celonis

SAP Process Mining by Celonis

Installation Guide

Version 1.2

Corresponding Software Version: 4.0
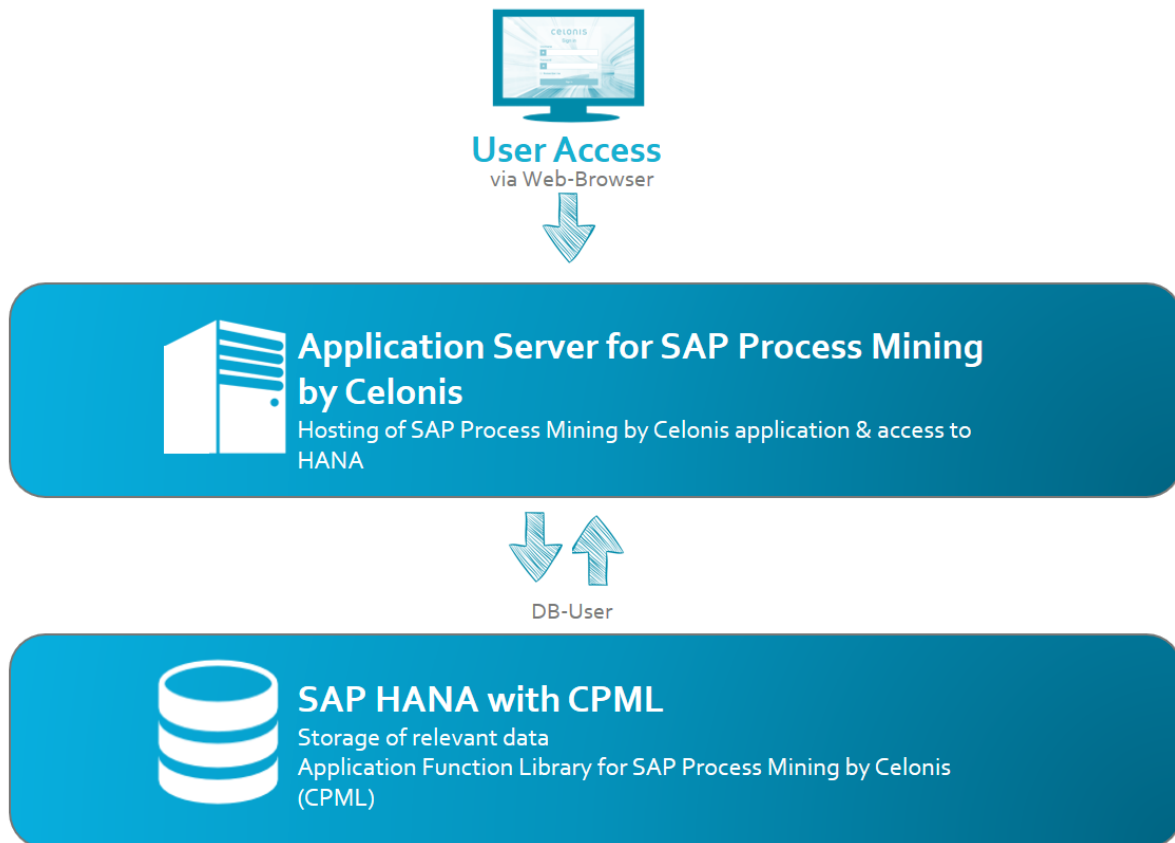
Content

Install SAP Process Mining by Celonis

SAP Process Mining by Celonis consists of two components: The core SAP Process Mining web application and the SAP HANA AFL plugin for SAP Process Mining by Celonis (called CPML). Please refer to below diagram for further information.

For both components, an installation package is available. The installation package for SAP Process Mining by Celonis comes as an Windows installer (sappm-setup.exe) or a Linux executable runfile (sappm-<dist>.run). The installation package for CPML is delivered as a zip-package (celonis_cpml_installer.tar.gz), which contains an executable hdbinst file for Linux.

CPML

Installation on SAP HANA server

The installation is based on the installation routines for AFL libraries, provided by SAP.

NOTE: During this process the SAP HANA has to be restarted.

1. Transfer the installation bundle to SAP HANA server
2. Extract installation bundle
3. Execute hdbinst with root privileges
4. Follow the instructions of installer
5. If the installer complains, that files are locked by the indexserver or the scriptserver, you can manually restart the SAP HANA database to release the locks.

Configure Database

First check if plugin was successfully installed by checking if CELONIS_AFL_SDK_CPML is listed as installed plugin in the system overview. Go to the tab "Configuration", expand "daemon.ini" and then expand "script server".

Then check if the script server is running. In case there is a 0 in the field "instances", add a 1:

Set up the users

We need to grant every user which is used by SAP Process Mining by Celonis to log on to the SAP HANA database the following privileges:

- **AFL__SYS_AFL_CPML_AREA_EXECUTE**
- **AFLPM_CREATOR_ERASER_EXECUTE**

To grant the rights to a user you can execute:

GRANT AFL__SYS_AFL_CPML_AREA_EXECUTE TO <USER>;
GRANT AFLPM_CREATOR_ERASER_EXECUTE TO <USER>;

To check if privileges for CPML are correctly set up by executing the following statement as <USER>:

CALL _SYS_AFL.CPML_AREA_ECHO_STRING_PROC('Test was successful',?);

If everything is set up correctly, the call returns 'Test was successful'.

Additionally the users minimally need the following privileges on the SAP HANA schema where the tables and views reside which are read by SAP Process Mining:

- **CREATE ANY**
- **DROP**
- **EXECUTE**
- **SELECT**
- **INSERT**

Deinstallation

1. On the SAP HANA server go to the SAP HANA installation directory (Usually /hana/shared/<SID>).
2. From there go to ./exe/linuxx86_64/plugins
3. Delete all celonis_afl_sdk_cpml_* directories
   1. If files are locked by an Indexserver or Scriptserver, you can manually restart the SAP HANA, to release the locks.
4. Restart database

SAP Process Mining by Celonis

Installation on Windows

Execute the sappm–setup.exe installer and enter

1. **The path where the software is installed**
2. **The port under which the web application will be reachable**
3. **Set a password for the user for system administrator user "sysadmin". NOTE: You'll have to change the password on your first login. (To use the default password "$admin!" just press enter)**

After successful installation start the Service "SAP Process Mining by Celonis" from your Service Manager.

Installation on Linux

Prerequisites

Before you start the installation, please ensure you meet the following requirements:

1. The installation file sappm_<dist>.run is located on your target system (e.g. /tmp/celonis/). There are separate installers for the different supported Linux distribution, make sure to pick the one matching your distribution and major version.
2. You have root privileges on the target system
3. You have created a dedicated system user to run the Celonis4 Server on the target system (Optional)
4. You have installed the following OS packages (including their automatic dependencies) provided by your distribution, or verified their existence:

SLES	RHEL	Ubuntu
• graphviz • xorg-x11-libXext • xorg-x11-libXrender • xorg-x11-libs	• graphviz • libXrender.x86_64 • libXext.x86_64 • libXi.x86_64	• graphviz • libxi6 • libxrender1 • libxext6

Installation

1. Log in on the target system.
2. Navigate to the folder where your installation files are located (e.g. /tmp/celonis/)
3. Start the installation script with the following command:
   a. As root:
      ```
      sh sappm.run
      ```
   b. As non-root:
      ```
      sudo sh sappm.run
      ```

   NOTE: On SLES 11 / RHEL 6 you might get the following information (Fig. 1). You do not need to worry about this message.[1]

   ```
   Detected glibc version 2.11
   Your system is using a old version of glibc.
   Falling back to legacy exporting...
   done.
   ```

   Figure 1: Information about old version of glibc on SLES 11

4. Please enter the target directory where you wish to install SAP Process Mining by Celonis and press enter (To use the default path /opt/celonis/celonis4/ just press enter)
   ```
   Please specify the target directory [/opt/celonis/celonis4]:
   ```
5. Please enter the system user which runs the Celonis4 Server. (To use root just press enter)
   ```
   Please enter the default OS user which runs the Celonis4 Server
   The user will be the owner of the writable directories [root]
   ```
6. Specify the port on which you will access the Celonis4 web frontend (To use the default port 9000 just press enter)
   ```
   Please enter port for the Celonis4 server [9000]
   ```
7. Specify the initial password for the user sysadmin. This user will be used to login on the web frontend. NOTE: You'll have to change the password on your first login. (To use the default password "$admin!" just press enter)
   ```
   Please specify the initial password for the user sysadmin [$admin!]
   ```
8. The installation is now complete. To start the server, navigate to your install directory (de-fault /opt/celonis/celonis4/) and type
   ```
   sh start.sh
   ```

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[1] SAP Process Mining by Celonis usually uses Electron to generate downloadable Stories. On older Linux distributions, where prerequisites cannot be met, the system will automatically detect this and fall back to PhantomJS to generate the Sto-ries.
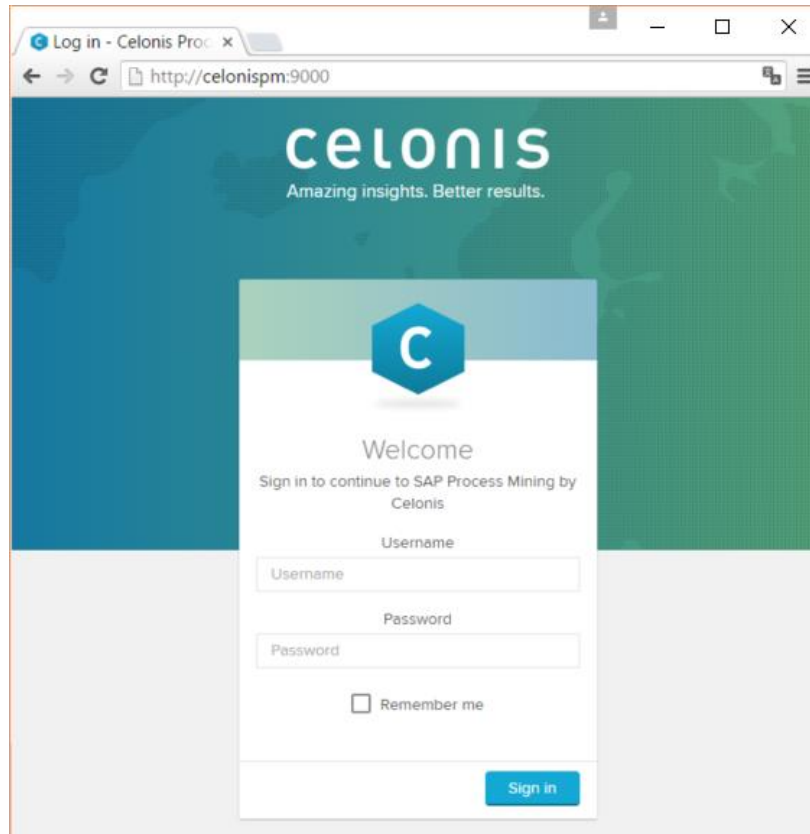
After the installation on Windows and Linux

You can access the web frontend with the following address

http://<hostname of your server>:<port>

e.g.

http://celonispm:9000

9. **To log in you can use the user: sysadmin and the password you provided in step 7. (Default is $admin!)**

After the login you will have to activate the license and configure CPML as it is described in the next chapter.

For more information regarding configuration of the installation, especially with regards to Security, please consult the Celonis Operation Guide.

Configure SAP Process Mining by Celonis

Configuration of CMPL

At the first startup, the application server asks for the connections informations to the SAP HANA database. Here you have to name

- **The database host name**
- **The database port (3xx15, where xx is your instance number. E.g.for instance 00, this is 30015)**
- **The user, which has the AFL privileges. This user is used for the meta-communication to the CPML plugin.**
- **The password of the user**
- **A database schema where the CPML is read from**
- **The number of parallel connections**

License Activation

In order to get a license for SAP Process Mining by Celonis, please sign up on
https://my.celonis.de/sappm_signup

After successful signup and license approval, you need to activate your license with the Server ID displayed in the SAP Process Mining by Celonis frontend (only visible after successful CPML configuration).

Remarks on CPML

Wrapper Functions

CPML needs wrapper functions, in order to be able to load data from HANA to CPML. The wrapper functions are written in SQL-script and are data model specific. SAP Process Mining by Celonis generates the functions for you. You have to trigger the generation after the creation of a data model and each time you change the model. For each table of the data model a set of wrapper functions is generated and stored in the schema of the table. The wrapper functions can be viewed in the HANA Studio (Schema -> Procedures).

Lazy Column Load

CPML does not keep all the data in the memory. It only loads the columns which are actually used. This drastically reduces the initial load time, but can cause some delays when a column is accessed the first time. This works out of the box for Column Tables. For views and row tables primary keys have to be specified. This can be done through the Data Model Editor, in the table configuration. Lazy loading by primary keys is in general slower than working on Column Tables. But for Views which are based on a single Column Table, you can achieve the same performance as for Column Tables, by adding the $rowid$ column of the source table to the view.