

PUBLIC

RPA As Easy As 1-2-3: Low-Code Design for Microsoft Office and SAP Software

INT165

Exercise 2: Integration of Word and Excel
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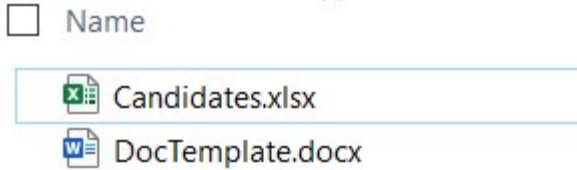
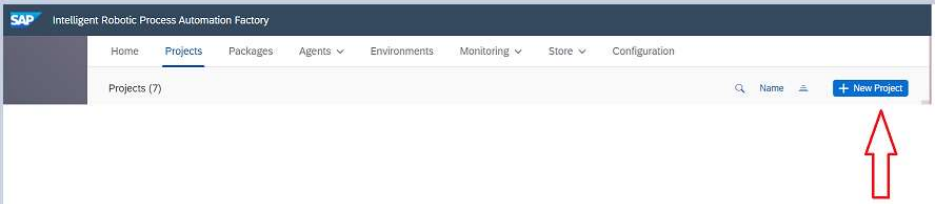
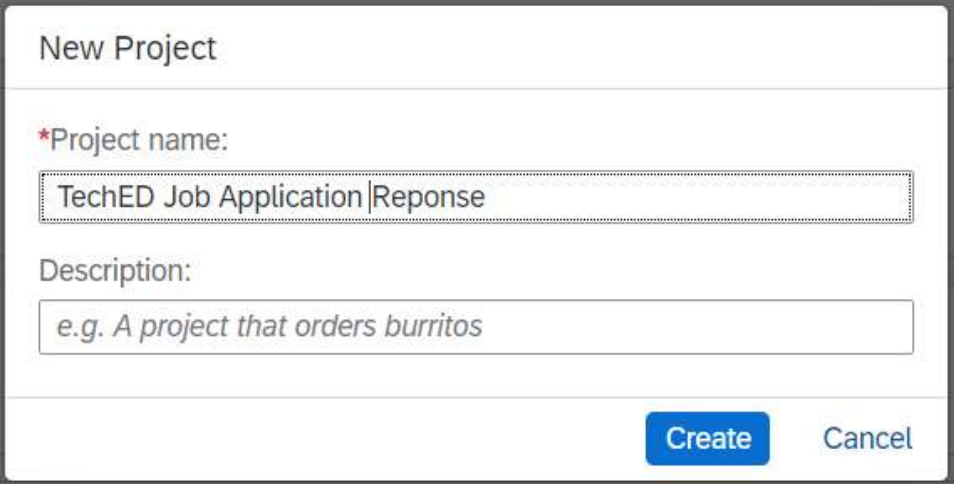
INTRODUCTION

This workshop aims to introduce the new features available in SAP Intelligent RPA 2.0 and how they can be used to simplify the business integration with Microsoft office and with SAP tools.

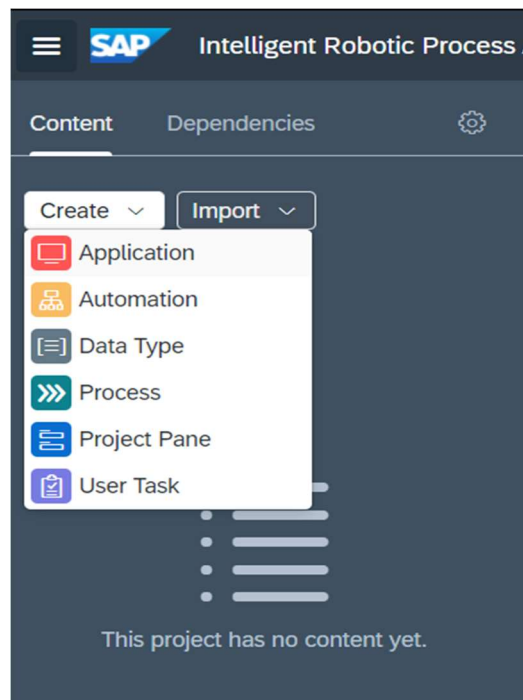
This exercise shows how to create an automatic process to handle job applicants. Given the list of candidates in an excel, the workflow automatically creates replies using a WORD document as template.

Estimated time: 30 minutes

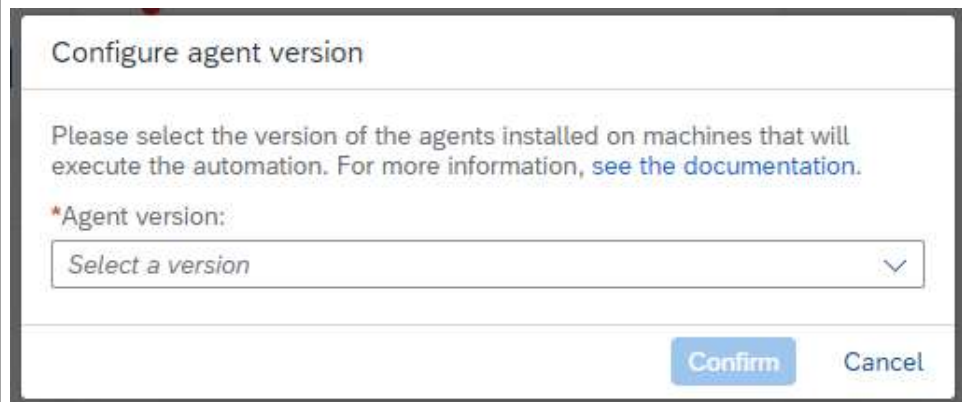
CREATION OF THE WORD AUTOMATION

Explanation	Screenshot
<p>Download the excel file and WORD file provided with this exercise and save it in a local folder. "C:\test". [If "test" folder is not in system then please create it]</p>	
<p>Go to Projects Tab. Click on New Project</p>	
<p>A new popup appears. Choose a name for the project (here TechEd Job Application Response), then click on the Create button.</p>	

In the project, **click** on the Create button to expand the dropdown menu, then **select** Automation.



In the pop-up dialog, select the **agent version** for this project.
In this exercise, the version can be the one marked with the label **Local**.
Click on **Confirm**.



A new popup appears.
Choose a name for the automation (here Document Generation), then **click** on the Create button.

This will create the automation and open the automation editor.

Create Automation

***Name:**

***Identifier:**

Description:

Triggerable:
☒

[Create](#) [Cancel](#)

Click on Project Settings icon and select the section **Dependencies**.

Two dependencies should be automatically added which are irpa_core and irpa_excel.

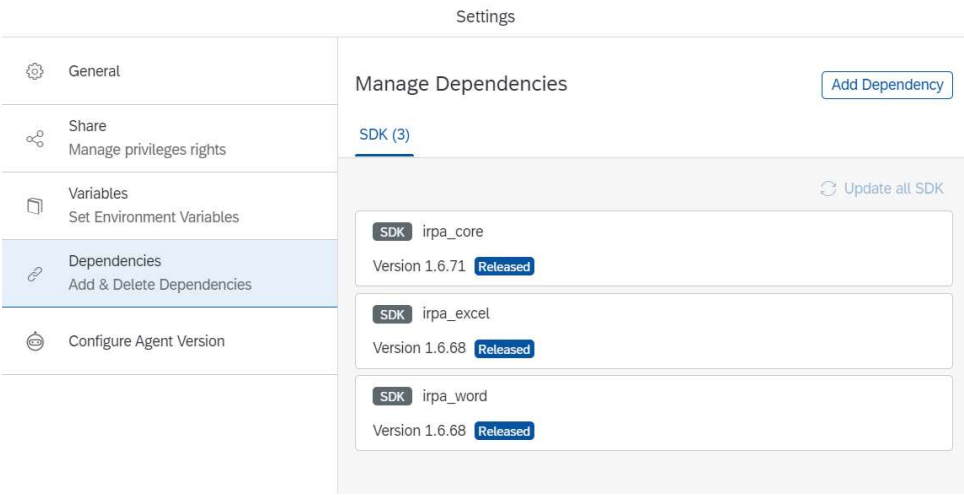
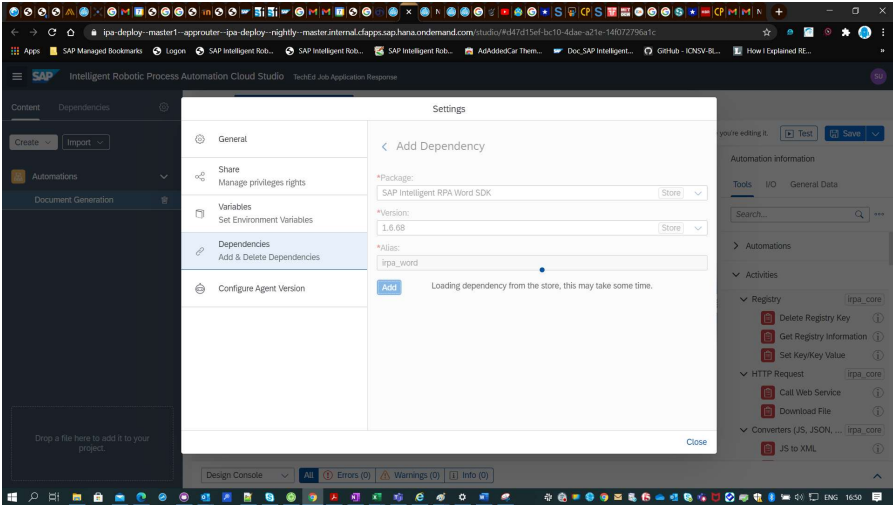
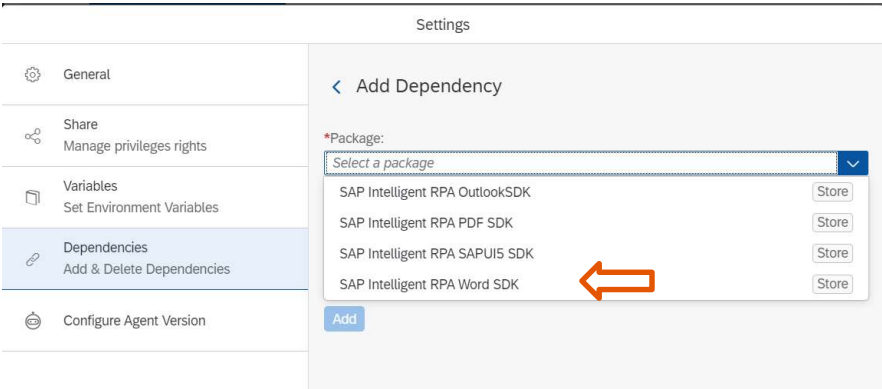
Click on **Add Dependency** icon.

The screenshot shows the SAP Intelligent Robotic Process Automation Cloud Studio interface. The top bar includes the SAP logo, the title "Intelligent Robotic Process Automation Cloud Studio", and a "TechED outlook" link. The left sidebar contains the "Project Explorer" with tabs for "Content" and "Dependencies". Under "Content", there are buttons for "Create" and "Import", and a list of items: "Automations" and "Search Emails". A red box highlights the "Settings" icon (a gear) in the "Dependencies" tab. The main area displays the "Settings" panel, which has a sidebar with options: "General", "Share", "Variables", "Dependencies", and "Configure Agent Version". The "Dependencies" section is active, showing "Manage Dependencies" with an "Add Dependency" button. Below this, there are two entries for SDKs: "irpa_core" (Version 1.6.71, Released) and "irpa_excel" (Version 1.6.68, Released). An "Update all SDK" button is visible at the bottom right of the SDK list.

From Package dropdown select SAP Intelligent RPA Word SDK. Select available Version.

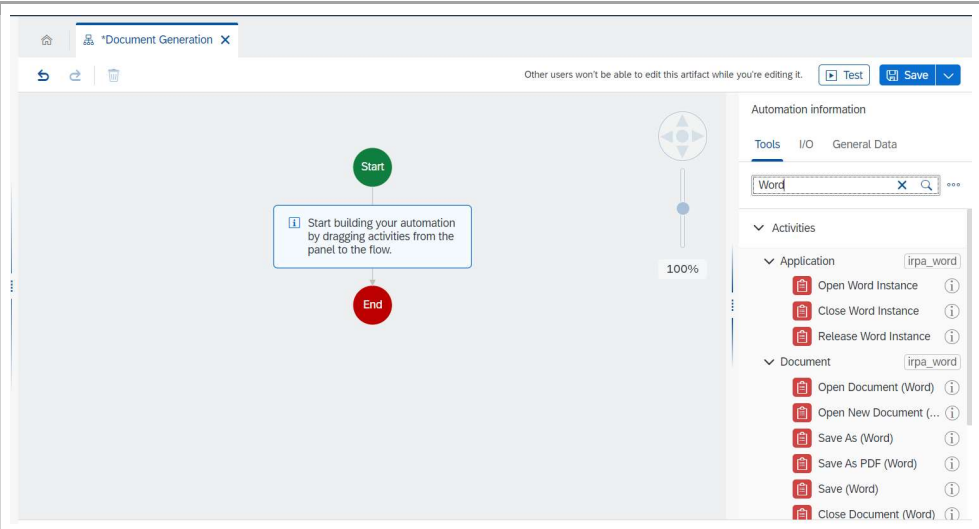
Click on Add button. This will add Word library in your current project scope.

Finally click on close.



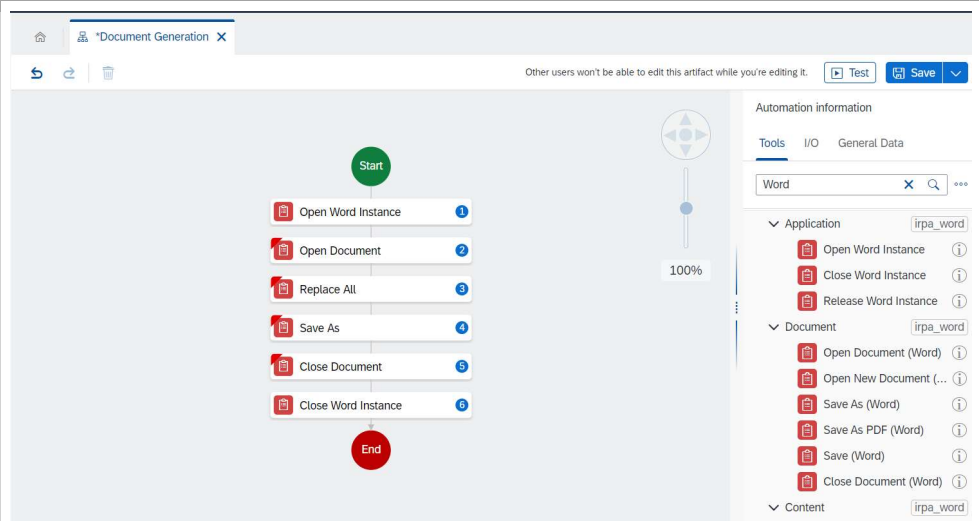
<p>In the right panel, tab I/O, Click on Add new input Parameter</p>	<div><h3>Automation information</h3><div>Tools I/O General Data</div><div><h4>Input parameters</h4><p>No input parameter defined for this Automation.</p><div>Add new input parameter</div></div><div><h4>Output parameters</h4><p>No output parameter defined for this Automation.</p><div>Add new output parameter</div></div></div>
<p>create an input parameter Name.</p>	<div><div>you're editing it.</div><div><div>▶ Test</div><div><div>💾 Save</div><div>▼</div></div></div><div><h3>Automation information</h3><div>Tools I/O General Data</div><div><h4>Input parameters</h4><div><div>Name</div><div>Description</div><div>String <div>✕ ▼</div></div><div><input type="checkbox"/> List <div>Delete input</div></div></div></div></div></div>

In the right panel of the Automation editor. **Filter** the activities with the keyword **Word**.

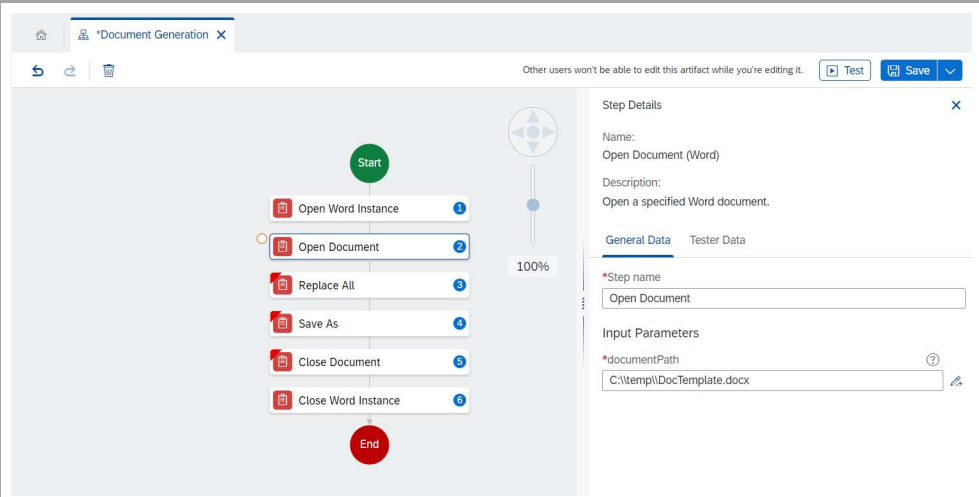


Drag and drop several activities in the main pane:

- Open Word instance
- Open Document
- Replace All
- Save As
- Close Document
- Close Word instance



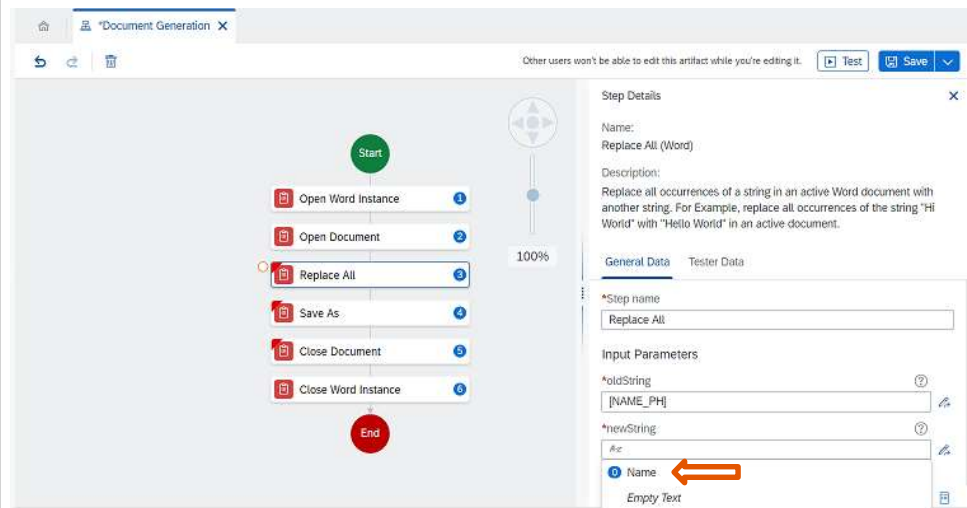
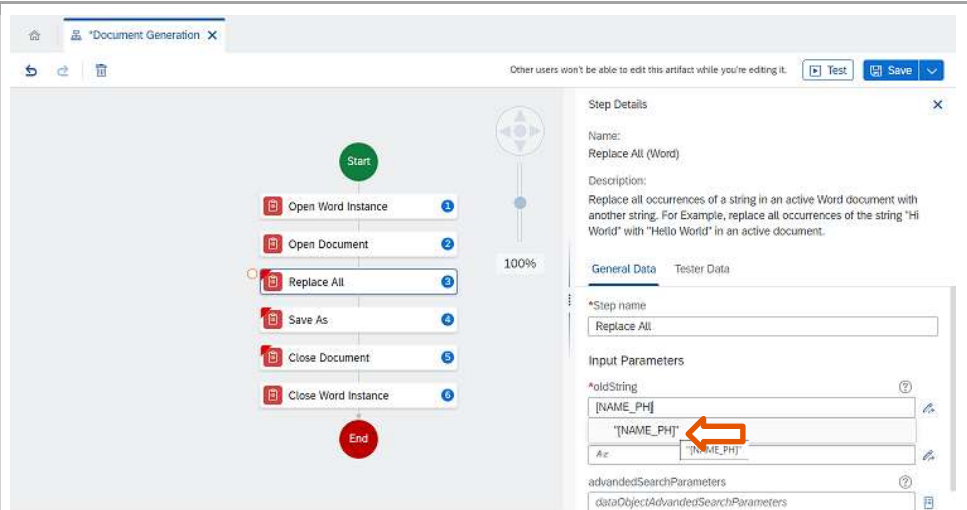
Click on activity **Open Document**, in the right panel, enter the parameter which is the local path of the word document given with the exercise.



Click on activity **Replace All**.

The parameter **oldString**'s value should be **[NAME_PH]**. This is the placeholder defined in the template WORD document.

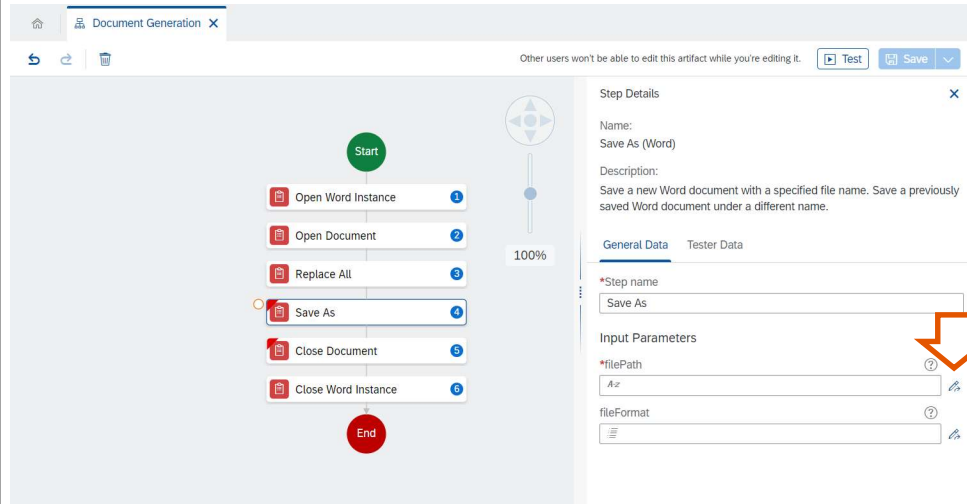
The parameter **newString** should take the input parameter **Name**.



Click on activity **Save As**.

For the parameter **filename**, click on the **expression editor** icon at the right.

It will open a popup



Put a path as you have decided, using the **Name** input parameter.

Test and Save Expression.

For the parameter **fileFormat**, choose **wdFormatPDF** in the dropdown list.

Edit Expression

'c:\\temp\\' + Step0.Name + '.pdf'

> Variables

> Operators

> Functions

For more information, [click here.](#)

Save Expression

Test

Cancel

*Document Generation

Start

Open Word Instance

Open Document

Replace All

Save As

Close Document

Close Word Instance

End

Step Details

Name: Save As (Word)

Description: Save a new Word document with a specified file name. Save a previously saved Word document under a different name.

General Data

*Step name Save As

Input Parameters

*filePath "C:\\temp\\" + Step0.Name + ".pdf"

fileFormat wdFormatPDF

Click on activity **Close Document**.

Enter the parameter **hasToBeSaved** as **false**.

*Document Generation

Start

Open Word Instance

Open Document

Replace All

Save As

Close Document

Close Word Instance

End

Step Details

Name: Close Document (Word)

Description: Close a specified Word document after saving the latest changes.

General Data

*Step name Close Document

Input Parameters

*hasToBeSaved false

<p>This automation is complete, you can save and test it.</p> <p>It should create a PDF for each execution. The content of the execution is the initialization of the template using the input name.</p>	
--	--

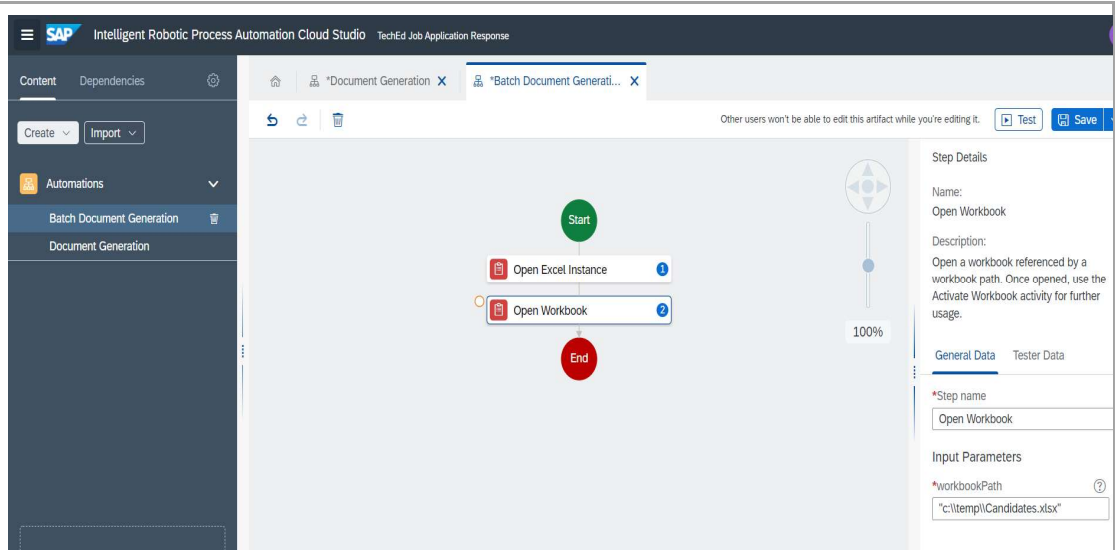
ADDING EXCEL ACTIVITIES

<p>Create another automation called Batch Document Generation.</p>	<div><div>Create Automation</div><div><div>*Name:</div><div>Batch Document Generation</div></div><div><div>*Identifier:</div><div>batchDocumentGeneration</div></div><div><div>Description:</div><div>e.g. An automation that books flights</div></div><div><div>Triggerable:</div><div><input checked="" type="checkbox"/></div></div><div><div>Create</div><div>Cancel</div></div></div>

In this Automation editor, add two activities:

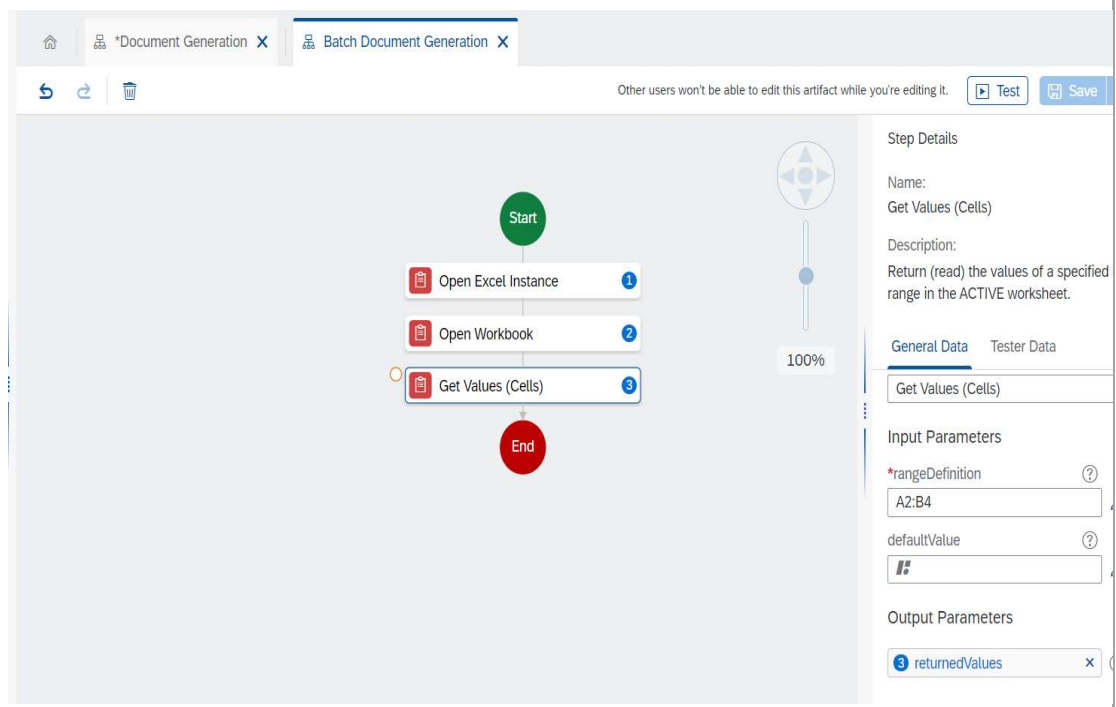
- Open Excel instance
- Open Workbook

For the activity **Open Workbook**, enter the parameter **workbookPath** with the path of the excel file provided with the exercise.



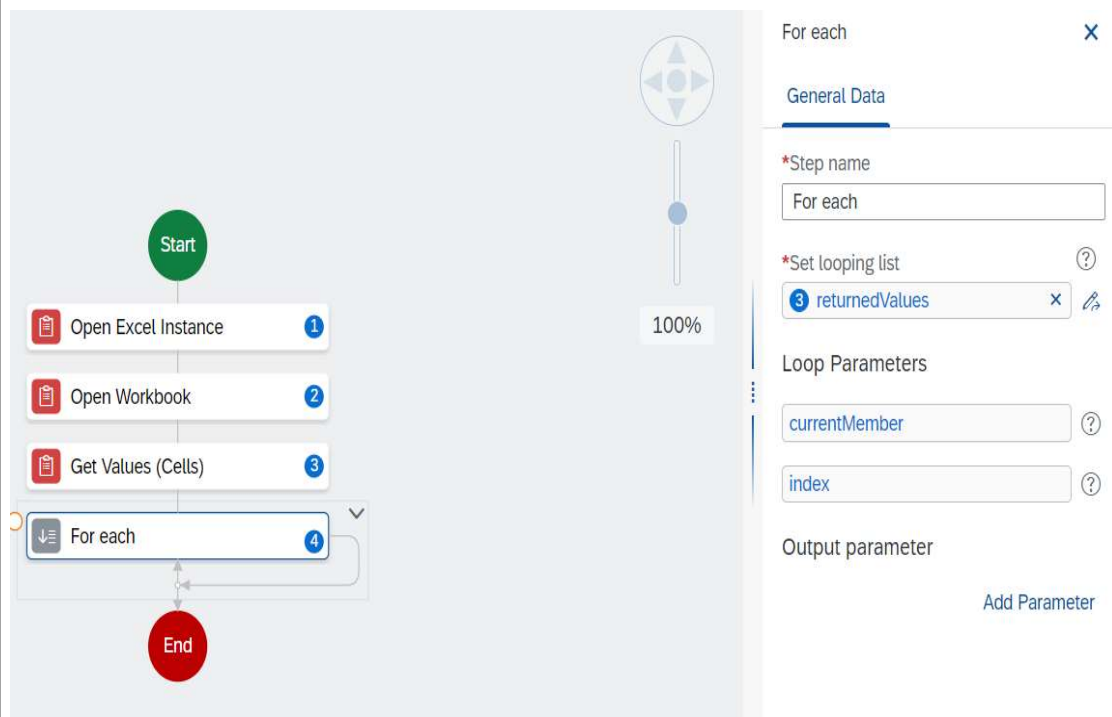
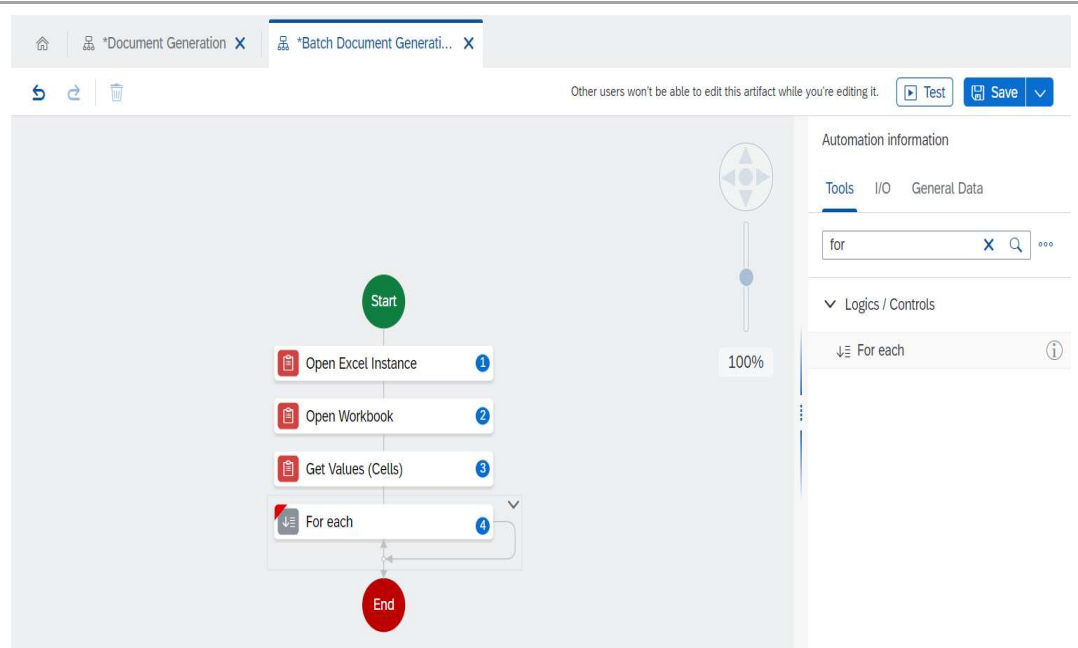
Add a new activity Get Values.

For the parameter **rangeDefinition**, enter the value **A2:B4**. It corresponds to the cells when job application candidates that need to be replied.

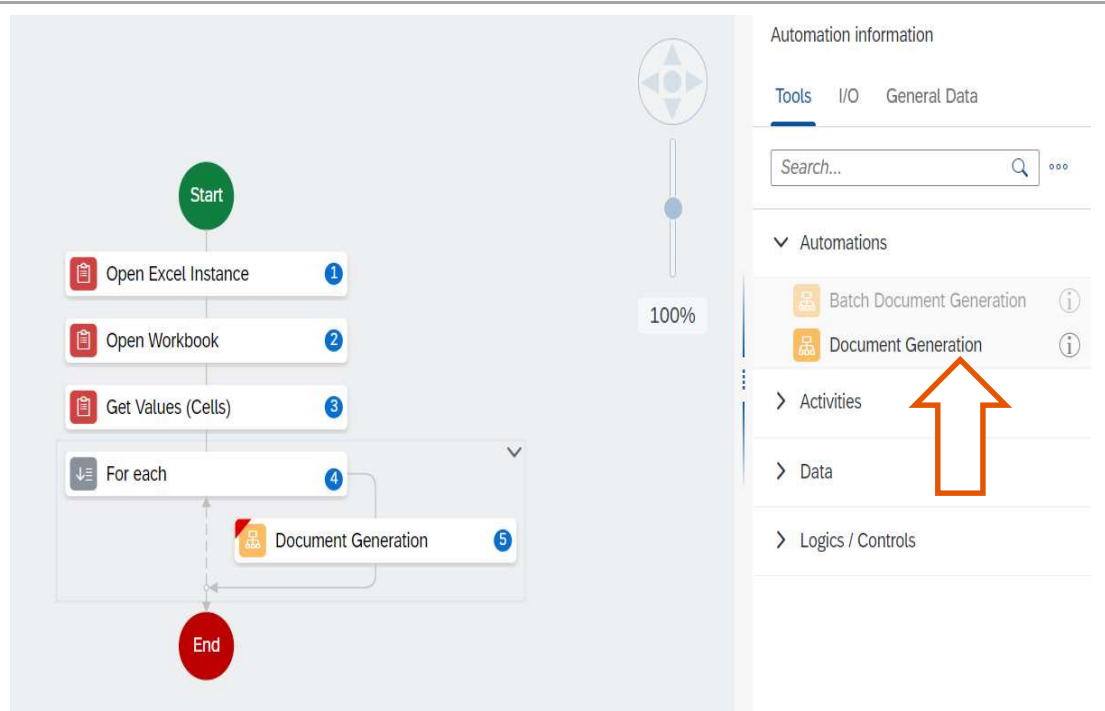


Drag and drop the logics/control activity **For each**.

Set the looping list as **returnedValue** from the Step 3. This corresponds to the list of candidates retrieved from the excel file.

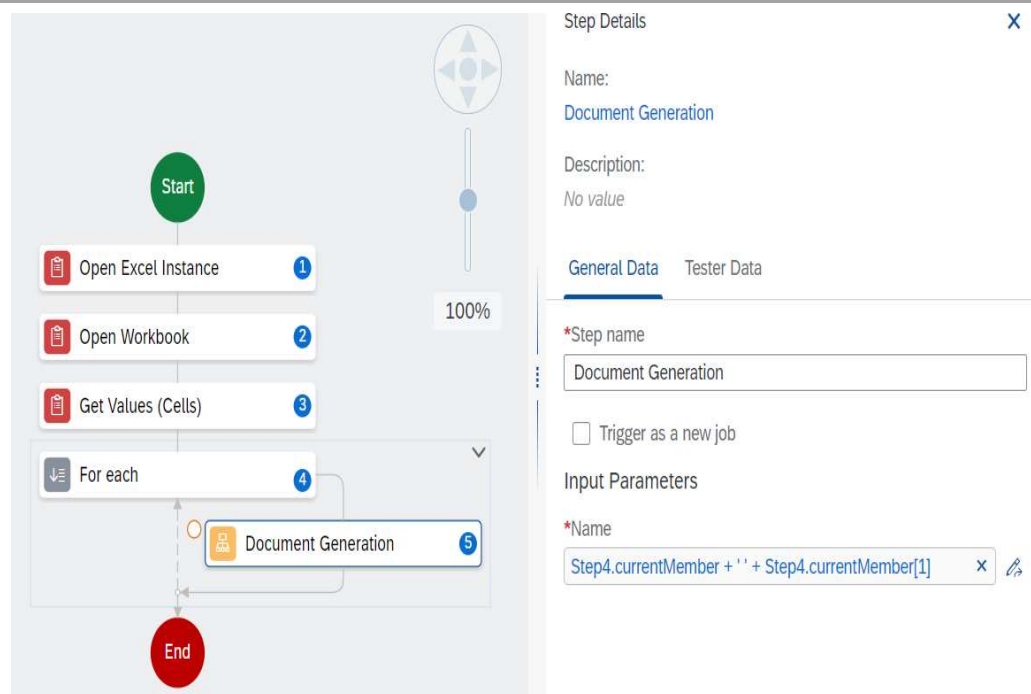


Now drag and drop the first automation Document Generation in the loop. From Right hand side Panel



Use the **expression editor** to provide the input value for the automation **Document Generation**.

This corresponds to the concatenation of first name and last name for each candidate.








	<div><div>Edit Expression</div><div><div>Step4.currentMember[0] + ' ' + Step4.currentMember[1]</div></div><div><div>> Variables</div><div>> Operators</div><div>> Functions</div></div><div><div>For more information, click here.</div><div>Save Expression</div><div>Test</div><div>Cancel</div></div></div>
<p>After the loop, add two other activities to close the excel file.</p> <p>For the activity Close Workbook, the parameter hasToSave should be false.</p>	<div><div><div><div>Start</div><div>Open Excel Instance1</div><div>Open Workbook2</div><div>Get Values (Cells)3</div><div>For each4</div><div>Document Generation5</div><div>Close Workbook6</div><div>Close Excel Instance7</div><div>End</div></div><div>100%</div></div><div><div>Step Details</div><div>Name: Document Generation</div><div>Description: No value</div><div>General DataTester Data</div><div>*Step name</div><div>Document Generation</div><div><input type="checkbox"/> Trigger as a new job</div><div>Input Parameters</div><div>*Name</div><div>Step4.currentMember + ' ' + Step4.currentMember[1]</div></div></div>
<p>You can now save and test the automation Batch Document Generation. It should</p>	<div><div>Other users won't be able to edit this artifact while you're editing it.</div><div>Test</div><div>Save</div><div>Other users won't be able to edit this artifact while you're editing it.</div><div>Test</div><div>Save</div></div>

generate as much responses as listed in the excel file.

Test Automation

*Environment:

Files

-  Alice Norton.pdf
-  Candidates.xlsx
-  DocTemplate.docx
-  John Barker.pdf
-  Paul Smith.pdf

RUN THE BOT

- Go to your project.
- Click on the **Home** button of the project
- Check that the conditions to generate a Package are fulfilled (ie. All values for error and warning are set to 0)

Document Generation x Batch Document Generation x

TechEd Job Application Response

Description	Creation Date	Author	Target Agent Version
No value			

Capture screens

Capture the screens of applications you want to use in your project.

Create new automation

Automate a simple sequence of repetitive tasks in an app to run on premises in a desktop agent.

Create process

Design Console

<ul style="list-style-type: none">Click on the Generate Package button on the right A dialog will open, again click on Generate Package Close the Project navigator tab	<div><div>Generate Package</div><div><div>*Name:</div><div>TechED Excel Demo</div></div><div><div>Description:</div><div>Enter Package Description</div></div><div><div>Version Number:</div><div>1.0.0</div></div><div><div>Generate Package</div><div>Cancel</div></div></div>
<p>Locate the generated package in the Packages tab.</p> <p>Click on Add Trigger to create a scheduled trigger:</p> <ul style="list-style-type: none">In “Select an Environment”, select the Environment you have previously created. Click on “Next”In “Select a trigger type”, chose Scheduled trigger	<div><div>HomeProjectsPackagesAgents ▾Environme</div><div>Packages (1)</div><div><div>TechED Excel Demo from</div><div>Version 1.0.0 ^{BETA} Preview</div></div><div>Create Trigger</div><div><div>1 Select an environment. — 2 Deploy — 3 Set Environment Variables — 4 Select a trigger type</div><div>TechEd</div><div>TechEd Demo Environment Test Updated just now.</div><div>Author su</div></div></div>

Create Trigger

1 Select an environment.

2 Deploy

3 Set Environment Variables

4 Select a trigger type

RPACHallenge1 Version 1.0.0

API

A trigger of type API opens a dedicated endpoint that allows an external application to execute a scenario or a process.

Attended

With an attended trigger, the deployed package is distributed to a specific group of agents, and users run the jobs manually.

Scheduled

With a scheduled trigger, the user does not need to start a job manually. Jobs are created according to the schedule you define in the trigger.

Previous

Next

Cancel

• For Execute, select from dropdown your automation to execute. Here “Batch Document Generation”

• Select **Date Range** from yesterday un til tomorrow and s ome Time period including today

• Click **Create**

Add Scheduled Trigger

*Name:

Scheduled_01

Description:

e.g. A scheduled trigger

*Execute:

Batch Document Generation

Automation

*Priority:

Batch Document Generation

Automation

Document Generation

Automation

*Date range:

Nov 7, 2020

Nov 14, 2020

*Timezone:

(UTC+05:30) Chennai, Kolkata, Mumbai, New Delhi

*Recurrence:

5

Minutes

*Jobs expire after:

60

Minutes

New job:

A new job will be added no matter what happens.

Midnight (AM)

Noon (PM)

12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12

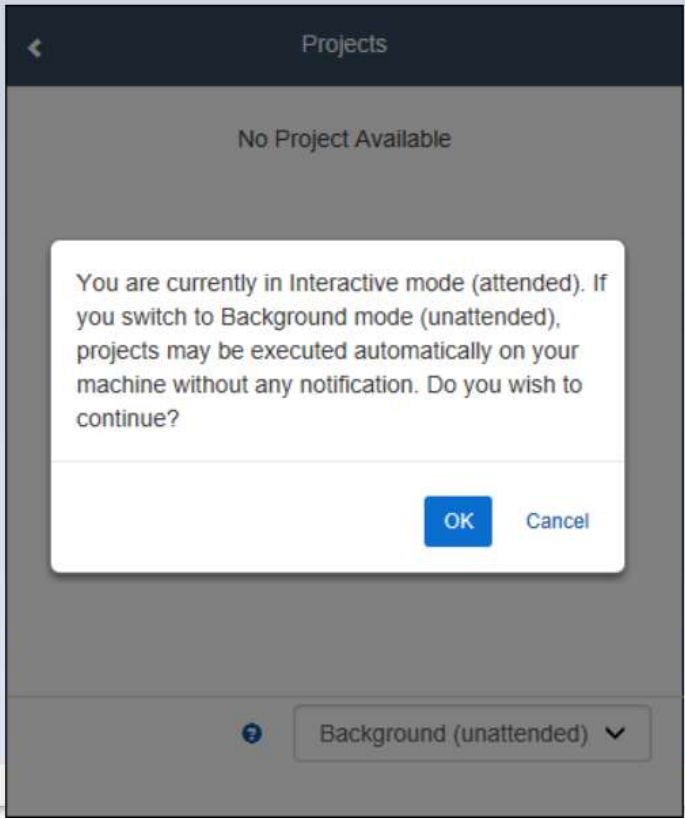
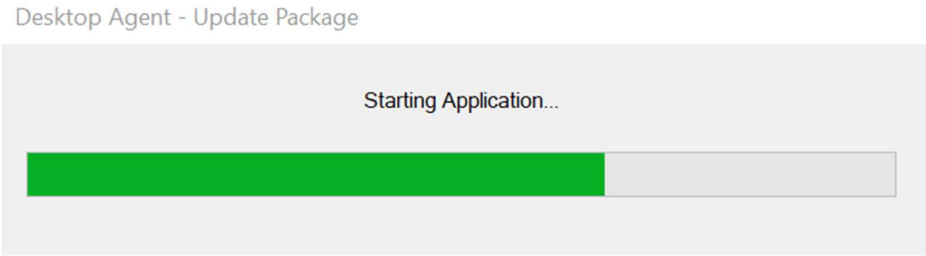
Sunday

Monday

Create

Cancel

19

<div><ul style="list-style-type: none">Start Desktop Agent (You will see a popup which indicates that the package is downloading)From the Factory, check in Agents/Agents table the default mode is Attended by default.From the systray, click on projects, then select 'Background (unattended)' and click on OK.</div>	<div><p>The screenshot shows a 'Projects' window with a dark header. The main area is grey and says 'No Project Available'. A white modal dialog is centered, containing the text: 'You are currently in Interactive mode (attended). If you switch to Background mode (unattended), projects may be executed automatically on your machine without any notification. Do you wish to continue?'. At the bottom of the dialog are 'OK' and 'Cancel' buttons. Below the dialog, in the window's footer, there is a dropdown menu currently set to 'Background (unattended)'.</p></div>
<div><p>Execute unattended process</p><p>Wait until job gets distributed and scenario gets executed successfully (3 – 5 min)</p></div>	<div><p>The screenshot shows a window titled 'Desktop Agent - Update Package'. Inside, it says 'Starting Application...'. Below this text is a horizontal progress bar that is approximately 75% full, with the filled portion in green.</p></div>

SUMMARY

You have completed the exercise!

You are now able to:

- ... create an automation using the Cloud Studio
- ... use automations to manipulate Excel sheets
- ... create an automation to manipulate word documents
- ... test and run your project

REFERENCES

Help portal for SAP Intelligent Robotic Process Automation: <https://help.sap.com/viewer/p/IRPA>

SAP Intelligent Robotic Process Automation on SAP Community:

<https://community.sap.com/topics/intelligent-rpa>

www.sap.com/contactsap

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