PPM CUSTOMIZING TOOLKIT

ARIS Process Performance Manager 10

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This document applies to ARIS Process Performance Manager Version 10 and to all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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1. General

This user guide uses a client's process analysis to describe basic PPM Customizing Toolkit (PPM CTK) functions and provides an overview of the procedure for using PPM Customizing Toolkit to configure PPM.

Detailed information on configuring Data analytics and Cross analytics for a client is available in the **PPM Data analytics** manual.

The user guide is aimed at PPM Customizing Toolkit users who are application configuration experts.

As an **application configuration expert** you are responsible for customizing all ETL processes (**E**xtracting source system data, **T**ransforming the data, **L**oading the data into the target database), which includes process nesting, process typification, as well as measure and dimension calculation.

Overview

- The Introduction to PPM Customizing Toolkit [6] chapter provides you with an overview of the user interface and the basic functionality.
- The chapter Getting started [8] uses a scenario to describe how to create a client and specify the basic settings.
- The chapter Configure the client [13] describes how to set the properties of your client and configure the data management.
- The Appendix [19] contains more detailed information.

Prerequisite

Both PPM Customizing Toolkit and PPM are installed on your computer.

The description of using PPM Customizing Toolkit to configure a PPM client assumes general knowledge of handling PPM.

2. Introduction to PPM Customizing Toolkit

Before you can import data from your source system into PPM, you need to define criteria for your analyses, for example, process types, measures, dimension, and calculation rules, and then set up a configuration for your PPM system. This process is referred to as customizing. Customizing a client [7] is divided into two major analysis areas: process and interaction analysis or Data and Cross analytics. Process and interaction analyses enable you to evaluate process-specific analysis criteria of real business processes. Data analytics enables you to evaluate comprehensive table data (big data) and is extended by Cross analytics, which adds a process analysis component.

PPM Customizing Toolkit provides a standardized, wizard-based interface that enables you to easily and conveniently tailor your PPM system to your requirements without the need for programming skills or additional technical know-how. PPM Customizing Toolkit provides you with a user-friendly graphical editor that you can use to create and edit the XML-based configuration files for PPM. For example, you can use Point-n-Click to select measures, map processes, and define the source system data to be imported. PPM Customizing Toolkit provides you with all the necessary functions and applications to simplify customizing of your PPM system.

This makes continuous project work much more systematic and considerably expedites implementation. CTK is supplied with basic configurations of common application scenarios that enable you to leverage stored know-how for your own projects.

2.1. User interface

The toolbar contains the most important functions of each module. You find all other functions in the main menu (menu bar) or in an item's pop-up menu (right click). The PPM Customizing Toolkit user interface is divided into two main areas, the navigation structure and the **Editor window**. The navigation structure consists of various bars that you use to activate individual modules and call up the editor window to edit the individual items. In the editor window, you define and configure the various items in your client, such as creating measures or defining calculated attributes.

2.2. Functions

In PPM Customizing Toolkit, various modules comprise different, functionally related components that provide all the configuration options and applications you need.

Client overview

In the client overview, you can create new clients, edit them, and specify general properties of PPM Customizing Toolkit.

Manage clients

In the **Client** module, you can define the client-specific behavior, set and manage your source system's data sources, and call up applications that help you configure your client and source system data.

Define attributes

Use the **Attributes** module to define and manage data types, attributes, attribute groups, and the interface language.

Extract data and generating processes

Use the **Process merge** module to configure source system data extraction in detail and to specify fragment and attribute mapping. You can define various rules for merging the extracted source system data into consistent processes.

Define measures and dimensions

Use the **Measures and dimensions** module to create calculation rules for attributes and define measures and dimensions based on directly imported and calculated attributes. You can also configure measure groups, dimension groups, and relations, and define process instance-independent measures.

Define processes

Use the typification rules in the **Processes** module to assign individual process instances to particular process types and process type groups. You can assign measures and dimensions to the various process types and process type groups.

2.3. PPM client

Using clients, you can configure and manage your PPM projects. A client provides you with all the configuration files and applications required to extract data from your source system and configure it for further processing.

A client is made up of the following elements.

- Client-specific configuration files, for example, interface language
- Configuration files for data management
- Data management applications
- Extracted and transformed source data

PPM repository

The prepared client-specific data is saved in a dedicated PPM repository, where it is available to PPM for analysis under the same client name. PPM Customizing Toolkit provides all of the required configuration files and a basic configuration of measures, dimensions and all the utilities for managing your new client.

3. Getting started

This chapter uses a simple scenario as an example of how to get started with PPM Customizing Toolkit.

Example 1.

You want to create a new client without being able to use a similar, existing client configuration. The data to be extracted is available in a JDBC data source. Processes are to be merged by simple sorting of the process fragments.

Procedure

1. **Step 1** shows how to use a template to create a client and set the client properties.
2. **Step 2** shows how to configure the source system data by specifying the data sources and configuration files and setting the corresponding access parameters for your data source.
3. **Step 3** shows how to use additional applications to configure and manage your PPM client.
4. **Step 4** shows how to automatically create documentation for your PPM client.

You can then configure your new client for your PPM system in detail and extract the desired data from your source system for further analysis in PPM.

3.1. Step 1: Create client

Use the Installation Wizard to easily create and edit **clients** in PPM Customizing Toolkit. You can configure all required settings in the Client Installation Wizard.

For detailed information on how to create clients, please refer to the PPM Installation Guide.

The help in the wizard provides additional information on the setting options displayed. To view this information, click the **Help** button in the wizard or go to the **Help** tab.

Example 2.

Your client **my_project** is to be created based on the template **base_en** with a predefined default configuration. .

Procedure

1. Start PPM Customizing Toolkit.
2. Click the **Create client** button in the **Client overview**.
   The Installation Wizard is launched and the **Basic settings** dialog is displayed.
3. Enter a **Name** for your new client, for example, my_project.
4. Select the template called **base_en**.
   PPM Customizing Toolkit provides a basic configuration and all applications required for your new client.
5. Specify all other required settings.
   If necessary, contact your PPM system administrator.
6. Click **Next**.

The wizard guides you through all further steps.

There are several templates containing different configurations that you can use to create the configuration files for your new client. The wizard contains a detailed description of the available default templates.

You can obtain additional templates in the form of **Content Packages** and add them to PPM Customizing Toolkit. Content Packages contain pre-defined configurations for PPM, PPM Customizing Toolkit and PPM Process Extractor SAP-2-PPM.

The following Content Packages are available:

- PPM Content Package for SAP MM
- PPM Content Package for SAP SD

Content Packages are approved for use on Windows and Linux systems.

3.1.1. Set client properties

Once you created the client, you can tailor the properties of your client to your project requirements. Use the client properties to specify the configuration options that PPM Customizing Toolkit offers for your client.

You can retain the default settings for **Attribute editing**, **measure and dimension editing** and **Further properties**.

Procedure

1. Select the client **my_project** in the client overview.
2. Click the **Configure process analysis** button.
3. The **Properties** component of the **Client** module is displayed.
4. Click **Edit** in the toolbar.
   Edit mode is enabled.
5. Click **Edit client properties** in the **Basic settings** box.
6. Activate the **Process merge** page.
7. For this example, enable the option **Use attribute copy rules**. The options **Use JDBC Extractor** and **Sort-based merge** have been preselected.
8. You can leave **AT_** as the **Attribute prefix**.
9. Click **OK**.

Your settings are applied.

Under **Help** you will find more information about the configuration options provided by PPM Customizing Toolkit when you select a particular option.

You can still change the properties of your client to suit your requirements even after you have exited the wizard.

3.2. Step 2: Configure data source

Before the data can be extracted from your source system, you have to specify the data sources and configuration files and set the appropriate access parameters for your data source.

Use the **Data source management** component of the **Client** module to configure the data sources of different data source types, such as system event, Graph, SAP, or JDBC. For these data sources you define the individual components for extracting data from your source system and importing data into PPM.

A data source comprises a fixed number of configuration files that depends on the data source type in question. Most of the configuration files are automatically created as empty files when a new data source is created. You configure them in the corresponding components, such as XML import and Data extraction. A data source combined in this way is saved as a separate file. It forms the basis for automated data extraction.

3.2.1. Create data source

You can create several data sources for a client.

Procedure

1. Select the **Data source management** component of the **Client** module.
2. Click **Edit** in the toolbar.
3. Click **Create data source** in the toolbar.
4. Specify your settings.

   Create a new data source of the same type as the source system data you want to extract.

   Enter a **Name**, for example, JDBC_data_source, and where appropriate a **Description**, and then select JDBC as the **Type** for your data source.

   Every data source is uniquely identified by its name.
5. Click **OK**.

PPM Customizing Toolkit now creates a data source with the name and type that you have specified.

Depending on the data source type, PPM Customizing Toolkit generates programs that help you to extract source system data and import data to PPM.

The applications are available in the **Programs** component of the **Client** module. In this example, PPM Customizing Toolkit generates the programs **Extract data from data source JDBC_data source** and **Import data from data source JDBC_data_source to PPM**.

3.2.2. Set database access parameters

By creating your data source you have specified the basic settings which can then be used to configure your source system data as required for further analysis in PPM.

Please consult your system administrator for the database access parameters.

Check whether you can establish a connection to your database system. If necessary, check your access parameters again. To do this, click **Test system access** in the toolbar.

Procedure

1. You can accept the preset **Process fragments** and **Mapping** components for your new JDBC data source.
2. Select a database type, for example, Oracle.
3. Select a driver class in the selection box **Driver class for DB system**, or specify a driver class for your database system, for example, oracle.jdbc.driver.OracleDriver.
4. Enter your **User name** and **Password** for logging on to your database.
5. Confirm your password.
6. Enter the database **URL**, for example, jdbc:oracle:thin:@<host>:<port>:<dbname>.
7. Enter a date and time as the **Last extraction time**, up to when the data is extracted. The default value is 01 January 1970 00:00. Alternatively, you can also enter a **Last value extracted**.
8. Once you have entered all the required settings, click **Save** in the toolbar.

Your settings are applied.

Detailed information on configuring an offset for data extraction is available in the technical documentation **PPM Process Extractors**.

3.3. Step 3: Configure and manage client using programs

PPM Customizing Toolkit provides you with a number of applications that make it easier to configure and manage your PPM client. You call up these applications in the **Programs** module of the **Client** module in PPM Customizing Toolkit.

You can use the available applications to perform various functions, for example, **Initialize database**, **Import data** from your data source, **Run PPM server** or **Start PPM**.

Your client should be installed in your **PPM installation directory**. We recommend installing your client in the PPM installation directory by default; otherwise you will not be able to use the applications in the **Programs** module.

When executing some programs you are prompted for a password. This is the password that you use for logging in to your PPM client. The password is valid only for the currently open client and for the duration of the ongoing PPM Customizing Toolkit session. (See chapter on Data management programs [27].)

You can obtain the required password from your system administrator.

Procedure

1. Select the **Programs** component of the **Client** module.
2. Activate the **Run program** tab.
3. Select a program from the list of **Program groups** and click **Run program**.
4. Enter your password.

This runs the program and displays a log of the execution process in the **Log output** window.

By default, the PPM Customizing Toolkit log language is English. To create the log in German, go to the **Configure parameters** tab and change the value of the **PPM_CONF_LANGUAGE** key from **en** to **de**.

You can also run the applications using the command prompt. The applications are available in the client directory **<PPM installation directory>\server\bin\work\data_ppm\custom\<client>\bat**.

3.4. Step 4: Automatically create documentation for your client

In PPM Customizing Toolkit, you can automatically create a documentation including the configurations of your PPM client. The **Create client documentation** program extracts the most important XML configuration files for PPM and creates HTML files that you can view in a browser.

The application is available in the **Programs** component of the **Client** module. The files of your documentation are saved under **<installation directory>\ppm\server\bin\work\data_ppm\custom\<client>\docu**.

You can document the configuration of the following elements of your client:

- Process tree
- Measures
- User-defined measures
- Dimensions
- Functions
- Attributes
- Calculated attributes (incl. calculation rule)
- Process instance-independent measures
- Relations

Procedure

1. Select the **Run program** tab in the **Programs** component of the **Client** module.
2. Select the **Create client documentation** program and click ▶ **Run program** in the toolbar.

The program creates the **<client>.html** documentation, for example, My_Project.html in your client's **docu** directory.

You can open the html file and view it in a browser.

Apart from the documentation described above, you can also generate technical documentation for your client's configuration. The **Create technical client configuration** program generates documentation with technically relevant content, for example, a list of all the attributes and calculated attributes, process instance-independent measure series, relations, non-registered measures and dimensions. The documentation is stored as HTML pages in your client's **docu** directory under <client>_tech.html.

4. Configure the client

4.1. Set client properties

You can tailor the properties of your PPM client to the requirements of your project. You can use the client properties to specify the configuration options that PPM Customizing Toolkit offers you for your client; this is also known as **tailoring**.

When creating your client, PPM CTK provides you with all options required for a default configuration. You can customize the selection of options and components you want PPM CTK to display for configuring your client. PPM CTK applies a default configuration to options and components you do not want to display for configuration.

Depending on the selected client properties, certain configuration options are not required for subsequent configuration of your client. For the sake of clarity, these will not be displayed.

Example 3.

If you select **Configure measure groups** on the **Measure and dimension editing** tab, PPM CTK provides you with the **measure groups** component in the **Measures and dimensions** module and you can set all the options for configuring the measure groups. If this option is not enabled PPM CTK uses a default configuration.

Further information about which configuration options PPM Customizing Toolkit provides you with when you select a particular option is available under **Help** in the corresponding client properties dialog box.

Procedure

1. Select a client in the **Client overview** and click the **Configure process analysis** button.
   The **Properties** component of the **Client** module is displayed.
2. Click **Edit**.
3. Click the **Edit client properties** button in the **Basic settings** box.
4. Specify your settings.
5. Click **OK**.

Your settings are applied.

> **Warning**
> After you have changed the client properties, items are displayed in **red** if they either already have values assigned to them, or if they are related to options you no longer want to display.
>
> Change the corresponding values or options for these items to prevent a possible loss of data.

Move the mouse over the selected item to display more information in the form of a tooltip.

4.2. Set configurations

This chapter provides you with an overview of the most important steps in configuring your client's process analysis. PPM CTK provides you with all the setting options you need in the individual modules.

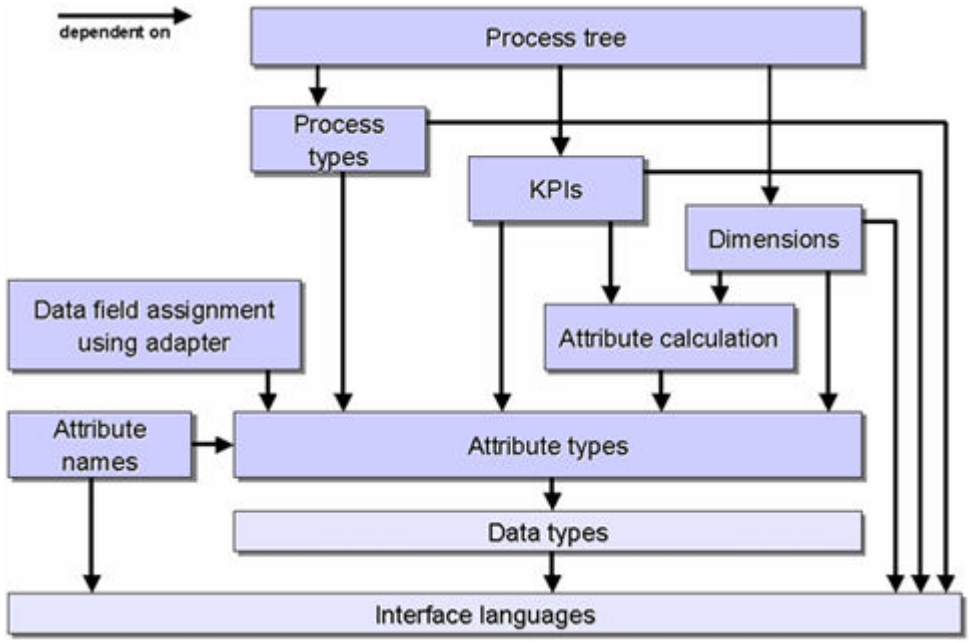
Detailed information on configuring Data analytics and Cross analytics for a client is available in the **PPM Data analytics** manual.

To ensure your client configuration is consistent, you should proceed in a certain order. For example, you need to define measures and dimensions before you can then assign them to particular process types in the process tree.

Incorrect settings are displayed in color. Additional information is available in a tooltip, which you display by moving the mouse pointer over the corresponding field.

The schematic illustration below shows the interdependency of individual configuration items.

Example 4.



Because of the interdependency between the individual elements, we recommend configuring your client in the following order.

1. Set interface language

   You can select the required interface languages in the **Interface language** component of the **Attributes** module.
2. Define data types

   You create and edit data types in the **Data types** component of the **Attributes** module.
3. Define attributes

   You create attributes and attribute groups in the corresponding components of the **Attributes** module. If necessary, define new attribute groups first and you can then assign individual attributes to them.
4. Set process merge

   You can set the rules for the process merge in the **Process merge** module.

5. Define attribute calculation

   You define the attribute calculation in the **Calculated attributes** component of the **Measures and dimensions** module, based on calculation classes or calculation rules.

6. Define measures and dimensions

   You create measure and dimension groups in the corresponding components of the **Measures and dimensions** module and assign particular measures or dimensions to them.

7. Define process types

   In the **Processes** module, you assign new process types to the process tree based on typification rules.

8. Set process tree

   You edit the process tree in the **Processes** module, for example, by assigning particular measures and dimensions to individual process types.

Your settings are saved in the configuration files of the respective clients under **<installation directory>\ppm\server\bin\work\data_ppm\custom\<client>\xml**.

You edit the configuration files of the client in the **Properties** components of the **Client** module.

4.3. Check client configuration

It is easy to gain an overview of the current state of your client's configuration. A list with messages displays warnings and errors pertaining to the client's configuration.

Procedure

1. Select the **Properties** component of the **Client** module.
2. Click **Check client configuration** in the **Client configuration check** box.

If applicable, a list with messages concerning warnings or errors is displayed. If no errors or warnings were found, a corresponding message is displayed.

Open a component

The messages are assigned to the individual components in which problems occur.

To open the relevant component, double-click a message.

Components hidden due to your settings in the client properties are checked, but you cannot jump to these components. You must first specify in the client properties that the component is to be shown again. For each message, a tooltip is displayed when you place your mouse pointer over a message.

Show/hide all warnings

You can show and hide all messages pertaining to warnings by clicking **Show/hide all warnings**.

Show/hide individual messages

You can hide any message from the list by right-clicking the relevant message and selecting **Ignore message**. To show a message again, click **Edit ignored messages** and delete the relevant message from the list of ignored messages.

5. Check calculation rules

You can use the **debugger** to check calculation rules for plausibility and thus find semantic mistakes.

The debugger applies a calculation rule to any one or multiple EPCs, calculates their attributes and analyzes the calculation performed. Setting break points at any calculation element of the calculation rule enables you to pause the attribute calculator's calculation process and track data changes at the EPC step by step.

The following explains how to check a calculation rule.

Details on how the individual debugger elements work are provided in the Debugger view dialog of the help.

Procedure

1. Open a calculation rule in the form of a calculation tree.
2. Activate the **Debugger view** tab.
3. Open one or multiple EPCs that you want to use for analyzing the calculation rule.
   You can open an EPC via the main menu, by drag and drop from Windows Explorer, or directly from PPM.
   The open EPCs are displayed in the **EPC files** panel.
4. If required, set breaks for individual nodes of the calculation rule by clicking a (hidden) break after the line number.
   The icon for a set break is displayed.
5. In the main menu, click ▶ **Run calculation**.
   The calculation runs all the way to the end or to the next break, if you set any.
6. If you set breaks, you can also perform the calculation step by step by clicking the **Continue calculation step by step**.

The calculation rule is calculated (step by step). Nodes with calculation errors are highlighted in red.

5.1. Check dependent calculation rule

A calculation rule to be analyzed in the debugger can be dependent on various other calculation rules. If an error occurs when calculating a calculating rule, this error may originate in a dependent calculation rule.

You can open and analyze the dependent calculation rule in addition to the calculation rule to be analyzed.

Prerequisite

Your calculation rule contains a dependent calculation rule.

Procedure

1. In the calculation tree, right-click a dependent calculation rule.
2. Select **Open calculation rule**.

The selected calculation rule opens on a separate tab and can now be checked for plausibility.

5.2. How a calculation works

The end results of a calculation are saved as attribute values in the EPC graph. The calculated function attributes are saved at the function nodes of the EPC and the calculated process attributes are saved at the EPC. To track the incremental calculation of attributes, all intermediate results of a calculation for the calculation elements are displayed in the calculation tree. If the result of a calculation element consists of multiple values, these values are displayed in curly brackets and separated by a semicolon.

The result at the root node represents the end result of the attribute calculation, which is saved as a new attribute in one of the **attribute containers** of the EPC graph or which modifies an existing attribute.

Attribute container

The **Attribute container** panel includes all attribute containers of the selected EPC. Attribute containers comprise the process represented by the EPC including process attributes and all nodes of the EPC with the respective node attributes. The list of attribute containers includes the **attribute source** and the **attribute target** on individual tabs that display read or write access during calculation.

Both access types are displayed in real time, that is, only during calculation. By placing breaks and using incremental calculation, you can track which attributes are currently being obtained from the EPC and where calculated attributes are saved in the EPC. For this purpose, you can switch between the two tabs **Source** and **Target** during the calculation.

Read access

Read access takes place only if a calculation element of the **Attribute** or **Filtered attribute** type is being processed. In this case, the name of the relevant attribute container is written in bold and an additional icon is displayed.

Attribute containers whose attributes have been changed by a calculation are graphically emphasized. The color and the icon of an attribute container reveal information about its state. In the normal state, that is, directly after the EPC is loaded, each attribute container has its original icon and its name is written in black. After the modification of attributes of an attribute container the icon and the text are marked.

Attribute values

Depending on the type of modification, attribute calculation results are saved on the individual tabs of the **Attributes** panel.

All attributes being read are displayed in a table on the Access tab of the Attributes panel. This table is displayed only during the calculation of a calculation rule and always references the active (currently calculated) calculation element. Since the calculation tree can be run through multiple times, the displayed data always refers to the current run.

6. Appendix

6.1. Transfer client

You can transfer existing clients from previous PPM versions to the current PPM **10.2026.4** version.

Detailed information on how to transfer clients to the current PPM version is available in the manual **PPM Migration 9.x and 10.x to 10.2026.4**.

6.2. Job automation

Job automation enables you to automatically run selected programs at specific points in time.

In a job automation, you specify the programs and the execution rules based on which the programs are to be executed regularly. Available are the programs of the **Programs** component of the relevant client.

After the job automation is completed, a message is automatically created and sent to specific recipients.

You can create job automations [19] in the **Job automation** component of a client.

6.2.1. Create a job automation

In PPM CTK, a wizard supports you in creating custom job automations for individual clients. Select the programs to be run, and define the required time interval for the executions in an execution rule.

When creating a job automation you need to specify a user name and password. This login information is required for running the automation. Each job automation requires its own login information. You can also specify the same login information for all existing job automations of a client (change login information for all automations ( )).

For details on creating and editing job automations, as well as changing the password, please refer to the integrated help of the respective wizard or dialog.

Procedure

1. Start PPM Customizing Toolkit.
2. Select a client in the client overview.
3. Click the **Configure process analysis** button.
4. Open the **Automation** component of the client.
   An overview of job automations is displayed.
5. Click **Edit** in the toolbar.
   Edit mode is enabled.
6. Click **Create job automation**.
7. Specify your settings.

The job automation is created and displayed in the overview. The job automation is executed in line with the execution rule defined. Only activated job automations are executed.

You can display the result of the job automation in your Web browser. To do so, select a job automation from the overview and click **Show result**.

Use transport containers [20] to export and import job automations.

Example 5.

- To import, click **Import data from a transport container** in the automation overview.
- To export, first click **Add job automation to transport container** and then **Export transport container**.

6.3. Transport container

Use a transport container to simultaneously exchange multiple system configuration elements between various PPM installations.

Add elements to a transport container

You can add the following content to a transport container in the respective modules.

- **Client** module: Automations
- **Attributes** module: Attributes
- **Measures and dimensions** module: Calculated attributes, measures, dimensions, relations, process instance-independent measures

Open the relevant module or component, select the required element, and click **Add selected <element> to transport container**.

Export a transport container

When you have added all required elements to the transport container, you can export it. To do so, click **Export transport container**.

Import data from a transport container

To transfer elements from a transport container to the current PPM system, click **Import data from a transport container**. With the help of a wizard, select the elements to be imported and specify whether the existing configuration is to be overwritten or supplemented. You also have the option to check the changed configuration for any errors and inconsistencies. The new or changed configuration is saved only after the import has been completed.

Details on the import process are available in the integrated help of the corresponding wizard.

6.4. Client directory structure

By default, PPM Customizing Toolkit stores the configuration files and applications for your PPM Customizing Toolkit client in the **custom** directory of your PPM installation.

This structure has been developed from many years of project experience and has proved its suitability on many occasions. We advise you not to change this directory structure.

Advantages of the standard PPM Customizing Toolkit directory structure

Clarity

The data is stored in different folders so that you can find the information you are looking for faster.

Standardization

A standard structure helps you handle different projects and shortens familiarization time. A wide range of applications can access this common standard.

Portability

All the information required to create a PPM client is stored in one coherent directory structure. This structure can be copied to any computer, allowing you to completely reproduce a PPM client.

Data archiving

The only archiving needed is backing up the client directory, which contains all the necessary information for your client.

Layout of the standard PPM Customizing Toolkit directory structure

The client data directory is stored under **<PPM installation directory>\server\bin\work\data_ppm\custom** and has the same name as the relevant PPM client. Below is a folder structure with the configuration contents.

The following list describes the contents of the standard PPM Customizing Toolkit directory structure.

bat directory

This directory contains all the utilities for managing and configuring your client. The utilities are in the form of batch scripts that you can call up from PPM Customizing Toolkit. The directory is mandatory.

config directory

This directory contains the ***_settings.properties** files for your PPM client's properties. All the files in this directory are copied to the corresponding **config** directory of the PPM installation when you

run **runinitdb.bat**. The **runinitdb.bat** file is located in the **bat** directory. This applies in particular to **InitDb_settings.properties** and **InitSystem_settings.properties**, which are used to initiate the database.

If you specify settings in the settings files of your PPM client (**<PPM installation directory>\server\bin\work\data_ppm\config\<client>**), for example, Keyindicator_settings.properties, we recommend that you copy the modified files to the **config** directory of your corresponding PPM Customizing Toolkit client (**<PPM installation directory>\server\bin\work\data_ppm\custom\<client>\config**) to ensure complete archiving.

data directory

This directory contains the extracted source data of the PPM client. We recommend a separate subdirectory for each data source with the same name as the data source in question, for example, umg or umg_cla in the PPM demo database. A corresponding directory is created automatically when you extract data.

In addition to the process data, we recommend separate subdirectories for the process instance-independent measures (**piki** folder) and dimension data (**dimdata** folder). The default batch applications supplied use this structure to import data.

docu directory

This directory contains any documentation for a client. By default, the expert and technical documentation that PPM Customizing Toolkit generates for a client is written to this directory. The directory is optional and is created automatically when documentation is generated.

dump directory

This directory contains any database dumps that may have been produced. The directory is optional.

log directory

This directory contains the **log** files produced by the PPM CTK applications. The **log** files for the default batch applications have a name with the form **<batname>_<Date>_<Time>.log**. <batname> represents the name of the batch application, <Date> is the date and <Time> is the time at which the application was run. The directory is deleted when **runinitdb.bat** is called up. Server log output is not written to this file, but to **<PPM installation directory>\server\bin\work\data_ppm\log\<client>.log**. This directory is mandatory and is created automatically during installation.

patch directory

This directory contains the client-specific JAR files. These are always needed when specific Java classes are used, for example, to calculate a measure or define a merge rule. When **create_demo.bat** is called up, all JAR files in the directory are automatically copied to the PPM **patch** directory and the PPM Customizing Toolkit **patch** directory. The directory is optional and only required if you use patches.

reportdefinitions directory

This directory is optional and only required if you want to use reports.

xml directory

This directory contains the PPM client configuration files in XML format. All files in this directory should observe the convention **<client>_<configmodule>.xml**. We recommend storing all the configuration files for PPM in this directory.

Each data source defined has its own **<client>_<data source>.xml** files and other files it requires, such as the fragment definition or mapping definition. The files are stored in a mandatory subdirectory with the same name as the data source.

6.5. Client templates

Client templates provide you with predefined configurations for your client.

When creating a client, PPM CTK provides various client templates.

6.5.1. base

This template contains a basic configuration made up of measures, dimensions and all the utilities required to manage the configurations. The template covers most PPM use cases.

6.5.2. jdbc

This configuration is an example of a process merge based on sort order in PPM.

Scenario

A list of events is extracted from a source system using JDBC Extractor. The appearance of the events depends on the system event specification of the extractor. In each event, the process step is described by the **STEPTBL-CHANGEDESC** attribute. In addition, each system event knows its own order relation (**ORDERTBL-ORDERNO**), its execution time, its processor and the customer who placed the order (see example data in **data/jdbc/JDBC_ORACLE_Data.xml**).

The process steps are to be merged to form a process in PPM, sorted by the order number and execution time.

Solution

- Configuration of the data source in terms of system access and data extraction (definition of system events).
- Extraction of data from the system specified in the data source.
- Event import of extracted data with order-based merge.

- A single process fragment definition is used and the names of the steps are copied from the system event data.
- Fixed process type definition with predefined process type group/process type in the attribute copy rules.

Installation

1. Prerequisite: JDBC Extractor must be installed.
2. Use this configuration to create a new PPM client.
3. For details on how to install the JDBC example data source system, refer to the instructions in the **readme.txt** file stored under **<installation directory>\ppm\server\bin\agentLocalRepo\.unpacked\<installation_time>_ppm-client-run-prod-<version>-runnable.zip\ppm\ctk\ctk\examples\custom\jdbc\dump**.

6.5.3. sortmerge

This PPM configuration can be used as a template for the order-based merge of processes in PPM.

Scenario

A source system generates a system event for each process step executed. The names and types of the system events are not known in advance and can be anything. In each system event, the process step is described by the **EVENTTYPE** attribute. In addition, each system event knows its own process relation (**ID**) and its execution time (see example data in **data/Events/SortmergeEvents.xml**). The process steps are to be merged to form a process in PPM, sorted by their execution time.

Solution

- System event import with order-based merge (no merge key required)
- A single process fragment definition is used and the names of the steps are copied from the system event data.
- Fixed process type definition with predefined process type group/process type in the attribute copy rules

Installation

1. In the **Client** module group, open the **Programs** module and run the **All.bat** program.
2. Then start PPM in the list of programs.

You will see three process instances.

No specific measures or dimensions are defined (default "base" configuration).

6.5.4. natural_applications

Use the template to extract data from **Natural applications**.

The template contains the base configuration for **Process Intelligence for Natural Applications**. It provides the configurations for data import, measures and dimensions, as well as all utilities required.

For detailed information, please refer to the document **Natural Applications.pdf** under **<installation directory>\ppm\server\bin\agentLocalRepo\.unpacked\<installation_time>_ppm-client-run-**

prod-<version>-runnable.zip\ppm\ctk\ctk\examples\custom\natural_applications\doc of your PPM installation.

The client template is only approved for use under Windows.

6.5.5. organalysis

You can use this configuration as a template for an interaction analysis.

The template is based on the sortmerge template. Two additional relations are defined:

executes

The **executes** relation is defined from an organizational unit to a function. It describes the fact that an organizational unit executes a particular function. In the activity analysis, the relation can answer questions such as: "Who does what?", "How much time is spent on which process step?", "How busy is a department?", etc.

cooperates with

This relation measures the communication between two organizational units. Each time one process step follows another, this relation is set up between the two organizational units involved. This enables you to create a communication graph, for example, representing the actual cooperation between departments.

Installation

1. In the **Client** module, open the **Programs** component and run the **Initialize client completely** program.
2. Then start PPM in the list of programs.

You will see three process instances.

No other specific measures or dimensions are defined (see default **base** configuration).

6.5.6. predecessormerge

This configuration can be used as a template for a key-based merge of processes in PPM using a predecessor relation.

Scenario

A source system generates a system event for each process step executed. The names and types of the system events are not known in advance and can be anything. In each system event, the process step is described by the **EVENTTYPE** attribute. In addition, each system event knows its own process relation (**ID**), its execution time and its preceding process step (see example data in **data/Events/predecessormerge_Events.xml**). The process steps are to be merged to form a process in PPM based on the predecessor relation.

Solution

- System event import with key-based merge, with the ID of a process steps being used as the merge key for the end event of the process fragments and the ID of the predecessor process step being used as the merge key for the start event of the process fragment.

- A single process fragment definition is used and the names of the steps are copied from the system event data.
- Fixed process type definition with predefined process type group/process type in the attribute copy rules

Installation

1. In the **Client** module, open the **Programs** component and run the **Initialize client completely** program.
2. Then start PPM in the list of programs.

You will see five process instances.

No specific measures or dimensions are defined (see default **base** configuration).

Attributes that do not yet exist in PPM are automatically created when importing and copied to the functions.

Process instances 4 and 5 illustrate how process steps that refer to two preceding steps can be imported and represented.

6.5.7. process_mining_configurator

You can use the **process_mining_configurator** template to create clients that you can use to import data that has been configured in the Process Mining configurator [46]. The template is only available in English.

Scenario

The client, which was created on the basis of the **process_mining_configurator** template, can be used to provide the data for Process Mining analysis. You can perform your Process Mining analysis directly in PPM. Or you can use the client as a basis for your Process Mining analysis in ARIS.

You can use the Process Mining configurator to configure your data for your Process Mining analysis and import the configuration into PPM. The Process Mining configurator is only available for PPM clients created based on the **process_mining_configurator** template.

The Process Mining configurator allows you to configure your Process Mining data stored in a CSV file without having to perform a full customizing for your PPM system. A Process Mining client does not allow you to run an XML import or to change the merger or key rules configuration in PPM CTK. The Process Mining configurator does not work in scaled systems.

For details on how to set up a client to use the Process Mining configurator, see chapter **Process Mining configurator [46]**.

For details on how to use the process mining configurator, see the PPM online help.

6.5.8. ppm4sd

Use the template to extract data from an SAP SD system.

It provides the configurations for data extraction, data import, measures and dimensions, as well as all utilities required.

For detailed information, please refer to the document **PPM Content Package for SAP SD.pdf** under **<installation directory>\ppm\server\bin\agentLocalRepo\.unpacked\<installation_time>_ppm-client-run-prod-<version>-runnable.zip\ppm\ctk\ctk\examples\custom\ppm4sd_en\doc**.

The client template is only approved for use under Windows.

6.5.9. ppm4mm

Use the template to extract data from an SAP MM system.

It provides the configurations for data extraction, data import, measures and dimensions, as well as all utilities required.

For detailed information, please refer to the document **PPM Content Package for SAP MM.pdf** under **<installation directory>\ppm\server\bin\agentLocalRepo\.unpacked\<installation_time>_ppm-client-run-prod-<version>-runnable.zip\ppm\ctk\ctk\examples\custom\ppm4mm_en\doc**.

The client template is only approved for use under Windows.

6.6. Data management and configuration programs

By default, PPM Customizing Toolkit provides you with a number of applications that make it easier to configure and manage your PPM client data.

These programs are stored as batch scripts in your PPM client's **bat** directory. The applications available depend on your client's configuration. The default scripts available have a client-independent configuration and so can be used for any client.

Depending on the configuration of PPM Customizing Toolkit, the corresponding applications are available in the **Programs** component of the **Client** module.

All programs first run the script file **_param.bat**. This file sets environment variables that are used as arguments in the program files. To improve clarity, the names of all environment variables begin with the string **PPM_CONF_**.

The file **_param.bat** is automatically managed by PPM Customizing Toolkit. Manual changes to the file **_param.bat** are not evaluated by PPM Customizing Toolkit but overwritten with the information from the **Programs** component.

Password request

To run some programs, you need access privileges for the corresponding PPM client server. Before the program is started for the first time, a password is requested. The password is valid only for the current client and for the duration of the ongoing PPM Customizing Toolkit session. This is the password that you use for logging in to your PPM client.

On the **Configure programs** tab in the **Password required** column, you can specify whether a password will be required for running individual programs or not.

You can change a wrong password at a later time. To do this, click the **Change password** button on the **Run program** tab and enter the correct password.

For client configurations that were created with a version older than PPM CTK 4.1.2, the **Password required** column is not displayed. To display the column, go to the **Configure parameters** tab, delete the entry **PPM_CONF_PASSWD**, and save the configuration.

List of default parameters available

The following parameters are available for configuring scripts if you have selected the **base** template for your client.

%PPM_CUSTOM_DIR% => <PPM installation directory>\ppm\server\bin\work\data_ppm\custom\

Name of the environment variable	Description
PPM_CONF_DIMDATACSV_FILE	Files to be imported when the **Import dimension values as CSV** program is called up. Default value: **%PPM_CUSTOM_DIR%\data\dimdata*.csv**
PPM_CONF_DIMDATAXML_FILE	Files to be imported when the **Import dimension values as XML** program is called up. Default value: **%PPM_CUSTOM_DIR%\data\dimdata*.xml**
PPM_CONF_EXPORTPATH	Directory to which a configuration is saved using the programs **Export PPM configurations** or **Import PPM configurations**.
PPM_CONF_IMPORT_MODE	Option in the **Import PPMconfigurations** program. Valid values: **-overwrite** or **-replace** to overwrite or replace existing configurations.
PPM_CONF_INITDB_OVERWRITE	Defines whether any existing content is to be overwritten (= **-overwrite**) or not (no value) when **Initialize database** is called up.
PPM_CONF_JDBC_PARAMS	Options applied when JDBC2PPM Extractor is run
PPM_CONF_LANGUAGE	Language parameter for PPM commands
PPM_CONF_SAP_PARAMS	Options applied when SAP2PPM Extractor is run
PPM_CONF_PASSWD	Password of the PPM user
PPM_CONF_PIKICSV_FILE	Files to be imported when the **Import process instance-independent measures as CSV** program is called up. Default value: **%PPM_CUSTOM_DIR%\data\piki*.csv**
PPM_CONF_PIKIXLS_FILE	Files to be imported when the **Import process instance-independent measures from Excel** program is called up. Default value: **%PPM_CUSTOM_DIR%\data\piki*.xls**
PPM_CONF_PIKIXML_FILE	Files to be imported when the **Import process instance-independent measures as XML** program is called up. Default value: **%PPM_CUSTOM_DIR%\data\piki*.xml**
PPM_CONF_PROTOCOL_ERROR	Flags whether PPM tool errors are to be logged or not. Valid values: **yes**: Errors are logged **no**: Errors are not logged
PPM_CONF_PROTOCOL_INFO	Flags whether PPM tool information output is to be logged or not. Valid values: **yes**: Information is logged **no**: Information is not logged
PPM_CONF_PROTOCOL_WARNING	Flags whether PPM tool warnings are to be logged or not. Valid values: **yes**: Warnings are logged **no**: Warnings are not logged
PPM_CONF_USER	PPM user used for executing PPM commands

Name of the environment variable	Description
PPM_CONF_UPDATE_RECOVERY_FILE	Analysis server recovery file for data import operations Valid values: **yes**: always update **no**: never update
PPM_CONF_MAKEZIP_DIR	Target directory for client archiving Default value: **<PPM installation directory>\server\bin\work\data_ppm\custom\archive**
PPM_CONF_PIKIEXPORT_FILE	File to be used for the export when the **Import process instance-independent measures as XML** program is called. Default value: **%PPM_CUSTOM_DIR%\data\piki\piki_export.xml**
PPM_CONF_AS_STARTEMPTY	Specifies if a dump is used when calling **Start analysis server**. Valid values: **startempty**: Dump is not used **No value**: Dump is used
PPM_CONF_CONVERTER_CHECK	Specifies if only the database version is checked when calling **Convert PPM database**. Valid values: **check**: Is checked **No value**: Is converted
PPM_CONF_CONVERTER_IGNOREPIKIDATA	Specifies if existing PIKI cubes are considered when calling **Convert PPM database**. Valid values: **No value**: The converter does not start if PIKI cubes still exist in the database **ignorepikidata**: Existing PIKI cubes will be deleted.

In the development phase of your project, assign the **PPM_CONF_INITDB_OVERWRITE** parameter the value **-overwrite** to allow the database to be initialized again using the **runinitdb** command. When the development phase has been completed, reset the value to prevent the database from accidentally being overwritten.

List of default programs available

The following list contains a selection of default programs available in PPM Customizing Toolkit, if you selected **base** as the template for your client.

Program	Script file	Description
Customizing		
Recalculate measures	keyindicatornew.bat	Recalculates all the client's measures and dimensions.
Activate configuration of the **Attributes** module	activate_attributes.bat	Imports all the configurations edited in the **Attributes** module into the client.
Activate configuration of the **Measures and dimensions** module	activate_ki.bat	Imports all the configurations edited in the **Measures and dimensions** module into the client. Since new attributes may also be imported, all the configurations in the **Attributes** module are imported so as to ensure that the configuration is imported correctly.

Program	Script file	Description
Activate configuration of the **Merge** module	activate_merger.bat	Imports all the configurations edited in the **Process merge** module into the client. Since new attributes may also be imported, all the configurations in the **Attributes** module are imported so as to ensure that the configuration is imported correctly.
Activate configuration of the **Processes** module	activate_ptree.bat	Imports all the configurations edited in the **Processes** module into the client. Since new attributes, measures and dimensions may also be imported, all the configurations from the **Attributes** and **Measures and dimensions** modules are imported so as to ensure that the configuration is imported correctly.
Import		
Initialize database	runinitdb.bat	Re-initializes the client's database if the database is empty. If the variable **PPM_CONF_INITDB_OVERWRITE**=**-overwrite** has been set, the existing database is overwritten. **Warning** All data will be lost. In addition, all the log files in the **log** directory are deleted prior to initialization.
System		
Reinitialize PPM analysis server	initanalysisserver.bat	Reinitializes the client's PPM analysis server
Start PPM client	rungui.bat	Starts PPM without a browser
Create new user passwords	renew_userpasswords.bat	Creates new, random passwords for all users in central user management and e-mails them to the respective users.
Run report automation	startreportautomation.bat	This program starts report automation. To call it, you must specify user name and password of a user with the **Report management** user privilege. Nevertheless, the report automations are run under the account of the user with which they are associated.
Start PPM servers and analysis server	startup.bat	Starts the PPM server of the client and the associated analysis server
Stop PPM servers and analysis server	shutdown.bat	Stops the PPM server of the client and the associated analysis server
Stop PPM server	stopserver.bat	Stops the client's PPM server
Run PPM server	runserver.bat	Starts the client's PPM server
Update the recovery file of the PPM analysis server	update_recoveryfile.bat	Updates the recovery files of the PPM analysis server
Other		
Stop PPM analysis server	stopanalysisserver.bat	Stops the client's PPM analysis server
Start PPM analysis server	runanalysisserver.bat	Starts the client's PPM analysis server
Start suspected deviation analysis	ppmanalytics.bat	This programs runs a suspected deviation analysis for the current client data. The analysis result is sent to the users with the corresponding privileges.

Program	Script file	Description
Create client documentation	createdocu.bat	Creates documentation for the measures and dimensions in HTML format from the current client configuration (the configuration files in the **xml** directory). The result is stored in the **docu** directory under **<client>.html** and can be copied to the PPM Web server using the **Publish** program.
Anonymize organizational units	anonymize_orgunits.bat	Anonymizes organizational units
Export PPM attributes	exportattributes.bat	Exports PPM attributes into the directory **PPM_CONF_EXPORTPATH**. Attribute names are not exported. the client's XML directory is the default directory, that is, the existing configuration files are overwritten.
Convert PPM database	runppmconverter.bat	Converts an existing PPM database. If the variable **PPM_CONF_CONVERTER_CHECK=-check** is set, the system checks if the database must be converted or if it is up to date.
Export PPM process tree	exportprocesstree.bat	Exports the process tree from the PPM database into a file.
Merge processes and calculate measures	ppmimport.bat	Merges the imported process data and calculates the measures and dimensions.
ZIP archiving of a client	make_zip.bat	Archives the contents of a client directory in ZIP file.
Export PPM configuration	exportconfig.bat	Exports a user-defined selection of configurations to the **PPM_CONF_EXPORTPATH** directory. This is done by commenting the corresponding lines in the file in and out. By default, all configurations are exported to the client's **XML** directory. All existing configuration files are overwritten.
Import dimension data in CSV format	dimdataimport_csv.bat	Imports all the dimension data from the **PPM_CONF_DIMDATACSV_FILE** directory (under **<client>/data/dimdata** by default) in CSV format (*.cvs) with **<;** as the separator.
Import dimension data in XML format	dimdataimport_xml.bat	Imports all the dimension data from the **PPM_CONF_DIMDATAXML_FILE** directory (under **<client>/data/dimdata** by default) in XML format (*.xml).
Create client documentation with function overview	createfuncdocu.bat	Creates technical documentation for the client's measures, dimensions, processes and functions. The result is stored in the **docu** directory under **<client>.html** and can be copied to the PPM Web server using the **Publish** program. The data is extracted from the client, that is, the client server must be running.
Create technical client documentation	createtechdocu.bat	Creates technical documentation for the measures and dimensions in HTML format from the current client configuration (the configuration files in the **xml** directory). The result is stored in the **docu** directory under **<client>_tech.html**.
Import process instance-independent measures as CSV	pikiimport_csv.bat	Imports all process instance-independent measure series from the **PPM_CONF_PIKICSV_FILE** directory (under **<client>/data/piki** by default) in CSV format (*.csv).
Import process instance-independent measures as XML	pikiimport_xml.bat	Imports all process instance-independent measure series from the **PPM_CONF_PIKIXML_FILE** directory (under **<client>/data/piki** by default) in XML format (*.xml).
Import process instance-independent measures from Excel	pikiimport_xml.bat	Imports all process instance-independent measure series from the **PPM_CONF_PIKIXLS_FILE** directory (under **<client>/data/piki** by default) in XLS format (*.xls).
Publish documentation	publish.bat	Copies data from the **custom** directory to the corresponding PPM installation directories: Reports from the **reports** directory Client documentation from the **docu** directory
Import specific PPM configurations	importconfig.bat	Imports a user-defined selection of configurations. This is done by commenting the corresponding lines in the file in and out.

Program	Script file	Description
Export process instance-independent measures as XML	piki_export.bat	This program exports all process instance-independent measure series in XML format (*.xml) into the file **PPM_CONF_PIKIEXPORT_FILE**.

You can add further available programs s to the list. To do so, select the relevant programs on the **Configure programs** tab. When you open the **Programs** component again, the selected programs are displayed in the **Program groups** list.

You can transfer any of the programs from the list to the quick launch bar. This enables you to run frequently used programs just by clicking them. Click ★ **Edit program favorites** to run the corresponding administration component.

If you want to modify certain scripts for a client, you can configure the programs appropriately and define your own parameters. All batch script parameters are set in the **_param.bat** file in your client's **bat** directory that every batch script calls up when it is run.

You can find a list of the parameters used by a script in the description of the program in question.

You can set the script parameters on the **Configure parameters** tab.

Add custom programs

You can also write your own applications and make them available in your client. The file name of your application must not begin with an underscore, for example, _myprogram.bat.

Save the custom script in the **bat** directory of your client (<PPM installation directory>\server\bin\work\data_ppm\custom\<client>\bat). When you open the **Programs** component again, your application will be displayed in the **Program groups** list.

See also

Step 3: Configure and manage client using programs [11]

Guidelines for creating custom scripts

Then use the command prompt **pushd** to switch to the **bin** directory of your PPM installation, where you can run any command line programs from your PPM system. Before exiting your script, use the **popd** command to reset the original working directory.

When you run a PPM command line program, the echo output is activated. Deactivate this immediately after calling up the command line program using the **@echo off** command (the leading @ character also suppresses output of the **echo** command itself).

Example 6.

The example below shows the script file **rungui.bat**, in which the guidelines described can easily be identified.

```
@echo off
REM ************************************************************
REM ...
REM ************************************************************

REM global variables
call _init.bat
```

```
REM backup the current directory and change to PPM_HOME
pushd C\So:ftwareAG\ppm\server\bin\work\data_ppm\bin

REM start PPM GUI for client
@echo on
call runppmgui -language %PPM_CONF_LANGUAGE% -user %PPM_CONF_USER% -password
%PPM_CONF_PASSWD% -client %PPM_CLIENT%
@echo off

REM restore directory
popd
```

6.7. Data archiving

All imported source system data, as well as configurations imported using the **runppmconfig** configuration program, are saved in the database schema of the PPM client and are automatically saved when the database schema is backed up.

To prevent data losses, you should back up the database schema regularly.

You can automatically archive imported source system files after a successful import by appropriate configuration of the data source (**datasource.xml**). For detailed information, refer to the **Data import** documentation in the PPM Technical Reference.

The configuration files of a PPM client are saved by client in the **config** and **custom** directories in the PPM installation directory. Save these directories each time you change the configuration.

You must manually save the PPM directory of the Web server and all user-specific report definitions. The default path for the Web server directory is **<PPM installation directory>\server\bin\work\data_ppm\web**.

Back up the log files of your PPM server at regular intervals. To do this, stop the server in a maintenance window and move the log files to your archive. The default path for the log files of the PPM servers is **<PPM installation directory>\server\bin\work\data_ppm\log\<client name>**.

6.8. Function Flow diagram

The **Function Flow diagram** supports you in analyzing the sequence of activities within your business processes. The Function Flow diagram displays and evaluates the process structure and the relationship between the activities.

For detail information on how to use the Function Flow diagram see PPM Online help.

6.8.1. Extend existing customizing with function follows relation

With PPM version 10 you have the possibility to add a further relation with relation-measures to existing customizings that can be used in the Function Flow diagram.

PPM CTK enables you to import a typical configuration of the function follows relation provided in a transport container. It contains the following configuration elements.

Attributes:

- Function cycle time (relation) (AT_KI_REL_FF_FDLZ)
- Number of relations (AT_KI_RNUM)
- Calculated attributes:
- Function cycle time (relation) (AT_KI_REL_FF_FDLZ)
- Number of relations (AT_KI_RNUM)

Measures:

- Function cycle time (AT_KI_REL_FDLZ)
- Number of function transitions (FCT_SEQUENCE)

Dimensions:

- Function (Start) (FROMFUNCTION)
- Function (Target) (TOFUNCTION)

Relations:

- Function follows (FCT_SEQUENCE)

The relevant transport container **functionFollows.zip** file is located in the following directory.

<PPM installation>\ppm\server\bin\work\ data_ppm\samples\functionFlow\transport_container

Prerequisites

- Either English (EN) or German (DE) need to be installed as languages. If both are not available you need to temporary add one of them (Procedure **Adding a language** see below).
- **AT_OBJNAME** attribute must exist in PPM customizing (default in all client templates).

Procedure

1. Start PPM CTK.
2. In the **Client overview** open the client where you want to add the new relation measures.
3. Click the **Edit** button in the menu bar.
4. Click **Edit client properties** under **Basic settings**.
5. Open the **Measure and dimensions editing** dialog.
6. Activate the **Use Interaction analysis** option.
7. Click **OK**.
8. Click the **Import data from a transport container** button in the menu bar to import the relevant transport container **functionFollows.zip** file.
9. Select the configuration elements to be imported.
   If the configuration elements selected already exist in the client configuration you can replace them or skip their import. See also **Register missing relation measures to FCT_SEQUENCE** below.
10. Click **OK**.

11. If English or German are not set as default language you can add all named and description required in the default language set.
    a. Open the **Attributes** component in the **Attributes** Module.
    b. Click the **Edit** button in the menu bar.
    c. Click the **Configure language-specific names** button in the menu bar.
    d. Add names and descriptions for **AT_KI_REL_FF_FDLZ** and **AT_KI_RNUM** attributes.
    e. Open the **Measures** component in the **Measures and dimensions** Module.
    f. Click the **Configure language-specific names** button in the menu bar.
    g. Add names and descriptions for **REL_FF_FDLZ** and **REL_FF_RNUM** measures.
    h. Open the **Dimensions** component.
    i. Click the **Configure language-specific names** button in the menu bar.
    j. Add names and descriptions for **FROMFUNCTION** and **TOFUNCTION** attributes.
    k. Open the **Relations** component.
    l. Click the **Configure language-specific names** button in the menu bar.
    m. Add names and descriptions for **FCT_SEQUENCE** relation.
12. Open the **Processes** module.
13. Click **Process Tree** in the **Processes** bar.
14. In the process tree click the process tree root.
15. Open the **Relation analysis measures** tab.
16. Activate the **Registered option** for the **REL_FF_FDLZ** and **REL_FF_RNUM** keys.
17. Click **Save** in the menu bar.
18. Open the **Client** module.
19. Click the **Client configuration check** button to check your client settings.
20. In the Client module opens the **Programs** component.
21. Run **Activate configuration of 'Processes' module group** program.
22. Optionally, run the **Recalculate measures** program to calculate relation and measures for all available data. (This reinitializes the PPM Analysis Server.)
    Otherwise, new relation measures are only calculated for newly imported data
23. Run **Start PPM Client** program.

The new relation **FCT_SEQUENCE** is available for the Function Flow diagram in PPM.

Tip

- If you have replaced the relation **FCT_SEQUENCE** during the import of the transport package (see step 9) it can be that now some former registered relation measures are deregistered. And if you want to keep these relation measures registered, register missing relation measures on the relation **FCT_SEQUENCE** and run the **Activate configuration of 'Process' module group** program.
- If you want to deregister a formerly registered relation measure, check if this measure was registered on process tree as well. If this is the case, first register the relation measure again on relation **FCT_SEQUENCE** and run **Activate configuration of 'Process' module group** program. Now deregister the relation measure first from process tree in the **Process tree** component and run **Activate configuration of 'Process' module group**. Then deregister the relation measure again from the relation **FCT_SEQUENCE** in **Relations** component. Run again the **Activate configuration of 'Process' module group** program.

In the **Client** module open the **client properties** and activate the **Configure languages** option on the **Attribute editing** dialog. Then open the **Interface languages** component in the **Attributes** module and add English or German to the **Selected languages**.

After finishing the import of the transport package the added language can be removed again.

6.9. Process variants

6.9.1. Overview

Variants classify process instances according to their structure. The relevant structure is the sequence of functions in a process instance.

Functions are identified by the value of the **AT_OBJNAME** attribute. Basically all other information is ignored from the EPC representation of the process instance, and only named functions and their antecedence relation are retained. This abstract view of an EPC is called a "summary".

There are two kinds of summary:

- Precise summary, in which all function nodes are represented.
- Combined summary, in which all identical nodes (that is, those with the same name) are collapsed.

In addition, both kinds of summary contain information about which nodes occur as start and end nodes in an EPC. A start node is a node without predecessors; an end node is a node without successors. Among nodes forming a cycle, none is either a start or an end node. In a combined summary, a node is classified as a start respectively end node when it occurs at least once as a start or end node in the EPC.

Precise and combined variants

A **precise variant** is the set of process instances sharing the same precise summary.

A **combined variant** is the set of process instances sharing the same combined summary. It is more a coarse-grained than a precise variant. When two process instances belong to the same precise variant, they necessarily also belong to the same combined variant, but not vice versa.

Variant names

The name of a variant is referred to as a dimension ID, because it will be used as such in an EPC to record to which variant the process instance belongs. Or in other words, variants are represented as dimension values on process instances. The variant dimension has two levels, where the first (coarser) level contains the ID of the combined variant, and the second (finer) level contains the precise variant. The variant dimension can be queried from the PPM GUI similar to other dimensions.

Variants calculation

Variants are calculated during PPM-Import, after the attributes of an EPC have been calculated, but only if the variant dimension is registered for the process type of the EPC. They are not calculated for aggregated EPC.

The calculation results in a pair of numbers. The first of these numbers uniquely identifies the combined variant. It is prefixed with "v" and written into the attribute for the first level of the variant dimension. The second of these numbers is a serial number for the subordinate precise variant. It is not unique on its own and written into the attribute value of the second dimension level.

Existing values of attributes used within the variant dimension will be overridden by variant calculation.

Process instances for which the variant is unknown (for example, because the variant has not yet been calculated), have the precise value v0-0 (and thus a combined value v0).

More information about the usage of variant attributes during import and attribute calculation can be found in the documentation **PPM Customizing**.

6.9.2. Extend existing customizing with process variants

You can add the variants configuration to your already existing PPM client configuration by using the **Add variants configuration** wizard.

PPM CTK automatically checks the client configuration whether the necessary configuration parts of the variant configuration are available. If no variant configuration exists for this client or the configuration is not valid (no variant dimension is defined in **Dimension** module, some variant attributes do not fit or exist, assignment to process tree is missing) a dialog opens and lists the configuration parts that already exist and configuration parts that will be added to enable the analysis of variants in PPM.

Procedure

1. Start PPM CTK.
2. In the **Client overview** open the client where you want to add the new relation measures.
3. Click the **Edit** button in the menu bar.
4. Click **Select configuration wizard** in the menu bar.
5. Click **Add variant configuration**.

   The dialog displays the result of the analysis of your client and lists the required actions to add the variant feature to your client.
6. Click **OK**.

The variants configuration is added to the PPM client configuration.

Languages "de", "fr", "ja" are added automatically, if the client uses these languages, because template files for these languages exist. If you use other languages, you can define language specific names in the usual way in PPM CTK module **Attributes**.

To use the variant feature in the PPM GUI the changed configuration needs to be activated at first by using the **Activate configuration of 'Processes' module group** program. The program is available in the **Programs** module of PPM CTK. After the activation, the variants will be calculated for all process instances that are processed by **runppmimport** from then on. To calculate variants for previously imported process instances, use **runppmimport -keyindicator new**.

Detailed information on how to use runppmimport can be found in the PPM Operation Guide.

6.9.2.1. Adding variant feature by client migration

If you migrate your PPM client from PPM 9.x or 10.0 to a newer PPM version PPM CTK automatically checks whether the client contains a valid process variant configuration, PPM CTK recommends to add the variant feature to your PPM client by using the **Add variants configuration** wizard. After adding and activating the variant configuration in PPM CTK [37] the variant feature is available in your PPM client and can be used in PPM GUI.

For more details, see the documentation **PPM Migration**.

6.9.3. Affected modules and functionalities

The following PPM CTK modules and functionalities are affected by variant feature or do not support the variant feature.

Dimension module

The variant dimension **D_EPC_VARIANT** is available in the **Dimension** module. You can edit and use the dimension largely like any other dimensions except the entries in column **Usage** and **Internal**. These settings cannot be changed by the PPM CTK user.

You can configure language-specific names and delete the dimension. But you can not create a copy of the variant dimension.

Transport of a variant dimension

A variant dimension can be added to a PPM CTK transport container [20] and can be exported to a transport package file. If a client imports a transport package with a variant dimension inside, this dimension can only be added if no variant dimension exists for this client yet. Only one variant dimension can be configured in a client.

Process module

If a variant dimension is configured in the **Dimensions** module, this dimension is available in process module and can be assigned to any process node.

Not supported functionalities

Data Analytics and Cross Analytics

The variant feature is not support by Data Analytics and Cross Analytics. A variant cannot be added to data tables and also not be referenced in process tables.

Shared functions

Shared functions are not considered by variant calculation.

Process independent KPIs (PIKIs)

PIKIs are not supported for variant dimensions.

Data access dimensions

A variant dimension cannot be configured as data access dimension.

Relations

The variant dimension cannot be referenced in a relation.

Dimension data-import

Importing dimension values for variant dimensions by using the

runtool **rundimdata.bat** is not supported.

Aggregation

The summaries of an aggregated EPC can be different from the summaries of the aggregated instances. As such a variant would not correspond to any real (non-aggregated) process, aggregated process instances are assigned to the default variant v0-0.

6.9.4. Usage of variant attributes during import

The use of the variant attributes during merge and attribute mapping is not forbidden but strongly discouraged. The values of variant process attributes are overwritten by the variant calculation, which is

only happening after all other calculations have already been processed. So neither one can use the results of the variant calculation nor the fully processed EPCs contain the values set outside the variant calculation.

There is a special danger in filling the dimension attributes by calculation rules or through mapping: When you do that while the variant dimension is not registered at the process type of the EPC, these values will not be overwritten. When you then register the dimension, re-initialize the analysis server, and do not recalculate the EPC, it will contain invalid dimension IDs, for example, a variant corresponding to the values would be shown on the GUI, but it would not correspond to any real variant in the database. In order to rectify the situation, you can runppmimport with **–keyindicator new**. (Using the command line parameter **–ps** to specify a suitable query, you can restrict the recalculation to the EPCs of the process type.)

Detailed information on how to use runppmimport can be found in the PPM Operation Guide.

6.10. Add process types (groups) to the process tree

You can add new process types and process type groups to the process tree of your PPM client.

Additionally, you can configure the relevant language-specific names for the new process types (groups) added.

Procedure

1. Start PPM CTK.
2. Open a client in the **Client overview**.
3. Open the **Processes** module.
4. Click the **Edit** button in the menu bar.
5. In the process tree right click the process root and select **Add process type group** or right click a process group and select **Add process type**.
6. Specify your settings.

Your changes are applied.

> **Tip**
> You can edit the language-specific names of process types (groups) [40] already available in process tree.

6.11. Configure language-specific process names

You can configure the language-specific names of process types and process type groups registered on the process tree of your PPM client.

Procedure

1. Start PPM CTK.
2. Open a client in the **Client overview**.
3. Open the **Processes** module.

4. Click the **Edit** button in the menu bar.
5. Click the **Configure language-specific names** button in the menu bar.
6. Specify your settings.

Your changes are applied.

6.12. ARIS process conformance check

From version 10.2, PPM provides a process conformance check. It checks that real process instances measured in PPM conform to a reference process model created in ARIS. In other words, the ARIS process conformance check enables you to determine whether your business processes actually run as designed.

ARIS is the main repository for modeling target (to-be) processes. These reference processes are modeled in the form of the **EPC** model type. PPM is being used to monitor executed processes. PPM does this by extracting data from source systems. These source systems may provide function names that differ from the modeled function names in ARIS. To be able to monitor the process flow in PPM according to the reference process, it is necessary to map the modeled function names from ARIS to the PPM function names and import the target EPC together with this mapping into PPM for a dedicated process type.

From version 10.3, it is possible to exclude some ARIS functions from the conformance check. This allows you to exclude functions that are not known in PPM. That means that the target (to-be) process contains functions that must be performed manually and that cannot be processed in PPM. This ensures that the conformance check does not classify too many processes as "not compliant".

The combination of process type, function mapping, target EPC and (optional) ARIS function exclusion list is described here as the process conformance configuration.

6.12.1. Overview

ARIS provides two reports to create the models and the data required for the process conformance configuration. The first report creates the ARIS reference model and a mapping of ARIS functions to PPM function names. Another report exports the corresponding configurations and imports them into PPM. See chapter **ARIS PPM Integration**.

A transport container provided by PPM contains all relevant PPM configuration settings and elements, such as dimensions, measures and relations required for the process conformance check. See chapter Extend the client configuration [43].

The actual conformance check is done when process data is imported into PPM. See chapter PPM import [44].

The chapter The meaning of conformance [45] explains in more detail what it means for a process instance to conform to a reference model.

The conformance check imposes certain restrictions on the ARIS reference models and the PPM process instances, such as allowing only certain rule types etc. When any such restrictions are not met, you will get an instructive error message.

The result of the conformance check is a measure aggregated by average, with the two possible values 0.0 (non-conformant) and 1.0 (conformant). The measure shows the proportion of conformant processes to all processes and is called **Conformance rate**.

In addition, there is a relation that contains possible reasons for a process not conforming to a model.

6.12.2. Workflow

You must perform the following steps to perform a complete conformance check of your PPM process instances against your ARIS reference model.

- In ARIS, run the two reports provided for the PPM integration. The first report imports the relevant data from PPM into ARIS and generates various ARIS models. The second report transfers the adapted data and a corresponding reference model to PPM. For details, see **ARIS PPM Integration**.
- In PPM CTK, import the conformance transport container to extend the client configuration. The container provides all relevant configuration elements for your conformance check, such as attributes, measures and dimensions. See chapter Extend the client configuration [43] for details.
- Import any new process instances that are to be included for the conformance check. See chapter PPM import [44] for details.
- In PPM UI, perform your process conformance analyses based on the new **Conformance rate** measure and **Conformance issue** relation. The handling of the conformance criteria is similar to all other analysis criteria provided in PPM. The measure can be used, for example, as a filter to see the conformance of just a particular subset of process instances. This relation can be used, for example, to see how often and in what way a certain function causes a non-conformance of a process.

  For general information on how to perform an analysis, see the PPM online help.

6.12.2.1. PPM Integration in ARIS

ARIS Architect provides the following two reports to configure the data for your process conformance check.

- **Select PPM process type and create function mapping** report
- **Transfer process model and mapping information to PPM** report

The reports are located in the **Administration** > **Evaluations** > **Reports** > **PPM Integration** report category.

To run the ARIS reports, you must have the following privileges in PPM:

- the ARIS data transfer function privilege.
- the process access privilege for the appropriate process type or process type group.
- the PPM user privilege in the central User Management.

and the PPM user must be activated in PPM.

For details, see chapter **Privilege management** in the PPM online help.

Additional steps may be necessary in ARIS, such as configuring a connection to the PPM system. Details of the ARIS configuration are outside the scope of this document. For details on how to configure and to run a report in ARIS, see the ARIS online help.

You must perform the following steps in ARIS.

- Run the **Select PPM process type and create function mapping** report on an EPC.

  Using this report, you select a PPM process type, process type group or the process tree root. The report reads the function names related to the process type selected and imports the data. In an ARIS matrix model, the imported PPM functions are automatically mapped to the functions in the EPC which have the same name. The generated data is stored in a group specified when the report is executed.

- You can manually edit the matrix model generated by the report, for example, by adapting the mapping, or by adding new functions, or by marking any ARIS functions that are not to be considered in the conformance check. By excluding some functions from the conformance check, you can ensure that the conformance check does not classify too many processes as "not compliant".
- Run the **Transfer process model and mapping information to PPM** report on the EPC created by the first report.

  The report transfers the process model (to-be) belonging to a PPM process type (as-is), a corresponding mapping of ARIS objects to PPM objects to PPM, and optionally a list of ARIS functions that are to be ignored in the conformance check. This transfer is the basis for checking whether all process instances performed in conformance with the originally planned process.

The following data are required to run the ARIS reports.

- The user name and corresponding password of a PPM user.
- The base URL of the PPM server.

  Examples

  http://ppmhost.eur.ad.sag:4080

  https://ppmhost.eur.ad.sag:4443

  http://ppmhost.eur.ad.sag or https://ppmhost.eur.ad.sag if default ports are being used.
- The PPM client name, for example, umg_en or my_PPM_client.

6.12.2.2. Extend the client configuration

PPM provides a transport container that contains a package with all customizing elements required for calculating the process conformance.

Import the transport container

Before you can further customize the conformance check for your PPM client, you must import the transport container. The required elements are added to the client configuration. This includes special conformance dimensions, measures and attributes.

The **conformanceCheck.zip** transport file is located in the PPM installation directory.

<PPM installation>\ppm\server\bin\work\data_ppm\samples\conformance\transport_container\

For details on how to import a transport container and update the PPM client configuration, see chapter Transport container [20].

If there is a naming collision between keywords in the transport package with existing customizing, you must manually adjust the naming using PPM CTK. Note that keywords from the transport container should not be changed unless there is a collision. The natural language names that are presented in graphical user interfaces can be changed.

Prerequisites

- English must be available as user interface language in the PPM client.

  The names and descriptions are only available in English. If English is not available as an interface language of the target PPM client, it must be added before the transport file can be imported. You can configure the interface languages in PPM CTK, **Attributes** module > **Interface Languages**.

- Interaction analysis must be enabled in the PPM client.

  If the client in PPM CTK is not yet configured to use interaction analysis, you must enable it before importing the transport container. You can enable the interaction analysis in PPM CTK, **Client** module > **Properties**. Click **Edit client properties** and enable the **Use Interaction analysis** option.

PPM Client customizing

The transport container provides the **Conformance rate** measure calculated on the process instances and the **Conformance issue** relation that contains detailed information about why process instances were considered conformant respectively non-conformant.

The **Conformance issue** relation consists of a source object dimension **Preceding function**, a target object dimension **Non-conforming function**, a single level text dimension **Conformance issue type** containing a keyword for the issue type, and a measure **Number of conformance issues** that counts issues within a process instance.

The transport container does not contain any assignments of measures or dimensions to the process tree. You can manually assign them in the **Processes**/**Process tree** module in PPM CTK. You must assign them as follows to ensure that process analysis and relation analysis perform correctly.

- Conformance rate as a process analysis measure
- Number of conformance issues as a relation analysis measure
- Conformance issue type as a relation analysis dimension

The dimensions **Non-conforming function** and **Preceding function** are automatically assigned as relation analysis dimensions. You should not assign them as process analysis dimensions.

You can assign these elements specifically to those process tree nodes for which you intend to import reference models. This requires customizing updates whenever a model is to be used for a new process type.

Alternatively, you can assign them to a higher level in the process tree or even to the root. This makes the measures and dimensions visible even when no model is available (but generates additional warnings during import).

If you only need the conformance rate without detailed information about the reasons for non-conformance, you can also use the process level elements from the transport container and leave out the relation elements.

Process instances for which conformance cannot be calculated do not provide any value for the **Conformance rate** measure. The measure is based on an attribute calculated by a new attribute calculator class. For details on the calculation class and the new relation calculator, see the documentation **PPM Customizing**.

6.12.2.3. PPM import

After the ARIS model was transferred from ARIS to PPM, every new or modified process instance of an eligible process type (that is, a process type for which an appropriate conformance measure is defined) is automatically checked for conformance during PPM import.

A recalculation of old instances with reference to the new model requires running PPM import with option **-keyindicator new** (or **-typifier new**, which implies **-keyindicator new**).

For details on how to run PPM import, see the **runppmimport** command line tool in the PPM Operations Guide.

6.12.3. Characteristics of conformance calculation

6.12.3.1. The meaning of conformance

The reference model establishes the order in which functions should be executed. This order is not a simple linear order, however, because the model may contain splitting AND rules. The branches emanating from such rules may execute in parallel, so that there are many execution orders that are compatible with such a rule. Joining rules, on the other hand, are synchronization points: They indicate that execution of all functions in the incoming branches must have terminated before any function that follows a joining rule is executed.

The conformance check converts a process instance into a linear sequence of functions. It then determines whether each step in the functional sequence corresponds to the order of these functions in the reference model.

Furthermore, in order to be considered conformant, the last step must terminate in one of the end events modeled for the process. This implies that unfinished processes (that is, processes that require further imports to be completed) are most likely classified as non-conformant.

6.12.3.2. Conformance issues

The conformance calculator identifies possible reasons why a sequence of functions does not conform to a reference model. The reasons for the non-conformance are called conformance issues.

There are four different types of conformance issues:

- A function in the process instance is not part of the function mapping and therefore cannot match any model function.

  This issue is signaled by the dimension value **ShouldNotOccur**.
- The process instance starts with a wrong function.

  This issue is signaled by the dimension value **ShouldNotStartProcess**.
- All steps of the process instance terminated, but no end event is reached. This indicates an incomplete process.

  This issue is signaled by the dimension value **ShouldNotEndProcess**.
- A particular pair of functions occurs in the wrong order.

  This issue is signaled by the dimension value **ShouldNotFollow**.

Note that due to the algorithmic complexity, the conformance issues are reported on a best-effort basis. This means, there may be more reasons for non-conformance than PPM reports.

The conformance issue types are contained in the **Conformance issue type** dimension. The conformance issue itself is characterized by the type and one or two PPM function names contained in the dimensions **Non-conforming function** and (only for ShouldNotFollow) **Preceding function**.

Example 7.

In the example below, there are two conformance issues. Both are caused by the **Authorize payment** function that follows the **Create contract** function in the process instance, although the process was modeled in a different order.

Non-conforming function	Conformance issue type	Preceding function	Number of conformance issues
Authorize payment	ShouldNotFollow	Create contract	2

6.12.3.3. Process hierarchies

Subprocess assignments to functions in the reference model are not imported into PPM. The conformance calculation calculates the conformance rate for a single process instance without evaluating referenced processes.

6.12.3.4. Scaled systems

In a scaled system, you cannot import reference models onto the master server. The reference models must be imported onto every sub server individually. Therefore, the HTTP/S port of the sub servers must be reachable from the ARIS client, on which the import of a reference model is executed.

The master server does not check if the conformance configurations on the sub servers are the same.

6.13. Process Mining configurator

The Process Mining configurator is a web-based tool to import process data into a special PPM client. The process data could have been extracted from an application system, for example, and must be stored in a CSV file. Based on the process data, you can create a PPM configuration that you can import into PPM using the Process Mining configurator.

The Process Mining configurator is only available for
PPM clients created based on the **process_mining_configurator** template [46].

The client created on the basis of the process_mining_configurator [26] template [26] serves to provide the data for Process Mining analysis. You can perform your Process Mining analysis directly in PPM, or you can use the client as a basis for your Process Mining analysis in ARIS.

For detailed information on using the Process Mining configurator, see the PPM online help.

6.13.1. Create a Process Mining client

You can create a Process Mining client using PPM CTK. A Process Mining client is based on the **process_mining_configurator** template provided in the PPM CTK client setup.

Select the **process_mining_configurator** template to create a Process Mining client in the PPM CTK client setup.

We recommend setting the client encoding to UTF-8 and to use a client database which is UTF-8 enabled.

For detailed information on creating a PPM client, see the chapter Getting started [8].

6.13.2. Start the Process Mining configurator

The Process Mining configurator is web-based tool and you can start it in your web browser.

For a list of supported web browsers, see the **System Requirements for Software AG Products guide**.

Prerequisites

You have the System administration function privilege.

Procedure

1. To start the Process Mining configurator, start your web browser and enter the URL in the following form.
   http(s)://<host>:<port>/ppm/configurator
2. Log in to the Process Mining configurator using your user name, password, and client name.
   You can only log in to clients that are based on the **process_mining_configurator** template.

The start page of the Process Mining configurator opens in the web browser.

On the start page, you can create a Process Mining project, or open the project overview page to manage existing projects.

6.13.3. Upload the process data

You can upload your process data to your Process Mining project using a CSV file. Based on the uploaded CSV file, you can configure your Process Mining project.

The Process Mining configurator displays a preview table, which can contain up to 100 of the first rows of the uploaded data. For data types, the row delimiter and the mask sign can be adapted to the uploaded file.

The following default settings are used:

- Encoding: UTF-8
- Separator: Semicolon
- Mask char: Double quotes

If the columns in the preview table are not correct because the CSV-file does not use the default CSV parameters, the CSV parameters can be changed and the data preview is updated accordingly.

The CSV file must meet the following requirements:

- The CSV files must start with a header line.
- Each line corresponds to a function (process step), and provides
  - the process ID to which the function belongs,
  - the function name,
  - the start or end time of the function as sort criterion,
  - and optionally, function ID, measures and dimensions.
- CSV files containing special characters must not contain ISO control characters. CSV files must not contain special characters with Unicode code points upwards of 65.536, which do not correspond to a single UTF-16 character.

- CSV files must not contain tabs in column values (tabs used as column separator are allowed)

After the configuration is complete and activated,
the CSV file can be imported into PPM using the Process Mining configurator [49]. The import into PPM need not be triggered separately.

Incorrect data settings in the CSV file lead to an error.

The error either occurs in the wizard (if the invalid character is contained in the values used in the wizard) or the data import causes an error preventing the data from being imported. Then the invalid characters must be removed from the CSV file and the file must uploaded and imported again.

6.13.4. Process criteria mapping

You must map specific process criteria to particular columns of the process data table to specify individual processes. That is, a row of the process data table defines a function with function name and process ID, among other things. And all functions with the same process ID belong to the same process instance. The sort criterion defines the order of the functions within the process instance.

Mandatory process criteria

- **Process ID** is of **TEXT** type, and mapped to **AT_ID** on process level.
- **Function name** is of **TEXT** type, and mapped to **AT_OBJNAME** and **AT_OBJNAME_INTERN** on function level. Note that if you want to define own calculated attributes, the function names must be conform to XML NMTOKEN. Otherwise, it would not be possible to filter a specific function type with "filteredattribute".
- **Sort criterion** is of **TIME** type, and mapped to **AT_SORT_MERGE_TIME** on function level. The sort merge key can be mapped to either function start time or function end time.

Optional process criteria

- **Function ID is of TEXT type, and** mapped to **AT_ID** on function level.
- **Function start time** or **function end time** is of **TIME** type, and mapped to **AT_START_TIME** or **AT_END_TIME** at the function level.

6.13.5. Analysis criteria mapping

You can specify if a data column represents dimensions or measures. Data columns that are not already specified as process criteria [48] are automatically assigned to dimensions or measures. You can ignore columns that you do not want to import.

This assignment depends on the data type of a column.

- Columns of type **TEXT** and **TIME** are assigned to dimensions.
- Columns of type **NUMBER** are assigned to measures.

You can change the display name of the measures and dimensions. By default, the column name is used as display name.

6.13.6. Configuration and data import

You can import your Process Mining configuration and the corresponding process data directly from the Process Mining configurator into PPM.

If the Process Mining configuration is consistent, the configuration is imported into PPM and the PPM server triggers the extension of the attributes, measures, dimensions, and process type configuration of the PPM client.

When the Process Mining configurator is finished, the relevant run tools are triggered on the PPM server to import the process data. The process data are extracted from the CSV file, and the process fragments with mapped attributes are written to the PPM database. Finally, the EPCs are automatically merged, calculated, and typified.

6.13.7. Restrictions

The following restrictions apply to the handling of the Process Mining configurator and clients based on the **process_mining_configurator** template:

- The Process Mining configurator cannot be used in a scaled system.
- In a Process Mining client it is not possible to add additional data sources. You cannot run an XML import, or change the merger key or key rules configuration.

7. Support and legal information

This section provides you with some general information regarding product support and legal aspects.

7.1. Documentation scope

The information provided describes the settings and features as they were at the time of publishing. Since documentation and software are subject to different production cycles, the description of settings and features may differ from actual settings and features. Information about discrepancies is provided in the Release Notes that accompany the product. Please read the Release Notes and take the information into account when installing, setting up, and using the product.

If you want to install technical and/or business system functions without using the consulting services provided by SAG ARIS GmbH, you require extensive knowledge of the system to be installed, its intended purpose, the target systems, and their various dependencies. Due to the number of platforms and interdependent hardware and software configurations, we can describe only specific installations. It is not possible to document all settings and dependencies.

When you combine various technologies, please observe the manufacturers' instructions, particularly announcements concerning releases on their Internet pages. We cannot guarantee proper functioning and installation of approved third-party systems and do not support them. Always follow the instructions provided in the installation manuals of the relevant manufacturers. If you experience difficulties, please contact the relevant manufacturer.

If you need help installing third-party systems, contact your local ARIS sales organization. Please note that this type of manufacturer-specific or customer-specific customization is not covered by the standard ARIS software maintenance agreement and can be performed only on special request and agreement.

7.2. Support

Product support

We provide support for ARIS products to all customers with a valid support contract.

Information on product version availability and support, as well as sustained support dates, is available at ARIS Community.

Contact our Global Support services at ARIS Community to raise and update support incidents, or post ideas and feature requests.

Community

Register with ARIS Community to download products, updates and fixes, find expert information, and interact with other users.

Documentation

For information on how to use and activate products and for other technical support questions, visit the ARIS Documentation website.

If you want to give feedback on any documentation topic, write to documentation@aris.com.

7.3. Legal notices

This document applies to ARIS Process Performance Manager Version 10 and to all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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