Oracle

Construction Intelligence Cloud Advisor Administration Guide

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Contents

Getting Started

This chapter provides:

- an overview of the CIC Advisor Administration application
- a overview of the applications that need to be configured to display data from your source application in CIC Advisor.

In This Section

CIC Advisor Administration Application Overview

CIC Advisor is managed using the CIC Advisor Administration application. This administration application allows you to configure and manage CIC Advisor data sources of your organization. CIC Advisor currently supports P6 EPPM, Primavera Cloud, and Oracle Aconex as data sources.

The administration application is packaged and delivered with a set of predefined problems that represent common and significant challenges widespread across the industry. Each problem is also delivered with a seed model which uses a sample data set.

As CIC Advisor administrators, you can:

- configure CIC Advisor to evaluate your P6, Primavera Cloud, and Aconex data for a select set of problems
- create one or more custom models for each problem and train it to predict future events related to enterprise projects
- enable a specific combination of features or characteristics in each model
- setup benchmarking groups to compare with your project data
- setup customized values for threshold settings which display in the **Filter** pane of CIC Advisor. Users can then use these threshold settings to filter their current view of ongoing projects

Managing CIC Applications Suite

If your organization is also provisioned with CIC Analytics, then you can use this administration application to also manage CIC Analytics data sources, and ETL. For more details on how to manage CIC Analytics application, see the ***CIC Analytics Administration Guide https://docs.oracle.com/cd/F49731_01/English/admin/admin_cloud_guide/index.htm***.

With access to the CIC applications suite, you can now create Suite administrators and Suite consumers. For more details, see ***Managing CIC Suite Users*** (on page 13).

This guide describes how to set up CIC Advisor for your organization and configure your source applications such as P6 EPPM, Primavera Cloud, and Aconex to ensure the right set of projects and users access CIC Advisor, and manage CIC Application Suite.

Audience

This guide is intended to be used by administrators who have access to CIC Advisor.

Accessing CIC Advisor Administration Application

When your organization is provisioned with CIC Advisor, as a cloud administrator, you will receive the CIC Advisor Administration Application URL in a Welcome email.

To sign in as an administrator to CIC Advisor Cloud Administration Application:

1) In your Welcome email, click the Administration Application URL available in the format:
   https://<host>:<port>/p6rdb/login
   where
   <host>: Enter the host name or the server IP address of CIC Advisoradministration application.
   <port>: Enter the unique port number associated with the CIC Advisor administration application.

   > **Note**: For a list of supported browser versions, see the *Client System Requirements* document.

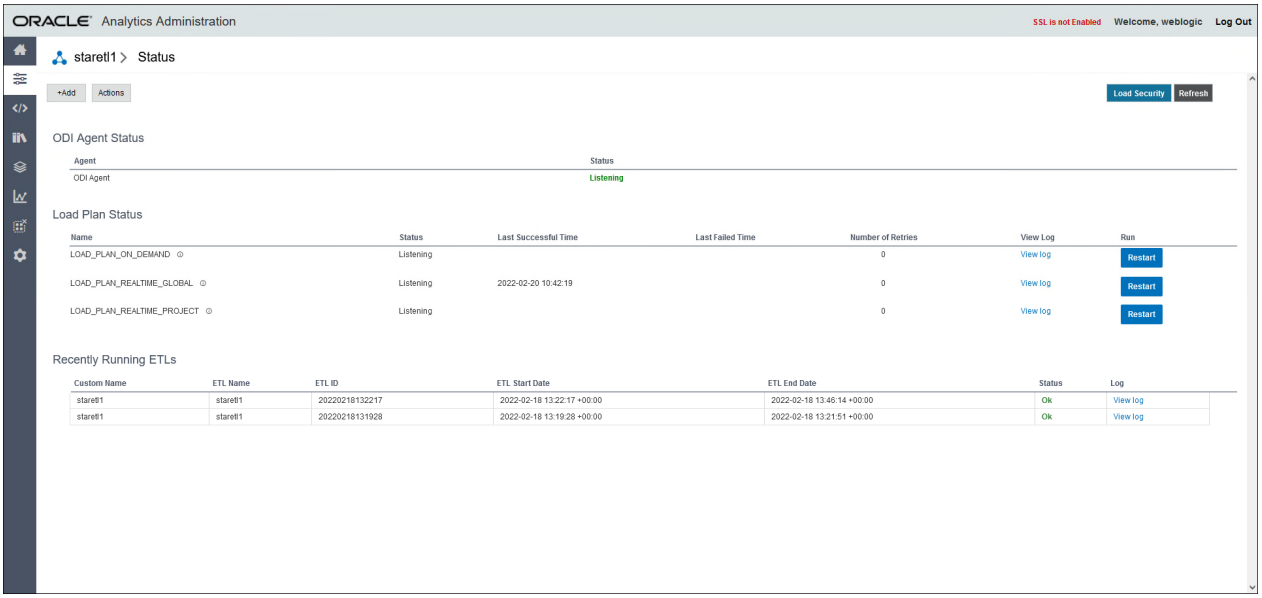
2) In the **Username** field, enter the user name of the cloud administrator.
3) In the **Password** field, enter a unique alphanumeric password.
4) Click **Sign In**.

Navigating the CIC Advisor Administration Application

You can manage the following data sources in the administration application:

- P6 EPPM
- Oracle Primavera Cloud

- Oracle Aconex



Depending on the data source set up in the administration application, the following icons may display in the sidebar.

Icon	Description
Home	Shows currently running STARETL processes for all data sources and enables you to stop a currently running STARETL process.
ML Workbench	Monitor and manage models for a P6 or Aconex data source.
User Management	Setup and manage P6 and Aconex accessing CIC Advisor.
Status	Manage and schedule ETL runs and ODI load plans, view ETL logs and status reports for a selected P6 or Aconex data source.
Codes	Displays a master list of codes that are available and a subset of those which have been enabled for project, activity and resource data. Use this menu option to add or remove codes for a data source.
UDFs	Displays a list of all UDF codes that are available and a subset of those which have been enabled for project, activity, resource assignment, resource, and WBS data. Use this menu option to add or remove UDFs for a data source.
Publication Status	View the status of recent publication runs for a selected P6 data source.
Benchmark	Setup and manage the benchmark groups to compare P6 projects in CIC Advisor.

Icon	Description
Custom Project Groups	Create a subset of past and current completed projects that can be used to train your model to predict outcomes for ongoing similar projects.
Threshold Settings	Set up the acceptable range for project metrics displayed in CIC Advisor.
Config	Configure the properties of the STARETL process for each P6 data source.

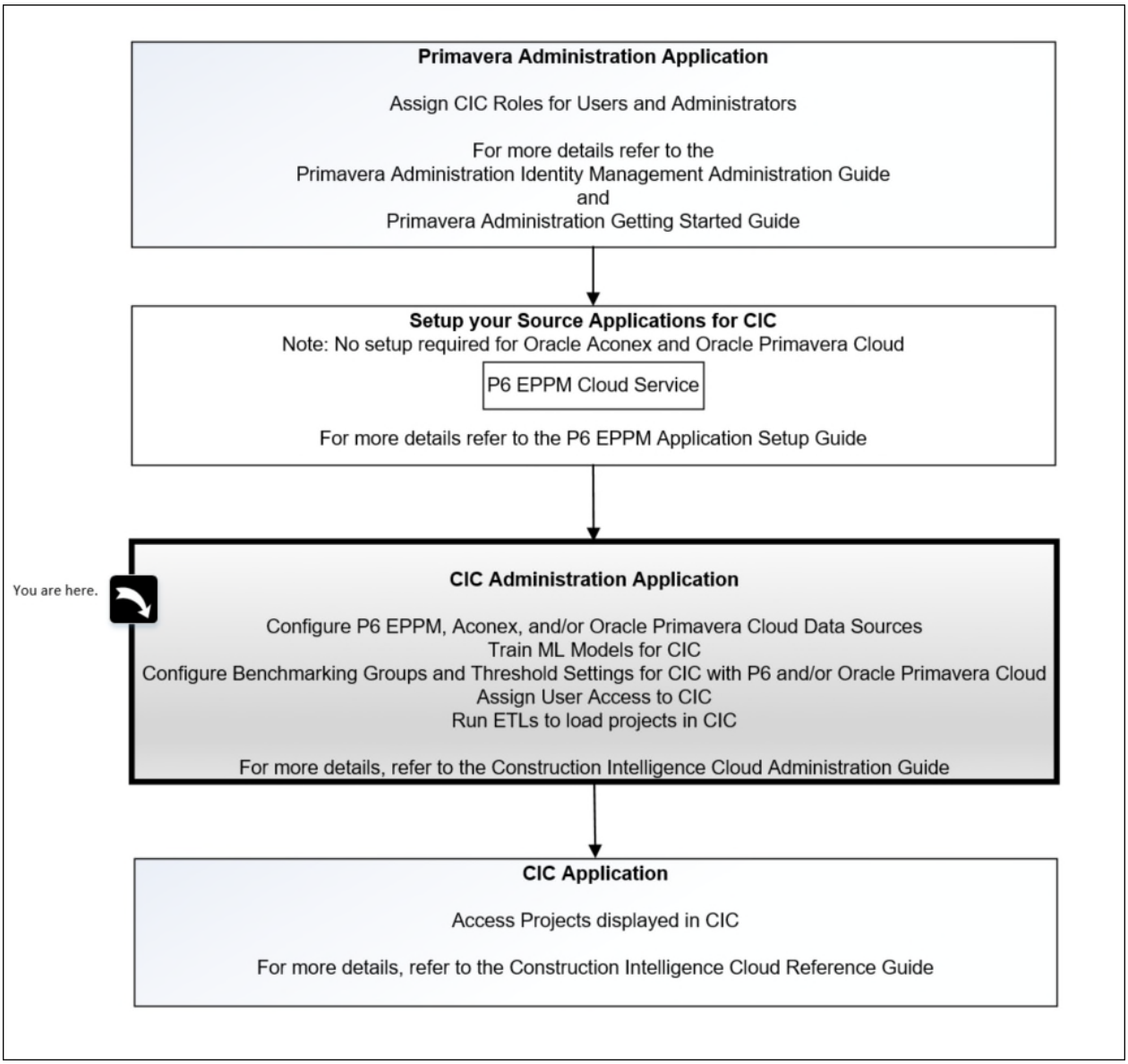
CIC Advisor Application Setup Roadmap

To connect CIC Advisor with your applicationP6 EPPM, (cloud or on-premises), you have to setup the following applications as listed in the order listed below:

1) Primavera Administration Application
2) The applications you wish to connect with CIC Advisor from those listed above.
3) CIC Advisor Administration application

The application setup roadmap illustrates the applications you need to setup to display P6 EPPM projects in CIC Advisor.

Note: At this point in the setup sequence, ensure you have completed the required setup in the Primavera Administration Application and configured your source application. For more details, see Before you Begin.



How to Use this Guide

Construction Intelligence Cloud Advisor provides predictive insights by connecting to different CEGBU applications(data sources). Depending on the data source you associate with CIC Advisor, specific aspects may vary such as:

- configuration properties of a data source
- benchmark groups to compare the performance of your project data

The following sections serve as a guideline for configuring and managing CIC Advisor associated with your organization's product that serve as source applications forCIC Advisor or CIC Application Suite.

Customers of CIC Application Suite

If your organization plans to use CIC Advisor insights f and CIC Analytics, review this guide and the ***CIC Analytics Administration Guide https://docs.oracle.com/cd/F49731_01/English/admin/admin_cloud_guide/index.htm***.

Customers of CIC Advisor and P6 EPPM

If your organization plans to use CIC Advisor insights for P6 EPPM only, review the following chapters in this guide to configure a P6 EPPM data source and train models in CIC Advisor:

- ***Getting Started*** (on page 5)
- ***CIC Advisor for P6 EPPM*** (on page 21)
- ***Standard Administration Tasks*** (on page 49)
- ***Working with the Machine Learning Workbench*** (on page 53)

Customers of CIC Advisor and Oracle Primavera Cloud

If your organization plans to use CIC Advisor insights for Oracle Primavera Cloud only, review the following chapters in this guide to configure a P6 EPPM data source and train models in CIC Advisor:

- ***Getting Started*** (on page 5)
- ***CIC Advisor for Primavera Cloud*** (on page 41)
- ***Standard Administration Tasks*** (on page 49)
- ***Working with the Machine Learning Workbench*** (on page 53)

Customers of CIC Advisor and Aconex

If your organization plans to use CIC Advisor insights for Aconex only, review the following chapters to configure Aconex data sources and train models in CIC Advisor:

- ***Getting Started*** (on page 5)
- ***CIC Advisor for Aconex*** (on page 33)
- ***Standard Administration Tasks*** (on page 49)
- ***Working with the Machine Learning Workbench*** (on page 53)

Customers of CIC Advisor, P6 EPPM, and Aconex

Since your organization will be using CIC Advisor insights for P6 EPPM as well as Aconex, review the chapters listed above in each section.

Managing CIC Suite Users

CIC Suite refers to the group of the following CIC applications:

- CIC Advisor
- CIC Analytics

If your organization is provisioned with CIC Advisor as well as CIC Analytics, as a cloud administrator, you can additionally:

- create suite administrators and suite users who have access to both CIC applications
- In addition to the ***standard groups*** (see "***About Standard Groups***" on page 13), create new custom groups which are a combination of the standard groups associated with each CIC application

  For example, create a new custom group by selecting the Analytics Creator standard group in CIC Analytics and the Advisor Consumer standard group in CIC Advisor.
- assign users to custom groups

You can assign access to CIC suite applications to users of any of the following products:

- P6 EPPM
- Primavera Unifier
- Oracle Primavera Cloud
- Oracle Aconex

This chapter describes how to create custom groups and assign users to these groups to control their level of access in CIC Advisor and CIC Analytics.

In This Section

About Standard Groups

When your organization is provisioned with both, CIC Advisor and CIC Analytics, you can assign a user to any of the following standard groups:

- Advisor Administrator

  Advisor administrators can manage data sources, benchmarking groups, threshold settings, schedule ETLs, and add users and additional administrators to CIC Advisor.
- Advisor Consumer

  Advisor consumers can only view projects in CIC Advisor corresponding to the data sources that they have been given access to.

- Analytics Administrator

  Analytics administrators can manage data sources, schedule ETLs, and add users to CIC Analytics. They can also create data visualizations if required.
- Analytics Creator

  Analytics creators can access and create projects, data sets, and data visualizations in CIC Analytics.
- Analytics Consumer

  Analytics consumers can only view projects, data sets, and data visualizations in CIC Analytics.
- Suite administrator

  Suite administrators are super users of CIC applications. They are a combination of Advisor administrator and Analytics administrator, and therefore. can administer both applications.

  Note: Assign this role judiciously in your organization.
- Suite Consumer

  Suite consumers are a combination of Advisor consumer and Analytics consumer. users of this group can only view data visualizations that have been given access to in CIC Analytics, and also view analyses of projects evaluated in CIC Advisor for data sources they access to.
- Unassigned (default)

  Initially, uses are not assigned to any group by default.

Creating Custom Groups

Custom groups can be created only if your organization is provisioned with:

- CIC Advisor and
- CIC Analytics

Being provisioned with the CIC application suite gives your organization greater flexibility to create custom groups of users with specific permissions based on their needs for accessing any of the CIC applications.

For example, you can create a custom group of users with access to cost and budget information data sets in CIC Analytics who can view analyses shared with them in CIC Advisor.

Create a custom group if none of the ***standard groups*** (see "***About Standard Groups***" on page 13) meet the needs of your organization.

To create a custom group:

1) Use any of the following methods to sign in to the administration application:
   - In your **Welcome** email, click on the CIC Advisor administration application URL and sign in with administrator credentials or
   - Sign in from the Primavera Administration Application portal and click on the Administration application URL.

     https://<host>:<port>/p6rdb

2) In the side bar, click **User Management** and then select the **Groups and Permissions** tab.
3) Click **Add new group**.
4) In the **Create custom group** pane, enter the following information:
   a. In the **Group Name** field, enter the name of the custom group.
   b. In the **Group Description** field, briefly explain the purpose of the group.
   c. In the **Analytics Standard Groups**,select at least one standard group. Choices include:
      - Analytics Administrator
      - Analytics Creator
      - Analytics Consumer
   d. In the **Advisor Standard Groups**, select at least one standard group. Choices include:
      - Advisor Administrator
      - Advisor Consumer
   e. Click **Save**.

   The new custom group displays in the Custom Groups table in the bottom section of the **Groups and Permissions** tab.

   You can also:
      - ***Edit Custom Groups*** (see "***Editing Custom Groups***" on page 15)
      - ***Delete Custom Groups*** (see "***Deleting Custom Groups***" on page 15)
5) Proceed to assign users to this custom group.

   For more details, see ***Enabling User Access to Custom Groups*** (on page 16)

Editing Custom Groups

To edit a custom group:

1) Sign in to the CIC Advisor Administration application.
2) In the side bar, click **User Management** and then select the **Groups and Permissions** tab.
3) In the Custom Groups table, for a specific group, click the **Overflow menu** and then click **Edit Group**.
4) Make the necessary changes and click **Save**.

A confirmation message displays the changes have been saved successfully.

Deleting Custom Groups

To delete a custom group:

1) Sign in to the CIC Administration application.
2) In the side bar, click **User Management** and then select the **Groups and Permissions** tab.

3) In the Custom Groups table, for a specific group, click the **Overflow menu** and then click **Delete Group**.
4) In the **Confirm Delete Group** dialog box, click **OK**.
   All users belonging to this group will now be desisgnated with an *unassigned* role.

Enabling User Access to Custom Groups

After ***creating custom groups*** (on page 14), assign user access to custom groups as follows:

1) In the side bar, click **User Management**.
2) Click the **All Users** tab to view a list of *existing* users from the following source applications who have been ported into CIC Advisor and CIC Analytics:
   - P6
   - Unifier
   - Oracle Aconex
   - Primavera Cloud
3) (Optional) In the search bar, click **Filter** to view a subset of users of a particular data source and a group.
   a. Select a **Data Source** and a **Group** of users to filter on.
   b. Click **Apply**.

   - **Note**: At least one data source and a group must be selected.

4) Assign the user to the custom group.
   All initially created users belong to an *unassigned* group by default.
5) Click **Change Group** to save the updates made to all users on this page.
6) Click **OK** to confirm the changes in the **Confirm Group Change** dialog box.

To revoke a user's privileges, reset the user's group to *Unassigned*. Note that this user will still be able to sign in to CIC Advisor.

To remove a user from accessing CIC Advisor or CIC Analytics, you will need to change the user's account status. See the *Primavera Administration Application Identity Management Administration Guide (https://docs.oracle.com/cd/F33532_01/English/admin/id_mgmt/141597.htm https://docs.oracle.com/cd/F33532_01/English/admin/id_mgmt/141597.htm to complete the following tasks:*

- Reset a user's password
- Disable a user account
- Enable a user account
- Unlock a user account

Managing CIC Advisor Users

When your organization is provisioned with CIC Advisor, as a cloud administrator, you will receive the CIC Advisor Administration Application URL in a Welcome email.

> **Note**: Cloud administrators can only be setup when CIC Advisor is initially provisioned for your organization. Therefore ensure you provide contact details of those individuals you plan to designate as administrators.

As a cloud administrator, you can assign access to CIC Advisor who may be users of any of the following source applications:

- P6 EPPM
- Oracle Primavera Cloud
- Oracle Aconex

User-level data access for Construction Intelligence Cloud (CIC) is governed by the following criteria:

- Users must be granted access to at least one CIC Data Source Cloud Service
- For each applicable CIC Data Source Cloud Service granted access, the following applies:
  - If the user is licensed in the source application, CIC data access matches the source application data access privileges of each user unless further restricted within CIC.
  - If the user is not licensed in the source application, the user has access to all source application data transferred to CIC unless further restricted in CIC.

This chapter describes how to add users, assign a group to each user to manage their level of access in CIC Advisor.

In This Section

Enabling CIC Advisor User Access

Use this procedure to grant CIC Advisor access to users brought over from the source applications.

Assign any of the following groups to give users access to CIC Advisor:

- *Advisor Administrator*: Users can manage the following: data sources, benchmarking groups, threshold settings, schedule ETLs, add other users to CIC Advisor.
- *Advisor Consumer*: Users can only view projects in CIC Advisor corresponding to the data sources that they have been given access to.

To enable user access to CIC Advisor:

1) Use any of the following methods to sign in to the administration application:
   - In your **Welcome** email, click on the CIC Advisor administration application URL and sign in with administrator credentials or
   - Sign in from the Primavera Administration Application portal and click on the Administration application URL.

   https://<host>:<port>/p6rdb
2) In the side bar, click **User Management**.
3) Click the **All Users** tab to view a list of *existing* users from the following source applications who have been ported into CIC Advisor:
   - P6
   - Oracle Aconex
   - Primavera Cloud
4) (Optional) In the search bar, click **Filter** to view a subset of users of a particular data source and a group.
   a. Select a **Data Source** and a **Group** of users to filter on.
   b. Click **Apply**.

      - **Note**: At least one data source and a group must be selected.
5) Assign each user to a group. Select any of the following groups:
   - *Advisor Administrator*
   - *Advisor Consumer*

     Note: All users initially have an *unassigned* role.
6) Click **Change Group** to save the updates made to all users on this page.
7) Click **OK** to confirm the changes in the **Confirm Group Change** dialog box.

To revoke a user's privileges, reset the user's role to *Unassigned*. Note that this user will still be able to sign in to CIC Advisor.

To remove a user from accessing CIC Advisor, you will need to change the user's account status. See the *Primavera Administration Application Identity Management Administration Guide (https://docs.oracle.com/cd/F33532_01/English/admin/id_mgmt/141597.htm https://docs.oracle.com/cd/F33532_01/English/admin/id_mgmt/141597.htm to complete the following tasks:*

- Reset a user's password
- Disable a user account
- Enable a user account
- Unlock a user account

Creating CIC Advisor Only Users

Use this procedure if you want to add a new user who has *not been ported from any source application*. Users of this category will automatically have access to CIC Advisor.

1) Use any of the following methods to sign in to the administration application:
   - In your **Welcome** email, click on the CIC Advisor administration application URL and sign in with administrator credentials or
   - Sign in from the Primavera Administration Application portal and click on the Administration application URL.

   https://<host>:<port>/p6rdb
2) In the side bar, click **User Management**.
3) Click the **All Users** tab to view a list of existing users from the following source applications who have been ported into CIC Advisor:
   - P6
   - Oracle Aconex
   - Primavera Cloud
4) In the **Search** bar, enter or search for a user by their user name or email and click **Search**.
5) If the user does not exist click **Create an account** to create an identity management account for this new user.
6) In the **Create User** pane, enter the following contact information of the user:
   - In the **Last Name** field, enter the last name of the user.
   - In the **First Name** field, enter the first name of the user.
   - In the **User ID** field, enter the user name that the user will use to sign in to the CIC Advisor application.
   - In the **Email** field, enter the user's email ID that is to be associated with their User ID.
   - In the **Mobile** field, enter the primary phone number to contact the user.
   - In the **Datasource** section, select the corresponding check box to give the user access to all data brought into CIC Advisor from the selected data sources.

   - **Caution**: Judiciously assign users of this category in your organization as they will have access to *all* data from the source applications in CIC Advisor.
7) Click **Create** to add the new user.

   The user will be assigned the role of an *Advisor Consumer* by default. To change the user's role, see ***Enabling CIC Advisor User Access*** (on page 17).

CIC Advisor for P6 EPPM

To bring data from P6 EPPM into CIC Advisor, you need to setup and configure a P6 data source in the CIC Advisor administration application.

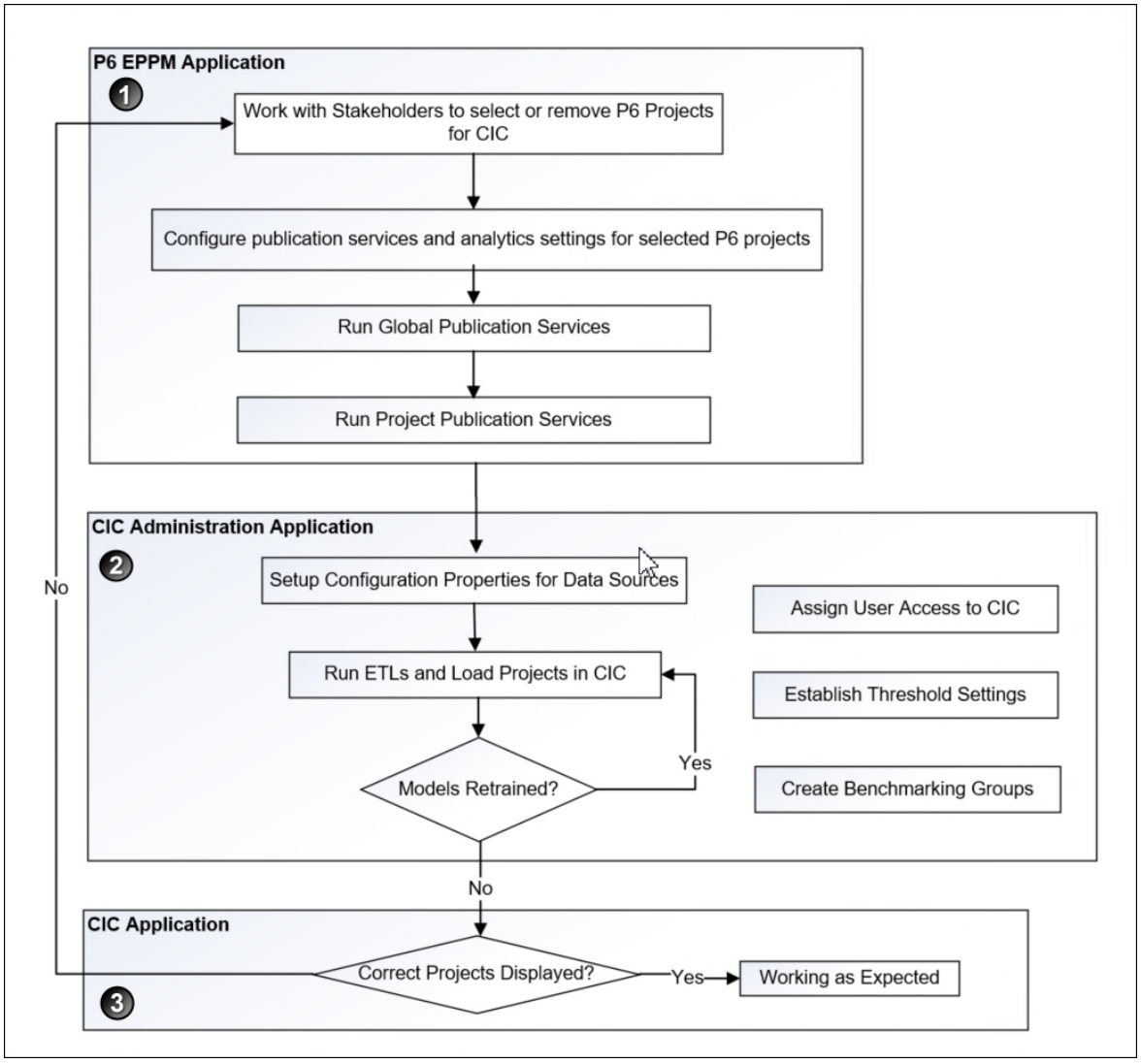
This chapter includes:

- a roadmap that outlines a setup task sequence for P6
- tasks for setting up Aconex users with access to CIC Advisor
- information on how to configure one or more P6 data source for CIC Advisor
- configure threshold benchmarking groups to compare your P6 project

In This Section

Roadmap for Configuring CIC Advisor for P6

As a CIC Advisor administrator, use the following roadmap to setup users, add additional administrators, P6 projects, and configure P6 data sources for CIC Advisor.



To configure CIC Advisor for P6: /

1) Setup P6 EPPM application to bring P6 projects over to CIC Advisor. For more details, see the *P6 EPPM Application Setup Guide*.
2) In the CIC Advisor Administration application complete the following tasks.
   a. Assign CIC Advisor access to P6 users from the **User Management** page.
      For more details, see ***Managing CIC Advisor Users*** (on page 17).
   b. Configure P6 data sources to bring projects into CIC Advisor.
      For more details, see ***Configuring P6 EPPM Data Sources*** (on page 23).
   c. Manage and load projects into CIC Advisor. These include:
      - Start or stop STARETL processes
      - Schedule STARETL runs

- Reviewing the global status of STARETL runs and status of publication services
- Access log files and Access STARETL
- Run reports for STARETL processes

For more details on each task, see ***Standard Administration Tasks*** (on page 49).

d. Based on the content displayed in CIC Advisor, configure and retrain machine learning (ML) models as necessary to obtain the desired level of accuracy for predicting outcomes in CIC Advisor.

For more details, see ***Working with the Machine Learning Workbench*** (on page 53).

> **Note**: When you deselect P6 projects or change the model used for predictions, you will need to rerun publication services and the ETL to ensure CIC Advisor reflects the current changes.

3) Use CIC Advisor to review the information displayed. Identify any threshold settings or project benchmarking groups that may need to be modified.

For more details on how to setup benchmarking groups, see ***Configuring Benchmarking Groups for P6 Projects*** (on page 30).

For more details on how to modify threshold settings, see ***Configuring Threshold Settings for P6 Data*** (on page 31).

Configuring P6 EPPM Data Sources

CIC Advisor can be configured to display projects from P6 EPPM data sources.

To configure the properties for any P6 data source:

1) Sign in to the CIC Advisor Administration application.
http://<host>:<port>/p6rdb
2) From the **Home** menu, select a **staretl<id>** or a **<Custom Name for DataSource>**.

> **Note:** <id> is the identifier of the data source.

3) Click **Config** in the sidebar for a selected P6 data source. .
4) Set the following properties and then select **Save**.

Configuration Property	Description
In the **Configurable Properties** section, set up the following properties as required:	
Custom Name for Datasource	Enter a name for the data source for identification purposes. For example, *P6 EPPM Production Data*.

Enable Activity Period Actuals	Controls the display of past period actuals for activities. Select any of the following values: ▸ *True* (default)*:* Enables pay period actuals for activities. ▸ *False:* Disables pay period actuals for activities.
ODI LoadPlan Auto Restart	Controls restart of all real-time ODI Load plans. Select any of the following values: ▸ *True* (default)*:* Auto restarts ODI load plans for a maximum count of 3 if an initial run fails. ▸ *False:* Manually restart is required for all real-time ODI load plans.
Enable Resource Assignment Period Actuals	Controls the display of past period actuals for resources. Select any of the following values: ▸ *True* (default)*:* Enables pay period actuals for resources. ▸ *False:* Disables pay period actuals for resources.
Enable Relationship load	Controls the ETL from processing activity relationships. Select any of the following values: ▸ *True* (default)*:* ETL runs will not process relationship loads. ▸ *False:* ETL runs will process relationship loads.
Turn off all History, keep Slowly Changing Dimensions	Controls history tables. Select any of the following values: ▸ *True:* Turns off history tables. **Note**: SCDs will continue to be captured at the project level without the history tables. ▸ *False* (default): Keeps history tables with SCDs. **Note**: To delete SCD data for an effective date or a specific date range, contact Oracle Support with a service request.

Disable Rebuild Index	Controls rebuilding of indexes in the cloud database. Select any of the following values: ▸ *True:* Does not rebuild indexes. Results in improved performance. ▸ *False* (default): Rebuilds indexes.
Turn off Resource and Role Limits	Controls resource and role utilization scripts. Select any of the following values: ▸ *True:* Turn the scripts *off*. ▸ *False* (default): Keeps the scripts running.
Enabled Spread Snapshot History	Controls the use of spread snapshot history in the advanced analytics dashboard. Select any of the following values: ▸ *True:* Enables spread snapshot history. ▸ *False* (default): Disables spread snapshot history.
Use project filter in data source 1	Controls the source that will be used for naming a Unifier project. Select any of the following values: ▸ *True* (default): If the Unifierproject ID is identical in P6 and Unifier, then the project name from P6 will be used for the Unifier project. ▸ *False: U*ses the project name from Unifier.
Include Inactive Resources	Controls resource filtration. Select any of the following values: ▸ *True*: Ensures Primavera Data Warehouse tables will not filter out inactive resources. **Note**: If inactive resources are included, then spread data and other dimension tables will also be included. You may not need to process this extra resource assignment information. ▸ *False* (default): Filters out inactive resources.

Enable Slowly Changing Dimensions and Spread History	Slowly changing dimensions (SCDs) are used to capture the change history of dimension fields. If SCD is enabled, any change to the field will add a new row to capture the change in the data warehouse. If SCD is disabled, a new row will not be added if a change is made to that field. This property controls the creation of SCD and spread history. Select any of the following values: ▸ *True* (default)*:* Captures SCD and spread history. ▸ *False:* Turns off SCD and spread history.
Load all Hierarchy Codes	Builds code hierarchies. Select any of the following values: ▸ *True:* Builds code hierarchies with all codes that come from the source. ▸ *False* (default): Builds hierarchies with codes from **configStar**.
ODI Log Level	Controls the level of detail included in the ODI log files. Select any of the following values: ▸ *Summary*: Displays a summarized content in the log file. ▸ *Detail* (default)*:* Displays detailed information in the log file.
Degree of Parallelism for Rebuild Index	If the Disable Rebuild Index property is set to *False*, then select the number of threads (CPUs) you want to enable to run in parallel to rebuild the index.
If you plan to use ODI for projects in real-time, set the following properties to poll for changes in project data in P6 EPPM. The minimum poll interval is 5 minutes, and the maximum is 1440 minutes for all poll interval settings listed below:	
ODI Realtime Global Loadplan Poll Interval (in minutes)	Enter the frequency at which changes to global data is to be checked in P6 EPPM and captured in the data warehouse. By default the poll interval is set to *10* minutes.

ODI Realtime On Demand Loadplan Poll Interval (in minutes)	Checks for changes to projects whose **Enable Publication** flag is selected in P6 EPPM. This process runs when new projects are added and published to the data warehouse by triggering the ODI On Demand load plan to run for the selected projects and include it in the data warehouse. Enter the frequency in minutes to check for changes to the **Enable Publication** flag for projects in P6 EPPM and send it to the data warehouse. By default the poll interval for running the On Demand ODI load plan is set to *60* minutes. At each check, new projects with the **Enable Publication** flag will be added to the data warehouse, and projects whose **Enable Publication** flag is disabled will be deleted in the data warehouse.
ODI Realtime Project Loadplan Poll Interval (in minutes)	Checks for changes in current projects in P6 EPPM. This configuration property checks those projects whose **Data Warehouse Update Frequency (ODI Only)** field is set as *Immediate* in the **Project Preferences** dialog box in P6 EPPM. Enter the frequency in minutes to send changes directly to the data warehouse. By default the poll interval value is set to *1440 minutes* (24 hours).
In the **OBIEE Settings** section set up the following properties:	
P6 Base URL	Enter the URL in the following format: http://<host>:<port>/p6
OBIEE Cache Purge	OBIEE cache entries are used to as a method to improve response times of OBIEE dashboards. This property controls the clearance of OBIEE cache entries. Select any of the following values: ▸ *True*: Clears OBIEE cache entries. ▸ *False* (default): Retains the cache entries.

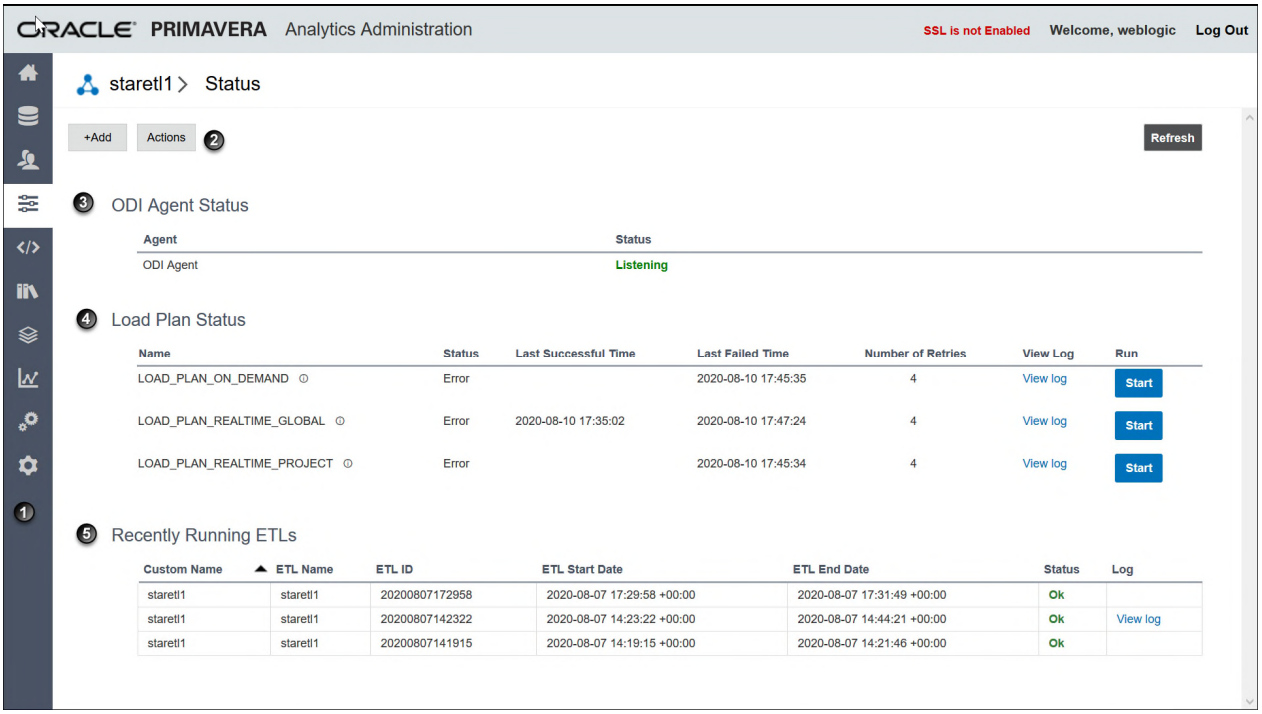
Send Email Notification	Enter the email IDs of the personnel to be notified regarding the status or issues with the STARETL runs. Also select the type of events for which they are to be notified: ▸ *Failure*: Email notifications are sent only for failed ETL runs. ▸ *Success*: Email notifications are sent only for successful ETL runs. ▸ *Both*: Email notifications are sent for successful and failed ETL runs.

Running ETLs and ODI Loads for P6 EPPM Data Sources

To bring data from P6 EPPM to CIC Advisor, you must run ETLs or ODI load plans from the **Status** page of the CIC Advisor Administration application.

To access the **Status** page for any data source:

1) Sign in to the CIC Advisor Administration application.
   http://<host>:<port>/p6rdb
2) From the **Home** menu, select a data source.



Item	Description
1	Navigation menu: Select the following icons in the sidebar to use the interface: **Home**: Shows currently running STARETL processes for all data sources and enables you to stop a currently running STARETL process. **ML Workbench**: Monitor and manage models for a P6 or Aconex data source. **User Management**: Setup and manage P6 and Aconex accessing CIC Advisor. **Status**: Manage and schedule ETL runs and ODI load plans, view ETL logs and status reports for a selected P6 or Aconex data source. **Publication Status**: View the status of recent publication runs for a selected P6 data source. **Benchmark**: Setup and manage the benchmark groups to compare P6 projects in CIC Advisor. **Threshold Settings**: Set up the acceptable range for project metrics displayed in CIC Advisor. **Config**: Configure the properties of the STARETL process for each P6 data source.
2	**Add** menu: Select this menu to select codes from an available list. **Actions** menu: Select this menu to schedule or run ETLs for the selected data source. **Refresh**: Select this button to renew the current view of the page.
3	**ODI Agent Status**: Displays the current status or mode of the ODI agent.
4	**Load Plan Status**: Displays the recent runs of ODI load plans that were run for this data source. Use this section to **Start** or **Restart** ODI load runs.
5	**Recently Running ETLs**: Displays the recent ETL runs for this data source. Select **View log** to review the log file for each ETL run.

Reviewing the Status of P6 Publication Services

Publication services are responsible for ensuring that the data is up-to-date prior to running the STARETL process. Publication services are available for P6

To view the status of recent publication runs:

1) Sign in to the CIC Advisor Administration application.
   http://<host>:<port>/p6rdb
2) From the **Home** menu, select a **staretl<id>** or a **<Custom Name for DataSource>**.

   Note: <id> is the identifier of the data source.

3) In the sidebar, click **Status**.
4) On the **Status** page, click **Publication Status**.
5) On the **Publication Status** page, the following information for each publication service run:
   For P6 Publication Services:
   - **Job ID**: A unique identifier for the publication service.
   - **Job Type**: The category of the publication service to which it belongs.
   - **Job Name**: The name of the publication service.
   - **Recur Type**: The recurrence of the publication service. The following values may display:
     - *RT_WebEnabled*: Indicates that the job is a recurring job and is scheduled
     - *RT_RecurDisabled*: Indicates that the job is a scheduled recurring job, but is currently disabled
     - *RT_WebASAP*: Indicates that the job is a one-time job, and must be run at the earliest
   - **Status Code**: The status of the publication service. The following values may display:
     - *Cancelled,*: The publication service has been canceled.
     - *CompError,:* The publication service has been completed with errors.
     - *Completed*: The publication service has been completed.
     - *Delegated*: The publication service is waiting to complete child jobs.
     - *Failed*: The publication service has failed to complete.
     - *Pending*: The publication service is in the queue waiting to be run.
     - *Running*: The publication service is currently in process.
   - **Last Run Date**: The most recent date on which the publication service was run.
6) Click **Refresh** to update the publication services run list as needed.

Configuring Benchmarking Groups for P6 Projects

In CIC Advisor, projects can be compared and contrasted with two benchmark groups on the **Benchmark Detail** page.

To set up benchmarking groups in CIC Advisor to compare your P6 project with:

1) Sign in to the CIC Advisor Administration application.
   http://<host>:<port>/p6rdb
2) From the **Home** menu, select a **staretl<id>** or a **<Custom Name for DataSource>**.

> **Note:** <id> is the identifier of the data source.

3) In the sidebar, click **Benchmark**.
4) Click **Edit** and enter a name for each baseline group being created.

> **Note**: You can set up only two benchmark groups with a maximum of 7 projects in each group that are either complete, or 85 - 90% complete.

5) Populate each group with projects as follows:
   - To add a project to a baseline group, select a project from the list of available projects brought over by the ETL, and drag and drop it into a baseline group.
   - To remove a project from a baseline group, select a project in a baseline group and delete it from the baseline group.
6) Click **Save** to create baseline groups for benchmarking.

Configuring Threshold Settings for P6 Data

In CIC Advisor, projects are analyzed to identify metrics responsible for a potential delay in a project schedule. These metrics are identified based on an acceptable range of values established for each metric in the **Threshold Settings** page of the CIC Advisor Administration application.

To establish an acceptable range for each metric in **Threshold Settings** page:

1) Sign in to the CIC Advisor Administration application.
   http://<host>:<port>/p6rdb
2) From the **Home** menu, select a **staretl<id>** or a **<Custom Name for DataSource>**.

> **Note:** <id> is the identifier of the data source.

3) In the sidebar, click **Threshold Settings**.
   Each setting is set up with a default value initially.
4) To customize threshold values for each setting choose any of the following actions:
   - For each **Setting Name**, enter a value in the **Custom Value** field.
   - To revert to its default value, click **Default Value**.
   - To revert all threshold settings to their default values, click **Set All Default**.

Creating Custom Project Groups to Train Models

To ensure models are trained to predict outcomes with a high level of accuracy, you can create custom project groups, by selecting a subset of similar projects that have been completed in the past to train your ML models with your data.

To set up custom project groups to train models with your data:

1) Sign in to the CIC Advisor Administration application.
   http://<host>:<port>/p6rdb
2) From the **Home** menu, select a **staretl<id>** or a **<Custom Name for DataSource>**.

   Note: <id> is the identifier of the data source.

3) In the sidebar, click **Custom Project Groups** to create a maximum of three groups.
4) On the **Custom Project Groups** page, click **Edit** to rename a project group.
   a. To add a project to a group, click and drag a project to the relevant project group column..
   b. To remove a specific project a project from a group, select the project in the project group and click **Remove**.
   c. Repeat the above actions as necessary to create each combination of projects in a group.
5) Click **Save** to confirm all changes or click **Cancel** to revert all changes made to the project groups.
6) Proceed to select any of the custom project groups created above and train a model with your data on the **ML Workbench** page.

CIC Advisor for Aconex

This chapter describes how to set up CIC Advisor with data from Oracle Aconex.

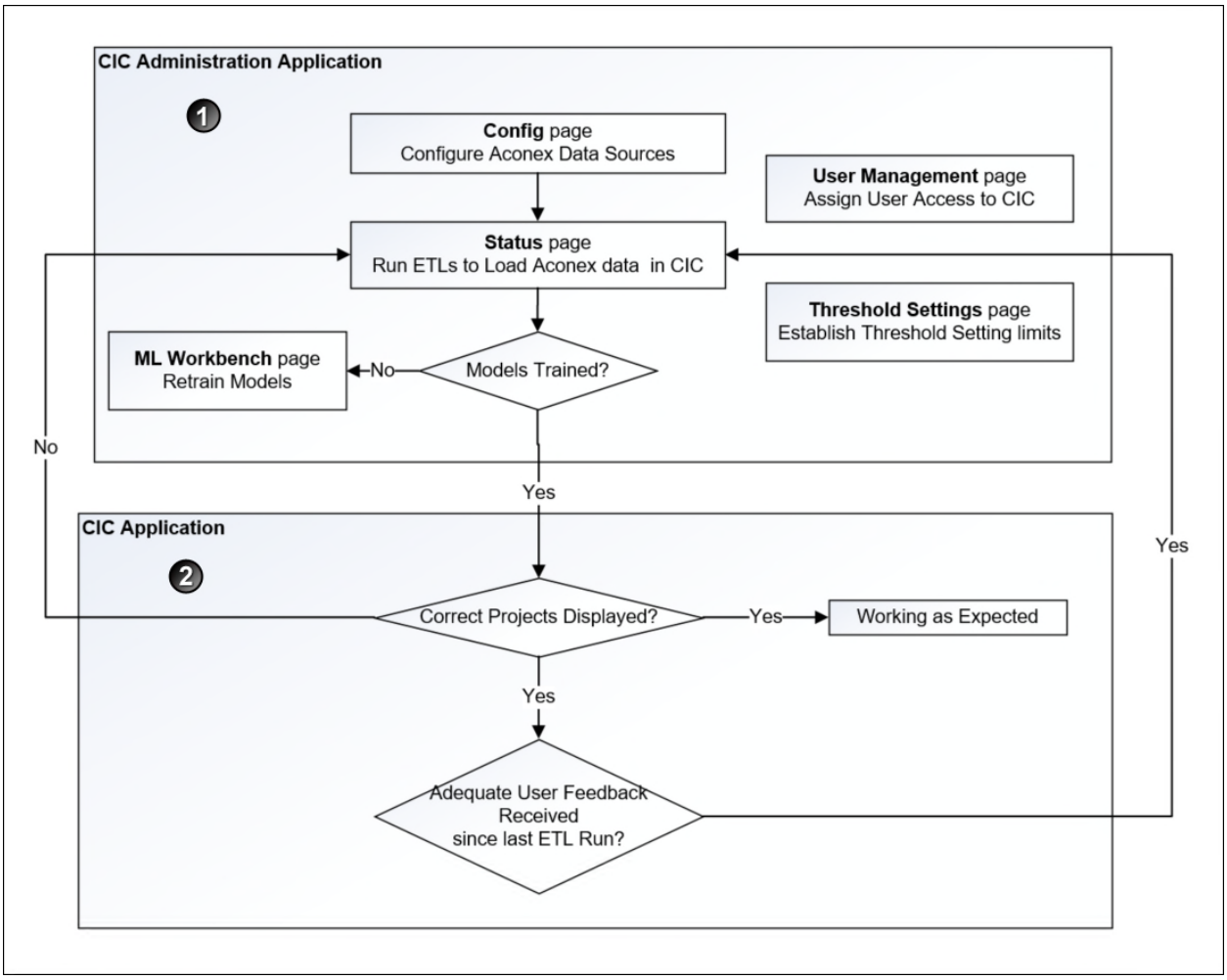
It includes:

- a roadmap that outlines a task sequence to setup CIC Advisor with data from Oracle Aconex
- tasks for setting up Aconex users with access to CIC Advisor
- information on how to configure Aconex data sources for CIC Advisor

In This Section

Roadmap for Configuring CIC Advisor for Aconex

As a CIC Advisor administrator, use the following roadmap to setup users, add additional administrators, and configure Aconex data sources for CIC Advisor.



To configure CIC Advisor for Aconex:

1) Assign CIC Advisor roles to add Aconex users to CIC Advisor.
   For more details, see Assigning CIC Advisor Roles in Primavera Administration Application.
2) In the CIC Advisor Administration application complete the following tasks.
   a. Assign CIC Advisor access to Aconex users from the **User Management** page.
      For more details, see ***Managing CIC Advisor Users*** (on page 17).
   b. Configure Aconex data sources to bring Aconex data into CIC Advisor.
      For more details, see ***Configuring Aconex Data Sources*** (on page 35).
   c. Manage and load projects into CIC Advisor. These include:
      - Start or stop STARETL processes
      - Schedule STARETL runs
      - Reviewing the global status of STARETL runs and status of publication services

- Access log files and Access STARETL
- Run reports for STARETL processes

For more details on each task, see ***Standard Administration Tasks*** (on page 49).

d. Based on the content displayed in CIC Advisor, configure and retrain machine learning (ML) models as necessary to obtain the desired level of accuracy for predicting outcomes in CIC Advisor.

For more details, see ***Configuring and Training CIC Advisor Models with Aconex Data*** (on page 59).

3) Use CIC Advisor to review the information displayed. Identify any threshold settings that may need to be modified.

For more details on how to modify threshold settings in the administration application, see ***Configuring Threshold Settings for Aconex Data*** (on page 37).

Configuring Aconex Data Sources

To configure the properties for any P6 data source:

1) Click **Config** in the sidebar for a selected Aconex data source.
2) Set the following properties, and then click **Save**:

Configuration Property	Description
Custom name for datasource	Enter a name for the data source for identification purposes. For example *Aconex Production Data*.
Aconex URL	This URL is preset for your organization and is used for detailed analysis.
Degree of Parallelism for Rebuild Index	If the Disable Rebuild Index property is set to *False*, then select the number of threads (CPUs) you want to enable to run in parallel to rebuild the index.
In the **OBIEE Settings** section set up the following properties:	
Mail Prefix	Customize the text that will be displayed in the subject line of email notifications that are sent regarding the status of ETL runs. For example, STAR ETL email notifications for Aconex can be prefixed as CIC for Aconex ETL.
Aconex CIC Host URL	The Aconex URL is preset for your organization and is used for analysis.

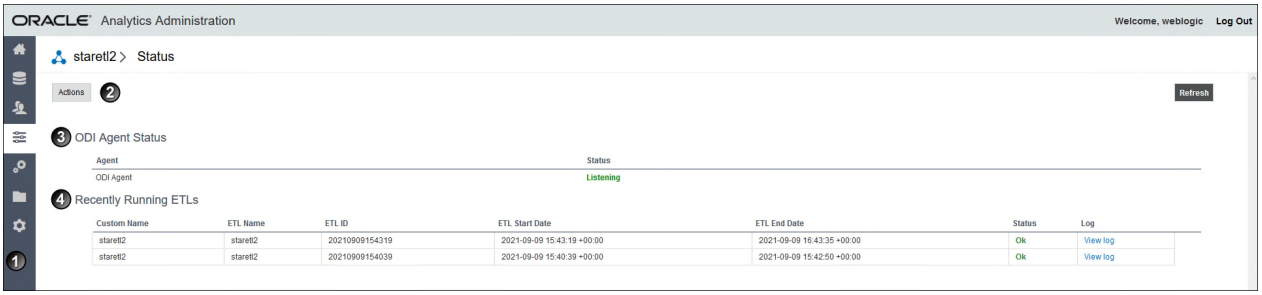
OBIEE Cache Purge	OBIEE cache entries are used to as a method to improve response times of OBIEE dashboards. This property controls the clearance of OBIEE cache entries. Select any of the following values: ▸ *True*: Clears OBIEE cache entries. ▸ *False* (default): Retains the cache entries.
Send Email Notification	Enter the email IDs of the personnel to be notified regarding the status or issues with the STARETL runs. Also select the type of events for which they are to be notified: ▸ *Failure*: Email notifications are sent only for failed ETL runs. ▸ *Success*: Email notifications are sent only for successful ETL runs. ▸ *Both*: Email notifications are sent for successful and failed ETL runs.

Running ETLs for Aconex Data Sources

To bring data over from Aconex into CIC Advisor, you must run ETLs from the **Status** page of the CIC Advisor Administration application.

To access the **Status** page for an Aconex data source:

1) Sign in to the CIC Advisor Administration application.
   http://<host>:<port>/p6rdb
2) From the **Home**, select a data source.



Item	Description
1	Navigation menu: Select the following icons in the sidebar to use the interface: **Home** : Shows currently running STARETL processes for all data sources and enables you to stop a currently running STARETL process. **ML Workbench**: Monitor and manage models for an Aconex data source. **User Management**: Setup and manage Aconex users accessing CIC Advisor. **Status**: Manage and schedule ETL runs and ODI load plans, view ETL logs and status reports for a selected Aconex data source. **Threshold Settings**: Set up the acceptable range for project metrics displayed in CIC Advisor. **Config**: Configure the properties of the STARETL process for each Aconex data source.
2	**Actions** menu: Select this menu to schedule or run ETLs for the selected data source. **Refresh**: Select this button to renew the current view of the page.
3	**ODI Agent Status**: Displays the current status or mode of the ODI agent.
4	**Recently Running ETLs**: Displays the recent ETL runs for this data source. Select **View log** to review the log file for each ETL run.

Configuring Threshold Settings for Aconex Data

In CIC Advisor, projects are analyzed to identify metrics responsible for potential risks. These metrics are identified based on an acceptable range of values established for each metric in the **Threshold Settings** page of the CIC Advisor Administration application.

To establish an acceptable range for each metric in **Threshold Settings** page:

1) Sign in to the CIC Advisor Administration application.
   http://<host>:<port>/p6rdb
2) From the **Home** , select a **staretl<id>** or a **<Custom Name for DataSource>**.

> **Note:** <id> is the identifier of the data source.

3) In the sidebar, click **Threshold Settings**.
   Each setting is set up with a default value initially.

4) To customize threshold values for each setting choose any of the following actions:
   - For each **Setting Name**, enter a value in the **Custom Value** field.
   - To revert to its default value, click **Set Default**.
   - To revert all threshold settings to their default values, click **Set All Default**.

CIC Advisor for Aconex and P6 EPPM

If your organization plans to use CIC Advisor with insights from P6 as well as Aconex, then complete the task sequence outlined in the following topics:

- ***Roadmap for Configuring CIC Advisor for P6*** (on page 21)
- ***Roadmap for Configuring CIC Advisor for Aconex*** (on page 34)
- Assigning CIC Advisor Roles in Primavera Administration Application
- ***Managing P6 and Aconex Users for CIC*** (on page 39)

In This Section

Managing P6 and Aconex Users for CIC

To add users to access insights in Construction Intelligence Cloud Advisor, complete the following procedures:

Prerequisite

Assigning CIC Advisor Roles in Primavera Administration Application

Procedure

To assign or remove CIC Advisor access for an Aconex or P6 user:

1) Sign in to the CIC Advisor Administration application.
2) In the sidebar, click **User Management**.
3) On the **User Management** page, select any of the following actions:
   - To assign access to CIC Advisor, select the check box for an **Aconex User ID** / **P6 User ID**.

     Note: CIC Advisor does not make decisions for you. If the user already has access to CIC Advisor insights for P6 or Aconex, the system will try to match and identify the user's email ID and display it in the relevant **Email** column.

   - To remove access to CIC Advisor, deselect the check box for an **Aconex User ID** / **P6 User ID**.
4) Click **Save Access** to send a notification to the user.

CIC Advisor for Primavera Cloud

To bring data from Primavera Cloud into CIC Advisor, you need to setup and configure a Primavera Cloud data source in the CIC Advisor administration application.

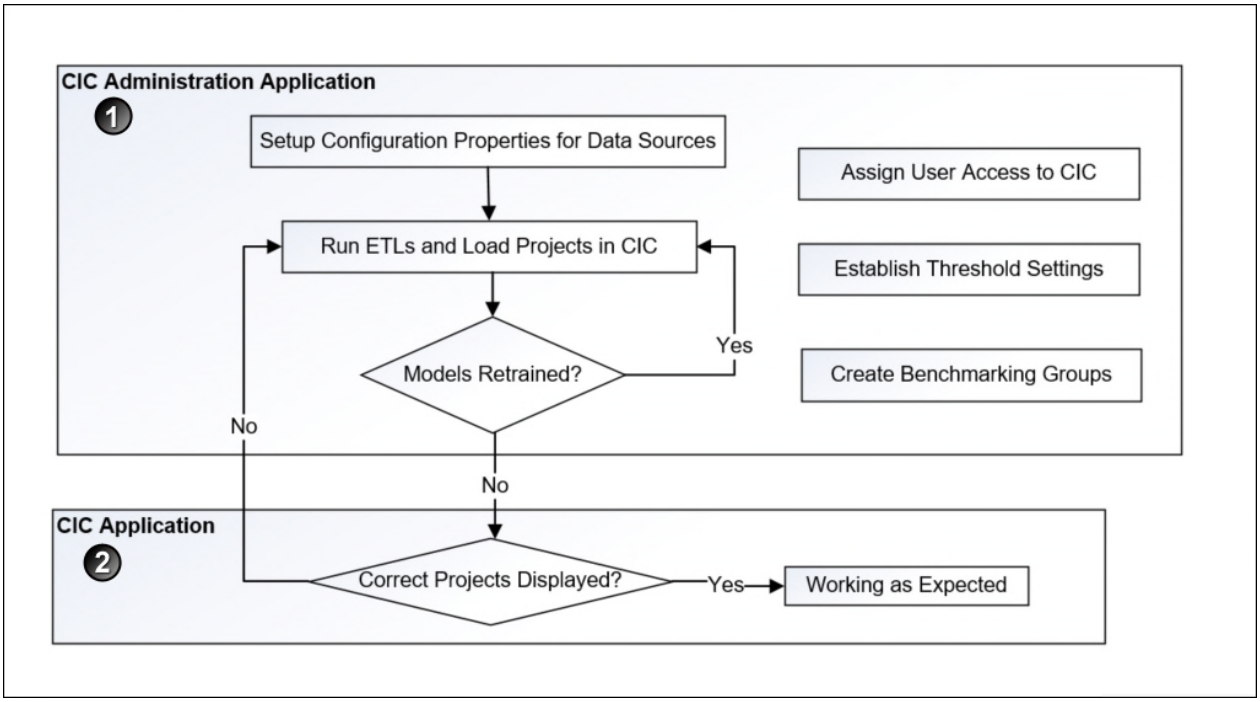
This chapter includes:

- a roadmap that outlines a setup task sequence for Primavera Cloud
- tasks for setting up Primavera Cloud users with access to CIC Advisor
- information on how to configure one or more Primavera Cloud data sources for CIC Advisor
- configure threshold settings, benchmarking groups, and custom project groups to compare your Primavera Cloud project with

In This Section

Roadmap for Configuring CIC Advisor for Primavera Cloud

As a CIC Advisor administrator, use the following roadmap to setup users, add additional administrators, and configure Oracle Primavera Cloud data sources for CIC Advisor.



To configure CIC Advisor for Primavera Cloud:

1) In the CIC Advisor Administration application complete the following tasks.
   a. Assign CIC Advisor access to Primavera Cloud users from the **User Management** page.
      For more details, see ***Managing CIC Advisor Users*** (on page 17).
   b. Configure Primavera Cloud data sources to bring projects into CIC Advisor.
      For more details, see ***Configuring Primavera Cloud Data Sources*** (on page 43).
   c. Manage and load projects into CIC Advisor. These include:
      - Start or stop STARETL processes
      - Schedule STARETL runs
      - Reviewing the global status of STARETL runs and status of publication services
      - Access log files and Access STARETL
      - Run reports for STARETL processes

      For more details on each task, see ***Standard Administration Tasks*** (on page 49).
   d. Based on the content displayed in Construction Intelligence Cloud Advisor, configure and retrain machine learning (ML) models as necessary to obtain the desired level of accuracy for predicting outcomes in Construction Intelligence Cloud Advisor.
      For more details, see ***Working with the Machine Learning Workbench*** (on page 53)

> **Note**: When you deselect Primavera Cloud projects or change the model used for predictions, you will need to rerun publication services and the ETL to ensure CIC Advisor reflects the current changes.

2) Use CIC Advisor to to review the information displayed. Identify any threshold settings or project benchmarking groups that may need to be modified.

   For more details on how to setup benchmarking groups, see ***Configuring Benchmarking Groups for P6 Projects*** (on page 30).

   For more details on how to modify threshold settings, see ***Configuring Threshold Settings for P6 Data*** (on page 31).

Configuring Primavera Cloud Data Sources

CIC Advisor can be configured to display projects from multiple Primavera Cloud data sources.

To configure the properties for a Primavera Cloud data source:

1) Sign in to the CIC Advisor Administration application.
   http://<host>:<port>/p6rdb
2) From the **Home** menu, select a **staretl<id>** or a **<Custom Name for DataSource>**.

> **Note:** <id> is the identifier of the data source.

3) Click **Config** in the sidebar for a selected Primavera Cloud data source.
4) In the **Configurable Properties** section, set the following properties, and then click **Save.**

Configuration Property	Description
Custom Name for Datasource	Enter a name for the data source for identification purposes. For example, *Primavera Cloud Production Data*.
ODI Log Level	Controls the level of detail included in the ODI log files. Select any of the following values: ▸ *Summary*: Displays a summarized content in the log file. ▸ *Detail* (default)*:* Displays detailed information in the log file.
Primavera Cloud URL	This URL is preset for your organization and is used for detailed analysis.

In the **OBIEE Settings** section set up the following properties:	
Mail Prefix	Customize the text that will be displayed in the subject line of email notifications that are sent regarding the status of ETL runs. For example, enter *Analytics* for status updates on ETL runs.
OBIEE Cache Purge	OBIEE cache entries are used to as a method to improve response times of OBIEE dashboards. This property controls the clearance of OBIEE cache entries. Select any of the following values: ▸ *True*: Clears OBIEE cache entries. ▸ *False* (default): Retains the cache entries.
Send Email Notification	Enter the email IDs of the personnel to be notified regarding the status or issues with the STARETL runs. Also select the type of events for which they are to be notified: ▸ *Failure***:** Email notifications are sent only for failed ETL runs. ▸ *Success*: Email notifications are sent only for successful ETL runs. ▸ *Both*: Email notifications are sent for successful and failed ETL runs.

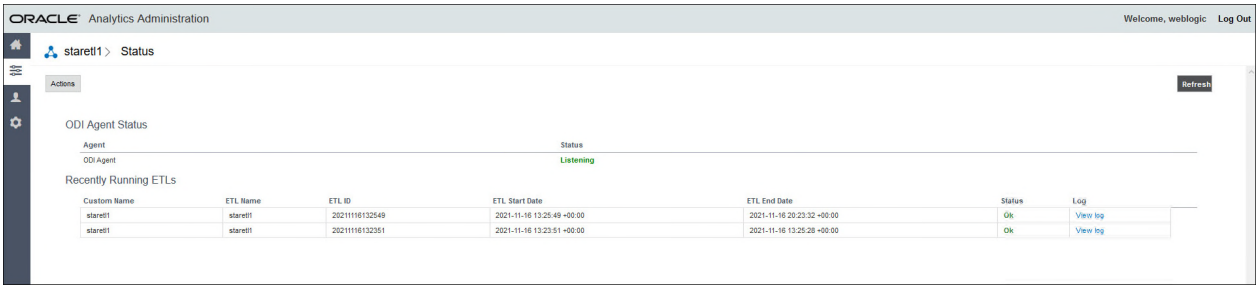
Running ETLs and ODI Loads for Primavera Cloud Data Sources

To bring data from Primavera Cloud to CIC Advisor, you must run ETLs or ODI load plans from the **Status** page of the CIC Advisor Administration application.

To access the **Status** page for a data source:

1) Sign in to the CIC Advisor Administration application.
   http://<host>:<port>/p6rdb

2) From the **Home** menu, select a data source.



Item	Description
1	**Actions** menu: Select this menu to schedule or run ETLs for the selected data source. **Refresh**: Select this button to renew the current view of the page.
2	**ODI Agent Status**: Displays the current status or mode of the ODI agent.
3 - TBD	**Load Plan Status**: Displays the recent runs of ODI load plans that were run for this data source. Use this section to **Start** or **Restart** ODI load runs.
4	**Recently Running ETLs**: Displays the recent ETL runs for this data source. Select **View log** to review the log file for each ETL run.

Configuring Benchmarking Groups for Primavera Cloud Projects

In CIC Advisor, projects can be compared and contrasted with two benchmark groups on the **Benchmark Detail** page.

To set up benchmarking groups in CIC Advisor to compare your P6 project with:

1) Sign in to the CIC Advisor Administration application.
   http://<host>:<port>/p6rdb
2) From the **Home** menu, select a **staretl<id>** or a **<Custom Name for DataSource>**.

> **Note:** <id> is the identifier of the data source.

3) In the sidebar, click **Benchmark**.
4) Click **Edit** and enter a name for each baseline group being created.

> **Note**: You can set up only two benchmark groups with a maximum of 7 projects in each group that are either complete, or 85 - 90% complete.

5) Populate each group with projects as follows:

- To add a project to a baseline group, select a project from the list of available projects brought over by the ETL, and drag and drop it into a baseline group.
- To remove a project from a baseline group, select a project in a baseline group and delete it from the baseline group.

6) Click **Save** to create baseline groups for benchmarking.

Configuring Threshold Settings for Primavera Cloud Data

In CIC Advisor, projects are analyzed to identify metrics responsible for a potential delay in a project schedule. These metrics are identified based on an acceptable range of values established for each metric in the **Threshold Settings** page of the CIC Advisor Administration application.

To establish an acceptable range for each metric in **Threshold Settings** page:

1) Sign in to the CIC Advisor Administration application.
   http://<host>:<port>/p6rdb
2) From the **Home** menu, select a **staretl<id>** or a **<Custom Name for DataSource>**.

> **Note:** <id> is the identifier of the data source.

3) In the sidebar, click **Threshold Settings**.
   Each setting is set up with a default value initially.
4) To customize threshold values for each setting choose any of the following actions:
   - For each **Setting Name**, enter a value in the **Custom Value** field.
   - To revert to its default value, click **Default Value**.
   - To revert all threshold settings to their default values, click **Set All Default**.

Creating Custom Project Groups to Train Models

To ensure models are trained to predict outcomes with a high level of accuracy, you can create custom project groups, by selecting a subset of similar projects that have been completed in the past to train your ML models with your data.

To set up custom project groups to train models with your data:

1) Sign in to the CIC Advisor Administration application.
   http://<host>:<port>/p6rdb
2) From the **Home** menu, select a **staretl<id>** or a **<Custom Name for DataSource>**.

> **Note:** <id> is the identifier of the data source.

3) In the sidebar, click **Custom Project Groups** to create a maximum of three groups.
4) On the **Custom Project Groups** page, click **Edit** to rename a project group.
   a. To add a project to a group, click and drag a project to the relevant project group column..

b. To remove a specific project a project from a group, select the project in the project group and click **Remove**.

c. Repeat the above actions as necessary to create each combination of projects in a group.

5) Click **Save** to confirm all changes or click **Cancel** to revert all changes made to the project groups.

6) Proceed to select any of the custom project groups created above and train a model with your data on the **ML Workbench** page.

Standard Administration Tasks

To bring new data over from a source application into CIC Advisor, you need to run or schedule ETLs and ODI load plans (if applicable to your data source) from the **Status** page of the CIC Advisor Administration application.

The following source applications are currently supported:

- P6 EPPM
- Oracle Primavera Cloud
- Aconex

This chapter describes the standard administration tasks that you will perform to manage the source data displayed in CIC Advisor.

In This Section

Running the STARETL Process

The CIC Advisor Administration application contains a **staretl** section for each data source.

To run the STARETL process for a data source:

1) Sign in to the CIC Advisor Administration application.
   http://<host>:<port>/p6rdb
2) In the sidebar, click **Status**.
3) From the **Home** menu, select a **staretl<id>** or a **<Custom Name for DataSource>**.

   Note: <id> is the identifier of the data source.

4) From the **Actions** menu, click **Run ETL** to run a STARETL process immediately.

Stopping the STARETL Process

To stop the STARETL process run for a data source:

1) Sign in to the CIC Advisor Administration application.
   http://<host>:<port>/p6rdb
2) In the sidebar, click **Status.**

3) Click **Stop** for a currently running STARETL process.
4)

Scheduling STARETL Runs

To schedule a STARETL process run for a data source:

1) Sign in to the CIC Advisor Administration application.
   http://<host>:<port>/p6rdb
2) In the sidebar, click **Status**.
3) From the **Home** menu, select a **staretl<id>** or a **<Custom Name for DataSource>**.

> **Note:** <id> is the identifier of the data source.

4) From the **Actions** menu, select **Schedule Etl**.
5) In the **Schedule Frequency** field, select the frequency for the STARETL process run.
   If you select *None*, no STARETL process run will be scheduled for a data source.
   If you select *Daily:*
   a. In the **Run ETL at** field, enter the time for the daily process run, and then select **Save**.
      To schedule multiple ETL runs daily, click **Add** and enter date and time for each ETL run.

> **Note**: Schedule multiple ETLs daily at least 2 hours apart.

   If you select *Weekly*:
   b. In the **Run ETL at** field, enter the time for the process run.
   c. Select the days for the STARETL process run, and click **Save**.

Starting and Restarting ODI Load Plans

If applicable to your data source, to manage and run ODI load plans:

1) Sign in to the CIC Advisor Administration application.
   http://<host>:<port>/p6rdb
2) From the **Home** menu, select a **staretl<id>** or a <**Custom Name of a data source**>.
3) In the sidebar, click **Status**.
4) In the **Load Plan Status** section, select any of the following buttons:
   - Click **Start** to run a specific ODI load plan
   - Click **Restart** to stop and begin a currently ongoing run

Reviewing the Global Status of STARETL Runs

To view details on recently run STARETL processes for all data sources:

1) Sign in to CIC Advisor Administration application.
   http://<host>:<port>/p6rdb

2) In the sidebar, click **Status**.
3) The following information is provided for each STARETL process:
   - **Custom Name**: The custom name given to a data source.
   - **ETL Name**: The identifier for the data source for the STARETL process.
   - **ETL ID**: The unique identifier for the STARETL process run.
   - **ETL Start Date**: The start date and time for the STARETL process run based on the server time.
   - **ETL End Date**: The end date and time for the STARETL process run based on the server time.
   - **Status**: The status of the STARETL process run. These include:
     - **OK:** The STARETL process completed successfully.
     - **Running:** The STARETL process is currently running.
     - **Failed:** The STARETL process has failed. View the report and log for more information about the failure.
   - **Report**: The link to the status report of this STARETL process run.
   - **Log**: The link to the ETL log of this STARETL process run.

Accessing Log Files of STARETL Runs

Every time you run the STARETL process, Primavera Data Warehouse creates extensive log files that provide information about the installation and daily operations details of each step of the process. Inspect the log files after each run of the STARETL process to determine if any issues exist.

To access the log files:

1) Sign in to the CIC Advisor Administration Application:
   http://<host>:<port>/p6rdb
2) In the sidebar, click **Status**.
3) In the ETL section, click **View Log** to view details of the STARETL run.

Accessing Recent STARETL Run Reports and Logs

To access a log of a StarETL run for a data source:

1) Sign in to CIC Advisor Administration application.
   http://<host>:<port>/p6rdb
2) In the sidebar, click **Status**.
3) From the **Global Status** menu select **staretl<id>** or <**Custom Name for data source>**.

4) In the **Recently Running ETLs** section, review the following information for recent StarETL runs:
   - **ETL Name**: Identifier for the data source associated with the StarETL run.
   - **ETL ID**: Unique identifier for the StarETL run.
   - **ETL Start Date**: Start date and time for the StarETL run based on the server time.
   - **ETL End Date**: End date and time for the StarETL run based on the server time.
   - **Status**: Status of the StarETL run. These include:
     - **OK:** The StarETL run completed successfully.
     - **Running:** The StarETL runis currently running.
     - **Failed:** The StarETL run failed. View the log for more information about the failure.
   - **Log**: Links to the log file of the StarETL run.

Working with the Machine Learning Workbench

The ML workbench allows you to monitor, train, and retrain the models driving predictions in CIC Advisor.

For each problem that you want to investigate, you can:

- create machine learning (ML) models without having to learn complex technology and being a data scientist
- train multiple models simultaneously, each with a different combination of features enabled if available
- enable prediction of future outcomes within each model

The following topics describe how to set up and use the administration application to train models for Construction Intelligence Cloud Advisor application for the following products:

- P6 EPPM
- Aconex.

In This Section

Selection Criteria for Training ML Models

As a rule of thumb, the criteria for training machine learning models as well as selecting models to train must be determined in consultation with project stakeholders in your organization.

> **Note**: Oracle recommends that you initially train the seed models and check the results if these provide appropriate guidance. Otherwise, retrain and select custom models to retrain.

Assessing the performance of a machine learning model is an essential step in a predictive modeling pipeline. Once a model is ready, it has to be evaluated to establish its correctness. There are some widely used validation metrics that are used to assess a prediction model and we have used some of them:

- **Accuracy**: It is the ratio of correct predictions to the total number of predictions.

  For example, consider a prediction model predicting an activity is going to be delayed or not with an accuracy of 0.75. If the model predicts 100 times in total, then 75 times the model will predict it correctly.
- **Recall**: It answers how well the model can find all the positive results actually in the data. Of all the activities that are actually delayed, how many the model correctly identified.

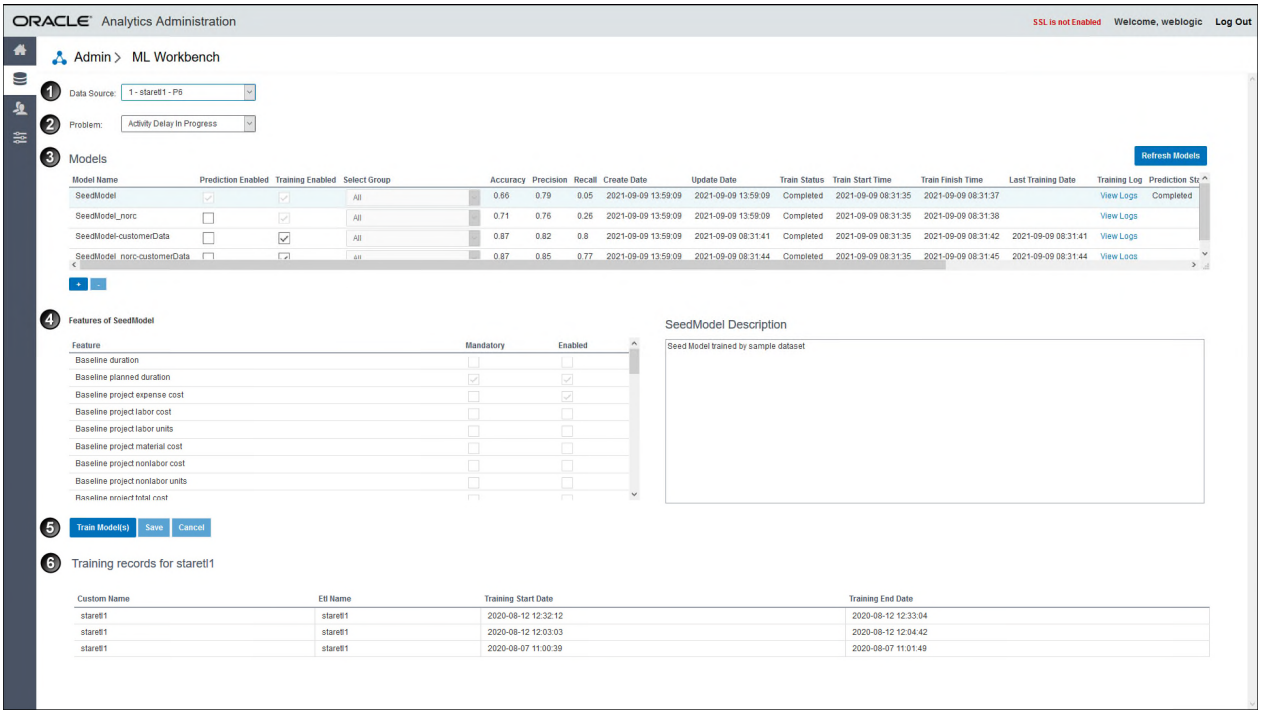
For example, consider a prediction model predicting an activity is going to be delayed or not. If the recall is 0.57, then it implies that for every 100 activities that are actually delayed, approximately 57 activities are correctly predicted to be delayed.

- **Precision**: It tells us, how often are we correct when we have a positive prediction, and how many are actually delayed out of all the activities that are predicted to be delayed.

  For example, consider a prediction model predicting an activity is going to be delayed or not. If the precision is 0.6, then for every 100 activities that are predicted to be delayed, 60 activities are actually delayed.

Using ML Workbench for P6 EPPM

To enable CIC Advisor to make recommendations, predict outcomes, or raise warnings for large scale enterprise projects, you need to establish settings in the **ML Workbench** page of the CIC Advisor Administration application. The settings on this page control the data eventually displayed in CIC Advisor.



Item	Description
1	**Data Source**: The data from a source application that is being analyzed to predict future outcomes, success rate, risks, anomalies, etc.
2	**Problem**: The administration application delivers a set of predefined problems or scenarios for a product-specific data set. These problems represent recurrent issues and significant challenges that are widespread across the construction industry.

Item	Description
3	**Models Table**: Machine learning is a technique of data analysis that uses algorithms to analyze large sets of data to identify patterns in data. Models are machine-learning algorithms that generate predictions by finding patterns in data. You train a model to learn from a data set. A model can be generated to analyze each real-life problem in a data set. The inference from this analysis is built into a model. Additionally, multiple models can be generated to analyze a specific objective for a problem. ▸ **SeedModel**: Each problem is delivered with a seed model that is generated from analyzing a sample data set. ▸ **CustomModel**: A custom model is generated once the seed model is retrained using a customer-specific data set. These custom models may be retrained as often as needed to ensure more accurate predictions. A custom model refers to a model that is generated from analyzing data from a customer-specific construction and engineering product data set. For example, customer feed back provided during project progress and current project progress to date in addition to customer specific P6 EPPM data set. **Note**: Oracle recommends you retrain the model for each problem before using it for predictions. For each problem you can train multiple models simultaneously with a different combination of features selected in each model. However, you can only select one model for prediction for each problem.
4	**Features of a Model**: A feature is a characteristic or an attribute of the data set. Feature lists can vary for each problem identified in a data set. To analyze problems, specific combination of features can be enabled or disabled in a model. Therefore, you may create multiple models each associated and enabled with a different combination of features to analyze a problem.
5	**Train Models**: Train models with data and feature sets using seed models or existing custom models with new customer-specific training data set to learn from and provide better predictions. As the model learns, its accuracy also increases over time. Models are built using trends identified in the data from past projects. These models then serve as the engine that drives predictions. These models can be retrained through user feedback to identify patterns and trends specific to the way the organization chooses to run its projects thereby enhancing the accuracy of the predictions. Initially, you will need to make decisions for a data set when the application recognizes patterns in the data set. The application begins to learn from past decisions to predict outcomes. A vast data pool provides greater exposure to train a model.

Item	Description
6	**Training records for staretl<n>**: View the model training history executed for a selected data source.

Configuring and Training CIC Advisor Models with P6 Data

To manage information displayed in Construction Intelligence Cloud Advisor, as administrators you have to select models that need to be trained for predicting outcomes.

> **Note**: A seed model or initial model is also delivered for each problem. Oracle recommends that you train the seed model before using it for predictions.

To set up and train models with specific features enabled:

1) Sign in to the administration application of CIC Advisor.
   http://<host>:<port>/p6rdb
2) In the sidebar, click **ML Workbench**.
3) From the **Data Source** list, select a P6 data source.
4) From the **Problem** list, select a predefined area of improvement that you want to focus in CIC Advisor for the selected P6 data source.
5) In the **Model** section, add a model for the selected problem as follows:
   a. Click **Add Model**, and then click **OK** to confirm your selection.
      By default, the model is named as *CustomModel1*.
      The following information is displayed for each model:
      - **Model Name:** A user-friendly name to identify a model.
      - **Prediction Enabled**: Indicates that a model is used for predictions. For each problem, only one model which has been trained can be used for predictions.
      - **Training Enabled**: Indicates that a model is being trained. Multiple models can be trained for a problem.
      - **Create Date**: The date on which the model was added.
      - **Update Date**: The date on which the model was previously updated.
      - **Train Status**: The current status of the model being trained. Choices include: *Failed, Completed*.
      - **Train Start Time**: Time when the training process for the model was initiated.
      - **Train Finish Time**: Time when the training process for the model was completed.
      - **Last Training Date**: The date on which the model previously trained.

> **Note**: Prediction can be enabled for a model only if a model has a **Last Training Date**.

- **Training Log**: Click **View Logs** to view the log file containing details corresponding to each model that has been trained.
- **Prediction Status**: The current status of the model enabled for prediction. Choices include: *Failed, Completed*.
- **Prediction Start Time**: Time when the prediction process for the model was initiated.
- **Prediction Finish Time**: Time when the prediction process for the model was completed.
- **Prediction Log**: Click **View Logs** to view details of the prediction process run for the model that has been enabled for prediction. **Accuracy**: It is the ratio of correct predictions to the total number of predictions.

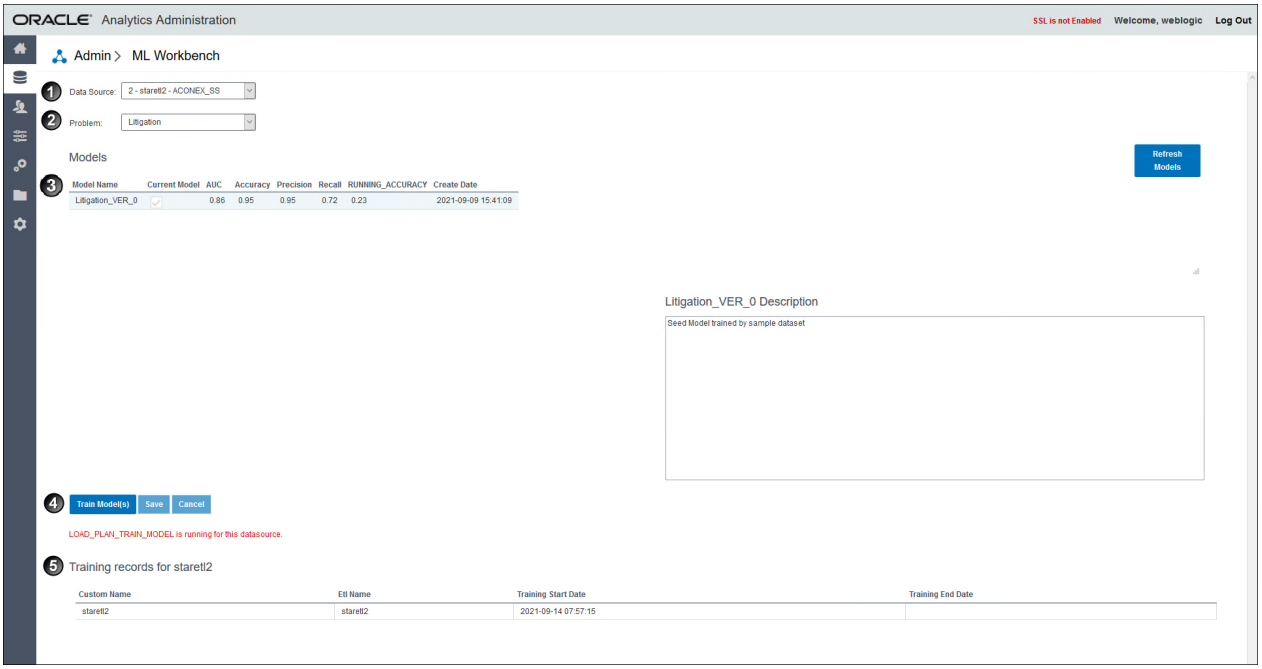
b. In the **Model Name** field, click **Edit**, and rename the model.

c. In the **Description** section, enter information that describes the purpose of the model.

6) Enable features for a model:
   1. In the **Model** section, select a row to select the model whose feature you want to enable.
   2. In the **Features** section, select the **Enabled** check box to activate each feature for the selected model.
   3. Select **Save**.
7) To add multiple models for each problem, repeat steps 5 and 6 for each problem.
8) To train the models:
   a. In the **Model** section, select the **Training Enabled** check box for one or more models across all problems.
   b. Click **Train Model(s)**.

Using ML Workbench for Aconex

To enable CIC Advisor to make recommendations and predict potential risks based on **User Feedback** for your projects in Aconex, you need to train models in the **ML Workbench** page of the CIC Advisor Administration application. The model trained on this page controls the data eventually displayed in CIC Advisor.



Item	Description
1	**Data Source**: The data from a source application that is being analyzed to predict future outcomes, success rate, risks, anomalies, etc.
2	**Problem**: The administration application delivers a set of predefined problems or scenarios for a product-specific data set. These problems represent recurrent issues and significant challenges that are widespread across the construction industry.

Item	Description
3	**Models Table**: Machine learning is a technique of data analysis that uses algorithms to analyze large sets of data to identify patterns in data. Models are machine-learning algorithms that generate predictions by finding patterns in data. You train a model to learn from a data set. A model can be generated to analyze each real-life problem in a data set. The inference from this analysis is built into a model. Additionally, multiple models can be generated to analyze a specific objective for a problem. **Note**: Oracle recommends you retrain the model for each problem before using it for predictions. For each problem you can train multiple models simultaneously. However, you can only select one model for prediction for each problem.
4	**Train Models**: Train models with data using seed models with new customer-specific training data set to learn from and provide better predictions. As the model learns, its accuracy also increases over time. Models are built using trends identified in the data from past projects. These models then serve as the engine that drives predictions. These models can be retrained through user feedback to identify patterns and trends specific to the way the organization chooses to run its projects thereby enhancing the accuracy of the predictions. Initially, you will need to make decisions for a data set when the application recognizes patterns in the data set. The application begins to learn from past decisions to predict outcomes. A vast data pool provides greater exposure to train a model.
5	**Training records for staretl<n>**: View the model training history executed for a selected data source.

Configuring and Training CIC Advisor Models with Aconex Data

A model can be selected, trained or retrained for each predefined problem identified as an area of improvement in Aconex.

> **Note**: In the CIC Advisor application, for an Aconex project, users can indicate if a risk has been identified by indicating *Yes* or *No* in the **User Feedback** field. You can choose to retrain the model based on the **Create Date** To retrain a model,

To train a model with Aconex data:

1) Sign in to the administration application of CIC Advisor.
   http://<host>:<port>/p6rdb
2) In the sidebar, click **ML Workbench**.
3) From the **Data Source** list, select an Aconex data source.

4) From the **Problem** list, select any of the following predefined areas that you want to focus in CIC Advisor:
   - *Change Request*
   - *Field Change Request*
   - *Field Health and Safety*
   - *Health and Safety*
   - *Litigation*
5) In the **Model** section, select the **Current Model** check box to indicate the current model to be used for training purposes and then click **Save**.

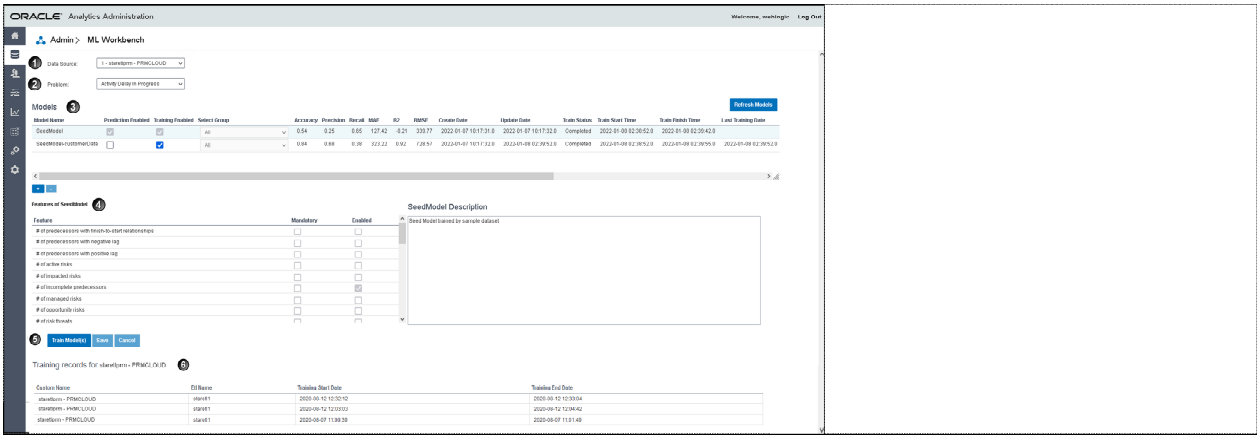
   The following information additionally displays for each model:
   - **Model Name:** A user-friendly name for a CIC Advisor model.
   - **Accuracy**: The ratio of correct predictions to the total number of predictions.
   - **Precision**: The frequency of being correct with a positive prediction, and how many are actually delayed out of all the risks that are predicted to be delayed.
   - **Recall**: The ability of a model to find all the positive results actually in the data. It Of all the activities that are actually delayed, how many the model correctly identified.
   - **Create Date**: The date on which the model was added.
6) To train a model:
   a. Click **Train Model(s)**.
   b. In the confirmation dialog box, click **OK**.

      In the **Training Records** section, a new row displays the following information when a model is retrained:
      - **Custom Name**: The name of the Aconex data source
      - **Etl Name**: The name of the ETL process.
      - **Training Start Date**: The start date and time when the model was trained or retrained.
      - **Training End Date**: The end date and time when the training completed.

      In the **Model** section, a new row is displays when the model completes training or retraining.

Using ML Workbench for Oracle Primavera Cloud

To enable CIC Advisor to make recommendations, predict outcomes, or raise warnings for large scale enterprise projects, you need to establish settings in the **ML Workbench** page of the CIC Advisor Administration application. The settings on this page control the data eventually displayed in CIC Advisor.



Item	Description
1	**Data Source**: The data from the Primavera Cloud source application that is being analyzed to predict future outcomes, success rate, risks, anomalies, etc.
2	**Problem**: The administration application delivers a set of predefined problems or scenarios for a product-specific data set. These problems represent recurrent issues and significant challenges that are widespread across the construction industry.

Item	Description
3	**Models Table**: Machine learning is a technique of data analysis that uses algorithms to analyze large sets of data to identify patterns in data. Models are machine-learning algorithms that generate predictions by finding patterns in data. You train a model to learn from a data set. A model can be generated to analyze each real-life problem in a data set. The inference from this analysis is built into a model. Additionally, multiple models can be generated to analyze a specific objective for a problem. ▸ **SeedModel**: Each problem is delivered with a seed model that is generated from analyzing a sample data set. ▸ **CustomModel**: A custom model is generated once the seed model is retrained using a customer-specific data set. These custom models may be retrained as often as needed to ensure more accurate predictions. A custom model refers to a model that is generated from analyzing data from a customer-specific construction and engineering product data set. For example, customer feed back provided during project progress and current project progress to date in addition to customer specific Oracle Primavera Cloud data set. **Note**: Oracle recommends you retrain the model for each problem before using it for predictions. For each problem you can train multiple models simultaneously with a different combination of features selected in each model. However, you can only select one model for prediction for each problem.
4	**Features of a Model**: A feature is a characteristic or an attribute of the data set. Feature lists can vary for each problem identified in a data set. To analyze problems, specific combination of features can be enabled or disabled in a model. Therefore, you may create multiple models each associated and enabled with a different combination of features to analyze a problem.
5	**Train Models**: Train models with data and feature sets using seed models or existing custom models with new customer-specific training data set to learn from and provide better predictions. As the model learns, its accuracy also increases over time. Models are built using trends identified in the data from past projects. These models then serve as the engine that drives predictions. These models can be retrained through user feedback to identify patterns and trends specific to the way the organization chooses to run its projects thereby enhancing the accuracy of the predictions. Initially, you will need to make decisions for a data set when the application recognizes patterns in the data set. The application begins to learn from past decisions to predict outcomes. A vast data pool provides greater exposure to train a model.

Item	Description
6	**Training records for staretl<n>**: View the model training history executed for a selected data source.

Configuring and Training CIC Advisor Models with Primavera Cloud Data

To manage information displayed in CIC Advisor, as administrators you have to select models that need to be trained for predicting outcomes.

> **Note**: A seed model or initial model is also delivered for each problem. Oracle recommends that you train the seed model before using it for predictions.

To set up and train models with specific features enabled:

1) Sign in to the administration application of CIC Advisor.
   http://<host>:<port>/p6rdb
2) In the sidebar, select **ML Workbench**.
3) From the **Data Source** list, select a Primavera Cloud data source.
4) From the **Problem** list, select a predefined area of improvement that you want to focus in CIC Advisor for the selected Primavera Cloud data source.
5) In the **Model** section, add a model for the selected problem as follows:
   a. Select **Add Model**, and then select **OK** to confirm your selection.
      By default, the model is named as *CustomModel1*.
      The following information is displayed for each model:
      - **Model Name:** A user-friendly name to identify a model.
      - **Prediction Enabled**: Indicates that a model is used for predictions. For each problem, only one model which has been trained can be used for predictions.
      - **Training Enabled**: Indicates that a model is being trained. Multiple models can be trained for a problem.
      - **Select Group**:
      - **Accuracy**: It is the ratio of correct predictions to the total number of predictions.
      - **Precision**: It is a measure of correctness on positive predictions, and a measure of how many are actually delayed out of all the activities that are predicted to be delayed.
      - **Recall**: It is a measure of a model's ability to find all the positive results actually in the data. Of all the activities that are actually delayed, how many the model correctly identified.
      - **MAE**:
      - **RMSE**:
      - **Create Date**: The date on which the model was added.
      - **Update Date**: The date on which the model was previously updated.

- **Train Status**: The current status of the model being trained. Choices include: *Failed, Completed*.
- **Train Start Time**: Time when the training process for the model was initiated.
- **Train Finish Time**: Time when the training process for the model was completed.
- **Last Training Date**: The date on which the model previously trained.

Note: Prediction can be enabled for a model only if a model has a **Last Training Date**.

- **Training Log**: Click the **View Logs** link to view the log file containing details corresponding to each model that has been trained.
- **Prediction Status**: The current status of the model enabled for prediction. Choices include: *Failed, Completed*.
- **Prediction Start Time**: Time when the prediction process for the model was initiated.
- **Prediction Finish Time**: Time when the prediction process for the model was completed.
- **Prediction Log**: Click the **View Logs** link to view details of the prediction process run for the model that has been enabled for prediction.

b. In the **Model Name** field, select _ Edit, and rename the model.

c. In the **Description** section, enter information that describes the purpose of the model.

6) Enable features for a model:
   1. In the **Model** section, select a row to select the model whose feature you want to enable.
   2. In the **Features** section, select the **Enabled** check box to activate each feature for the selected model.
   3. Select **Save**.
7) To add multiple models for each problem, repeat steps 5 and 6 for each problem.
8) To train the models:
   a. In the **Model** section, select the **Training Enabled** check box for one or more models across all problems.
   b. Select **Train Model(s)**.

Managing Personal Information

This chapter describes how to manage personal information (PI) in Construction Intelligence Cloud Advisor.

In This Section

About Consent Notices

Consent notices inform 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. Oracle Construction and Engineering products help you to ensure that you have requested the appropriate consent to collect, process, store, and transmit the PI your organization holds as part of any source application (P6 EPPM) that can be configured with Construction Intelligence Cloud Advisor.

About Personal Information

Personal information (PI) is any piece of data which can be used on its own or with other information to identify, contact or locate an individual or identify an individual in context. This information is not limited to a person's name, address, and contact details. For example, a person's IP address, phone IMEI number, gender, and location at a particular time could all be personal information. Depending on local data protection laws , organizations may be responsible for ensuring the privacy of PI wherever it is stored, including in back-ups, locally stored downloads, and data stored in development environments.

As part of your Primavera Analytics Cloud Service, you may be using an identity management domain to manage your user access and entitlements across a number of cloud and on-premises applications and services. If you are using or accessing an identity management domain you are responsible for deleting your details and data from the identity management domain. You are responsible for retrieving your content in the identity management domain during your applicable services period.

Configuring Consent Notices for CIC Advisor

Construction Intelligence Cloud Advisor consumes data from source applications and makes it available to CIC Advisor users. End-users must give their consent in the *source* application to read and agree to the consent message to ensure they:

- have access to the data in CIC Advisor
- understand the responsibilities with regard to data protection and security

P6 EPPMsource applications can be configured with CIC Advisor. For detailed instructions on how to configure consent notices in P6 EPPM, refer to *P6 EPPM Application Administration Guide.*

Your Responsibilities

Information security and privacy laws can carry heavy penalties and fines for organizations which do not adequately protect PI they gather and store. Data visible to an Construction Intelligence Cloud Advisor user depends on the consent notices configured and accepted by users in the source applications which can be configured with Analytics.

If these laws apply to your organization, it is your responsibility to ensure consent notices are configured in the source applications before they are required.

Ensuring Privacy of Data Collection

Personal information (PI) in CIC Advisor depends on the changes made in source applications such as P6 EPPM. When PI data is modified or deleted in the source applications, run the ETL process to ensure it is automatically reflected in CIC Advisor. If a user is deleted in a source application, they can no longer access CIC Advisor.

Limiting Granular Access to Data

Products provide granular access controls, by record, data element, type of data, or logs. Ensure CIC Advisor adheres to the same user privileges and access rights as the source applications.

Ensuring Data Masking is Supported

Data masking is the ability to display only a portion of a data field or prevent viewing data. Oracle database security policies can hide access to certain columns. Ensure you review this feature for CIC Advisor.

Ensuring IP White-Listing

An IP white list is a list of trusted IP addresses from which your users can access domains. CIC Advisor uses OBIEE for displaying analyses and dashboards. For more details on IP white-listing, refer to OBIEE documentation.

Controlling Access to Special Categories of Data

CIC Advisor has control over some sensitive fields. Control can be regulated to only users that are allowed to login. Data access is generally project level and either cost or no cost, and granularity is provided for those differences. Global data is also visible but honors same security as source applications.

Whats Next?

Congratulations!! You have now successfully completed setting up CIC Advisor Administration application to run ETLs and bring projects into CIC Advisor.

Sign in to the CIC Advisor application and also refer to the CIC Advisor *Reference Guides* to review the insights delivered for your projects.

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Oracle Construction Intelligence Cloud Advisor Administration Guide