Oracle
Primavera
Gateway Connecting Distinct P6 Applications Guide

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Contents

Overview

Primavera Gateway is a middleware application that facilitates data migration between Primavera applications. For a quick synopsis, watch the ***Overview of Primavera Gateway video*** (***https://players.brightcove.net/2985902027001/SyXjZnYeeb_default/index.html?videoId=6174404031001***).

The *Connecting Distinct P6 Applications Guide* describes how to transfer data between two P6 applications each connected to a distinct database using Primavera Gateway.

You can use this process to:

- transfer project data or master data from P6 on-premises to P6 cloud
- transfer specific P6 data from a testing environment to a production environment

> **Note**: If you want to migrate P6 data on a large scale in its entirety, use **Migration Data** business flow. For more details on how to accomplish this, see the *Data Migration Guide.*

Within our documentation, some content might be specific for cloud deployments while other content is relevant for on-premises deployments. Any content that applies to only one of these deployments is labeled accordingly.

Gateway developers and administrators should use this guide.

In This Section

How to use this Guide

To successfully migrate P6 data, complete the task sequence outlined in the ***Roadmap for Transferring Data Between Distinct P6 Environments*** (on page 9).

Roadmap for Transferring Data Between Distinct P6 Environments

To transfer P6 data selectively to another P6 environment:

1) Determine the scenario that works best for your organization by ***Setting Up Your Environment*** (on page 9) for data transfer.
2) Identify two P6 applications which will be used as the source application and the destination application for data transfers.

   If both the applications reside in the cloud, contact Oracle Support with your service request. For more details see ***Placing a Service Request for Cloud Services*** (on page 10).
3) Connect both P6 cloud services to send and receive data with Gateway service to facilitate the data transfers.

   For more details, see Configuring P6 EPPM with a Gateway Connection
4) Configure your Gateway cloud service.

   For more details, see ***Configuring Primavera Gateway*** (on page 13).
5) In Gateway cloud, depending on the data want to transfer, setup a Master Data or a Project Data business flow.

   For more details, see ***Adding Business Flows*** (on page 23).

   > **Note**: If you want to instead move P6 data to an entirely different application or environment, you can migrate data. For more details, see the *Data Migration Guide*.
6) Run a synchronization which uses the relevant business flow created above to transfer the data.

   For more details, see the chapter, ***Working with Synchronizations*** (on page 47).
7) Monitor the synchronization to check the status of your data transfers.

   For more details, see the chapter, ***Monitoring Synchronizations*** (on page 53).

In This Section

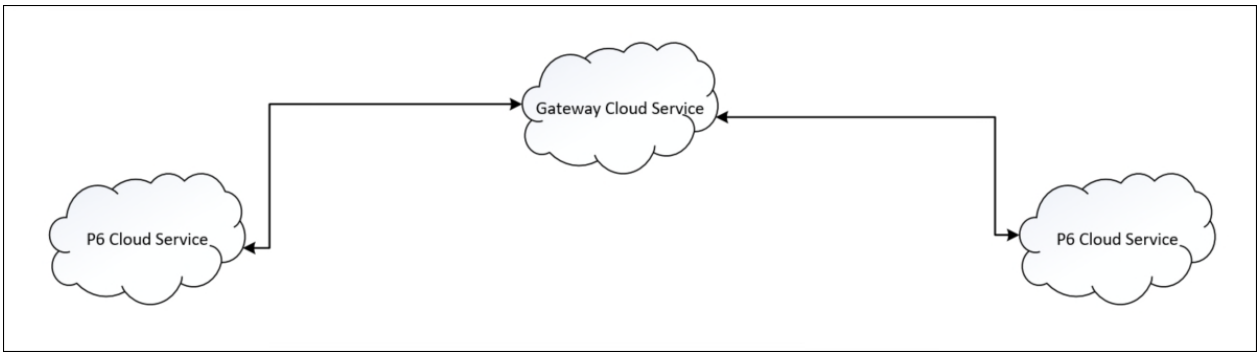
Setting Up Your Environment

You can set up the following types to environments:

- a cloud-only environment or
- a combination of on-premises and cloud environment

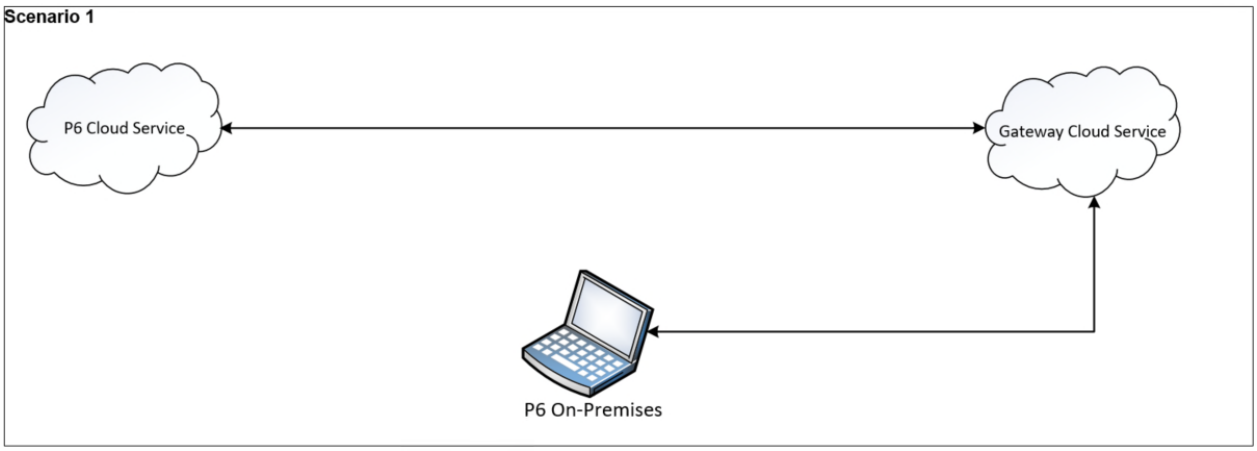
Cloud Only Environment

If your organization plans to connect two P6 cloud services using Primavera Gateway *cloud* service, as shown below, then proceed by ***Placing a Service Request for Cloud Services*** (on page 10).



Cloud and On-Premises Environment Setup

Scenario 1: Your organization plans to connect an *on-premises* P6 application with another P6 *cloud service* using Primavera Gateway *cloud service* as shown below.



Set up your environment as follows:

- Enter a service request for a P6 deployment which will connect to your on-premises application in Primavera Gateway. For more details see ***Placing a Service Request for Cloud Services*** (on page 10).
- Configure your *on-premises* P6 application to send and receive data using Gateway cloud service by completing the On-Premises Only Procedures.

Placing a Service Request for Cloud Services

Contact Oracle Support with a service request if you plan to use the following applications:

- P6 cloud service to send or / and receive data
- Gateway cloud service to facilitate the data transfer between the P6 cloud services

You will need to request for the following:

- two P6 deployments in Gateway cloud for each P6 cloud service you choose to connect with. Each deployment will be associated with a distinct P6 cloud service in your organization
- each P6 cloud service is configured to connect with Gateway cloud to send and receive data

  For more details, see Configuring P6 EPPM with a Gateway Connection.
- P6 Web Services installed in each P6 cloud service

> **Note**: P6 Web Services supports SAML 2.0 authentication. If you choose to use SAML 2.0 authentication between the P6 provider in Gateway and P6 EPPM, then SAML authentication must be enabled in P6 EPPM and Primavera Gateway applications. The server administrator must download the SAML token XML file on the Gateway server machine where the P6 deployment is to be created.

- Enabling encryption between Gateway and each P6 cloud service

When your service request is completed, and you receive access to Primavera Gateway, proceed with ***Configuring Gateway Settings*** (on page 13).

Configuring Applications for Integration

Complete the following tasks to configure Primavera Gateway and the distinct P6 deployments that will be used as the source and destination environments for data exchange:

- ***Configuring Gateway Settings*** (on page 13)
- ***Adding or Editing a P6 Deployment Connection*** (on page 16)

In This Section

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

Gateway administrators and developers can configure Primavera Gateway by setting up:

- Application-level configuration properties on the **Settings** page
- Deployments to connect with applications for sending and receiving data
- Configuration Data to seamlessly replicate Gateway configurations, and specific synchronizations
- Field Mapping Templates for business flows
- Custom Steps for business flows
- File Converters to enable sending and receiving data in supported file formats
- Add-Ins to manage customizations
- Consent Forms to activate consent notice for users

These tasks must be completed before you begin to transfer data between applications. The following section describes how to complete each task.

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 a P6 Deployment Connection

To move data between applications, Primavera Gateway needs to know where to get and send information. Set this up by adding application deployment connections by specifying an **Endpoint** URL for each application.

P6 Cloud Service

For P6 cloud service, contact Oracle Support to:

- add one or more P6 deployments
- copy an existing P6 deployment

P6 On-Premises Installations

For on-premises installations, add or edit a P6 deployment connection as follows:

1) Enter the Primavera Gateway URL in the format:
   http://<host name>:<port>/gateway
   Where, <host name> and <port> 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...**.
   The **Deployment** wizard displays.
6) In the **General** step, select **P6** from the **Select Application Provider** list, and name the deployment.

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

7) In the **Deployment** step, set up P6 connectivity from Gateway:

- **P6 Webservices authentication type:** Select any of the following authentication types.
  - *SAML2.0 Token* or
  - *UserName Token*
  - *OAuth*
- **User Name**: Enter the name of a P6 administrator with access to projects in P6 EPPM.
- **Password**: If you chose *UserName Token* authentication, enter the case-sensitive password of the P6 administrator.

  Endpoint: Enter the URL to connect with P6 Web Services in the format, *http:<host name>:<port>/p6ws/services/SyncServiceV1*
- **P6 Database Instance ID:** Enter the database instance ID associated with the P6 application.
- **SAML 2.0 Token File:** If you chose *SAML2.0 Token* authentication, then browse or enter the location of the downloaded SAML 2.0 token XML file used by P6 Web Services for authentication.
- If you chose *UserName Token* or *SAML2.0 Token* authentication, then enter the following information:
  - **Enable Encryption:** Select this option if you want to enable encryption when using P6 web services.
  - **Keystore File:** Enter or **Browse...** to the keystore file.

    For more details on how to generate a keystore file and keystore password, see Enabling Encryption Between Gateway and P6 Web Services for On-Premises.
  - **Keystore Password:** Enter the password for the keystore file.
  - **Certificate Alias:** Enter the certificate alias used for authentication.
- **P6 Currency:** Enter the base currency for the P6 deployment.

8) Select **Test Connection** to ensure connectivity with P6 is established.
9) 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.

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.

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.

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 *P6* as the source application from the **Source** list.
   b. Select another *P6* as 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 review the transferred objects and fields before the destination application is updated. This business flow will be used by **Run with Review** synchronizations.
   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.

   For more details, see:

   Setting P6 Provider Application Parameters for Master Data Flow (on page 36) and ***Setting P6 Provider Application Parameters for Project Data*** (on page 42).

7) In the **Destination App Parameters** step, select the destination field values, and the attributes of the destination parameters.

   For more details, see:

   Setting P6 Provider Application Parameters for Master Data Flow (on page 36) and ***Setting P6 Provider Application Parameters for Project Data*** (on page 42).

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.

Copying Business Flow

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, and then select **Copy** from the **Actions** ▼.

The **Business Flow** wizard displays a copy of the selected business flow by appending the word *Copy*. For example, *Transfer P6 Projects Testing Environment to P6 Production 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.

   For more details, see:

   Setting P6 Provider Application Parameters for Master Data Flow (on page 36)

   Setting P6 Provider Application Parameters for Project Data (on page 42)

6) In the **Destination App Parameters** step, select the destination field values, and the behavior of the destination parameters.

   For more details, see:

   Setting P6 Provider Application Parameters for Master Data Flow (on page 36)

   Setting P6 Provider Application Parameters for Project Data (on page 42)

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.

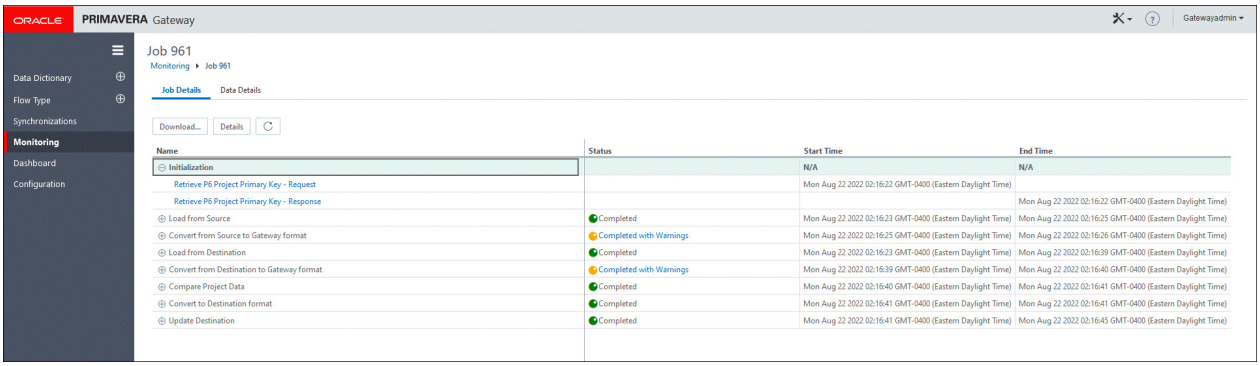
Deleting Business Flows

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,** or **Project 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 Master Data Business Flow

The **Master Data** flow type, if applicable to an integration, is used to specifically transfer master data between two applications or *distinct environments* of the same application. For example, to transfer data from a P6 Testing environment to P6 production environment or transfer data from P6 to Primavera Cloud.

The flow step sequence for master data is organized as follows:

- **Load from Source:** This step loads the master 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 master data from the source format to the Gateway format.
- **Load from Destination**: This step loads master data from the destination application into the Gateway framework so that it can be processed.

- **Convert from Destination to Gateway Format:** This step converts destination's master data to the Gateway format. The converted data is used for the **Compare** step.
- **Compare 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 master data from Gateway format to the destination format.
- **Review data:** (Optional) This step enables you to review the source data before updating the data in the destination application.
- **Update Destination:** This step saves the master data into the destination application's database.

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 External Java Custom Steps in Business Flows

An external custom step can be used in a project data or master data flow, and can be limited to an integration between specific provider applications. For example, you would use a project data flow with an external custom step to transfer project data from a Sample to File integration.

The flow step sequence for external Java custom steps can be organized as follows:

- **Load from Source:** This step loads the data from the source application into the Gateway framework so that it can be processed.
- **(Optional) <External Custom Step Name>:** This step can be used anywhere in the flow sequence. In this case, this step loads the external custom step to the source data.

  For more details on how to create an external custom step, download the External Custom Step SDK from the ⓘ **Help** menu in Gateway.
- **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) <External Custom Step Name>:** This step can be used anywhere in the flow sequence. In this case, this step loads the external custom step to the destination data.
- **Update Destination:** This step saves the data into the destination application's database.
- **(Optional) <External Custom Step Name>:** This step can be used anywhere in the flow sequence. In this case, this step loads the external custom step to the destination data.

Flow Step Sequence for Internal Java Custom Steps for On-Premises

An internal custom step can be used in a project data or master data flows, and can be limited to an integration between specific provider applications. Internal custom steps must be coded in Java and can be used anywhere in a flow step sequence. For example, use an internal custom step to transfer project data from a Sample to File integration.

The flow steps are organized as follows:

- **Load from Source:** This step loads the data from the source application into the Gateway framework so that it can be processed.
- **(Optional) <Internal Custom Step Name>:** This step can be used anywhere in the flow sequence. In this case, this step loads the internal custom step to the source data.
- **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) <Internal Custom Step Name>:** This step can be used anywhere in the flow sequence. In this case, this step loads the internal custom step to the destination data.
- **Update Destination:** This step saves the data into the destination application's database.
- **(Optional) <Internal Custom Step Name>:** This step can be used anywhere in the flow sequence. In this case, this step loads the internal custom step to the destination data.

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.

Setting UP P6 Master Data Flows

Use the **Master Data** flow type to send or receive the P6 master data.

To only select P6 Master Data:

1) Sign in to Gateway as an administrator or developer.
2) In the sidebar, select **Flow Type**, and then select **Master Data**.
3) Use the business flow wizard to select the master data to be transferred between distinct P6 environments.

   For more details on how to use the business flow wizard, see ***Working with Business Flows*** (on page 23).

In This Section

Supported Business Objects and Field Mapping Templates

The following table provides a list of P6 master data business objects with their supported field template mappings in Gateway. To import or export master data between distinct P6 applications, you can use the following default mapping templates. You can also create your own if these templates don't fit your needs. For a detailed list of fields supported in each template, see ***Supported Master Data Field Mapping Templates*** (on page 57).

P6 Business Object	Supported Field Mapping Template
ActivityCode	ActivityCode Field Mappings
ActivityCodeType	ActivityCodeType Field Mappings
BaselineType	BaselineType from Stage to Production
Calendar	Calendar field mappings
CostAccount	CostAccount from Stage to Production
Currency	Currency from Stage to Production
EPS	EPS from Stage to Production
ExpenseCategory	ExpenseCategory from Stage to Production
FinancialPeriod	FinancialPeriod from Stage to Production
Location	Location from Stage to Production
NotebookTopic	NotebookTopic from Stage to Production

ProjectCode	ProjectCode from Stage to Production
ProjectCodeType	ProjectCodeType from Stage to Production
Resource	Resource from Stage to Production
ResourceCode	ResourceCode Field Mappings
ResourceCodeType	ResourceCodeType Field Mappings
ResourceCurve	P6 ResourceCurve Fields
ResourceRate	ResourceRate from Stage to Production
ResourceRole	P6 ResourceRole Fields
Role	Role from Stage to Production
RoleLimit	P6 RoleLimit Fields
RoleRate	RoleRate from Stage to Production
UDFType	UDFType Fields from Stage to Production
UnitOfMeasure	P6 UnitOfMeasure Fields
WBSCategory	WBS CategoryFields from Stage to Production

Setting P6 Provider Application Parameters for Master Data Flow

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

> **Note:** 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 26). 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.

Source Application Default Parameters

The following source application parameters display for a P6 deployment designated as the *source* application in a master data flow. Gateway developers and Gateway administrators can access and view all parameters listed below.

Set values and attributes for the following parameters:

- **Location Filter**

Use this setting to identify and select location values in P6 using **Country Code**, and **State code**. Enter multiple values in the **Country Code**, or **State Code** fields as comma-separated values. Select **Add Row** to enter multiple locations. Select **Edit Row** to change current filter criteria for selecting a location value.

- **Notebook Topic Filter**

  Use this setting to transfer the following types of Notebook Topics in P6: **EPS, Project, WBS,** and **Activity**.

- **Project Code Type Filter**

  Use this setting to identify and select ProjectCodeType values in P6 by using the **Name** field. Enter multiple values in the **Name** field as comma-separated values. Select **Add Row** to enter multiple ProjectCodeType values. Select **Edit Row** to change the current filter criteria for selecting a ProjectCodeType value.

- **Resource Code Type Filter**

  Use this setting to identify and transfer ResourceCodeType values in P6 by using the **Name** field. Enter multiple values in the **Name** field as comma-separated values. Select **Add Row** to enter multiple ResourceCodeType values. Select **Edit Row** to change the current filter criteria for selecting a ResourceCodeType value.

- **Activity Code Type Filter**

  Use this setting to identify and transfer ActivityCodeType values in P6 by using the **Name** field. Enter multiple values in the **Name** field as comma-separated values. Select **Add Row** to enter multiple ActivityCodeType values. Select **Edit Row** to change the current filter criteria for selecting an ActivityCodeType value.

- **Resource Filter**

  Use this setting to identify and select Resource values in P6 by using the following fields: **Resource Ids**, and **Resource Code**. Enter multiple values of **Resource Ids** or **Resource Code** as comma-separated values. Select **Add Row** to enter multiple resource values. Select **Edit Row** to change the current filter criteria for selecting a resource value.

- **Include Resource Hierarchy**

  Select this option to include the P6 resource hierarchy with the Resource objects. This information is used in the **Load** step of the flow.

- **Role Filter**

  Use this setting to identify and transfer role values in P6 by using the **Role Id** field. Enter multiple values in the **Role Ids** field as comma-separated values. Select **Add Row** to enter multiple role values. Select **Edit Row** to change the current filter criteria for selecting a role value.

- **Include Role Hierarchy**

  Select this option to include the P6 role hierarchy with the Role values in the data transfer. This information is used in the **Load** step of the flow.

- **Calendar Filter**

  Use this setting to identify and transfer **Global Calendar** and / or **Resource Calendar** values in P6 by using the **Name** field. Enter multiple values in the **Name** field as comma-separated values. Select **Add Row** to enter multiple calendars. Select **Edit Row** to change the current filter criteria for selecting a calendar.

- **P6 UDF Type filter**

Use this setting to select and transfer the following UDF Types: **Activity, Activity Expense, Project, Resource, Resource Assignment,** and **WBS**.

- **EPS Filter**

  Use this setting to identify and transfer EPS values in P6. Enter multiple values for the **EPS Ids** field as comma-separated values. Select **Add Row** to enter multiple EPS values. Select **Edit Row** to change the current filter criteria for selecting an EPS value.

- **ExpenseCategory Filter**

  Use this setting to identify and transfer ExpenseCategory values in P6 by using the **ExpenseCategory Names** field. Enter multiple values in the **ExpenseCategory Names** field as comma-separated values. Select **Add Row** to enter multiple ExpenseCategory values. Select **Edit Row** to change the current filter criteria for selecting an ExpenseCategory value.

- **WBSCategory Filter**

  Use this setting to identify and transfer WBSCategory values in P6 by using the **WBSCategory Names** field. Enter multiple values for the **WBSCategory Names** field as comma-separated values. Select **Add Row** to enter multiple filter criteria for selecting WBSCategory values. Select **Edit Row** to change the current filter criteria for selecting a WBSCategory value.

Destination Application Default Parameters

The following destination application parameters display for a P6 deployment designated as the *destination* application in a master data flow. Gateway developers and Gateway administrators can access and view all parameters listed below.

Set values and attributes for the following parameters:

- **Resource Destination**

  Use this setting to specify the location of the Resource objects imported into P6. This information is used in the **Save** step of the flow.

- **Calculate Costs from Units**

  Use this setting to determine whether to calculate costs from the units. This information is used in the **Save** step of the flow.

- **Auto Compute Actuals**

  Select this setting if you want the actuals to be auto-computed in P6. This information is used in the **Save** step of the flow.

- **Role Destination**

  Use this setting to specify the location of the role objects imported into P6. This information is used in the **Save** step of the flow.

- **Save data to P6 if there are errors**

  Use this setting to determine whether to save the imported data in P6 with errors. This information is used in the **Save** step of the 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.

- **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.

- **Only delete data that has been linked previously with the source application?**

  To use this parameter, you must also select the parameter, **Delete data that no longer exists in the source application?** During a synchronization, when the data is compared between the source and the destination application, data that has been added only in the destination application will not be deleted. However, if you deleted source data that was previously synced in the destination application, it will also be deleted from the destination application.

Setting Up P6 Project Data Flows

You can create project data business flows to suit your needs, and then use the **Project Data** flow type to send or receive P6 project data.

To only select P6 project data:

1) Sign in to Gateway as an administrator or developer.
2) In the sidebar, select **Flow Type**, and then select **Project Data**.
3) Use the business flow wizard to select the project data to be transferred between distinct P6 environments.

   For more details on how to use the business flow wizard, see ***Working with Business Flows*** (on page 23).

In This Section

Supported Business Objects and Field Mapping Templates

The following table provides a list of P6 project data business objects with their supported field template mappings in Gateway. To import or export project data between distinct P6 applications, you can use the following default mapping templates. You can also create your own if these templates don't fit your needs. For a detailed list of fields supported in each template, see ***Supported Project Data Field Mapping Templates*** (on page 65). .

P6 Business Object	Supported Field Mapping Template
Activity	P6 Activity Mapping
ActivityCode	ActivityCode Field Mappings
ActivityCodeType	ActivityCodeType Field Mappings
ActivityExpense	P6 Activity Expense Fields
ActivityRisk	ActivityRisk field mappings
Calendar	Calendar field mappings
CBS	CBS field mappings
Project	P6 Project Field Mapping

P6 Business Object	Supported Field Mapping Template
ProjectCode	ProjectCode from Stage to Production
ProjectCodeType	ProjectCodeType from Stage to Production
ProjectResource	P6 Project Resource Fields
Relationship	P6 Activity Relationship Fields
Resource	Resource from Stage to Production
ResourceAssignment	P6 Assignment Mapping
ResourceCode	ResourceCode Field Mappings
ResourceCodeType	ResourceCodeType Field Mappings
ResourceRate	ResourceRate from Stage to Production
Risk	Risk field mappings
RiskImpact	RiskImpact field mappings
RiskMatrix	RiskMatrix field mappings
RiskMatrixScore	RiskMatrixScore field mappings
RiskMatrixThreshold	RiskMatrixThreshold field mappings
RiskResponseAction	RiskResponseAction field mappings
RiskResponseActionImpact	RiskResponseActionImpact field mappings
RiskResponsePlan	RiskResponsePlan field mappings
RiskThreshold	RiskThreshold field mappings
RiskThresholdLevel	RiskThresholdLevel field mappings
Role	Role from Stage to Production
UDFType	UDFType Fields from Stage to Production
WBS	P6 WBS Field Mapping

Setting P6 Provider Application Parameters for Project Data

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

> **Note:** 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 26). 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.

Source Application Default Parameters

The following provider application parameters display for a P6 deployment designated as the *source* application in a project data flow. Gateway developers and Gateway administrators can access and view all parameters listed below. Set values and attributes for the following parameters:

- **P6 Filter**

  Use this setting to identify and select projects in P6 using *Project Ids, EPS Ids, Project Code, Project Code Type Name,* or *Project Code Value*.

  Select projects by:

  - Entering multiple values for **Project Id** and **Project Code** as comma-separated values
  - Entering multiple values for **EPS Id** as comma-separated values or
  - Entering multiple **Project Codes** with values in the following format:*Type Name = Value Name.*

  For example:

  1. In the **Fields** list, select *Project Code.*
  2. In the **Value** list, enter: *Integrate to P6 = Yes*, and then select **Add Row.**

     To specify a second condition for **Project Code**:
  3. In the **Fields** list, select *Project Code.*
  a. In the **Value** list, enter *Sales Country Code = DE*, and then select **Add Row.**
- **Baseline**

  Use this setting to select the type of baseline to be created in Unifier or migrate P6 data. Options include: **No Baseline**, **Baseline Names**, **Project Baseline,** and **All Baseline**. This parameter is specific to a Unifier - P6 integration only. This information is used in the **Load** step of the flow.
- **Activity Filter**

  Use this setting to identify and select projects in P6 by using **Activity Ids, Activity Status, Activity Type,** and **Activity Code**. Enter multiple values as comma-separated values. Select **Add Row** to enter multiple filter criteria for selecting activities. Select **Edit Row** to change the current filter criteria or value for selecting activities.
- **Resource Assignment Filter**

  Use this setting to select ResourceAssignments in P6 using **Resource Ids** or **Resource Type**. Enter multiple values as comma-separated values. Select **Add Row** to enter multiple filter criteria for selecting resource assignments. Select **Edit Row** to change the current filter criteria or value for selecting resource assignments.
- **Summarize project(s) before synchronization?**

  Use this setting to determine whether to summarize projects before a synchronization. This information is used in the **Load** step of the flow.
- **Spread Period type**

Use this setting to select the default spread period type in P6 EPPM. Options include: **Week, Month, Day,** and **Financial Period**. This information is used in the **Load** step of the flow.

- **Synchronize WBS Hierarchy**

  Use this setting to determine to what extent you would like to synchronize the WBS hierarchy in P6. Options include: **Complete, Partial,** or **Levels**. The P6 WBS setting in P6 will override the Gateway setting.

Destination Application Default Parameters

The following provider application parameters display for a P6 deployment designated as the *destination* application in a project data flow. Users with Gateway administrator roles can access and view all parameters listed below. Set values and attributes for the following parameters:

> **Note:** Unless specified in parentheses, all parameters listed below are hidden from a non-administration user.

- **EPS Location**

  Use this setting to specify the EPS node where the project should be created in the destination P6. This information is used in the **Load** and **Save** steps of the flow.

- **Copy from Existing Project or Template**

  Use this setting when you want to add project data in P6 by copying data from another existing project or project template in P6.

  If the project did *not* previously exist in the P6, it is first created from the project or template, and the data from the source application is then sent to P6 to create additional project data using the field-mapping templates included in the business flow.

  For existing projects in P6, this parameter is ignored. Data from the source application is sent to P6 to create the project using only the field-mapping templates included in the business flow.

- **Resource Destination**

  Use this setting to specify the location of the Resource objects imported into P6.

- **Role Destination**

  Use this setting to specify the location of the role objects imported into P6. This information is used in the **Save** step of the flow.

- **Calculate Costs from Units**

  Use this setting to determine whether to calculate costs from the units. This information is used in the **Save** step of the flow.

- **Auto Compute Actuals**

  Select this setting if you want the actuals to be auto-computed in P6. This information is used in the **Save** step of the flow.

- **Schedule project(s) after synchronization?**

  Use this setting to determine whether to schedule projects after a synchronization. This information is used in the **Save** step of the flow.

- **Summarize project(s) after synchronization?**

  Use this setting to determine whether to summarize projects after a synchronization. This information is used in the **Save** step of the flow.

- **Save data to P6 if there are errors**

  Use this setting to determine whether to save the imported data in P6 with errors. This information is used in the **Save** step of the 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.

- **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.

- **Only delete data that has been linked previously with the source application?**

  To use this parameter, you must also select the parameter, **Delete data that no longer exists in the source application?** During a synchronization, when the data is compared between the source and the destination application, data that has been added only in the destination application will not be deleted. However, if you deleted source data that was previously synced in the destination application, it will also be deleted from the destination application.

- **Partition data to child jobs for large data transfers?**

  Use this setting if you are integrating large data sets between projects and between applications when P6 EPPM or Oracle Primavera Cloudis the source application. This parameter partitions large data sets logically into multiple child jobs.

- **Child job object limit for partitioned data**

  Use this setting in conjunction with the **Partition Data into Child Jobs?** parameter. Enter a limit on the number of objects that can be included in the child jobs in the range 50 - 5000. Zero (0) is the default value.

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 copy an existing synchronization, and then edit the copy to create a new synchronization as needed.

> **Note**: This is a quicker method to create a synchronization from an existing synchronization.

To copy a synchronization in Gateway:

1) In the sidebar, select **Synchronizations**.
2) Select the synchronization you want to copy, select the Actions menu, and then 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. From the **Business Flow** list, select a business flow that is to be used by the synchronization.
   c. The source and destination for data transfer are pre-selected. Update only if necessary.

> **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 on the **Synchronizations** page.

Deleting Synchronizations

To delete a synchronization in Gateway:

1) In the sidebar, select **Synchronizations**.
2) Select the synchronization you want to copy, select the **Actions** ▼ menu, and then select **Delete**.
3) In the **Confirmation** dialog box, select **Confirm**.

Note: When you delete a synchronization, all job logs associated with a synchronization are also deleted.

Transferring Data between Applications

After you add, copy or edit a synchronization as needed, transfer data to the destination application as follows:

1) In the sidebar, select **Synchronizations**.
2) In the **Name** column, select the row containing the synchronization you want to execute.
3) Transfer data to the destination application using any of the following options:

   Select **Run** to run a synchronization immediately.

   In the **Actions** ▼ menu select any of the following options:

   - Select **Run with Review** to review the source data before transferring it to the destination application.

     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.

   - Select **Run on Event** to schedule an event-based synchronization. For more details, see ***Scheduling Run on Event Synchronizations*** (on page 50).
   - Select **Edit Schedule...** to schedule and run synchronizations. For more details, see ***Scheduling Synchronizations*** (on page 51).
4) Proceed to monitor the synchronization. For more details see ***Monitoring Synchronizations*** (on page 53).

Scheduling Run on Event Synchronizations

A **Run on Event** synchronization is executed only when a specific event occurs in P6 EPPM, the source application. For example, a run-on-event synchronization executed only when a new activity is added to project ID PRJ001.

A run on event synchronization between Primavera Cloud and P6 EPPM can be executed only if:

- P6 EPPM, and Primavera Gateway are both installed on the cloud or, both installed on-premises
- Primavera Gateway and P6 EPPM are installed in the same domain
- P6 EPPM deployment in Primavera Gateway is set up with the P6 event provider. Contact support to complete this request. The event provider uses event listeners to monitor events in the P6 EPPM application.

  Note: (On-premises only) To set up event-based synchronizations for any other source application you will need to develop an event provider for your provider. For more details, refer to the *Primavera Gateway Provider Development Guide*.

- P6 EPPM is the source application in the synchronization job.

To schedule run on event synchronizations:

1) In the sidebar, select **Synchronizations**.
2) Select a synchronization job.
3) In the **Actions** ▼ menu, select **Run on Event**.
4) In the **Add Listener** wizard, select the event listener from the drop-down for the synchronization job.
5) Select **Save**.

   The synchronization job is now set to run for the event coded in the event listener.

Scheduling Synchronizations

Set up a synchronization schedule to run specific synchronizations on a frequent basis.

To schedule a synchronization in Gateway:

1) In the sidebar, select **Synchronizations**.
2) Select the synchronization you want to copy.
3) In the **Actions** ▼ menu, select **Edit Schedule...**.
4) In the **Recurrence Pattern** section, select the frequency of the synchronization.
   - From the **Frequency** list, select *Daily*, *Weekly*,*Monthly*, or *After Synchronization*.
   - Complete the additional fields which display for the selected frequency.

   > **Note**: If you select *After Synchronization*, then you can schedule multiple synchronizations that run sequentially. For more details, see ***Scheduling Sequential Synchronizations*** (on page 51).

5) In the **Range of Recurrence** section, enter the duration of the synchronization being scheduled.
   a. In the **Starts** field, enter or select the start date and time of the synchronization schedule.
   b. In the **Ends** field, select any of the following options:
      - **No end date**: The synchronization schedule will run for the selected frequency until canceled manually.
      - **End after # occurrences**: The synchronization schedule will end after running a specific number of times for the selected frequency.
      - **End By**: Enter or select the end date and time of the synchronization schedule.
6) Select **Save**.

Scheduling Sequential Synchronizations

A synchronization job sequence is a sequence of synchronizations that are executed consecutively.

To schedule a synchronization job sequence:

1) In the sidebar, select **Synchronizations**.

2) In the **Synchronization Name** column, select the next or the final synchronization that is to be run in the job sequence.
3) In the **Actions** ▼ menu, select **Edit Schedule...**.
4) Select *After Synchronization* from the **Frequency** list.
5) Select the previous synchronization that is to be run in the sequence from the **Run After Synchronization** list.

   The previous synchronization must finish with a status of *Completed*, or *Completed with Warnings* to begin the next synchronization.

   If a synchronization fails to run, all subsequent linked synchronizations will not run in the job sequence.
6) Repeat the above sequence to set up multiple linked synchronizations in a sequence.
7) Select **Save**.
8) To view a flow chart of the linked synchronizations:
   a. In the **Synchronization Name** column, select the linked synchronization.
   b. In the **Actions** ▼ menu, select **Job Chain Diagram**.

   Note: This option is enabled only for a linked synchronization.
9) To run the job sequence:
   a. On the **Synchronizations** page, select the **Synchronization Name** that was last setup in the job sequence.
   b. Select **Run**.
   c. In the **Run Synchronization** dialog box, select any of the following options:
      - Run only the selected synchronization or
      - Run the selected synchronization, and the entire linked job sequence
10) Select **Confirm.**
11) On the **Monitoring** page, review the data transferred by the job sequence.

Monitoring Synchronizations

Use the monitoring feature in Gateway track the status of the transfer in each step of a synchronization jobs or troubleshoot failed jobs.

Data can be monitored in two ways:

- Monitor the transfer at each step of the synchronization run or
- Monitor the transfer for each object included in the synchronization run

This chapter describes how to monitor synchronizations in Primavera Gateway.

In This Section

Monitoring the Steps of a Data Transfer

To monitor the details in each step of a data transfer:

1) In the sidebar, select **Monitoring**.
2) (Optional) To find a specific synchronization job, use the **Filter** list to display specific jobs or select a column heading to sort information in the column alphabetically.
3) Perform any of the following actions:

   Select ↻ **Refresh** to update the results.

   From the **Actions** ▼ menu:

   - Select **Cancel** to cancel jobs with a status of **In Progress**, **Delegated**, **Pending**, or **Queued**.

     When a parent job is canceled:

     - The steps of the current job in process will complete, but the status of all subsequent steps will be set to *Never Run*.
     - All child jobs will also be canceled.
     - The status of all child jobs completed prior to the cancellation remain unchanged.
     - The status of all child jobs currently in progress is set to *Canceled*.
     - The status of all child jobs that did not start is set to *Canceled*.
   - Select **Delete** to delete the selected job.
   - Select **Re-run Job** to repeat the job run using the same parameters that were entered in the Synchronization page. If any fields have been added or removed from the job, then those changes will be included during the job re-run.

- Select **Delete XRef for Job** if you want to delete the current cross-references (tracking information) related to the job. Use this option if you want to recreate cross-references by sending the data again. The data will be considered new when sending to the destination. Only jobs with a status of *Completed*, *Failed*, *Completed with Warning*, or *Canceled* can be deleted. This option is available to Gateway administrators only.
- Select **Delete XRef by Deployment** if you want to only delete all cross-references (tracking information) associated with the data that has been sent in Gateway between specific deployments of the source and destination applications. You will need to create new jobs to create new cross-references to transfer data again between the deployments. This option is available to Gateway administrators only.

> **Note**: You are only deleting the deployment tracking information of the data transferred so far in Gateway. The sent data will continue to be available in the destination application.

4) In the **Job** column, select a job number.
5) In the **Job Details** tab, perform any of the following actions:
   - Expand each flow step to review the work done by the synchronization.
     - If a parent job has child jobs, select each job to review the flow steps for more information.
     - In the **Status** column, select **Review** link to access further information about the flow step on the **Summary** page.
     - Select **Download** to save the job details contained in each flow step as a zip file.

       If the job has a status of *Failed*, *or Completed with Warnings*, expand the failed step and view the log file containing the warning message or error message. The log files are generated in the format *Warning_job#.log* and *Error_job#.log*.

> **Note:** If you are a user or administrator with *no* data access privileges, you cannot review the actual data being transferred in each step of a job nor download the job details. An error message, *Insufficient Permissions*, is displayed.

   - Select **Details** to troubleshoot and locate errors when a job fails.

     View all the setup details used when a synchronization was run. This includes details on the synchronization, business flows, field-mapping templates, deployments, settings, and the run-time parameters used by the synchronization. Provide this file when you have to report an issue to Oracle Support.

Tips:

- You can configure the number of jobs displayed using the **Maximum number of job logs to display per page** setting in the **Settings** dialog box.
- If configured when defining a business flow, you can be notified by email when a synchronization job completes.

Monitoring the Objects in a Data Transfer

Use the monitoring feature in Primavera Gateway to track synchronization jobs or troubleshoot failed jobs that returned errors when transferring each object.

To monitor the work done on each object:

1) In the sidebar, select **Monitoring**.
2) (Optional) To find a specific synchronization job, use the **Filter** list to display specific jobs or select a column heading to sort information in the column alphabetically.
3) To update the results, select ↻ **Refresh**.
4) In the **Job** column, select a job number.
5) On the **Job #** page, select the **Data Details** tab.
6) (Optional) Select **File Output...** to download the file data to any file format supported in Gateway (csv, xls, xlsx, and XML).

> **Note**: The button displays only when when File is the destination application and the **File Data Source Type** is set to *File Upload* in the File Provider deployment.

7) In the **Summary** section, select an action count for a business object in any of the following columns:
   - **Create**: The estimated number of create actions that will be performed by the job in the transfer of each object in the destination application.
   - **Update**: The estimated number of update actions that will be performed by the job in the transfer of each object in the destination application.
   - **Delete**: The estimated number of delete actions that will be performed by the job in the transfer of each object in the destination application.
   - **Error**: The estimated number of errors that will be generated by the job in the transfer of each object in the destination application.
   - **Total**: The estimated total number of actions that will be performed by the job in the transfer of each object in the destination application.
8) In the **Business Object Details** section of the selected business object:
   - Review the actual data that was transferred in each **Create, Update,** and **Delete** actions performed on the business object.
   - Review the actual **Response** for each action in the destination application.
   - Review the **Errors** generated for each data that failed to be transferred by the synchronization.

Notes:

- If you have no access to data, you cannot view the details of the data passed in each object. You can only view the errors and warning messages associated with each step.
- When you download the log files, the synchronization setup details are also included in the download.
- The object level reporting details can be downloaded only after a synchronization job reaches the **Update Destination** step in a flow.

Appendix: Supported Field Mapping Templates

In This Section

Supported Master Data Field Mapping Templates

The following field-mapping templates are delivered out-of-the-box in Primavera Gateway when you select a **Master Data** business flow in the **Flow Type** menu to transfer master data business objects between distinct P6 deployments.

ActivityCode Field Mappings

The following fields are mapped for an ActivityCode business object between distinct P6 deployments and Gateway.

P6 Field	Gateway Field
CodeTypeName	CodeTypeName
CodeValue	CodeValue
Color	Color
Description	Description

ActivityCodeType Field Mappings

The following fields are mapped for an ActivityCodeType business object between distinct P6 deployments and Gateway.

P6 Field	Gateway Field
EPSObjectId	EPSObjectId
Length	Length
Name	Name
ProjectObjectId	ProjectObjectId
Scope	Scope

BaselineType from Stage to Production

The following fields are mapped for an BaselineType business object between distinct P6 deployments and Gateway.

P6 Field	Gateway Field
Name	Name

Calendar field mappings

The following fields are mapped for a Calendar business object between distinct P6 deployments and Gateway.

P6 Field	Gateway Field
Name	Name
Type	Type
IsPersonal	IsPersonal
StandardWorkWeek	StandardWorkWeek
HolidayOrExceptions	HolidayOrExceptions

CostAccount from Stage to Production

The following fields are mapped for a CostAccount business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
ID	ID
Name	Name
Description	Description

Currency from Stage to Production

The following fields are mapped for a Currency business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Id	Id
Name	Name

Symbol	Symbol
ExchangeRate	Exchange Rate
DecimalSymbol	DecimalSymbol
DigitGroupingSymbol	DigitGroupingSymbol
PositiveSymbol	Positive Symbol
NegativeSymbol	NegativeSymbol

EPS from Stage to Production

The following fields are mapped for an EPS business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
ID	Id
Name	Name
SequenceNumber	SequenceNumber

ExpenseCategory from Stage to Production

The following field is mapped for an ExpenseCategory business object between distinct P6 deployments and Gateway.

P6 Field	Gateway Field
Name	ExpenseCategory

FinancialPeriod from Stage to Production

The following fields are mapped for a FinancialPeriod business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
EndDate	EndDate
Name	Name
StartDate	StartDate

Location from Stage to Production

The following fields are mapped for a Location business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Name	Name
Latitude	Latitude
Longitude	Longitude
AddressLine1	AddressLine1
AddressLine2	AddressLine2
City	City
Municipality	Municipality
State	State
StateCode	StateCode
Country	Country
CountryCode	CountryCode
PostalCode	PostalCode

NotebookTopic from Stage to Production

The following fields are mapped for a NotebookTopic business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
AvailableForActivity	AvailableForActivity
AvailableForEPS	AvailableForEPS
AvailableForProject	AvailableForProject
AvailableForWBS	AvailableForWBS
Name	Name

P6 ResourceCurve Fields

The following fields are mapped for a ResourceCurve business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
CurveData	CurveData
IsDefault	IsDefault
Name	Name

P6 ResourceRole Fields

The following fields are mapped for a ResourceRole business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Proficiency	Proficiency
ResourceId	ResourceId
ResourceName	ResourceName
ResourceObjectId	ResourceObjectId
RoleId	RoleId
RoleName	RoleName
RoleObjectId	RoleObjectId

P6 RoleLimit Fields

The following fields are mapped for a RoleLimit business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
EffectiveDate	EffectiveDate
MaxUnitsPerTime	MaxUnitsPerTime
RoleObjectId	RoleObjectId

P6 UnitOfMeasure Fields

The following fields are mapped for a UnitOfMeasure business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Abbreviation	Abbreviation
Name	Name
SequenceNumber	SequenceNumber

ProjectCode from Stage to Production

The following fields are mapped for a ProjectCode business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
CodeTypeName	CodeTypeName
CodeValue	CodeValue
Description	Description
Weight	Weight

ProjectCodeType from Stage to Production

The following fields are mapped for a ProjectCodeType business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Name	Name
Length	Length
Weight	Weight

Resource from Stage to Production

The following fields are mapped for a Resource business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Id	Id
Name	Name
ResourceType	ResourceType

P6 Fields	Gateway Fields
EmailAddress	EmailAddress
EmployeeId	EmployeeId
OfficePhone	OfficePhone
Title	Title
DefaultUnitsPerTime	DefaultUnitsPerTime
CalendarName	CalendarName
LocationName	LocationName

ResourceCode Field Mappings

The following fields are mapped for a ResourceCode business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
CodeTypeName	CodeTypeName
CodeValue	CodeValue
Description	Description

ResourceCodeType Field Mappings

The following fields are mapped for a ResourceCodeType business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Name	Name
Length	Length

ResourceRate from Stage to Production

The following fields are mapped for a ResourceRate business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
EffectiveDate	EffectiveDate

P6 Fields	Gateway Fields
PricePerUnit	PricePerUnit
PricePerUnit2	PricePerUnit2
PricePerUnit3	PricePerUnit3
PricePerUnit4	PricePerUnit4
PricePerUnit5	PricePerUnit5

Role from Stage to Production

The following fields are mapped for a Role business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Id	Id
Name	Name
Responsibilities	Responsibilities

RoleRate from Stage to Production

The following fields are mapped for a RoleRate business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
PricePerUnit	PricePerUnit
PricePerUnit2	PricePerUnit2
PricePerUnit3	PricePerUnit3
PricePerUnit4	PricePerUnit4
PricePerUnit5	PricePerUnit5

UDFType Fields from Stage to Production

The following fields are mapped for an UDFType business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
DataType	DataType
SubjectArea	SubjectArea
Title	Title

WBSCategory Fields from Stage to Production

The following field is mapped for a WBSCategory business object between distinct P6 deployments and Gateway.

P6 Field	Gateway Field
Name	Name

Supported Project Data Field Mapping Templates

The following field-mapping templates are delivered in Primavera Gateway when you select a **Project Data** business flow in the **Flow Type** menu to transfer project data between distinct P6 deployments.

ActivityCode Field Mappings

The following fields are mapped for an ActivityCode business object between distinct P6 deployments and Gateway.

P6 Field	Gateway Field
CodeTypeName	CodeTypeName
CodeValue	CodeValue
Color	Color
Description	Description

ActivityCodeType Field Mappings

The following fields are mapped for an ActivityCodeType business object between distinct P6 deployments and Gateway.

P6 Field	Gateway Field
EPSObjectId	EPSObjectId

P6 Field	Gateway Field
Length	Length
Name	Name
ProjectObjectId	ProjectObjectId
Scope	Scope

ActivityRisk field mappings

The following fields are mapped for an ActivityRisk business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
RiskId	RiskId
ProjectId	ProjectId
ActivityId	ActivityId

Calendar field mappings

The following fields are mapped for a Calendar business object between distinct P6 deployments and Gateway.

P6 Field	Gateway Field
Name	Name
Type	Type
IsPersonal	IsPersonal
StandardWorkWeek	StandardWorkWeek
HolidayOrExceptions	HolidayOrExceptions

CBS Field Mappings

The following fields are mapped for an CBS business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
CBSCode	CBSCode

P6 Fields	Gateway Fields
CBSDescription	CBSDescription
CBSStatus	CBSStatus

P6 Activity Expense Fields

The following fields are mapped for an ActivityExpense business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
ActualCost	ActualCost
ExpenseCategoryName	ExpenseCategoryName
ExpenseItem	ExpenseItem
PlannedCost	PlannedCost
ProjectObjectId	ProjectObjectId

P6 Activity Mapping

The following fields are mapped for an Activity business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Id	Id
PlannedDuration	PlannedDuration
ActualStartDate	ActualStartDate
ActualFinishDate	ActualFinishDate
FinishDate	FinishDate
Name	Name
PrimaryConstraintDate	PrimaryConstraintDate
PrimaryConstraintType	PrimaryConstraintType
StartDate	StartDate
Type	Type
CalendarName	CalendarName

P6 Fields	Gateway Fields
LocationName	LocationName
IsStarred	IsStarred
MaximumDuration	MaximumDuration
MinimumDuration	MinimumDuration
MostLikelyDuration	MostLikelyDuration

P6 Activity Relationship Fields

The following fields are mapped for a Relationship business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Type	Type
Lag	Lag
PredecessorProjectObjectId	PredecessorProjectObjectId
SuccessorProjectObjectId	SuccessorProjectObjectId

P6 Assignment Mapping

The following fields are mapped for a ResourceAssignment business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
ResourceType	ResourceType
PlannedUnits	PlannedUnits
ActualUnits	ActualUnits
IsActivityFlagged	IsActivityFlagged
RemainingUnits	RemainingUnits
PlannedLag	PlannedLag
ResourceId	ResourceId
RoleId	RoleId
WBSObjectId	WBSObjectId

P6 Project Field Mapping

The following fields are mapped for a Project business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Id	Id
Name	Name
Status	Status
Description	Description
FinishDate	FinishDate
StartDate	StartDate
LocationName	LocationName
ProjectScheduleType	ProjectScheduleType
RiskMatrixObjectId	RiskMatrixObjectId

P6 Project Resource Fields

The following field is mapped for a ProjectResource business object between distinct P6 deployments and Gateway.

P6 Field	Gateway Field
ResourceName	ResourceName

P6 WBS Field Mapping

The following fields are mapped for a WBS business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Code	Code
Name	Name
AnticipatedStartDate	AnticipatedStartDate
AnticipatedFinishDate	AnticipatedFinishDate
FinishDate	FinishDate
StartDate	StartDate

P6 Fields	Gateway Fields
CurrentBudget	CurrentBudget
WBSCategoryObjectId	WBSCategoryObjectId

ProjectCode from Stage to Production

The following fields are mapped for a ProjectCode business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
CodeTypeName	CodeTypeName
CodeValue	CodeValue
Description	Description
Weight	Weight

ProjectCodeType from Stage to Production

The following fields are mapped for a ProjectCodeType business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Name	Name
Length	Length
Weight	Weight

Resource from Stage to Production

The following fields are mapped for a Resource business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Id	Id
Name	Name
ResourceType	ResourceType
EmailAddress	EmailAddress

P6 Fields	Gateway Fields
EmployeeId	EmployeeId
OfficePhone	OfficePhone
Title	Title
DefaultUnitsPerTime	DefaultUnitsPerTime
CalendarName	CalendarName
LocationName	LocationName

ResourceCode Field Mappings

The following fields are mapped for a ResourceCode business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
CodeTypeName	CodeTypeName
CodeValue	CodeValue
Description	Description

ResourceCodeType Field Mappings

The following fields are mapped for a ResourceCodeType business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Name	Name
Length	Length

ResourceRate from Stage to Production

The following fields are mapped for a ResourceRate business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
EffectiveDate	EffectiveDate
PricePerUnit	PricePerUnit

P6 Fields	Gateway Fields
PricePerUnit2	PricePerUnit2
PricePerUnit3	PricePerUnit3
PricePerUnit4	PricePerUnit4
PricePerUnit5	PricePerUnit5

Risk field mappings

The following fields are mapped for a Risk business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Id	Id
ProjectId	ProjectId
Name	Name
Type	Type
Status	Status
Description	Description
Effect	Effect
Cause	Cause
IdentifiedDate	IdentifiedDate
ResponseTotalCost	ResponseTotalCost

RiskImpact field mappings

The following fields are mapped for a RiskImpact business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
ProjectId	ProjectId
RiskId	RiskId
RiskThresholdName	RiskThresholdName
RiskThresholdLevelCode	RiskThresholdLevelCode

RiskMatrix field mappings

The following fields are mapped for a RiskMatrix business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Name	Name
Description	Description
RiskScoringMethod	RiskScoringMethod
ImpactThresholdLevel	ImpactThresholdLevel
ProbabilityThresholdLevel	ProbabilityThresholdLevel

RiskMatrixScore field mappings

The following fields are mapped for a RiskMatrixScore business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
RiskMatrixName	RiskMatrixName
ProbabilityThresholdLevel	ProbabilityThresholdLevel
Severity1	Severity1
Severity1Label	Severity1Label
Severity2	Severity2
Severity2Label	Severity2Label
Severity3	Severity3
Severity3Label	Severity3Label
Severity4	Severity4
Severity4Label	Severity4Label
Severity5	Severity5
Severity5Label	Severity5Label
Severity6	Severity6
Severity6Label	Severity6Label
Severity7	Severity7
Severity7Label	Severity7Label
Severity8	Severity8

P6 Fields	Gateway Fields
Severity8Label	Severity8Label
Severity9	Severity9
Severity9Label	Severity9Label

RiskMatrixThreshold field mappings

The following fields are mapped for a RiskMatrixThreshold business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
RiskMatrixName	RiskMatrixName
RiskThresholdName	RiskThresholdName

RiskResponseAction field mappings

The following fields are mapped for a RiskResponseAction business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Id	Id
Name	Name
RiskResponsePlanId	RiskResponsePlanId
ActivityId	ActivityId
StartDate	StartDate
FinishDate	FinishDate
PlannedStartDate	PlannedStartDate
PlannedFinishDate	PlannedFinishDate
RemainingCost	RemainingCost
ActualCost	ActualCost
PlannedCost	PlannedCost
Status	Status
RiskId	RiskId
ProjectId	ProjectId

RiskResponseActionImpact field mappings

The following fields are mapped for a RiskResponseActionImpact business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
RiskResposeActionId	RiskResposeActionId
RiskThresholdName	RiskThresholdName
RiskThresholdLevelCode	RiskThresholdLevelCode
RiskId	RiskId
ProjectId	ProjectId

RiskResponsePlan field mappings

The following fields are mapped for a RiskResponsePlan business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Id	Id
Name	Name
ProjectId	ProjectId
RiskId	RiskId
IsActive	IsActive
ResponseType	ResponseType

RiskThreshold field mappings

The following fields are mapped for a RiskThreshold business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Name	Name
ThresholdType	ThresholdType

RiskThresholdLevel field mappings

The following fields are mapped for a RiskThresholdLevel business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Name	Name
Code	Code
RiskThresholdName	RiskThresholdName
Color	Color
Level	Level
Range	Range
CostRange	CostRange
ScheduleRange	ScheduleRange
ToleranceRange	ToleranceRange
ProbabilityRange	ProbabilityRange

Role from Stage to Production

The following fields are mapped for a Role business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
Id	Id
Name	Name
Responsibilities	Responsibilities

UDFType Fields from Stage to Production

The following fields are mapped for an UDFType business object between distinct P6 deployments and Gateway.

P6 Fields	Gateway Fields
DataType	DataType
SubjectArea	SubjectArea
Title	Title

Glossary

The following is a list of common Gateway terms used in this document.

B

Business Flow

A collection of business objects and their underlying supported fields selected for data transfer.

C

Cross-reference

A means for Gateway to track data being sent from the source application and received in the destination application. A cross-reference determines if the data is to be regarded as new data or an update to existing data in the destination application. If you delete or remove a cross-reference in Gateway, all history of data transfers is deleted within Gateway, although the data that was sent using this cross-reference will continue to exist in the destination application.

D

Deployment

The information required to connect to a specific database or an instance of an application from or to Gateway. For example, you may want to connect to two instances of a P6 EPPM application: *Testing* and *Production* from Gateway.

Destination Application

The application to which the data is being sent to.

F

Field Mapping Template

A template file which contains a list of fields mapped between the source application, Gateway, and the destination application for each business object. Gateway uses this file to determine how to populate data in the destination application. More than one field mapping template can be created for each business object. These template files are used by a business flow to transfer data during a synchronization run.

Flow Step

A business flow is an ordered sequence of flow steps where data is processed within each flow step. The success or failure of each flow step can be viewed from the **Monitoring** page of Primavera Gateway.

J

Job

A job number assigned in Gateway for each synchronization run to uniquely identify and monitor the data transfer.

M

Master Data

Master data is data that influences all subsequent data transfers between the source and destination applications. A destination application must be equipped with this data from the source application before sending or receiving data. For example, roles and resources are considered as master data for managing any project in an application and must be setup before any project data is transferred between applications.

Migration Data

Migration Data refers to a collection of master data and project data elements identified for a project in the source application for migration to a destination application. Gateway provides a **Migration Data** flow type for creating business flows to migrate data between applications. When you use this business flow, you will need to create your own migration data business flow and synchronization to migrate the data.

P

Project Data

Project data refers to data belonging to a project within the source application. Project data is sent to Gateway and then received in the destination application. These data elements influence only a specific project in an application.

S

Source Application

The application from which the data is being sent from.

Synchronization

A synchronization is a job that is executed to transfer data from a source application to a destination application. Gateway transfers data between two applications using synchronizations.

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