

Universal Task Documentation

Universal Automation Center support for importing SAP Calendar using a CSV file

ut-sap-import-calendar-csv-linux

Associated Activities:

Date: 17 September 2018

Author: Nils Buer

Revision: 00

CONFIDENTIALITY INFORMATION

Distribution list: Stonebranch Customer

Revision	Date	Author	Changes
00	20180917	Nils Buer	Initial Document (WIP)

Abstract:

This Universal Task allows to mass import SAP calendar into Universal Automation Center. The SAP calendar to import are provided by a CSV file loaded to the Universal Controller script library. After the import the SAP calendar are available as Universal Automation Center Calendar.

Contents

1 **Disclaimer..... 3**

2 **Introduction..... 3**

3 **Installation..... 3**

 3.1 *Requirements for Linux Agent 3*

 3.3 *Installation Steps 5*

4 **Universal Task Configuration 7**

5 **Test Cases 11**

6 **Document References..... 13**

1 Disclaimer

No support and no warranty are provided by Stonebranch GmbH for this document and the related Universal Task. The use of this document and the related Universal Task is on your own risk.

Before using this task in a production system, please perform extensive testing.

Stonebranch GmbH assumes no liability for damage caused by the performance of the Universal Tasks

2 Introduction

The here described Universal Task allows to mass import SAP calendar into Universal Automation Center. The SAP calendar to import are provided by a CSV file loaded to the Universal Controller script library. After the import the SAP calendar are available as Universal Automation Center Calendar.

The Universal Task uses the Conversion Toolkit (XCT) to create the extracted SAP calendar in Universal Controller.

Some details about the universal task to import SAP calendar:

- The Universal Task extracts the SAP calendar via the SAP certified UASP connector using XBP
- The SAP calendar to import can be provided via a CSV file loaded to the Universal Controller Script library
- The Universal Task uses the Conversion Toolkit (XCT) to create the extracted SAP calendar in Universal Controller, by calling the Universal Controller REST API
- The import can be scheduled via a Time Trigger e.g. import every day the sap calendar.
- The Universal Task supports both Universal Agent for Linux/Unix and Windows. (Note: the attached Task has only been tested on Linux)
- You can select different log-levels e.g. Info and debug
- All Passwords are encrypted using Controller Credentials

3 Installation

3.1 Requirements for Linux Agent

Universal Template name: ut-sap-import-calendar-csv-linux

Related UAC XML Files for template and task: [1]:

- Python 2.7.x installed on a Linux server where a Universal Agent is installed.
- For Python the following modules are required:
 - *sys*, for output re-direct processing
 - *datetime*, date and time stamps for messages
 - *requests* to perform the REST API calls
 - *logging*, for python loglevel support
 - *CSV*, to parse the input file
- Universal Controller V6.4.7.0 or higher
- Universal Agent V6.4.2.2 or higher installed on a Linux Server

- Conversion Tool Kit XCT Version 64412 (or higher) installed on the Linux Sever, where the Universal Agent is installed.
- Oracle Java jdk8 installed on the Sever where the Conversion Tool Kit XCT is installed.

3.2 Installation Steps

The following describes the installation steps:

1. Install JAVA JDK

Check the java version on you server: `java -version`

If you do not have oracle jdk8 (**Note: Open JDK will not work due to missing JAVA FX Libraries**)

download the Oracle Java jdk8 rpm from the oracle homepage:

<http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>

Install the rpm:

`rpm -ivh jdk-8u181-linux-x64.rpm` (or use your package installer)

The SAP calendar export Universal Task has an option to Point to this new JAVA (or an existing one)

2. Install Conversion Toolkit XCT

- **Copy the installation files:** `unzip xct64412.zip` to folder e.g. `/sbranch/CTK/`
- **Unzip the installation files:** `unzip xct64412.zip`

Result: The jar file for the XCT is available in the folder: `/sbranch/CTK/XpressConversionToolkit.jar`

3. Install Python 2.7.x for Linux on the Linux Server running the Universal Agent.

Official Download link: <https://www.python.org/downloads/>

Note: The check the current Python Version type in a shell: `python -V` (capital V)

4. Add the required python modules

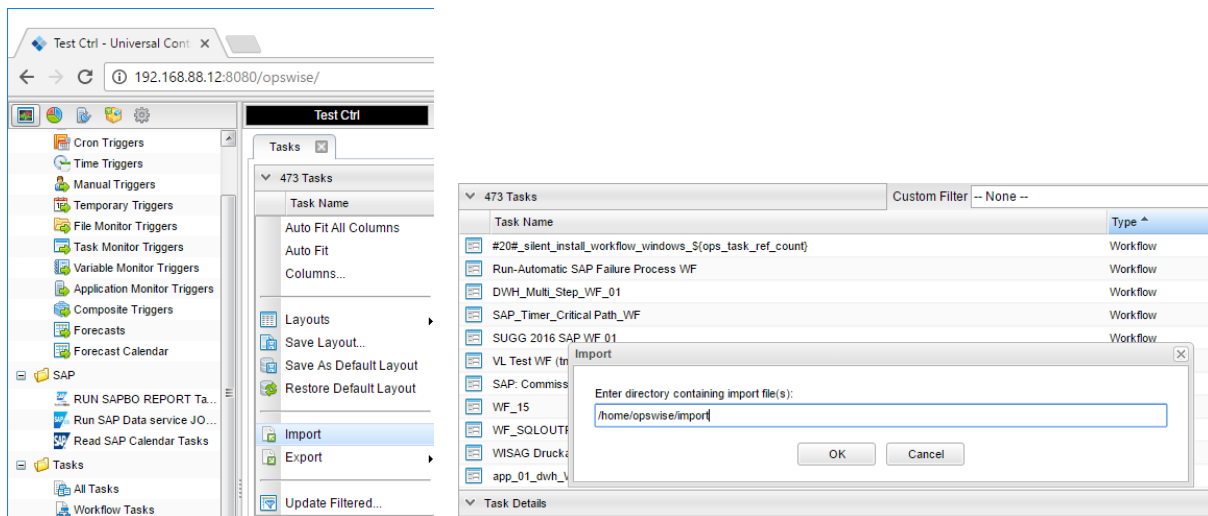
In a command shell as sudo or root:

- `pip install requests`

It is assumed that the modules csv, logging, sys, datetime are already available. If not install them via pip.

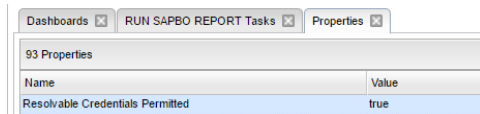
5. Import the Universal Task including the Universal Template to your Controller

Go to “All Tasks” and load via the Import functionality the Universal Task configuration into the Controller.



4 Universal Task Configuration

1. Activate: Resolvable Credentials in Universal Automation Center properties:



Name	Value
Resolvable Credentials Permitted	true

2. Create the CVS file to import SAP Calendar

You can copy and paste the CSV to the script library or load a CSV from an external file.

The CSV file has the following structure:

NOTE: If a factory calendar has no holiday calendar, then leave the field empty e.g. 02, means extract factory calendar 02 without a holiday calendar.

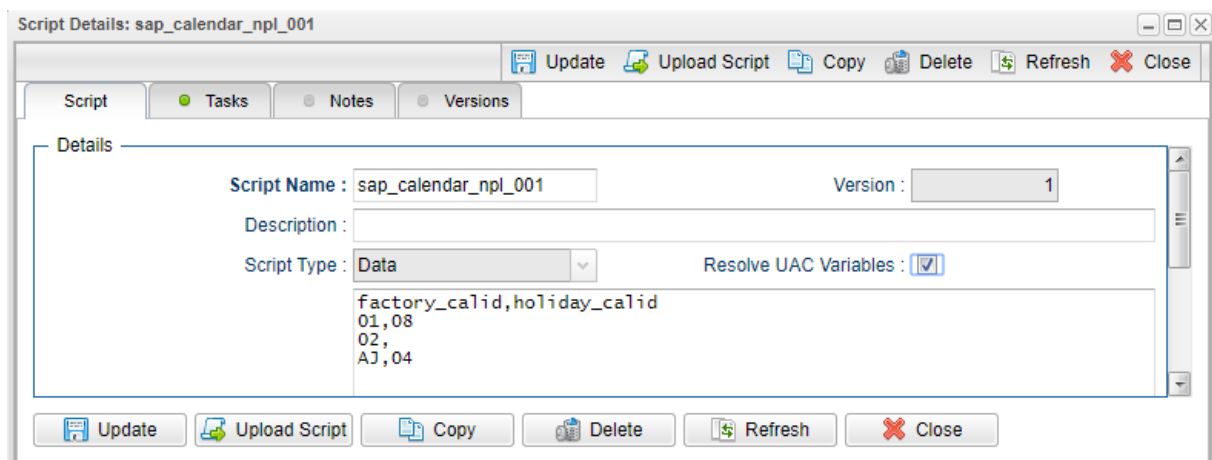
factory_calid,holiday_calid

01,08

02,

AJ,04

Example:



Script Details: sap_calendar_npl_001

Update Upload Script Copy Delete Refresh Close

Script Tasks Notes Versions

Details

Script Name : sap_calendar_npl_001 Version : 1

Description :

Script Type : Data Resolve UAC Variables : ☒

factory_calid,holiday_calid
01,08
02,
AJ,04

Update Upload Script Copy Delete Refresh Close

3. Fill Out the Universal Task to import SAP calendar based on a csv file

ut_import_sap_calendar_csv Task Details: import sap calendar

Update Launch Task View Parents Copy Delete Refresh Close

ut_import_sap_calendar_csv Task Variables Actions Virtual Resources Mutually Exclusive Instances Triggers Notes Versions

General

Task Name : import sap calendar Version : 1

Task Description :

Member of Business Services :

Resolve Name Immediately : ☐ Time Zone Preference : -- System Default --

Hold on Start : ☐

Virtual Resource Priority : 10 Hold Resources on Failure : ☐

ut_import_sap_calendar_csv Details

Agent : wiesloch - AGNT0003 Agent Cluster :

Agent Variable : ☐ Agent Cluster Variable : ☐

Credentials : Cluster Broadcast :

Credentials Variable : ☐ Run with Highest Privileges : ☐

python log level : DEBUG sapnwrfdiir : /opt/universal/uagsrv/

dest : WIESLOCH ashost :

sid : NPL client : 001

sapcred : SAP_CRED_WIESLOCH opscliurl : 127.0.0.1:8080/opswise/

xctcred : XCT Credentials javabin : /usr/bin/

sapout : /sbranch/CTK/SAP/caldef/ sap sysnr : 00

Conversion Tool : /sbranch/CTK/XpressConversionToolkit.jar usap log level : warn

calendar_csv : sap_calendar_npl_001

Credential for Universal Task:

REST API Credentials:

Credential Details: XCT Credentials

Update Convert... Delete Refresh Close

Credential Versions

Details

Name : XCT Credentials Version : 1

Type : Resolvable

Runtime User : XCT

Runtime Password :

SAP Connection Credentials:

Credential Details: SAP_CRED_WIESLOCH

Update Convert... Delete Refresh Close

Credential Versions

Details

Name : SAP_CRED_WIESLOCH Version : 1

Type : Resolvable

Runtime User : developer

Runtime Password :

Description : Porsche71..

Key Location (SFTP only) :

Passphrase (SFTP only) :

Member of Business Services :

Update Convert... Delete Refresh Close

Task Output:

```

2018-09-17 13:58:18,102 - INFO - ##INFO# SAP destination: WIESLOCH
2018-09-17 13:58:18,102 - INFO - ##INFO# SAP ASHOST:
2018-09-17 13:58:18,102 - INFO - ##INFO# SAP SID: NPL
2018-09-17 13:58:18,102 - INFO - ##INFO# SAP Client: 001
2018-09-17 13:58:18,102 - INFO - ##INFO# SAP User: developer
2018-09-17 13:58:18,102 - INFO - ##INFO# SAP Password: ****
2018-09-17 13:58:18,102 - INFO - ##INFO# Controller url: 127.0.0.1:8080/****/
2018-09-17 13:58:18,102 - INFO - ##INFO# Export Process from SAP started
2018-09-17 13:58:18,102 - INFO - ##INFO# exporting factory calendar with ID: 01
2018-09-17 13:58:18,103 - INFO - ##INFO# exporting holiday calendar with ID: 08
2018-09-17 13:58:18,103 - INFO - ##INFO# using destination server connection
2018-09-17 13:58:18,775 - INFO - ##INFO# Export Process from SAP finished

```

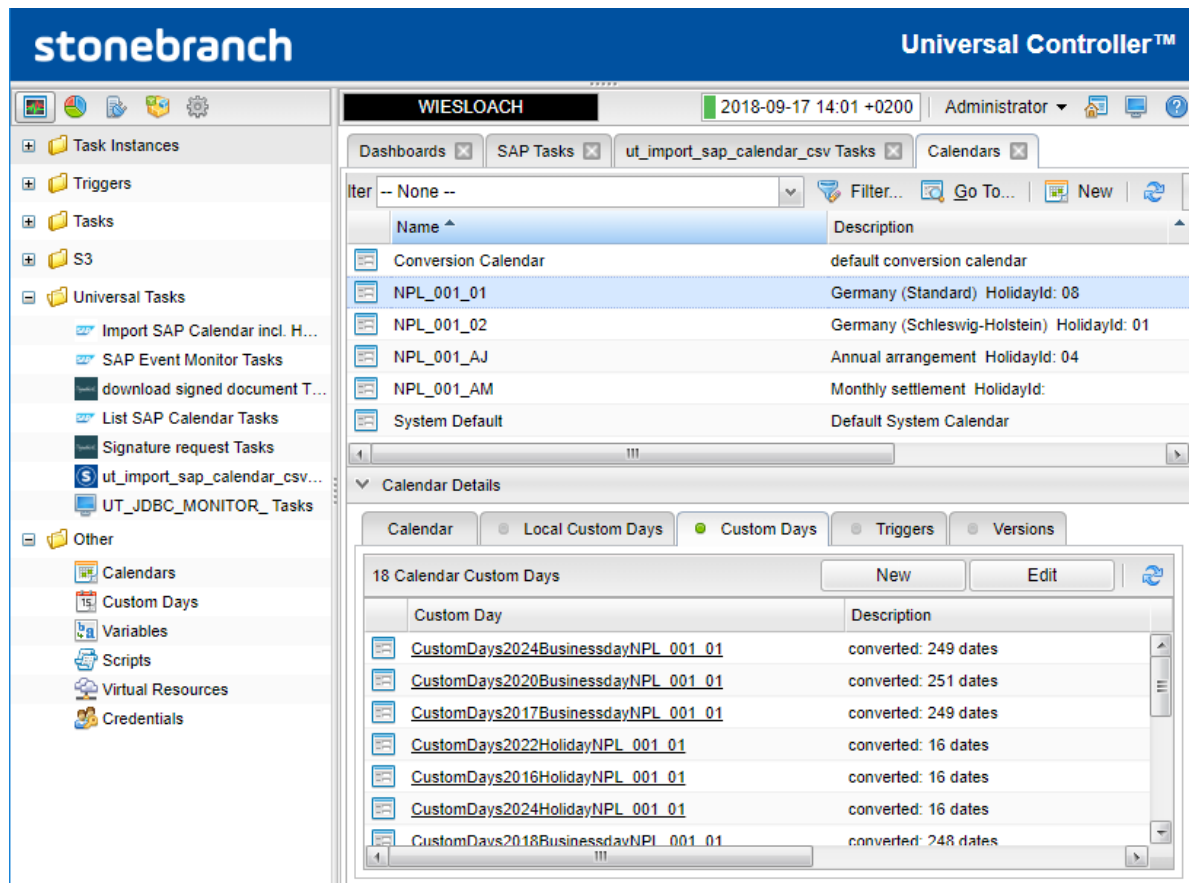
Result in Universal Controller:

After the import the calendar is imported in the Universal Controller.

Example: NPL_001_01

Means Factory Calendar 01 has been imported from SAP SID: NPL Client 001

The imported Calendar consists of CustomDays List of Type workday and holiday.



Description:

Field	Required	Description
Agent	Yes	Linux Universal Agent to run the USAP commands and bash shell script.
Agent Cluster	optional	Optional Agent Cluster for load balancing
Client	Yes	SAP Client to connect to e.g. 100
dest	Yes	SAP destination in the file: <i>/opt/universal/uagsrv/sapnwrfc.ini</i>
Ashost	Optional	If this Parameter is provided the connection is done via an application server connection using the info provided in the fields client, sysnr and ashost. If this Parameter is not provided the connection is done using the destination configured in the SAP destination in the file: <i>/opt/universal/uagsrv/sapnwrfc.ini</i>
XCT credential	Yes	Universal Controller REST API credentials. (User Credentials with the rights to use the REST API). These credentials are used by XCT to create the calendar in UC via REST command)

Field	Required	Description
Sapcred	Yes	Credentials of the SAP System
Opscliurl	Yes	url of the Universal Controller e.g. http://192.168.88.12:8080/opswise or for cloud controller: <a href="https://<customer>.stonebranch.cloud">https://<customer>.stonebranch.cloud
Java bin	Yes	Path to the Java bin folder: Example: <code>/usr/bin/</code>
Conversion Tool	Yes	Full path to the conversion tool jar file. Example: <code>/sbranch/CTK/XpressConversionToolkit.jar</code>
Usap loglevel	Yes	Python log level INFO, DEBUG, WARN, ERROR, CRITICAL
Calendar_csv	Yes	<p>CSV file</p> <p>You can copy and paste the CSV to the script library or load a CSV from an external file.</p> <p>The CSV file has the following structure:</p> <p>NOTE: If a factory calendar has no holiday calendar, then leave the field empty e.g. 02, means extract factory calendar 02 without a holiday calendar.</p> <p><i>factory_calid,holiday_calid</i></p> <p><i>01,08</i></p> <p><i>02,</i></p> <p><i>AJ,04</i></p>

5 Test Cases

The following basic test cases has been performed:

Case#	Assumed behavior	Result
Import SAP Calendar: <i>factory_calid,holiday_calid</i> <i>01,08</i> <i>02,</i> <i>AJ,04</i>	Three factory calendars are imported. The factory calendar 02 does not contain a holiday calendar	Correct
Import SAP Calendar a second time <i>factory_calid,holiday_calid</i> <i>01,08</i> Check that the new calendar overrides the old one. (Note: no new version is created, because the master should always be the SAP system.)	The new imported calendar has overridden the existing one.	Correct
Import calendar that does not exist: <i>factory_calid,holiday_calid</i> <i>01,08</i> <i>xx,xx</i> <i>02,</i>	Task Fails: UNV5869E Retrieving factory calendars failed: (267) : Factory calendar xx does not exist UNV0627E SAP RFC error: UspRfcSetInt, RFC_INVALID_PARAMETER UNV0627E SAP RFC error: UspRfcSetInt, field 'LIMIT_PAGES' not found UNV0616E Universal Connector ending unsuccessfully with exit code 202. 2018-09-17 16:57:52,110 - ERROR - ##ERROR# Error Code: 202 Note: Only the first calendar is creates, when the error happens (xx,xx) the program fails with error 202.	Correct
Wrong java bin path	sh: /usr/bin/djava: No such file or directory	Correct

Case#	Assumed behavior	Result
	/bin/sh: /usr/bin/djava: No such file or directory 2018-09-17 17:06:02,636 - ERROR - ##ERROR# Error Code: 127	
Wrong conversion tool path	Error: Unable to access jarfile /sbranch/CTKs/XpressConversionToolkit.jar 2018-09-17 17:06:43,834 - ERROR - ##ERROR# Error Code: 1	Correct
Wrong client	UNV0629E SAP logon error: Client 002 is not available in this system UNV0616E Universal Connector ending unsuccessfully with exit code 202. 2018-09-17 17:08:48,213 - ERROR - ##ERROR# Error Code: 202	Correct
Wrong destination	UNV0629E SAP logon error: Parameter ASHOST, GWHOST or MSHOST is missing. UNV0616E Universal Connector ending unsuccessfully with exit code 202. 2018-09-17 17:09:41,295 - ERROR - ##ERROR# Error Code: 202	Correct
Application server connection	2018-09-17 17:10:51,059 - INFO - ##INFO# using application server connection	Correct

6 Document References

This document references the following documents:

Ref#	Description
[1] XML extract of Universal Task	UAC XML extract of the Universal Template <ul style="list-style-type: none">ops_unv_tmplt_9dbf3f6a4524480396ffb5712d22b7ba