How to manage CSV Json files

Project name: Read Write CSV Json files

Package Version: 1.0.2

THE BEST RUN SAP

Version of document	Date	Description
0	16 March 2022	Document created

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INTRODUCTION

This document describes the SAP Build Process Automation sample **Read Write CSV JSON XML – Cloud Studio** and provides the following information:

- Description (functional and technical)
- Version used to generate this sample

It also contains information on prerequisites, such as the steps to follow before launching the agent.

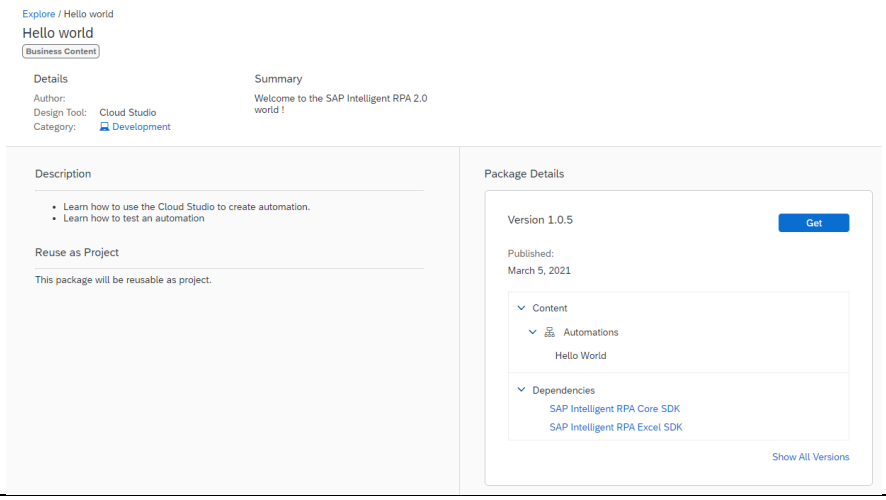
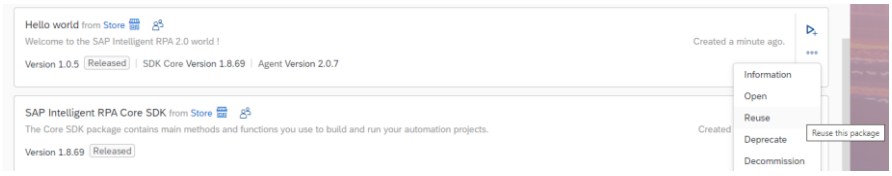
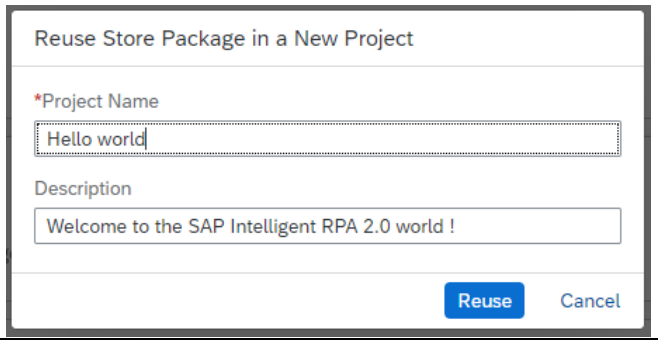
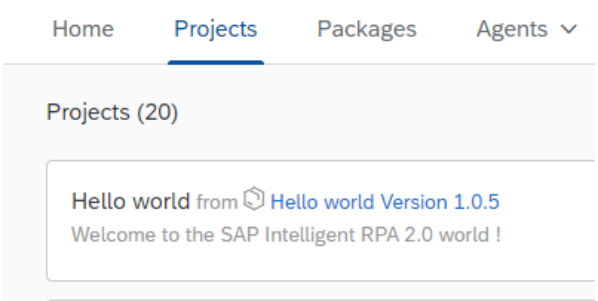
IMPORTANT RECOMMENDATION

General

To use this sample, you need to have a basic knowledge and understanding of SAP Build Process Automation tool. At the very least you need to know how to build an automation, add and modify activities and generate a package.

Reuse the sample as a new project

Note: screenshot might display a different name than the one of this sample.

From the Cloud Factory, open the Store tab and select the sample you want to retrieve. Click on the **Get** button.	
Once the package is retrieved, open the Packages tab of the Cloud Factory. Click on the Options button of the package you just retrieved and select the option **Reuse**.	
Set a name for the project to be created.	
Open the project that has just been created.	
If needed, update the content of this project, and generate a new package from it.	

You need to execute this procedure to be able to open the project and see all its content (the captured applications, the declared items, the automations, etc.).

DESCRIPTION

This package contains captures, datatype and automations that are described below. See chapter Version for more details about the version of the Desktop Agent and the SDK dependencies.

Settings

This section describes the settings of the project such as environment variables or dependent packages that are used in the automation.

Environment variables

N/A

Dependent packages

N/A

Captures

This section describes the captures which were made to pilot the application in this sample. It will also describe the different methods which were used to capture the pages and declare the items.

N/A

Datatypes

This section describes the datatype used in this sample. It describes the structure of the datatype and where it is used in the automations.

Complex Description

Name of attribute	Type	Description
Description1	String	Description about the airport
Description2	String	Additional description about the airport

Airports

Name of attribute	Type	Description
Code	String	Unique code of the airport
Description	String	Description about the airport
Complex Description	Complex Description	Attribute of type Complex Description Data Type

Alerts

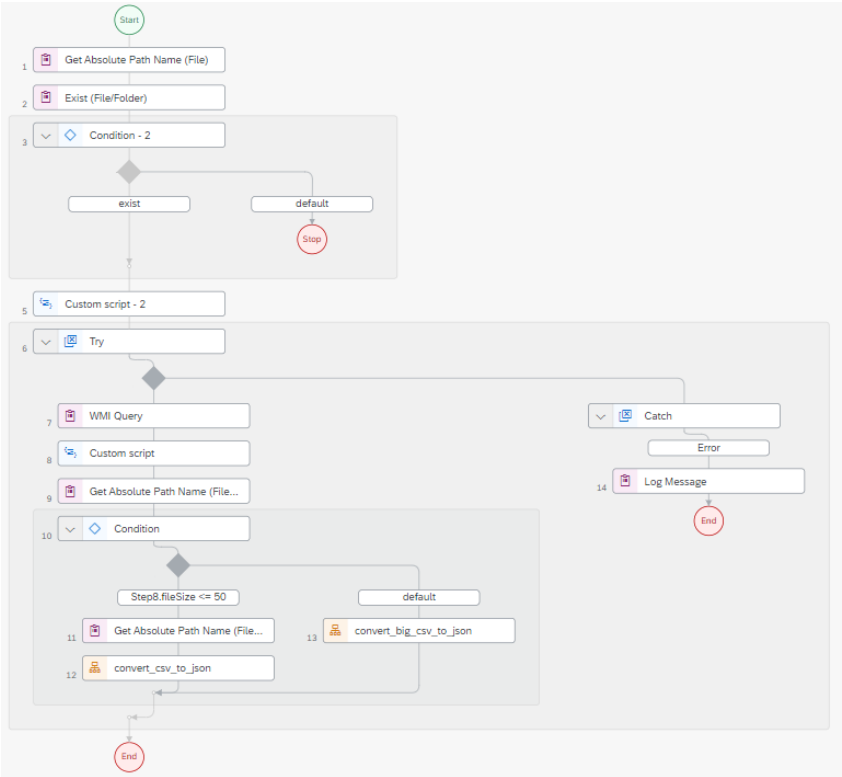
This section describes the alerts used in this sample. It describes the structure of the alert.

N/A

Automations

Convert file

Input: csvInputPath (*String*), jsonOutputPath (*String*), csvOutputPath (*String*)
Output: N/A



This automation is the main entry point responsible for checking the path provided by the user.

First the path is checked and modified to make sure it matches the following pattern:

C:\\folder\\file

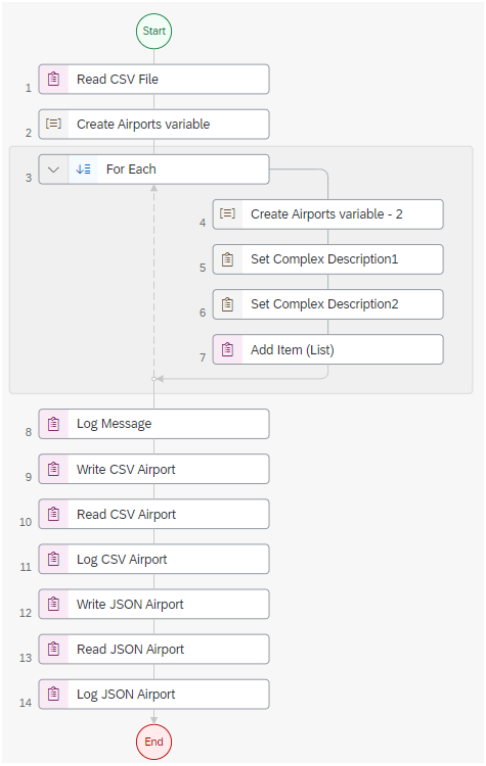
Backslashes are required for WMI Query activity otherwise the automation will fail.

Within the **Try** block, activity **WMI Query** is used to get the File Size.

A **Condition** control is used to check if the fileSize <= 50MB then, automation **convert_csv_to_json_xml** will run. Otherwise, automation **convert_big_csv_to_json_xml** will be executed.

Errors are caught and displayed in log area within the **Catch** block.

convert_csv_to_json_xml
Type: Unattended
Input: csvInputPath (*String*), jsonOutputPath (*String*), csvOutputPath (*String*)
Output: N/A



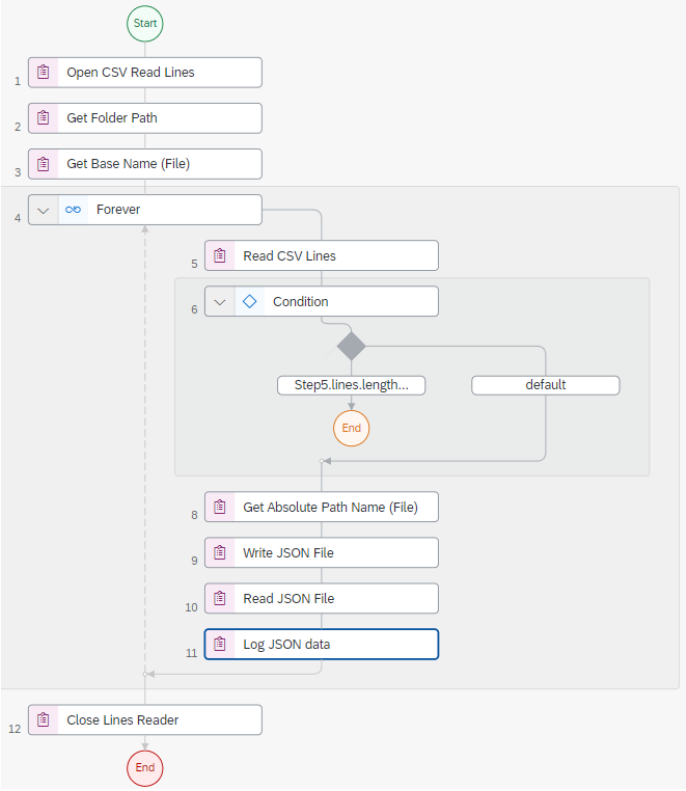
The purpose of this automation is read the CSV file, write Description1 and Description2 to the new CSV file and convert the new CSV file to JSON and XML formats.

Firstly, the existence of File path is checked. If true, then, automation proceeds with reading the CSV file using activity **Read CSV File**. This activity is used to read CSV files with file size less than 50 MB.

airportsDataType variable of data type Airports is created as list. In the **For Each** loop, for every value in the csv file, value to ComplexDescription.Description1 and ComplexDescription.Description2 is set and added in the Airports list.

Finally, the changes are written to the new CSV file, read, and displayed in the log area. The data within the airportsDataType is converted to JSON formats using activities **Write JSON File**. Information is read and displayed in log area.

convert_big_csv_to_json_xml
Type: Unattended
Input: csvInputPath (*String*), jsonOutputPath (*String*)
Output: N/A



This is a simple automation to read CSV file and write the data in JSON format.

The activity **Open CSV Read Lines** is used to open the csv file. A **Forever** loop is used to read the contents of the file based on the **numberOfLines** property defined in activity **Read CSV Lines**.

Read CSV Lines activity is used to read CSV files larger than 50 MB in size.

Data from CSV file is read and converted to JSON format by using activities **Write JSON File**. Information is read from the respective files and displayed in log area.

Note: for each iteration of the loop, an output file will be created, which name has the following pattern:

C:/folder/file_x.json

Where x is the index of the iteration.

Ex: C:/folder/file_0.json, C:/folder/file_1.json, etc.

A **Condition** control is used to check if the length of *numberOfLines* (it is an array) equals 0 then, the loop will end. Finally, **Close Lines Reader** activity is used to close the csv file.

VERSION

The product versions used to generate this sample are detailed below. This sample is provided “as is”, with no warranty that it will work correctly with other versions. If some versions of your software are different (such as the tool version or the target application version), you may need to recapture the application and/or update the workflow activities.

SAP Build Process Automation

This sample targets the Desktop Agent **2.0.21** or higher.

The following SDK dependencies were used to generate this sample: 1.22.58

See documentation for more details about the compatibility between SDK version and Desktop Agent.

Target application

N/A

PREREQUISITES

Global setup

SAP Build Process Automation must be installed in accordance with the installation guide available here. An SAP Build Process Automation Factory must be available with a suitable environment (containing an agent). All information can be found in the “Getting Started” section accessible via the above link.

Specific steps to follow before launching the agent

- Download the **L_AIRPORT_ID.csv** and **SampleLargeFile.csv** files from the sample.
- When you run your automation, make sure to use the path of files you downloaded.

EXPECTED OUTPUT

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