select **Back** to navigate to a specific step and make changes.

- Select **Save** to add the field-mapping template.

> **Note:** Multiple provider objects can be mapped to a single provider object. For example, when you select *Sample* as **Provider 1** and *P6* as **Provider 2**, both objects in the Sample provider, **WorkOrder** and **WBS**, map to the **WBS** object in P6 EPPM.

Copying Field Mapping Templates

Copy a field-mapping template if you want to maintain similar versions of an existing template that can be used for different purposes within a specific integration scenario.

> **Note**: Providers and provider objects cannot be changed when a template is copied or edited.

To copy a field-mapping template:

1) In the sidebar, select **Configuration** and then select the **Field Mapping Templates** tab.
2) In the **Field Mapping Templates** section, select a Gateway object from the **Select Business Object** list.

   A master list of all mapping templates supporting the Gateway business object across all integrations displays.
3) In the **Field Mapping Name** column, select a template that you want to copy, select the **Actions** ▼ menu, and then select **Copy.**

   The **Template** wizard displays a copy of the selected mapping template.

Editing the Copied Template

Edit the copied template as follows:

1) In the **General** step, rename the template and select **Next**.

> **Note:** Select **Next** on each screen to advance to the next step.

2) In the **Mappings** step, select the field that is to be supported as follows:
   a. Select the field to be supported in the data dictionary of the providers selected as **Provider 1** and **Provider 2**, and **Gateway**, and then select **Add**.
   b. (Optional) Select field-mappings that need not be supported and then select **Delete**.
3) In the **Summary** step, review all the selections made in the previous steps:
   a. Expand each step title to review the selections made in that step.
   b. Select any of the following actions:
      - Select **Back** to navigate to a specific step and make changes.
      - Select **Save** to add the provider object to the data dictionary.

   The mapping template can now be used in a business flow.

For a detailed example, see *Gateway Help*.

Viewing Field Mapping Templates

View field mapping templates for objects to determine whether you would need to create a new field mapping template or edit a field mapping template as follows:

1) In the sidebar, select **Configuration** and then select the **Field Mapping Templates** tab.
2) In the **Field Mapping Templates** section, select a Gateway object from the **Select Business Object** list.

A list of all field mapping templates associated with the selected Gateway business object displays.

Deleting Field Mapping Templates

Before deleting a field mapping template, ensure the following:

- Review all business flows using the field mapping template you plan to delete.
- Use the business flow wizard to deselect the field mapping template from all business flows.

Delete mapping templates as follows:

1) In the sidebar, select **Configuration** and then select the **Field Mapping Templates** tab.
2) From the **Select Business Object** list, select the business object associated with the field mapping template you want to delete.
3) In the **Field Mapping Name** column, select the mapping template you want to delete, select the **Actions** ▼ menu, and then select **Delete.**
4) In the **Confirmation** dialog box, select **Confirm**.

Exporting Configuration Data Files by Provider

Export Gateway configuration data directly from the user interface to replicate Gateway environments as follows:

1) In the sidebar, select **Configuration** and then select the **Import/Export** tab.
2) In the **Export Configuration Data** section, select **By Provider**.
3) Use the **Ctrl** or **Shift** keys to select any of the following providers from the **Provider** list:
   - EnterpriseTrack
   - File
   - Gateway
   - P6
   - Primavera Cloud
   - Sample
   - Unifier
4) By default all the data files are selected for export from the **Data** list. So, use the **Ctrl** or **Shift** keys to *deselect* any of the following configuration data files:
   - Business Flow / Synchronization
   - Cross Reference

- Customization
- Event Provider
- Flow Definition
- Field Mapping Template
- File Converters, only if the File provider is installed
- Metadata
- Provider
- Value Mapping

5) Select **Export** to generate a zip file.
6) Select **Save** to save the zip file.

   The default naming convention for any generated zip file is: *<Provider1Provider2...ProviderN>_ConfigurationFiles_V<GatewayVersion>_<ExportDateFormat_mmddyyyy>*

> **Tip:** The exported data will not contain passwords. So, you must re-enter the password after importing data into Gateway.

Exporting Configuration Data Files by Synchronization

If you create a new business flow for a new synchronization, you can check what objects, fields, cross references, field mapping templates, flow definitions, metadata, value mappings, provider, and business flow will be used by the synchronization, *before* actually running the synchronization in Primavera Gateway, by exporting Gateway configuration data associated with only the specific synchronizations.

To export data files associated with specific synchronizations:

1) In the sidebar, select **Configuration.**
2) Select the **Import/Export** tab.
3) In the **Export Configuration Data** section, select **By Synchronization**.
4) Use the **Ctrl** or **Shift** keys to select multiple synchronizations from the **Synchronization** list.
5) By default all the data files are selected for export from the **Data** list. So, use the **Ctrl** or **Shift** keys to *deselect* any of the following configuration data files:
   - Business Flow / Synchronization
   - Cross Reference
   - Customization
   - Event Provider
   - Field Mapping Template
   - File Converters, only if the File provider is installed
   - Flow Definition
   - Metadata
   - Provider
   - Value Mapping

6) Select **Export** to generate a zip file.
7) Select **Save** to save the zip file.

   The default naming convention for any generated zip file is: Synchronizations_*V<GatewayVersion>_<ExportDateFormat_mmddyyyy>.*

Notes:

- Any custom step created for a business flow using the formula editor in the **Custom Steps** tab of the **Configuration** page will also be included in the export.
- If multiple synchronizations are selected for export, then the configuration data of all the synchronizations is zipped in the generated export file.
- The exported data will not contain passwords. So you must re-enter the password after importing data into Gateway.

Importing Configuration Data Files

To import configuration data files to Primavera Gateway: :

1) Create a zip file containing any of the following configuration data files of a provider:
   - Business Flow / Synchronization
   - Cross Reference
   - Customization
   - Event Provider
   - Field Mapping Template
   - Flow Definition
   - File Converters, only if the File provider is installed
   - Metadata
   - Provider
   - Value Mapping
2) In the sidebar, select **Configuration.**
3) Select the **Import/Export** tab.
4) In the **Select File** field, select the **••• Picker** button and browse to a .zip file or an XML file to be imported.
5) Select **Import**.

   A success message displays.

- **Notes:**
- Only one zip file can be imported at a time.
- Any exported custom step created for a business flow using the formula editor in the **Custom Steps** tab of the **Configuration** page when imported, will now be included in the *<provider_name>.xml* file.

All other custom steps created by alternative methods are by default included in the *Customization.xml* file.

- In the metadata files, you can edit the `Entity Name` for fields to uniquely identify that as a row of data supported by an object. The Entity Name descriptions display on the **Data Details** tab of the **Monitoring** page.
- After importing the metadata (metadata.xml) into Gateway, you can send and receive data only after re-entering the deployment's password manually.

(On-premises only) When uploading jar and XML files, it is recommended that you upload the files from the **DBSetup Configuration Utility** when possible.

Adding Custom Steps Using Gateway Scripting Language

A business flow is executed as an ordered sequence of flow steps. Custom steps can be added only after data is loaded from the source application or before being updated in a destination application.

Note: Custom steps can only be defined for a specific provider, the role of the provider in a business flow, and the type of business flow. For example you can add a custom step to the P6 provider which can be used by any project data business flow where P6 is the source application.

To add a custom step:

1) Sign in to Primavera Gateway as an administrator or developer.
2) In the sidebar, select **Configuration.**
3) Select .the **Custom Steps** tab.
4) Select the + **Add...** button.
5) In the **Custom Step** wizard, enter the following information:
   a. In the **Name** field, enter a name for the custom step.
   b. Select a provider from the **Provider** list.
   c. Select the role of the provider in any business flow from the **Flow Side** list. Choices include:
      - *Source*: The provider is a source application in a business flow.
      - *Destination*: The provider is a destination application in a business flow.
   d. Select the type of flow that the custom step is to be associated from the **Flow Type** list. Choices include:
      - *Master Data*: The custom step is associated with a master data business flow.
      - *Project Data*: The custom step is associated with a project data business flow.
   e. In the **Sequence Number** field, enter or select a number to specify the location of the custom step in the flow step sequence of the data flow.

If the provider is a source application, you can add a custom step in the **Sequence Number** range 11 - 19 only.

If the provider is a destination application, you can add a custom step in the **Sequence Number** range 61 - 79 only.

> **Note**: Do not add custom steps after **Sequence Number** *80* associated with the last flow step, *Update Destination*, as it will not be used by any business flow.

6) Select the **Enable** check box to activate the custom step in the master data or project data flow type of the provider.
7) Select **Save.**
8) In the **Formula** section, enter code and validate the custom step using Gateway scripting language.

   For more details, see *Gateway Scripting Guide*.
9) Select **Save**.

Using Add-Ins to Manage Customizations

You can configure Primavera Gateway according to the needs of your organization by adding customizations. These customizations can be imported into Primavera Gateway using the **Import** option or the configuration utility (available with on-premises installations only) to make it available in the Gateway user interface. Customizations delivered by these methods are listed in the **Add-Ins** tab of the **Configuration** page.

Use the **Add-Ins** tab to manage these customizations from within the user interface. You can delete or search for customizations added in Primavera Gateway.

Deleting Add-Ins

To delete customizations Primavera Gateway that were imported or added through the configuration utility:

1) In the sidebar, select **Configuration**.
2) Select the **Add-Ins** tab.
3) Select the row that needs to be deleted, and then select **Delete**.
4) In the **Confirmation** dialog box, select the **Confirm** button to delete the customization from Primavera Gateway.

Configuring Consent Notices for Primavera Gateway

To configure consent notices for Primavera Gateway:

1) Sign in to Primavera Gateway as an administrator or developer.
2) Select ✕ and then select **Settings**.
3) In the **General** tab, select **Enable Configurable Consent Forms**.
4) In the sidebar, select **Configuration**.

5) Select the **Consent Forms** tab.
6) In the **Name** field, select a consent form, and then select **Edit...**.

> **Note**: The **Cookies Consent** is automatically enabled when any consent form is enabled.

7) The **Edit <Consent Form Name>** dialog box displays. For example, *Edit Login Consent Form* displays.
8) Select **Enable Consent Message** to allow the notice to be shown to users of the selected consent form.

   For Gateway administrators, enable *all* consent forms.

   For Gateway administrators with no data access and Gateway developers, enable all consent forms except **Download Consent**.

   For Gateway users, enable **Login Consent**, and **Download Consent**.

   For Gateway users with no data access, enable **Login Consent** only.
9) Enter and format the text for the consent notice in the **Consent Message** area.

> **Note**: Work with your data security and legal teams to determine the wording of the consent notice.

10) Select **Save**.
11) Continue to configure consent notices for other consent forms.

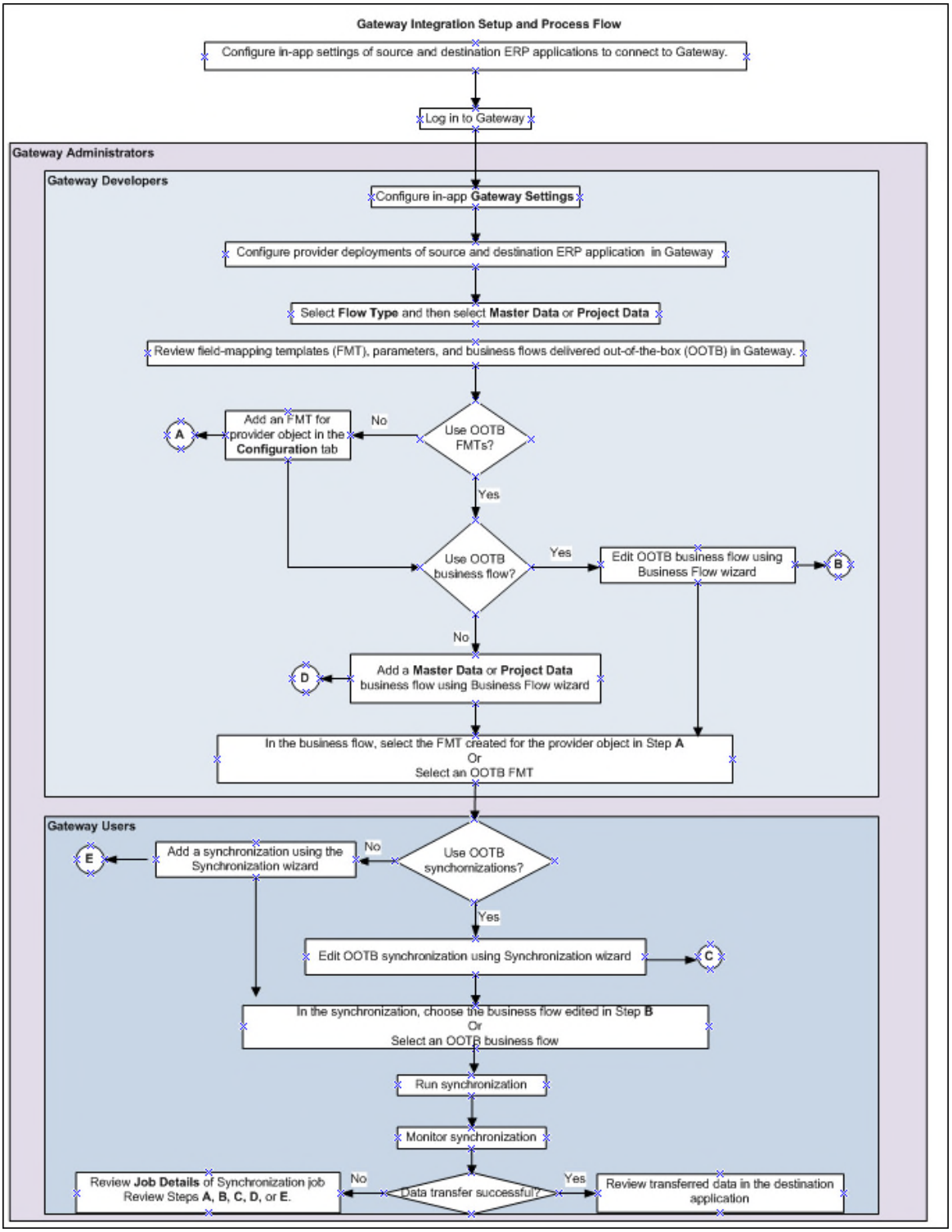
Gateway Setup and Data Transfer Process Flow

This process flow provides a visual outline of key decision points you will need to make when setting up an integration between any two ERP applications, using Gateway. Use this process flow in conjunction with chapters in this guide as well as the detailed examples provided in *Gateway Online Help*.

To troubleshoot issues when transferring data encountered in:

- Step A of the process flow, refer to the procedures in the chapter, *Working with Field Mapping Templates*.
- Step B or D of the process flow, refer to the procedures in the chapter, *Defining Business Flows*.

- Step C or E of the process flow, refer to the procedures in the chapter, *Defining Synchronizations*.



Working with Data Dictionaries

Provider data dictionaries and the Gateway data dictionary can be customized to modify fields for existing objects.

The EnterpriseTrack data dictionary can be modified to:

- Edit existing objects
- Add, edit, and delete existing fields

A provider object can be modified by using the **Objects and Fields** wizard from the **Data Dictionary** menu.

In This Section

Editing Objects and Fields in Data Dictionaries

Depending on the selected data dictionary, a business object in a data dictionary can be edited in two ways:

- Edit an object or
- Edit a field supported by an object

Editing an Object

Edit an object to update the name and description of the object, fields supported by an object, flows supported by an object or cross-reference keys of an object.

To edit an object:

1) In the sidebar, select **Data Dictionary.**
2) Select any of the following provider data dictionaries: **Gateway**, **File**, or **Unifier**.
3) Select the row listing the object you want to edit, and then select **Edit...** on the **Data Dictionary** page.

   The **Object and Fields** wizard displays.
4) If you edit an object in the Gateway, File, or Unifier data dictionaries, select the **General** step to edit the **Object Name Category**, and **Description** of the object.

   Otherwise select **Next**.

   > **Note:** Select **Next** on each screen to advance to the next step.
5) In the **Fields** step, add fields, or edit current fields supported by the business object:
   a. (Required) Enter a **Field Name** for the new field.

b. In the **Field Type** field, select the data type of the field. Choices include: **Boolean, DateTime, Double, ForeignKey, Integer,** and **String**.
c. If you add a **ForeignKey** field, then select the **Join to Object** to join the new field with an existing object in that provider's dictionary.
d. Select **Read Only Field** to indicate the field value cannot be modified.
e. (Required) In the **Description** field, enter a short description of the object.
f. Select any of the following actions:
   - Select **Add** to add the field to the field table.
   - Select **Update** to edit an existing field in the field table.
   - Select **Reset** to undo all the changes made in the step.
   - Select **Delete** to delete a field from the field table.
g. Repeat this sequence in the **Fields** step to add multiple fields to a provider object.

6) If you edit an object in the Gateway, File, or Unifier data dictionaries, then select the **Flow Control** step. Select any of the following actions:
   - Select **Add** or **Edit** the **Flow Type** and **Flow Direction** combination to be associated with the provider object only.
   - Select **Delete** to delete an existing **Flow Type** and **Flow Direction** combination.
7) In the **Cross Reference** step, setup the cross-reference key field to be associated with the Gateway object.
   a. In the **Key Field** field, select the field to be used as the cross-reference key for the object in Gateway.
   b. In the **Gateway Objects** field, select the Gateway business object from the drop-down to map the cross-reference key of the provider object.

> **Note:** You can also map the provider object to a new Gateway object that has already been added using this procedure.

   c. Select any of the following actions:
      - Select **Add** to add the cross-reference key and Gateway object combination to the Key table.
      - Select **Delete** to delete a cross-reference and business object combination from the Key table.
8) In the **Summary** step, review a summary of all selections made.
   a. Expand each step title to review the selections made in that step.
   b. Select any of the following actions:
      - Select **Back** to navigate to a specific step and make changes.
      - Select **Save** toto confirm the changes made to the provider object.

> **Note:** See the *Gateway Online Help* for an example of editing at the object level.

Editing a Field Supported by an Object

A business object can support multiple fields. A business object can be edited to add additional fields, and edit, or delete existing fields supported by the object.

To edit a field within an object:

1) In the sidebar, select **Data Dictionary.**
2) Select a provider data dictionary. For example, *Primavera Cloud*.
   A list of objects supported in the data dictionary displays.
3) Select an object in the data dictionary. For example, *Currency*.
   A list of fields supported by the object displays.
4) Select **Edit...**.
   The **Object and Fields** wizard displays.
5) In the **General** step, select **Next**.

> **Note:** Select **Next** on each screen to advance to the next step.

6) In the **Fields** step, add fields, or edit current fields supported by the object:
   a. Enter a **Field Name** for the new field.
   b. In the **Field Type** field, select the data type of the field. Choices include: **Boolean, DateTime, Double, ForeignKey, Integer,** and **String**.
   c. If you add a **ForeignKey** field, then select the **Join to Object** to join the new field with an existing object in that provider's dictionary.
   d. Select **Read Only Field** to indicate the field value cannot be modified.
   e. Select any of the following actions:
      - Select **Add** to add the field to the field table.
      - Select **Reset** to undo all the changes made in the step.
      - Select **Delete** to delete an existing field from the field table.
   f. Repeat this sequence in the **Fields** step to add multiple fields to a provider object.
7) In the **Flow Control**, and **Cross Reference** steps, select **Next**.
8) In the **Summary** step, review a summary of all selections made.
   a. Expand each step title to review the selections made in that step.
   b. Select any of the following actions:
      - Select **Back** to navigate to a specific step and make changes.
      - Select **Save** to confirm the changes made to the provider object.

Deleting Fields from Data Dictionaries

Fields can be deleted as follows:

1) In the sidebar, select **Data Dictionary,** and select a provider data dictionary.

2) In the **Business Object** column, select an object in the data dictionary.
3) Select the row listing the field you want to delete.
4) Select the **Actions** ▼ menu and then select **Delete.**

> **Note:** If the field is associated with a field mapping template, then the field will be deleted from all mapping templates.

5) In the **Confirmation** dialog box, select **Confirm** to delete the field.

Working with Business Flows

To transfer data between applications, you first need to define business flows. These business flows will then be used to set up synchronization jobs in Gateway that execute the data transfer. For each business flow you must determine the following:

- What data will move between application deployments?
- What is the default role of each provider?
- What common business objects exist between the applications?

You can either use the out-of-the-box business flows delivered in Gateway or create new business flows if these don't fit your needs. Both options are outlined in detail. You can create multiple business flows.

In This Section

Adding Business Flows

To add a business flow in Primavera Gateway:

1) In the sidebar, select **Flow Type**, and choose **Master Data** or **Project Data**.
2) Select the **Business Flows** tab.
3) Select + **Add...**.
4) In the **General** step of the **Business Flow** wizard:
   a. Select the source application from the **Source** list.
   b. Select the destination application from the **Destination** list.
   c. In the **Business Flow Name** field, enter or edit the name for the business flow.
   d. (Optional) Select the **Compare Flag** check box if you want to send only those objects and fields to the destination application that have been added or updated since the last synchronization was run.
   e. (Optional) Select the **Use Custom Steps** check box if you have added the following types of custom steps:
      - (On-premises only) Internal Java custom steps
      - External Java custom steps using the **Customization SDK**
      - Custom Steps using Gateway Scripting Language

If you subsequently choose to not use custom steps in your business flow, the following warning message displays when you deselect this option: *Deselecting the Use Custom Steps option will remove all custom steps already included in the job run sequence. Select Cancel to include the Use Custom Steps option.*

f. In the **Description** field, enter a short explanation and use of the business flow.

> **Note:** Select **Next** on each screen to advance to the next step.

5) In the **Mappings** step:
   a. Select the **Gateway Object Name** and the **Field-Mapping Name** for each object to be supported in the business flow.
   b. In the **Applied For** field, select the type of action that will be performed for each object:
      - *Create*: Creates new values
      - *Update*: Updates existing values
      - *Both*: Create and update values

> **Note**: You can also add a new field-mapping template for a business object in the **Customization** tab, and then select it in the **Mappings** step.

6) In the **Source App Parameters** step, select the source field values, if any, and the attributes of the source parameters.
7) In the **Destination App Parameters** step, select the destination field values, and the attributes of the destination parameters.
8) (Optional) In the **Custom Steps** step, select the custom steps that have been created.
9) In the **Summary** step, review a summary of all the selections made in the previous steps:
   a. Expand each step title to review the selections made in that step.
   b. Select any of the following actions:
      - Select **Back** to navigate to a specific step and make changes.
      - Select **Save.**

   The business flow can now be used in a synchronization.

Tips:

- Select **Edit...** to edit an existing business flow and then move through the wizard to update the objects and fields as needed.
- Always name the business flows such that it will help you remember the type and direction of information in the flow. For example, *Send Project Data from P6 to Unifier*.
- You can also use External Custom Steps in a data flow. For a detailed example, download the documentation from the **Help** menu.

Copying Business Flows

When you need to create a new business flow similar to an existing flow, copy the current business flow and then edit as needed.

To copy a business flow:

1) In the sidebar, expand the **Flow Type** menu and then select **Master Data** or **Project Data**.
2) In the **Name** column, select the business flow you want to copy, select the **Actions** ▼ menu and then select **Copy**.

   The **Business Flow** wizard displays a copy of the current business flow with the word *Copy*. For example, *Send Unifier Roles to P6 Copy.*
3) In the **General** step, rename the business flow and select **Next**.

> **Note:** Select **Next** on each screen to advance to the next step.

4) In the **Mappings** step, for each business object to be supported in the business flow:
   a. Select the **Gateway Object Name** and the **Field Mapping Name**.
   b. Select any of the following actions from the **Applied For** list:
   - *Create*: Creates new values
   - *Update*: Updates existing values
   - *Both*: Create and update values

> **Note**: You can also add a new field mapping template for a business object in the **Customization** tab, and then select it in the **Mappings** step.

5) In the **Source App Parameters** step, select the source field values, if any, and the attributes of the source parameters.
6) In the **Destination App Parameters** step, select the destination field values, and the behavior of the destination parameters.
7) In the **Summary** step, review all the selections made in the previous steps:
   a. Expand each step title to review the selections made in that step.
   b. Select any of the following actions:
      - Select **Back** to navigate to a specific step and make changes.
      - Select **Save** to add the duplicated business flow.

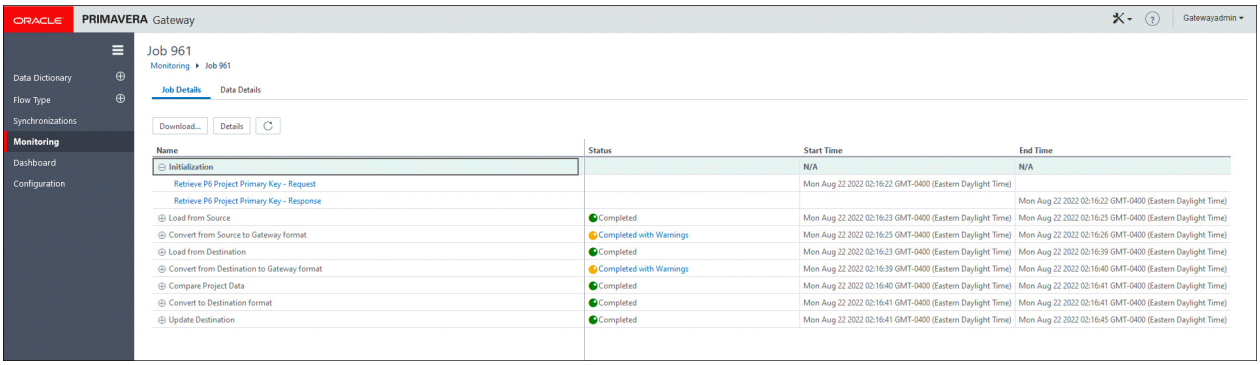
Deleting Business Flows

To delete a business flow:

1) Sign in to Gateway as a developer or an administrator.
2) In the sidebar, expand the **Flow Type** menu, and then select **Master Data, Project Data** or **Migration Data**.
3) Select the row listing the business flow you want to delete, and then select **Delete** from the **Actions** ▼ menu.
4) In the **Confirmation** dialog box, select **Confirm**.

Executing a Business Flow

A business flow is executed as a distinct sequence of flow steps. Each flow step executes a specific action within a flow. For example, the **Load** step loads data from the source application.



The flow step sequence of a business flow can be modified by adding additional custom steps to the sequence. Primavera Gateway allows you to create custom steps through various methods. This section describes the flow step sequence used in each type of business flow.

The following types of flow steps are used in any Gateway business flow:

Initialization

This step initializes the projects in the source application before the data is loaded into Gateway. It is available in Project Data flows and Migration Data flows for the following providers only:

- P6 EPPM
- Primavera Cloud
- Unifier

For single project jobs, the Initialization step displays as the first step.

For parent-child jobs, the Initialization step displays for the parent job because the projects need to be initialized before the number of child jobs is determined. It is the only step displayed for the parent job. This step is not displayed for any child jobs. The start and end times of each step is stored in GMT and displays as per your local time.

- **Notes**:
- "Baseline" Requests / Responses can be suffixed with a number which corresponds to the baselines selected in the relevant parameter. Numbering starts with: 0, 1, 2, 3, etc.
- Primavera Cloud has a hard limit which can cause multiple Request / Responses suffixed with a number. Numbering starts with 1, 2, 3, etc.

The step will only display when the **Project Filter** within the Business Flow / Synchronization uses an option other than *Lookup In <product>*.

Load

This step loads the source data and passes it on to the next step.

Convert

This step converts the source data to the Gateway data structure or Gateway data structure to the destination data structure.

Compare

This step compares the source and destination data and identifies changed, deleted, and added objects so that the system can synchronize the data efficiently.

To ensure that the data follows the same structure when it is compared, both the source and the destination data must be converted to the Gateway format before it can be compared. When identifying objects that are deleted in the source data, the compare step uses the cross reference table to determine whether the data has been synchronized in the past, the presence of the data in the cross reference table indicates that the data has been synchronized in the past. During the Compare step, the system marks objects that have been deleted in the source data for deletion in the destination system only if the record is in the cross reference table and a delete parameter is associated with the flow.

This step compares the source and destination data and identifies the delta or differences for the next step.

Review

(Optional) This step enables you to review the source data before updating the data in the destination application.

Update

This step saves the data into the destination system.

(Optional) External Custom Step

This step loads the external custom step if defined for a data flow specific to an integration. The external custom step can be added anywhere in the above flow sequence.

Flow Step Sequence in a Project Data Business Flow

The Project Data flow type or business flow is used to transfer project data between two applications or between *two distinct deployments* of the same application. For example, to transfer project data from a *P6 Testing environment to P6 production environment*.

The flow step sequence in a project data business flow is organized as follows:

- **Initialization**

  This step initializes the projects in the source application before the data is loaded into Gateway. It is available in Project Data flows and Migration Data flows for the following providers only:

  - P6 EPPM
  - Primavera Cloud
  - Unifier

  For single project jobs, the Initialization step displays as the first step.

For parent-child jobs, the Initialization step displays for the parent job because the projects need to be initialized before the number of child jobs is determined. It is the only step displayed for the parent job. This step is not displayed for any child jobs. The start and end times of each step is stored in GMT and displays as per your local time.

- **Notes**:
- "Baseline" Requests / Responses can be suffixed with a number which corresponds to the baselines selected in the relevant parameter. Numbering starts with: 0, 1, 2, 3, etc.
- Primavera Cloud has a hard limit which can cause multiple Request / Responses suffixed with a number. Numbering starts with 1, 2, 3, etc.

The step will only display when the **Project Filter** within the Business Flow / Synchronization uses an option other than *Lookup In <product>*.

- **Load from Source:** This step loads the project data from the source application into the Gateway framework so that it can be processed.
- **Convert from Source to Gateway Format:** This step converts the source project data from the source format to the Gateway format.
- (Optional) **Load from Destination:** This step loads the project data from the destination application into the Gateway framework so that it can be processed.
- (Optional) **Convert from Destination to Gateway Format:** This step converts the destination project data to the Gateway format.
- (Optional) **Compare Project Data:** This step compares the converted source Gateway data with the destination Gateway data. This step compares each object and uses the following rules to determine how the data is synchronized in the **Update Destination** step.
  - If the data is in the source object but not in the destination object, the data is created in the destination object during the **Update Destination** step.
  - If the data is in the destination object but not in the source node, the system performs the following steps:

    * Inspects the cross reference tables to determine whether the data has ever been synchronized.

    * Determines whether the Delete parameter has been set for the flow.

    If the data is in the cross-reference tables and the delete parameter has been set for the flow, the data is deleted from the destination during the **Update Destination** step. Otherwise, the data is not deleted in the **Update Destination** step.
  - Objects that contain updated data are marked for synchronization.
  - Objects that contain the same data in both the source and the destination nodes are ignored.
- **Convert to Destination Format:** This step converts the project data from Gateway format to the destination format.
- (Optional) **Review data:** This step enables you to review the source data before updating the data in the destination application.
- **Update Destination:** This step saves the project data into the destination application's database.

Flow Step Sequence for Compare Step in Business Flows

A flow that supports a **Compare** step loads the project from both sides, determines the delta between each side, and uses only the difference to synchronize the data during the final update.

Unlike the normal flow that consists of four steps (load, convert to Gateway, convert from Gateway, and Update Destination), a flow that supports the Compare step includes the following additional steps:

- Load data from the other application
- Convert the data to the Gateway format
- Compare

The Compare step is supported by the Gateway framework code; providers do not have to implement it. Providers will need to implement the extra load and convert steps as these must be implemented by the provider of the destination application. The destination provider must ask for the key of the project that is being loaded to the source side of the implementation when supporting the compare functionality.

Source Provider

In the project data flow, the source provider needs to communicate to the destination side which project it is loading when the Primavera Gateway loads the initial project data from the source side. To do that, the source provider must implement the **getProjectKeyForCompare** method in the **FlowProvider** interface.

Normally, a provider will determine which project it is to load from the filter or the parameters that users set in the Gateway user interface. The implementation of the method needs to return a Gateway side value of this project key.

The following is a sample code snippet from the Project Data flow in **SampleProvider.java**:

```
	@Override
	public Map<String, String> getProjectKeyForCompare(String flowType, FlowContext context)
throws ProviderException {
		SampleFlowType type = getFlowType(flowType);
		switch (type) {
		case SyncProjectImport:
			String sampleProjectKey = (String) context.getParameter("ImportProjectId");
			if (StringUtils.isEmpty(sampleProjectKey)) {
				return null;
			} else {
				Map<String, String> keyMap = new HashMap<String, String>();
				keyMap.put("ObjectId", context.getXRefValueByGuest("Project",
sampleProjectKey));
				keyMap.put("Id", sampleProjectKey);
				return keyMap;
			}
		default:
			throw new UnsupportedOperationException("Compare not supported.");
		}
	}
```

Destination Provider

Similarly, in the project data flow, the destination provider needs to ask for the project key so that it can load the same project. To do that, the destination provider must implement the methods in the **LoadStepContext** interface.

The LoadStepContext interface has two methods for this use case:

- **isLoadStepForCompare** method can tell you whether this load step is invoked as a companion load step for the Compare mechanism.
- **getProjectKeyForCompare** method can tell you which project you should load. The project key returned by **getProjectKeyForCompare** is already a destination side value.

The following is a code snippet from the Project Data flow in **ProjectLoadStep** of the Sample provider:

```
if (context.isLoadStepForCompare()) {
	Map<String, String> projectKeys = context.getProjectKeyForCompare();
		String projectId = null;
		if (projectKeys != null) {
			String objectId = projectKeys.get("ObjectId");
			if (StringUtils.isEmpty(objectId)) {
				projectId = projectKeys.get("Id");
			} else {
				projectId = objectId;
			}
		}
		if ((projectId == null) || projectId.isEmpty()) {
			return new PDIDocumentImpl();
		} else {
			return getOneProject(projectId, context);
		}
	}
```

Flow Step Sequence for Custom Steps in Gateway Scripting Language for Business Flows

For a specific provider, a custom step can be added to the flow step sequence of any business flow from within the Gateway user interface using Gateway scripting language. This flow step is an alternative option to:

- Adding a external custom step using Java
- Adding a internal custom step using Java

> **Note**: Gateway scripting language is distinct from *Groovy* Scripting Language. For more details on how to code a custom step, see *Gateway Scripting Language Guide*.

A business flow is executed as an ordered sequence of flow steps. So, the positioning of a custom step depends on the role of the provider in a business flow.

Use the following table to position a custom step in the default flow step sequence:

If Provider Role in Business Flow is...	Add Custom Step...
Source	with a sequence number in the range 1 - 19.
Destination	with a sequence number in the range 61 - 79.

You can also add a custom step in Gateway between sequence numbers 21 - 59.

The steps can then be organized as follows:

- (Optional for Source Provider) **<Custom Step Name>:** This step runs the custom step to the source data. It can be added in the flow sequence for a *source* provider with a sequence number in the range 1 - 9.
- **Load from Source:** This step loads the data from the source application into the Gateway framework so that it can be processed.
- (Optional for Source Provider) **<Custom Step Name>:** This step runs the custom step to the source data. It can be added in the flow sequence for a *source* provider with a sequence number in the range 11 - 19.
- (Optional in Gateway) **<Custom Step Name>:** This step runs the custom step within Gateway. It can be added in the Gateway flowside sequence with a sequence number in the range 21 - 59.
- **Convert from Source to Gateway Format:** This step converts the source data to the Gateway format.
- **Convert to Destination Format:** This step converts the data from Gateway format to the destination format.
- (Optional) **<Custom Step Name>:** This step runs the custom step to the destination data. It can be added in the flow sequence for a *destination* provider with a sequence number in the range 61 - 69.
- **Review data:** This step enables you to review the source data before updating the data in the destination application.

- (Optional) **<Custom Step Name>:** This step runs the custom step to the destination data. It can be added in the flow sequence for a *destination* provider with a sequence number in the range 71 - 79.
- **Update Destination:** This step saves the data into the database of the destination application.

> **Note**: Although custom steps can be added after the last **Update Destination** flow step (sequence number 80), these will not be processed by the business flow.

Project Data Flow Type

Use the **Project Data** flow type to transfer a **Project** business object between the Sample Provider and EnterpriseTrack.

> **Note:** When you are creating a business flow, and choosing the mapping templates for a object, you can mark a mapping template as **Create Only**, **Update Only** or **Both**. For project data business flows, if all the mapping templates are create-only templates, then update is not allowed.

Each business flow can use one or more field-mapping templates that handle the data transfer of specific business objects and its corresponding fields. You can edit these delivered business flows or also create additional business flows and field-mapping templates to fit your needs. After creating new business flows or editing the above business flows you can create synchronization jobs that use the defined project data business flows to transfer project data. For more details, see Defining Synchronizations.

Setting Provider-Specific Parameters

Based on the role of EnterpriseTrack and Sample provider and the data to be transferred in the business flow the following provider-specific parameters will display as either source or destination application parameters in the **Add Business Flow** wizard.

Users having the roles of a Gateway administrator or developers can access and view all the parameters listed below. Set the behavior of these parameters in the business flow by specifying the **Attribute** for each as any of the following values: **Hidden, Optional, Read-only,** or **Required**.

> **Notes:**
>
> - All settings described below will be overridden by the flow invoked from the P6 user interface.
> - Data identified by each parameter is processed by a flow step of the business flow. For more information on flow steps, see ***Executing a Business Flow*** (on page 32).
> - All values specified in the filter parameters will be used in the **Load** step of the flow for loading data from the providers designated as the

source or the destination.

EnterpriseTrack Provider Application Parameters

When EnterpriseTrack is the *source* application, set values and attributes for the following parameters while defining the business flow:

- **EnterpriseTrack Project ID**
  Use this setting to specify the project ID to be sent from EnterpriseTrack.
- **EnterpriseTrack Project Name**
  Use this setting to identify the project to be sent from EnterpriseTrack by its project name.
- **EnterpriseTrack Project Sub Object**
  Use this setting to additional objects that are to be transferred with a Project business object. Options include:
  - Project Metadata
  - Project Finance Structure
  - Project Finance Current
  - Project Finance Snapshot
- **Finance Data Search Mode (M for Monthly / Y or yearly / A for Aggregate)**
  Use this setting to select the time length of the finance data.
- **From Month (YYYY/MM Format)**
  Use this setting to specify the start year and month of the data being transferred.
- **EnterpriseTrack Project Finance Snapshot Name (Required only for project finance snapshot export)**
  Use this setting to specify the name of the ProjectFinanceSnapshot business object.
- **To Month (YYYY/MM Format)**
  Use this setting to specify the end year and month of the data being transferred.
- **From Year (YYYY Format)**
  Use this setting to specify the start year of the data being transferred.
- **To Year (YYYY Format)**
  Use this setting to specify the end year of the data being transferred.
- **Group Name (Use * if you need data for all groups)**
  Use this setting to specify groups in EnterpriseTrack.
- **Category Name (Use * if you need data for all groups)**
  Use this setting to specify Category Names in EnterpriseTrack.
- **Element Name (Use * if you need data for all groups)**
  Use this setting to specify Element Names in EnterpriseTrack.

When EnterpriseTrack is the *destination* application, set values and attributes for the following parameters while defining the business flow:

- **EnterpriseTrack Mandatory Roles (˜ separated list. Required for project creating.)**
  Use this setting to specify the user roles only when creating a new project in EnterpriseTrack.

- **EnterpriseTrack Login IDs of Mandatory Roles (˜ separated list. Required for project creating.)**

  Use this setting to specify the login IDs only when creating a new project in EnterpriseTrack.
- **Synchronize one project at a time**

  A synchronization job is usually split into multiple child jobs with each child job transferring data in each project. By default all child jobs are executed simultaneously. Use this setting to determine whether to synchronize data one project at a time.
- **Delete data that no longer exists in the source application?**

  Use this setting to determine whether data that no longer exists in the source application is to be deleted in the destination application. This parameter must be used in conjunction with the **Compare** flag selected in the **Business Flow** wizard.

> **Note**: When you run a project data flow, it will delete only project level data in a business flow, but not the master data. This will prevent you from deleting master data elements such as resources, roles etc., that may be used in another project. However, if used in a master data flow, it will delete all relevant objects and fields.

Sample Provider Application Parameters

When Sample provider is the *source* application, set values and attributes for the following parameters while defining the business flow:

- **Baseline Project Names**

  Use this setting to identify the project names in the Sample provider that needs to be sent to EnterpriseTrack.

When Sample provider is the *destination* application, set values and attributes for the following parameters while defining the business flow:

- **Provide email notification for selected job status**

  This parameter displays only when you have specified an **Email Address** in the **Mail Configuration** tab of the Gateway **Settings** page.

  Use this setting to enter email IDs of individuals who would need to be notified when synchronization jobs are completed with any of the following job statuses on the **Monitoring** page: *Completed, Review, Cancelled, Completed with Errors, Completed with Warnings,* or *Failed*.

  Select the **Attach Data Details for Job** check box to include details of the data transfer in the email.
- **Synchronize one project at a time**

  A synchronization job is usually split into multiple child jobs with each child job transferring data in each project. By default all child jobs are executed simultaneously. Use this setting to determine whether to synchronize data one project at a time.

Working with Synchronizations

A synchronization in Gateway is a job set up to run on-demand or on schedule to exchange data between the source and destination applications.

The business flows delivered or created in Gateway are used in synchronizations that perform the actual data transfers. For each of the out-of-the-box (OOTB) business flows delivered in Gateway, a corresponding synchronization is also delivered. You can either use the delivered synchronization or create new synchronizations if these don't fit your needs. Both options are outlined in detail.

Gateway users and administrators can set up, run, and monitor synchronizations in Gateway.

In This Section

Adding Synchronizations

After adding business flows or editing the out-of-the-box business flows you can add new synchronizations that use these business flows to transfer data between the applications using the **Synchronization** wizard. To transfer data between applications, you need to create and run a synchronization. You have the option to run the synchronization on demand, run based on the occurrence of specific events, or schedule it to run regularly at a time and date of your choosing.

Prerequisites

- Configure application deployment connections for the source and destination applications in the data flow.
- Business flows must be setup for the data transfer.
- If an integration supports master data, then synchronize the master data between applications before you synchronize project data. This will ensure that each deployment has the information necessary to synchronize project data.

Procedure

To transfer data between applications:

1) Sign in to Primavera Gateway as an administrator or a user.
2) In the sidebar, select **Synchronizations**, and then select + **Add...**.
3) Follow the steps in the **Synchronization** wizard to name and configure the synchronization.

> **Note**: If you edit a synchronization and change the business flow, then you must review and update the parameters as needed.

4) Select **Save** in any step of the wizard to save the changes and exit the wizard instantly.

5) Transfer data between applications using any of the following options:
   - To run a synchronization on-demand, highlight the synchronization and select **Run**.
   - To review the data that will be moved from the source application, highlight the synchronization and select the **Actions** ▼ menu and then select **Run with Review**.

     Note: If you are a user or administrator with *no* data access privileges, once a synchronization is **Run with Review**, you cannot review the actual data being transfered in each step of a job nor download the job details. When you select the **Review** link, an error message, *Insufficient Permissions*, is displayed.

   - (On-premises only) To schedule an event-based synchronization, highlight the synchronization, select the **Actions** ▼menu and then select **Run on Event**.

     Note: (On-premises only) You can set up an event-based synchronization using the delivered P6 event provider only if P6 is the source provider in the defined flow. To set up event-based synchronizations for any other provider you will need to develop an event provider for your provider. For more details, refer to the *Primavera Gateway Provider Development Guide*.

   - To schedule the synchronization to run at a certain date and time, or a specific sequence of synchronizations, select the synchronization, select the**Actions** ▼ menu and then select **Edit Schedule...**.
6) To delete a synchronization:
   a. Highlight the synchronization.
   b. Select the **Actions** ▼menu and then select **Delete**.
   c. Select **Yes** in the **Confirmation** dialog box.

The following videos showcase how to transfer data between applications:

- ***Send Basic Project Information from Primavera Cloud to P6*** (***https://players.brightcove.net/2985902027001/SyXjZnYeeb_default/index.html?videoId=6174408598001***)
- ***Send Basic Project Information from P6 to Primavera Cloud*** (***https://players.brightcove.net/2985902027001/SyXjZnYeeb_default/index.html?videoId=6174409131001***)
- ***Send P6 Schedule Data to Primavera Cloud*** (***https://players.brightcove.net/2985902027001/SyXjZnYeeb_default/index.html?videoId=6174410341001***)
- ***Send Lean Schedule Data from Primavera Cloud to P6*** (***https://players.brightcove.net/2985902027001/SyXjZnYeeb_default/index.html?videoId=6174412205001***)

Copying Synchronizations

You can modify any delivered synchronization or a synchronization that you custom created in Gateway.

> **Note**: Before you modify, it is recommended that you copy the synchronization and then edit the copy as needed.

To copy a synchronization in Gateway:

1) In the sidebar, select **Synchronizations**.
2) Select the synchronization you want to copy, then select the **Actions** ▼menu and select **Copy**.

   The **Synchronization** wizard displays a copy of the current synchronization.
3) In the **Flow and Deployments** step:
   a. In the **Synchronization Name** field, rename the synchronization.

      The default name of the duplicate synchronization is always created with the word, *Copy*. For example, *Send Primavera Cloud Project Data to P6 Copy*.
   b. In the **Business Flow** field, select a business flow that is to be used by the synchronization.

> **Note:** Select **Next** on each screen to advance to the next step.

4) In the **Parameters** step, edit the value of each parameter as needed.
5) In the **Summary** step, review a summary of all the selections made in the previous steps.

   Select any of the following actions:
   - Select **Back** to navigate to a specific step and make changes.
   - Select **Save** to add the synchronization.

   The synchronization is now available for running and monitoring.

Deleting Synchronizations

To delete a synchronization:

1) In the sidebar, select **Synchronizations**.
2) In the **Synchronization Name** column, select the row listing the synchronization you want to delete.
3) Select the **Actions** ▼ and then select **Delete**.
4) In the **Confirmation** dialog box, select the **Confirm** button to delete.

> **Note**: When you delete a synchronization, all job logs associated with this synchronization will also be deleted.

Transferring Data Between Applications: Example

This example demonstrates how to synchronize data between applications and monitor the data transfer. For more details on Primavera Gateway features and functionality, see the *Primavera Gateway Online Help*.

For this example, assume that you want to export project data from *Oracle Instantis EnterpriseTrack to Sample* using a synchronization called *Synchronize Project Data from Oracle Instantis EnterpriseTrack to Sample*. Also assume that you will use the *Export Project Data from Oracle Instantis EnterpriseTrack to Sample* business flow.

Prerequisites

This example assumes that the following prerequisites have been completed:

- Primavera Gateway is installed and running.
- An application deployment called *EnterpriseTrack Deployment* has been added to Primavera Gateway.
- An application deployment called *Sample Deployment* has been added to Primavera Gateway.
- A business flow called *Export Project Data from* Oracle Instantis EnterpriseTrack *to Sample* has been created to define the flow of data between applications.

Move Data between Applications

1) After you log into Primavera Gateway, select **Synchronizations**.
2) Select **Add**.
3) In the **Add Synchronization** wizard:
   a. Modify the synchronizations to include the correct project filter.
      The project filter will be displayed if the option is not hidden on the Parameters page.
   b. In the **Synchronization Name** field, enter a name.
   c. Select **Export Project Data from Oracle Instantis EnterpriseTrack to Sample** from the **Business Flow** list.
   d. Select **Oracle Instantis EnterpriseTrack Deployment** from the **Source** list.
   e. Select **Sample Deployment** from the **Destination** list.
   f. Select **Next**.
   g. Review the parameters and select **Next**.
   h. Review the Synchronization Summary and select **Save**.
4) Select the *Synchronize Project Data from* Oracle Instantis EnterpriseTrack *to Sample* synchronization and select **Run**.

Monitor a Synchronization Job

After you run the synchronization, you can check to see that it is working properly by finding the synchronization on the Monitoring page.

1) Select **Monitoring**.

2) In the **Filter** lists, select **All Jobs by Type** and **Project Data**. The synchronization jobs will be filtered using these selections.
3) Select the **Job** link for **Synchronize Project Data from Oracle Instantis EnterpriseTrack to Sample**.
4) Select **Convert from Source to Gateway format** and then select **Gateway Format**. Data for this flow step, including information if there is a failure, will display.
5) Select **Close**.

Edit a Synchronization Job Schedule

After monitoring the synchronization job, if you are satisfied with the synchronization, you can schedule times when the synchronization will run.

1) Select **Synchronizations**.
2) Select the **Synchronize Project Data from Oracle Instantis EnterpriseTrack to Sample** synchronization and select **Edit Schedule**.
3) In the **Edit Schedule** wizard, schedule a date and time when the synchronization will be run:

> **Note**: Synchronizations can also be run on demand by selecting the synchronization and selecting **Run**.

   a. Select **Weekly** from the **Frequency** list.
   b. Select **Tuesday** from the list of weekdays.
   c. Enter 03/04/2015 15:00 in the **Starts** field.
      Time should be entered in a twenty-four hour format.
   d. Select the **End after occurrence(s)** option and enter 8 in the field.

> **Note**: You can disable a preexisting schedule by clicking **Disable** in the Edit Schedule wizard. To enable a disabled schedule, click **Enable** in the Edit Schedule wizard.

   e. Select **Save**.

Appendix A: Fields Supported in Mapping Templates

In This Section

Fields Supported with Sample Provider

The following out-of-the-box field-mapping templates is supported for sharing data between Oracle Instantis EnterpriseTrack and EBS applications.

EnterpriseTrack Project mapping

The EnterpriseTrack Project mapping is the default field mapping template for the EnterpriseTrack provider. The following fields are mapped:

EnterpriseTrack	Gateway	Sample Provider
project_number	Id	ProjectId
project_name	Name	ProjectName
business_unit	BusinessUnit	BusinessArea
initial_forecast_cost	CurrentBudget	CurrentBudget
planned_start_date	PlannedStartDate	PlannedStartDate
planned_realization_date	FinishDate	FinishDate
calendar_id	ActivityDefaultCalendarName	OperationDefaultCalendarName

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