



# RPA Challenge

Project name: RPA Challenge

Package version: 1.1.3

Version	Date	Description
0	October 12, 2020	Document created
1.1	March 08, 2021	Change template Add information about SDK dependencies
1.2	August 12, 2021	Changing the version of the package
1.3	September 30, 2021	Add automation "Execute OCR Challenge"

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## INTRODUCTION

This document describes the SAP Build Process Automation sample **RPA Challenge** 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.

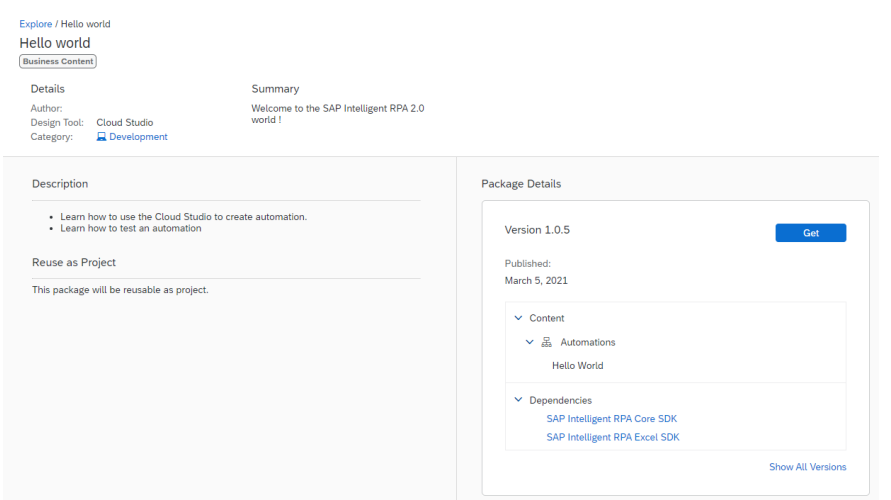
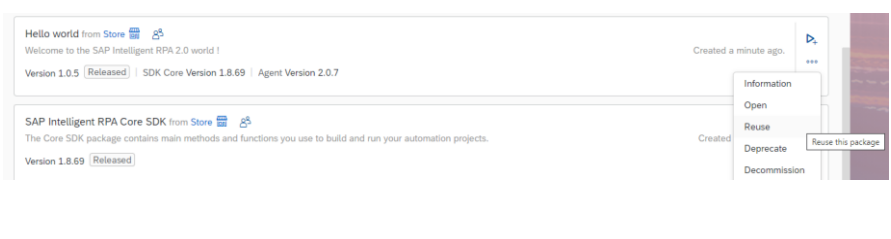
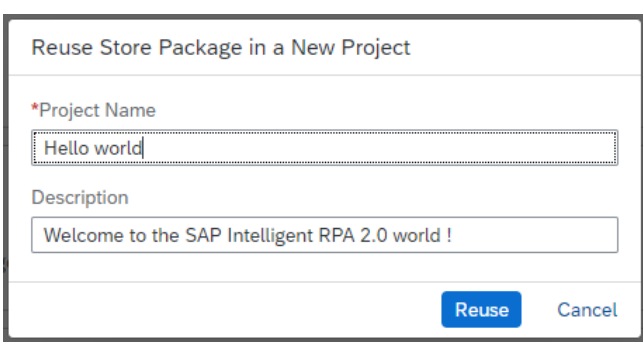
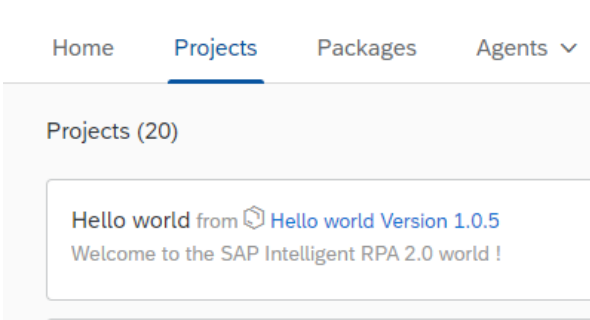
# IMPORTANT RECOMMENDATION

## 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.*

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

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

Name	Description	Type
challengeFilePath	Location where the Excel file is downloaded from the rpachallenge.com website	String

#### 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.

#### RPA Challenge

Type: WEB

Framework: None

Screen	Description
Main	All fields of the form are declared using a pattern: DIV > INPUT The criterion is set on the parent DIV ( <u>ex</u> : Text equals to "Address")  The <i>btSubmit</i> item uses the <b>Must Exist</b> option.
Results	The <i>btReset</i> item uses the <b>Must Exist</b> option.

#### Automation Challenge OCR

Type: WEB

Framework: None

Screen	Description
Main	There are 2 captures of this screen as the last page in the challenge contains the submit button.
Results	The <i>Success Container</i> item uses the <b>Must Exist</b> option.

#### Chrome

Type: UI Automation

Framework: None

Screen	Description
Main	A subscreen has been declared as the Open popup is capture, so the bot can select the file to be uploaded at the very end of the challenge.

## 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.

### Person

Name of attribute	Type	Description
Firstname	String	
Lastname	String	
Company	String	
Role	String	
Address	String	
Email	String	
Phone	String	

### Invoice

Name of attribute	Type	Description
InvoiceNo	String	
InvoiceDate	String	
Total	String	
CompanyName	String	
DueDate	String	
ID	String	

## Automations

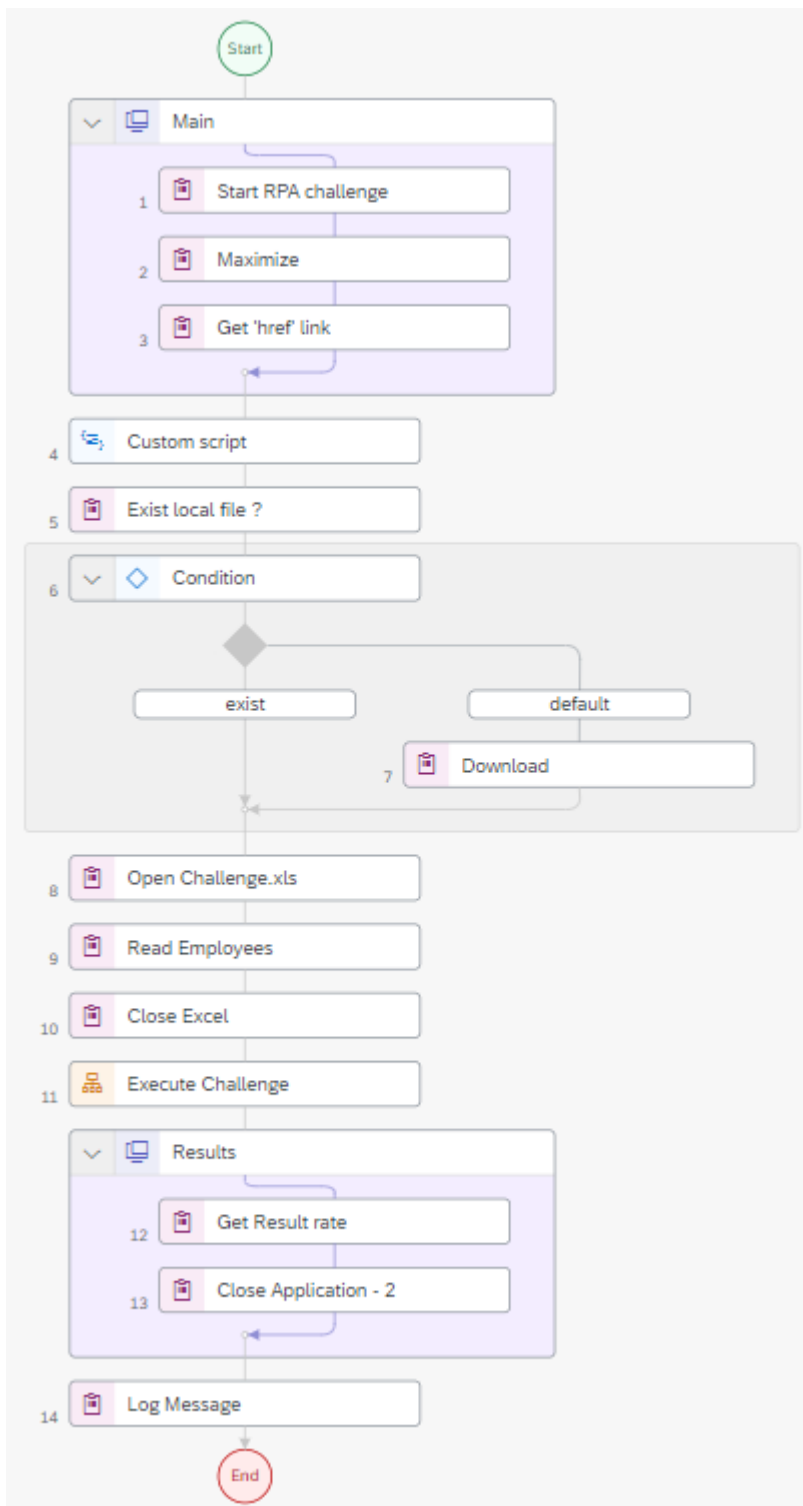
### Run RPA Challenge

**Type:** Attended

**Input:** None

**Output:** A list of "person" objects





First the agent starts the application *rpachallenge.com* in a web browser and then downloads the Excel file if it does not already exist in the file system (at the location defined by the environment variable)

The agent read the Excel file and create a list of Person objects. Then there is a nested automation named **Execute Challenge** which takes the array as input parameter (see next paragraph).

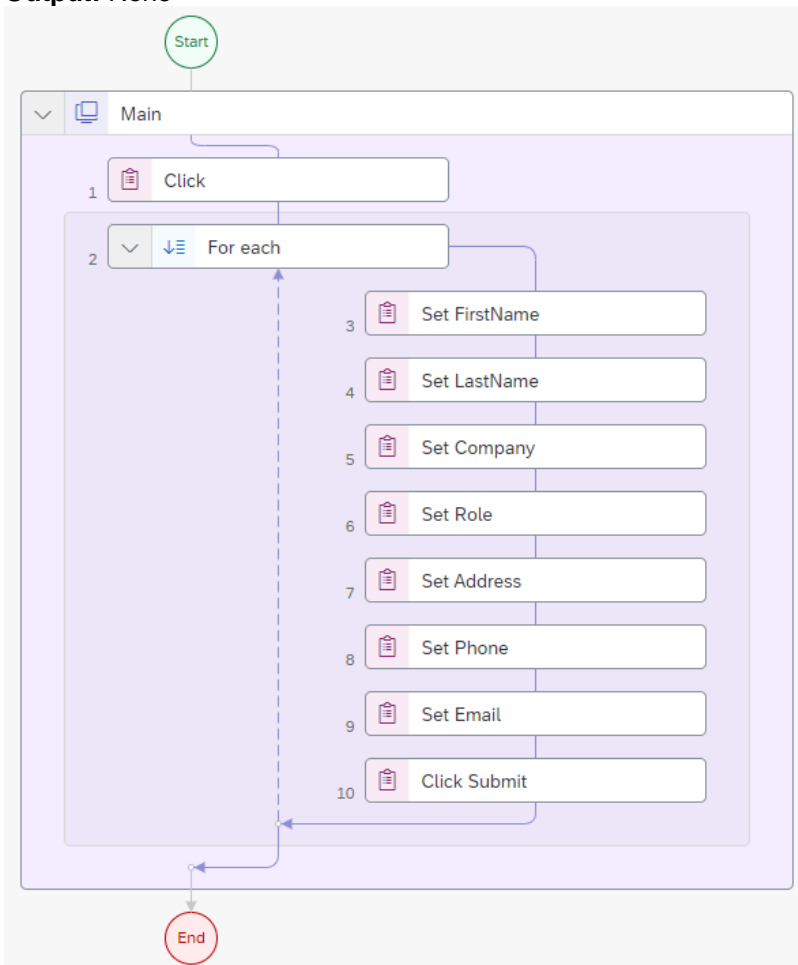
*Note: this automation is synchronous, that's to say the agent waits for its end before resuming the current automation.*

When the challenge is completed, the agent reads the result and displays it in the console.

### **Execute Challenge**

**Input:** List of Person objects

**Output:** None



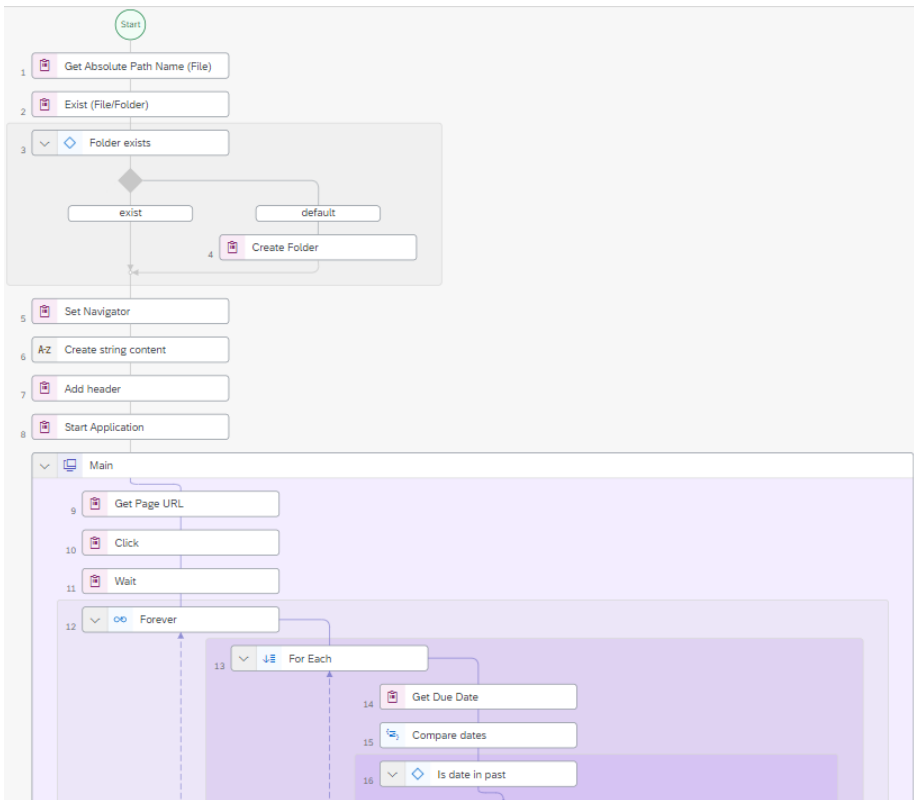
The agent clicks on the Start button to launch the timer of the RPA Challenge. Then for each object in the input parameter, it will fill the form with the person's data and click on "Submit". Once the agent reaches the end of the loop, this automation ends.

### **Execute OCR Challenge**

**Type:** Attended

**Input:** None

**Output:** Score of the challenge (string)

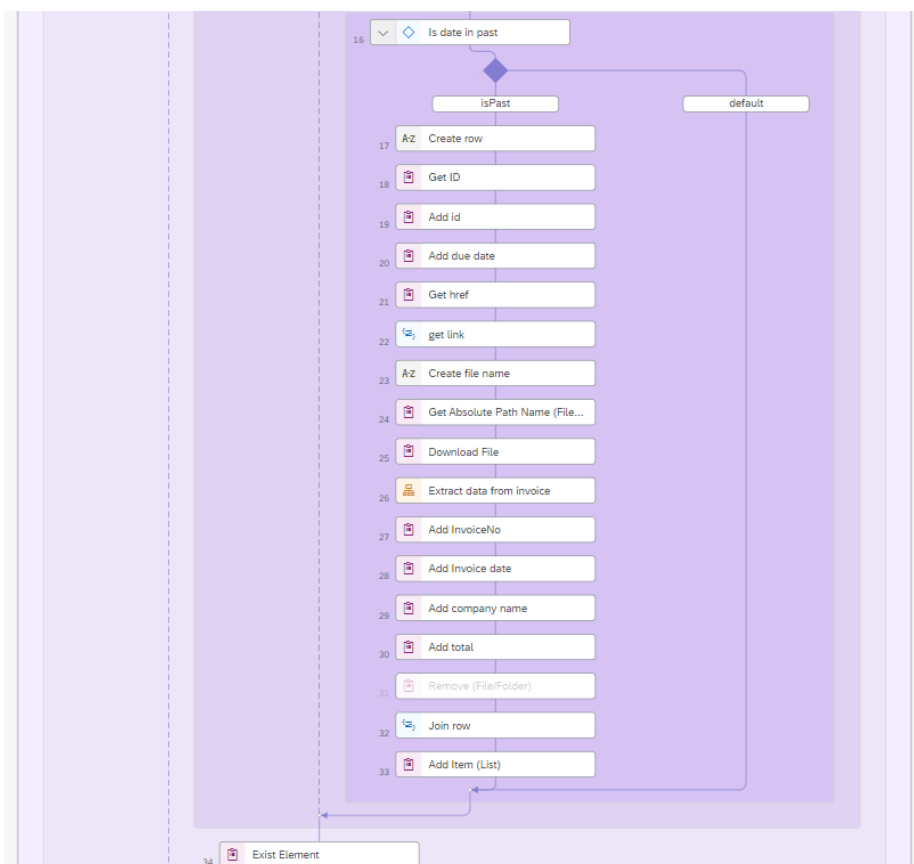


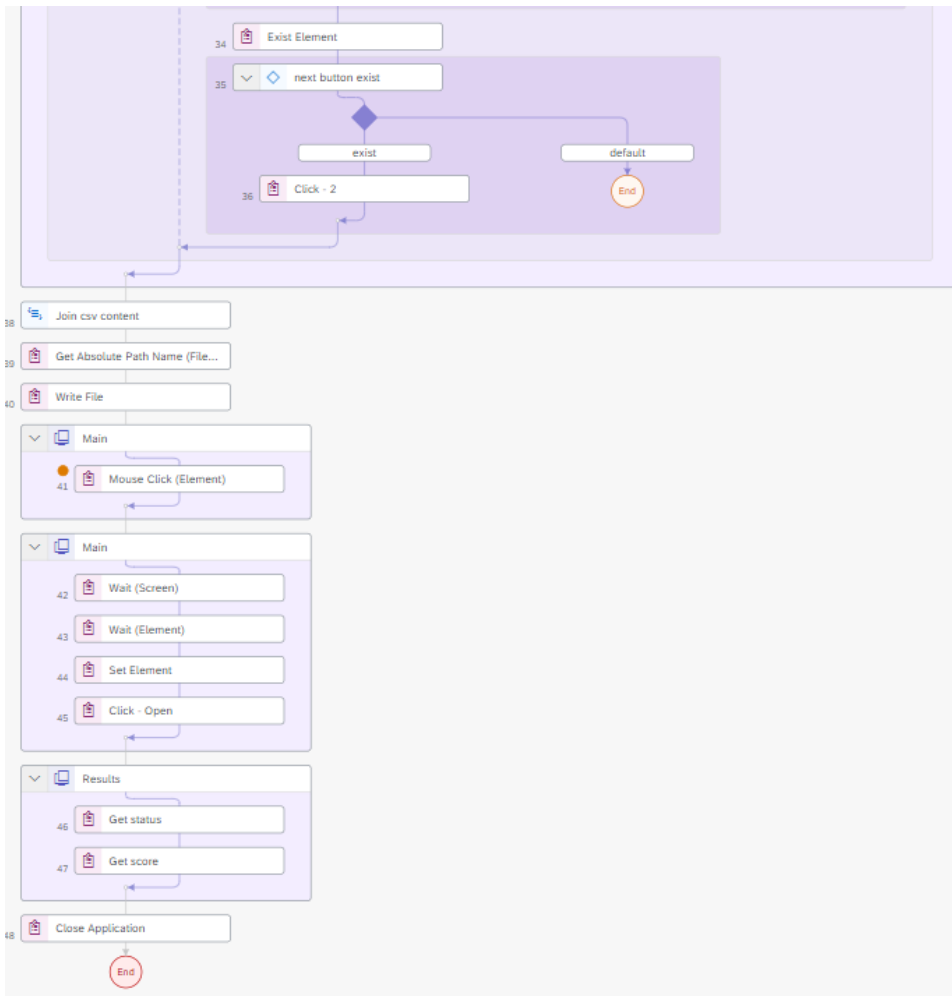
The agent clicks on the START button and then wait for the table to reload.

Then it will do the following for each page until it reaches the last one. The bot will process each row of the table:

if the due date is past or today then it reads the id of the row, and download the jpg document to extract its data

The bot will also build a CSV file using the extracted data, and submit it at the end of the challenge, and read the score.



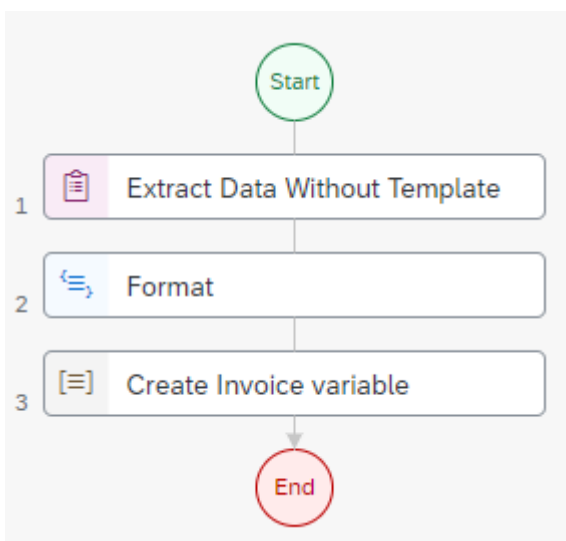


**Extract data from invoice**

**Type:** Attended

**Input:** path of the file to be processed

**Output:** Data extracted from the invoice



The bot executes the activity “Extract Data Without Template”.

Then we are using a custom script activity to correctly format the datas (ex: dates)

## 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 **2.0.7** or higher.

The following SDK dependencies were used to generate this sample: 1.17.36

See [documentation](#) for more details about the compatibility between SDK version and Desktop Agent.Target application

Application	Version
rpachallenge.com	N/A Date of last test: November 24, 2021

## 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

- When you deploy your package, set the environment variable **challengeFilePath** with the path that will be used to store the Excel file downloaded from the [rpachallenge.com](http://rpachallenge.com) website.

For instance:

Create Trigger

---

1 Select an environment. — 2 Deploy — **3 Set Environment Variables** — 4 Select a trigger type

---

**i** This step is not mandatory to create a trigger. However some triggers may require information to be properly executed.

---

RPA Challenge Version 1.0.1

<b>challengeFilePath</b> in RPA Challenge 1.0.1	Datatype: string
<input checked="" type="radio"/> Set new value <input type="radio"/> Use existing value	
string:	
<input type="text" value="C:/Dev/samples_docs/challenge.xlsx"/>	

- Set the environment variable **challengeOcrFolder** with the path of the folder which will contain the invoices to be downloaded and processed.

Also, check [the documentation](#) to make sure the Document Information Extraction service is enabled on your tenant so you can use the dedicated activities to extract data from the invoices.

## EXPECTED OUTPUT

At the end of the execution, the following screen should be displayed:

# Congratulations!

Your success rate is 100% ( 70 out of 70 fields) in 590 milliseconds

Note: the duration might change, depending on your machine configuration.

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