

IBM Cloud Pak for Business Automation Demos and Labs 2023

Orchestrating scripts in IBM RPA

V 1.2

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1 Introduction

IBM RPA provides a comprehensive set of Robotic Process Automation (RPA) features:

- Unattended bots**
Use an RPA-driven digital workforce to automate repetitive tasks without human intervention.
- Attended bots**
Remote Desktop Automation (RDA) enables a human workforce to augment work using bots to perform repetitive tasks on demand.
- Orchestrating Scripts**
Combine message queues with the orchestrator technology in your IBM RPA Control Center environment to orchestrate scripts.
- Workflows in IBM RPA**
Combine BPMN files or create your own workflows in IBM RPA Studio and integrate them into scripts that implement the workflow process in IBM RPA.
- Optical Character Recognition (OCR)**
Process documents by extracting structured data from unstructured content.
- Dashboards**
Gain business insights into business operations.

With IBM RPA, IBM can provide customers with additional benefits:

- Faster time to value**
Speed and simplicity of purchasing and deploying through easier licensing.
- A comprehensive platform to automate all types of use cases**
Tighter integrations between RPA and the rest of IBM business automation platform.
- Automate business and IT processes**
Expand the IBM business automation mission to IT use cases.
- Operationalize AI**
Fulfill IBM's vision of operationalizing AI in every aspect of the business.

You can explore the [Documentation](#) to understand more details about IBM RPA.

2 Process Overview

The objective of this lab exercise is to demonstrate in practice how to use IBM RPA Orchestrator. The orchestration process leverages message queues capability of serving messages of multiple customers. It can consume messages from the message queue with the guarantee that each bot will always process independent and exclusive messages.

In this lab, we will automate the customer and service registration process, and it will be divided into three steps:



3 Pre-requisites

For this lab, you need to reserve an **IBM Robotic Process Automation** environment from IBM Technology Zone (see chapter 4). All the pre-requisites have been pre-installed/configured in the lab template. The information below is just for information purposes.

IBM Products:

- IBM Robotic Process Automation v23.0.x.

Custom Solutions/Code:

- The important files to run this lab are in [C:\CP4AutoDemo\Lab 3 - Orchestrating Scripts in IBM RPA](#)
 - data.csv***: Spreadsheet with customer data and services that will be processed.
 - script_01_getData.wal***: Script responsible for obtaining data from the csv spreadsheet.
 - script_02_clientManagement.wal***: Script responsible for registering the customer in the Customer Management application.
 - script_03_servicesManagement.wal***: Script responsible for registering the service in the Services Management application.
- A Java swing application simulating the backend, third-party system for the Client Management System.
- A web application simulating the backend, third-party Services Management System for managing the services a client has signed up to.

3.1 References

1. [IBM Robotic Process Automation Documentation](#)
2. [IBM Robotic Process Automation Command Documentation](#)
3. [IBM Robotic Process Automation Orchestrating Scripts](#)

4 Accessing the Environment

If you have already reserved a lab environment from IBM Technology Zone, please go to [Chapter 5](#) directly.

4.1 Reserve Environment

To get started with this lab, please follow the below steps to reserve an environment:

1. Click [here](#) to open IBM Technology Zone Reservation portal. You need to use your IBMID to login to the portal.

The screenshot shows the 'Overview' page for the 'IBM Business Automation - Traditional and On-Premises' resource. The left sidebar includes links for Overview, Resources, Environments, Metadata, and Comments. The main content area displays the resource title, a star rating of 4.5 stars from 11 reviews, and a brief description. It also lists included components like BAW 23.0.1 and various IBM software versions. At the bottom, there are 'Rate this resource' and 'Share' buttons.

2. Click **Environments** on the left panel, and then reserve the last environment on click the blue button.

The screenshot shows the 'Environments' page for the same resource. The left sidebar has 'Environments' selected. The main content area lists three environments: 'Ibmcloud 2: us-east, jp-tok, eu-de' (Oct 8, 2023), 'Ibmcloud 2: us-east, jp-tok, eu-de' (Oct 8, 2023), and 'Ibmcloud 2' (Oct 8, 2023). Each environment card includes a brief description and visibility information. The third environment card's 'Reserve' button is highlighted with a red box.

3. Select **Reserve for now**, then click **Submit**.

Select a environment/infrastructure Select a reservation type Fill out your reservation Complete

Select your reservation type. Do you need this now or later?

Single environment reservation options:

Reserve now Schedule for later

Cancel Reset Submit

4. On the reservation page, make the appropriate selections as below. Once done, click **Submit**.

Purpose: Select Practice/Self-Education.

Purpose description: Enter something like **Self Education**.

End date and time: Select the end date and time that the environment will be deleted.

Preferred Geography: Select the geography where your environment will be created. To get a better network connection, select the same geography as where you are located in.

Name
IBM Robotic Process Automation Hands-on Lab
Name this reservation. This will help identify it in your reservation list.

Purpose Practice / Self-Education
Please select the purpose for this activity

Purpose description
Self Education

What are you doing? Why do you need this? What are you trying to accomplish?

End date and time
Selected a date Select a time America/Los_Angeles

Available for up to 2 weeks (336 hours)

Preferred Geography
Cloud Pak for Business Automation (CP4BA) Onboarding - RPA (APAC-2)

Notes
Enter any notes you'd like to attach to this reservation

Cancel Reset Submit

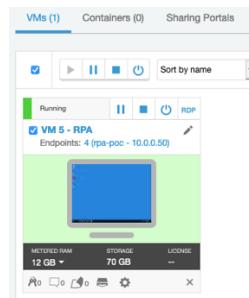
- Once you have reserved an environment, you will receive an email with a link to access the environment's management console, including a password (**Desktop URL** and **password**). It also contains a URL to access the IBM RPA REST Service remotely.

The screenshot shows the 'IBM Technology Zone' status update page. It displays the following information:

- Status Update:** Ready
- Environment Name:** IBM Robotic Process Automation Hands-on Lab
- Collection URL:** <https://techzone.ibm.com/collection/629f44da1e3a28001e486a46>
- Start Date :** 2022-10-13 08:08:00 (UTC Time)
- End Date :** 2022-10-14 08:08:00 (UTC Time)
- Desktop URL:** <https://cloud.skytap.com/vms/qaadd3b4c631e47391cb28d062db2782/desktops>
- Desktop password:** Zhn7eadz
- Environment ID:** 134675160
- Environment name:** DTE2_2174791_HOUBF_2022-10-13 08:08:00_2022-10-14 08:08:00

A red box highlights the Desktop URL and the password.

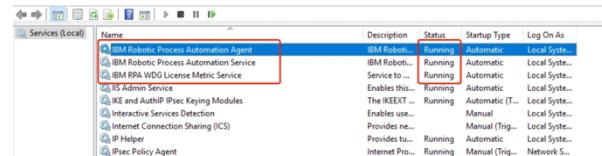
- Click the desktop access link above to open your environment. When you are prompted to enter the environment password, please enter the desktop password above. Click ▶ icon and wait a few minutes, your environment will be started as below.



- Click **VM 5 – RPA** to open the Windows environment in the web browser.
- Click the Service icon  from Windows system toolbar.



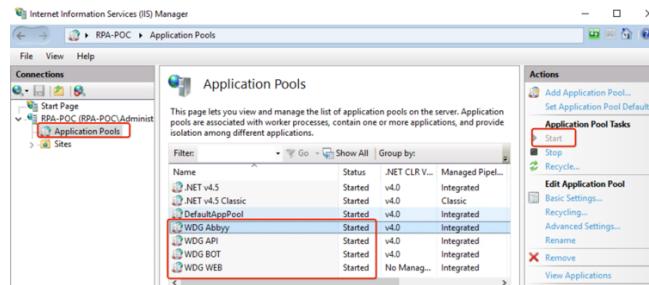
9. Check and ensure that the **IBM Robotic Process Automation Agent**, **IBM Robotic Process Automation Service**, **IBM RPA WDG License Metric Service** are in running status through Windows Service Manager. Please start them if they are not running.



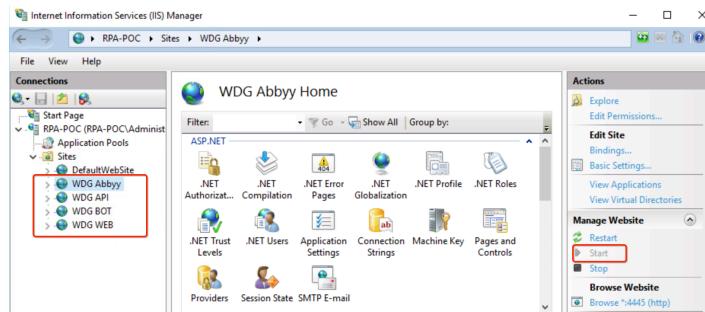
10. Click Internet Information Service (IIS) Manager icon from the Windows system toolbar.



11. Check **application pools** are in started status. Click the **Start** button in the right panel to start those that may not have been started.



12. Check that the **Sites** shown below have been started. Click the **Start** button in the right panel to start those that may not have been started.



5 Build it yourself – Step-by-step instructions.

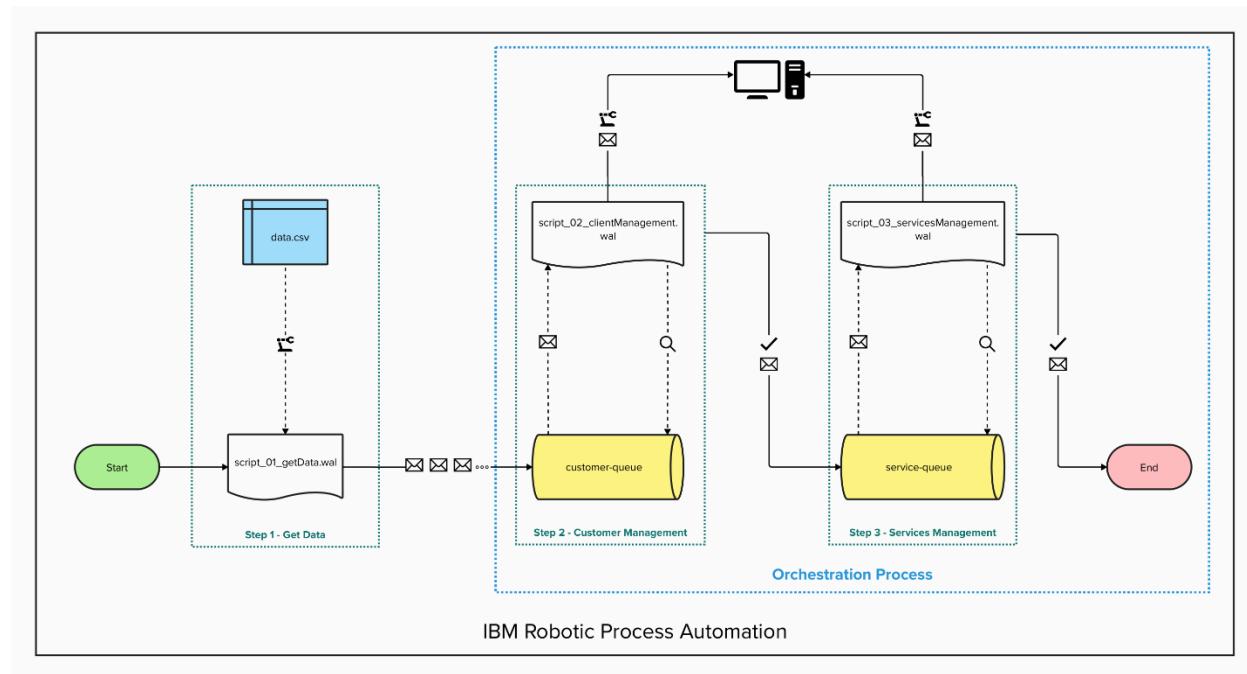
5.1 Architecture Overview

Keeping the focus on the proposal of this lab exercise, it will not be necessary to create the entire mapping of the systems involved in the process, the exercises are aimed at the practical use of Orchestration in IBM RPA. See [Orchestrating Scripts do IBM RPA](#) for more details on their features and usage.

Based on the process, the bot architecture will also be divided into three parts:

- **Step 1 – Get Data:**
This is the initial step of the process, where the *script_01_getData.wal* will be executed to obtain all the data for processing from the *data.csv* sheet.
- **Step 2 – Customer Management:**
The customers data obtained from the spreadsheet will be queued in the *customer-queue*, and subsequently consumed by the *script_02_clientManagement.wal*.
- **Step 3 – Services Management:**
Now that the client has been registered, the *service-queue* receives the service, which will be consumed by the *script_03_servicesManagement.wal*.

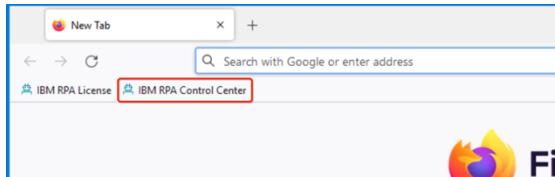
Important: The last two parts of the process (step 2 and 3) will be managed and executed by the IBM RPA Orchestrator. It is responsible for validating in each queue, the existence of any client or service to be executed, including identifying whether there is or not a machine available to run the robot.



5.2 Exercise 1: Create Queues

As previously described, the IBM RPA Orchestrator uses the concept of queues as a basis to execute the process. Therefore, the first exercise will be to create the two queues in the IBM RPA Control Center:

5.2.1 Open Control Center



#	Description
1	Start Firefox and click IBM RPA Control Center

5.2.2 Enter username.



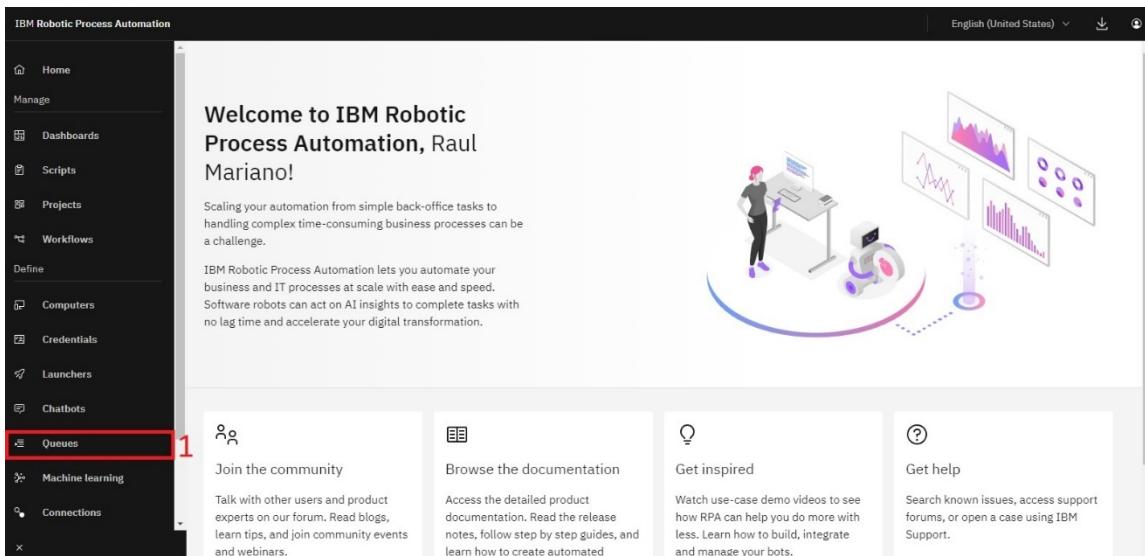
#	Description
1	Enter the “ admin@rpa-poc.com ” as the Username
2	Click Continue

5.2.3 Enter Tenant and Password



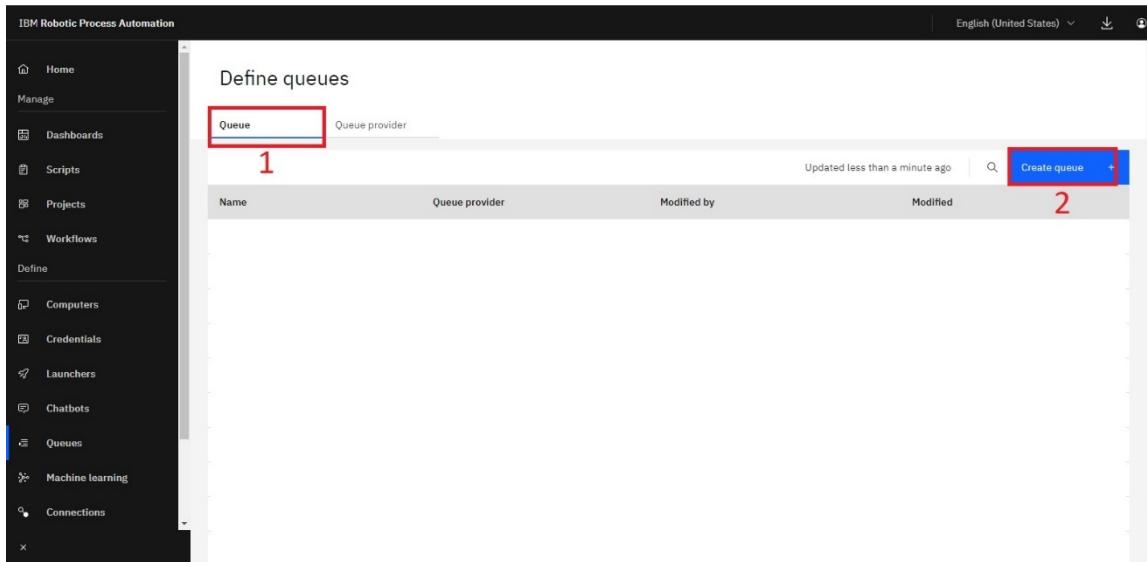
#	Description
1	Enter the “ <i>rpa-poc</i> ” as the Tenant
2	Enter “ <i>passw0rd</i> ” (make sure to use a zero not an uppercase o) as the Password
3	Click Login

5.2.4 Open the **Queues** menu.



#	Description
1	Click on the Queues menu

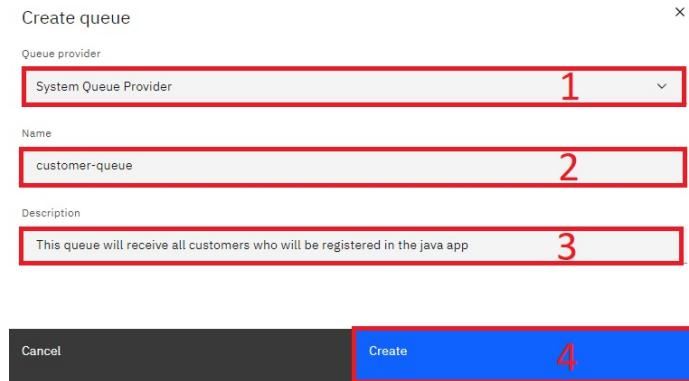
5.2.5 Creating the customer queue



The screenshot shows the 'Define queues' page in the IBM RPA interface. The left sidebar has a dark theme with various categories like Home, Manage, Dashboards, Scripts, Projects, Workflows, Define, Computers, Credentials, Launchers, Chatbots, Queues, Machine learning, and Connections. The 'Queues' category is under 'Define'. The main area is titled 'Define queues' and shows a table with columns: Name, Queue provider, Modified by, and Modified. There is one row currently listed. At the top right, there is a search bar, a 'Create queue' button with a '+' icon, and other navigation links. Red boxes with numbers 1 and 2 are overlaid on the screenshot to indicate specific steps.

#	Description
1	Confirm that the Queue tab is selected
2	Click the Create queue button

5.2.6 Create customer-queue.



The screenshot shows the 'Create queue' dialog box. It has three input fields: 'Queue provider' (set to 'System Queue Provider'), 'Name' (set to 'customer-queue'), and 'Description' (set to 'This queue will receive all customers who will be registered in the java app'). At the bottom, there are 'Cancel' and 'Create' buttons, with the 'Create' button being highlighted by a red box labeled '4'.

#	Description
1	Enter the “ <i>System Queue Provider</i> ” as the Queue provider
2	Write “ <i>customer-queue</i> ” in the Name field
3	Write a brief description about the queue
4	Click the Create button

5.2.7 Check the message.

#	Description
1	Confirm success message
2	Click the Create queue button to also add the service queue

5.2.8 Creating the Service Queue

#	Description
1	Enter the “ <i>System Queue Provider</i> ” as the Queue provider
2	Write “ <i>service-queue</i> ” in the field Name
3	Write a brief description about the queue
4	Click the Create button

5.2.9 Check the queues.

The screenshot shows the 'Define queues' page in the IBM Robotic Process Automation interface. The URL is br1app.wdautomation.com/#/en-US/queues/queues. The left sidebar shows 'Manage' sections: Home, Dashboards, Scripts, Projects, Workflows, Define, Computers, and Credentials. The main area has tabs 'Queue' and 'Queue provider'. The Queue tab is selected. The grid shows two rows:

Name	Queue provider	Modified by	Modified
service-queue	System Queue Provider	Raul Mariano	09/27/2023
customer-queue	System Queue Provider	Raul Mariano	09/27/2023

#	Description
1	Confirm success message
2	Confirm the registration of the two queues that we will use in the grid

5.3 Exercise 2: Add commands to queue data.

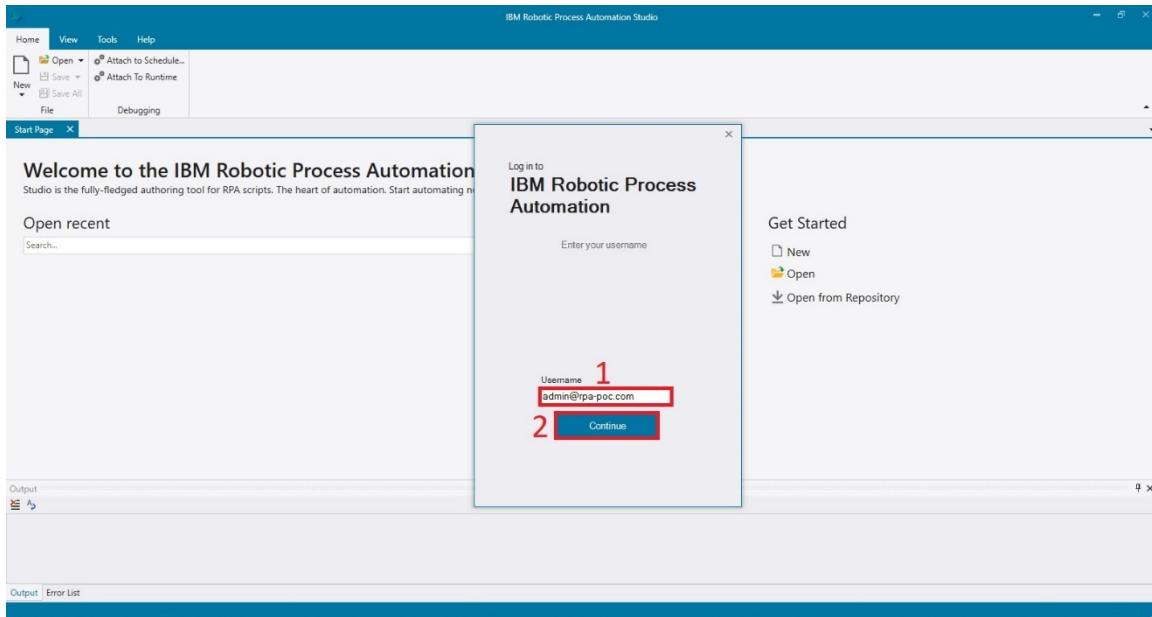
As presented in the [Architecture Overview](#), the entire mapping of artifacts involved in the process are already ready. So, in this exercise, we will edit each of the scripts to include only the unique commands for using the IBM RPA Orchestrator:

5.3.1 Open IBM RPA Studio



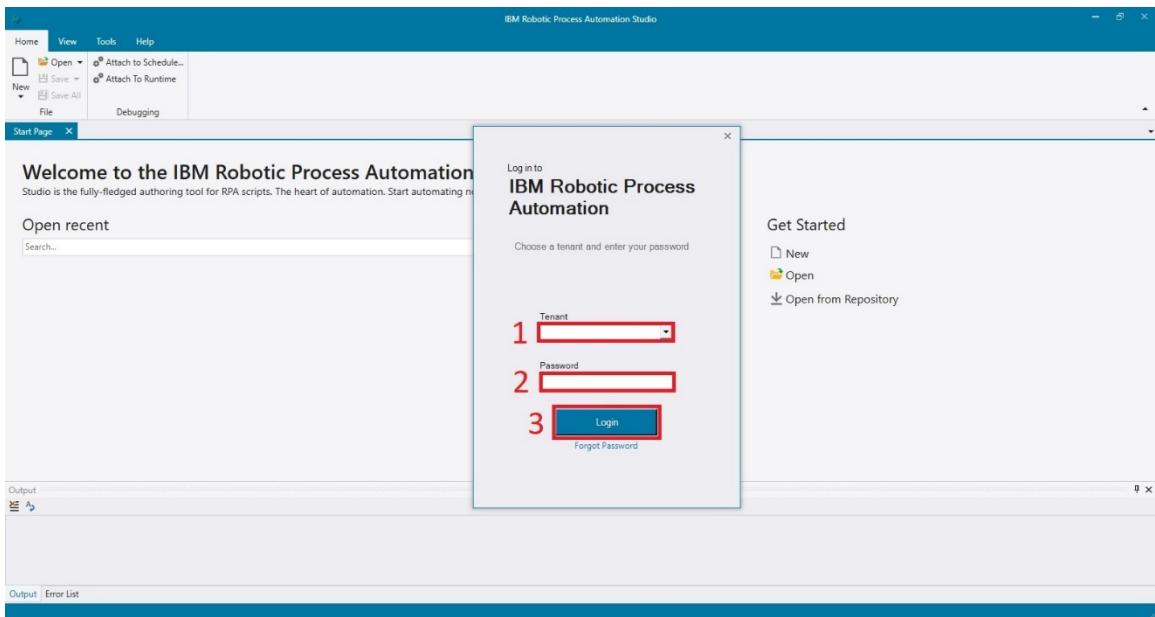
#	Description
1	Start the IBM RPA Studio by clicking the Studio icon on the Windows desktop

5.3.2 Inform the user.



#	Description
1	Write “ admin@admin@rpa-poc.com ” in the Username field and press [enter]
2	Click the Continue button

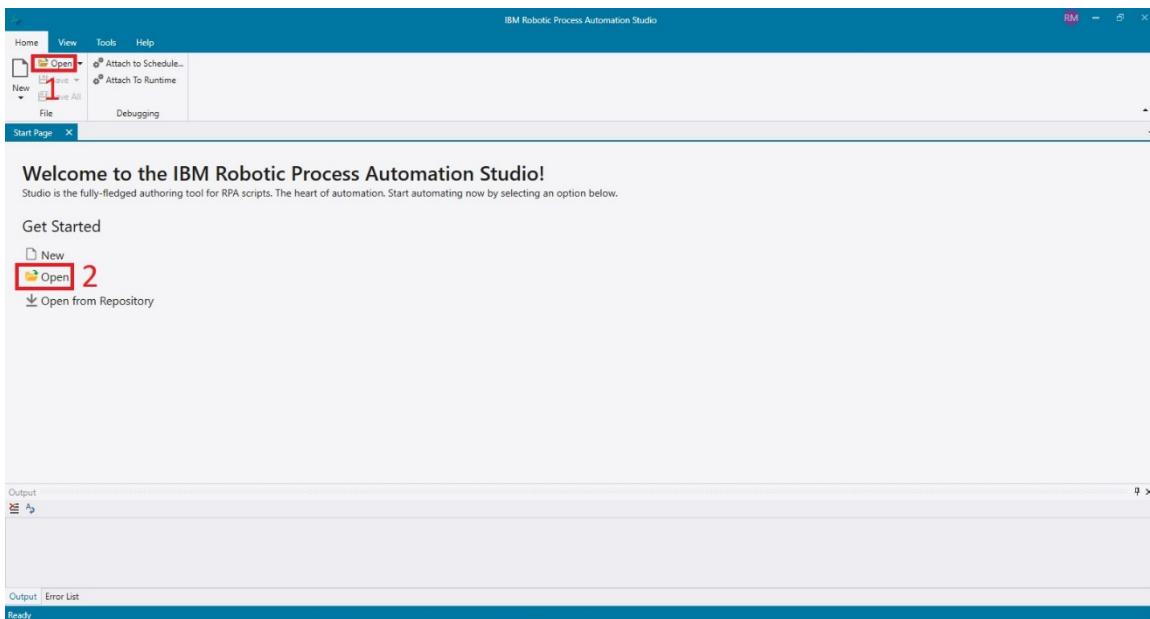
5.3.3 Inform Tenant name and Password.



#	Description
1	Select the “ <i>rpa-poc</i> ” as the Tenant
2	Enter “ <i>passw0rd</i> ” (use a zero not a capital o)
3	Click on the Login button

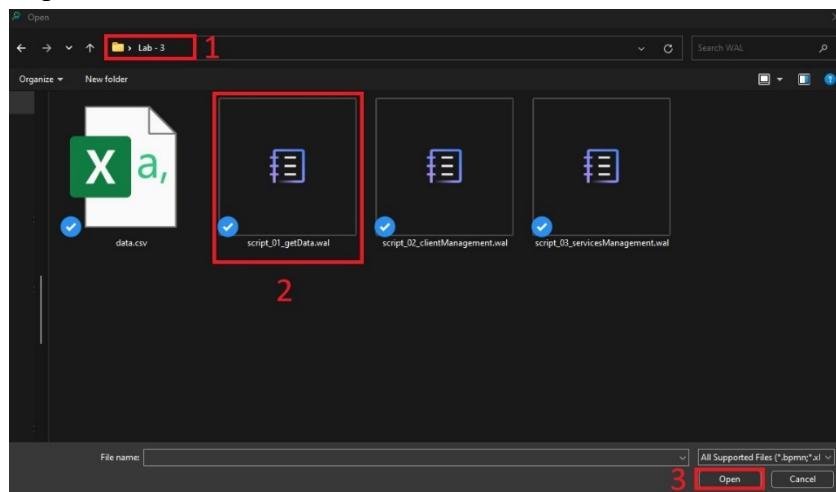
5.3.4 Changing script_01_getData.wal

5.3.4.1 Open file



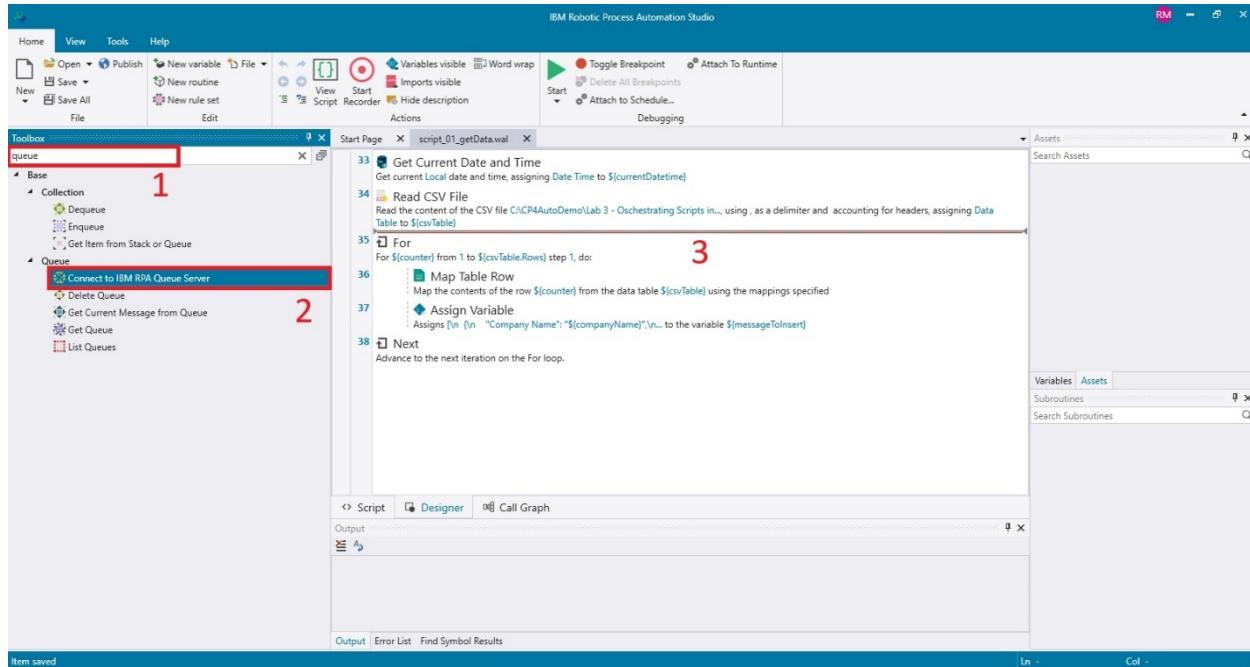
#	Description
1 or 2	Click on the Open button to search the script

5.3.4.2 Open script



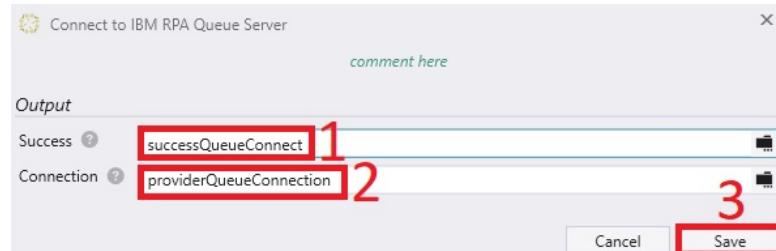
#	Description
1	All files are in the C:\CP4AutoDemo\Lab 3 - Orchestrating Scripts in IBM RPA
2	Select the “script_01_getData.wal”
3	Click on the Open button

5.3.4.3 Connect to Queue



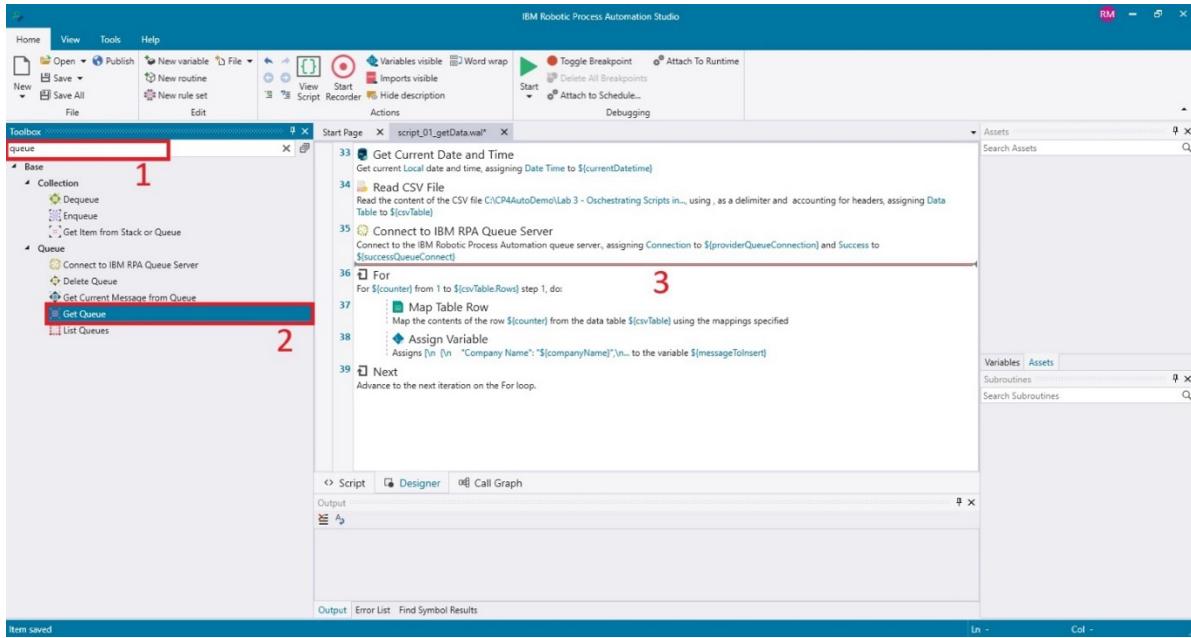
#	Description
1	Search " queue " in the toolbox
2	Let's use the command " Connect to IBM RPA Queue Server "
3	Drag the command positioning it between lines 34 and 35

5.3.4.4 Connection queue configuration



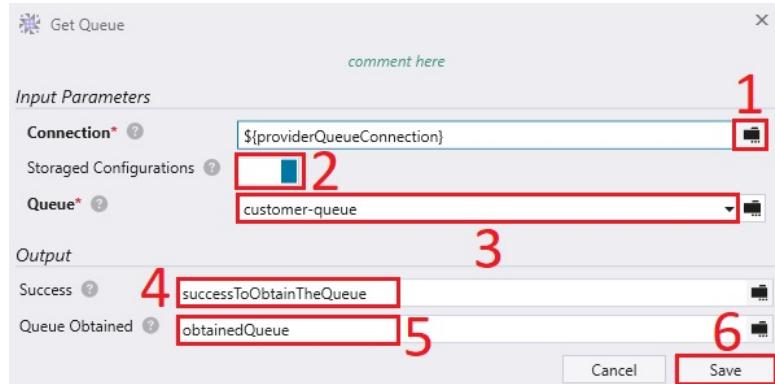
#	Description
1	Write " successQueueConnect " in the field Success
2	Write " providerQueueConnection " in the field Connection
3	Click on the Save button

5.3.4.5 Get Queue



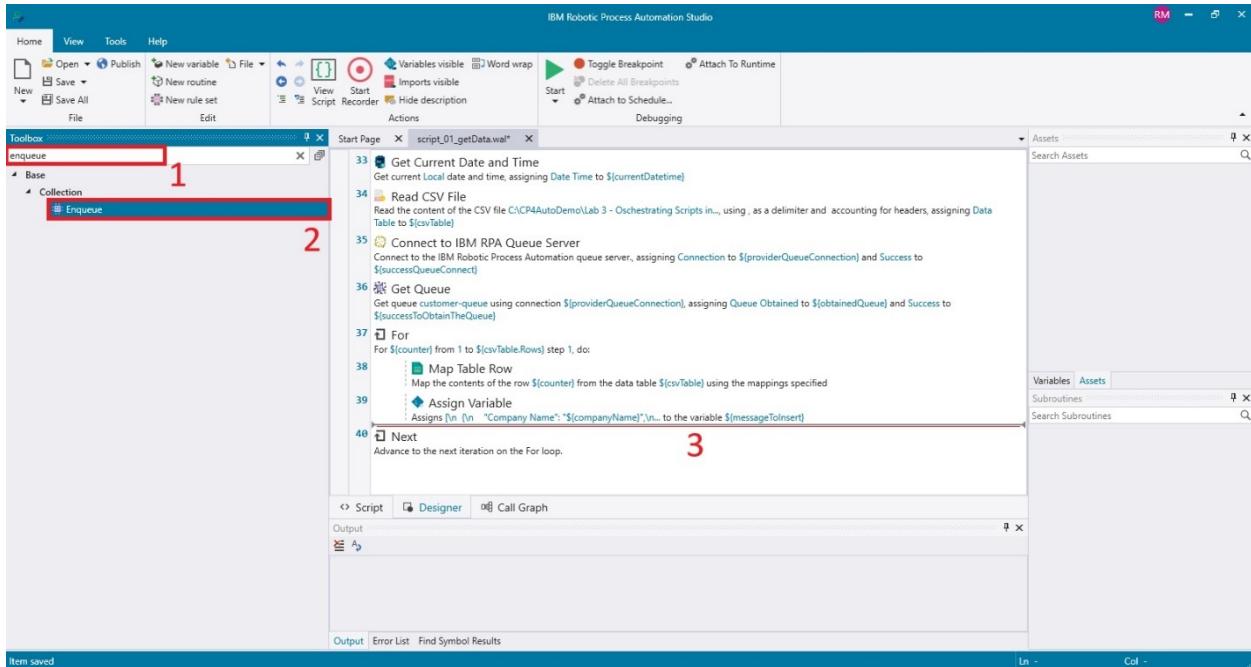
#	Description
1	Search " queue " in the toolbox
2	Let's use the command " Get Queue "
3	Drag the command positioning it between lines 35 and 36

5.3.4.6 Configure the Get Queue command



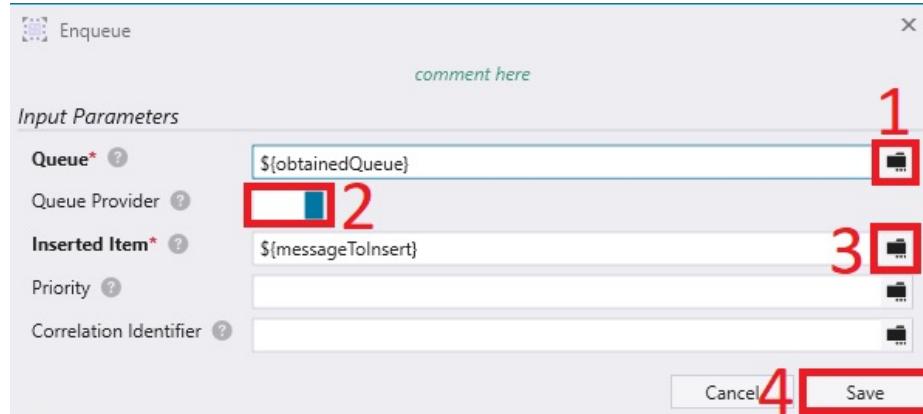
#	Description
1	Click on the button and select the Connection “\${providerQueueConnection}”
2	Turn on the Stored Configurations (this indicates a queue that is already configured in Control Center).
3	Select the “ customer-queue ”, as mentioned previously
4	Write “ successToObtainTheQueue ” in the Success field
5	Write “ obtainedQueue ” in the Queue Obtained field
6	Click on the Save button

5.3.4.7 Customer Enqueue



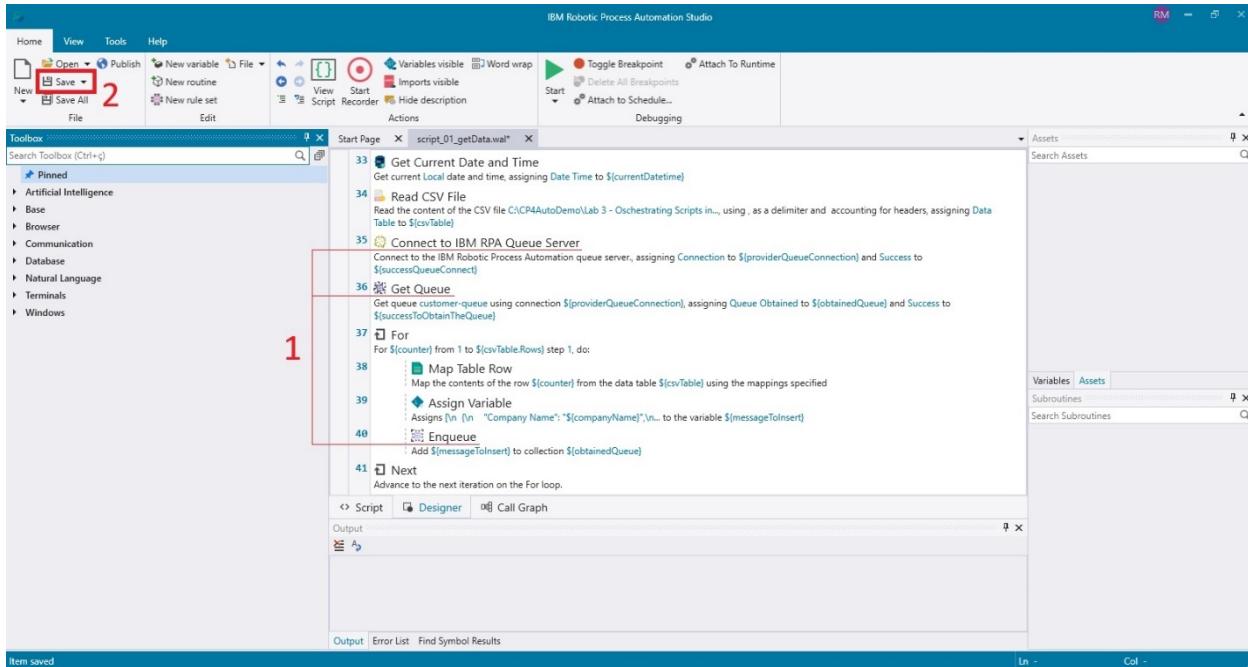
#	Description
1	Search " enqueue " in the toolbox
2	Let's use the command " Enqueue "
3	Drag the Enqueue command into the For command (between line 39 and 40), it will add each customer to the queue

5.3.4.8 Configuration Enqueue



#	Description
1	Click on the button and select the Queue “\${obtainedQueue}”
2	Enable to enqueue when using a Queue provider and not a local queue
3	Click on the button and select the Inserted Item “\${messageToInsert}”
4	Click on the Save button

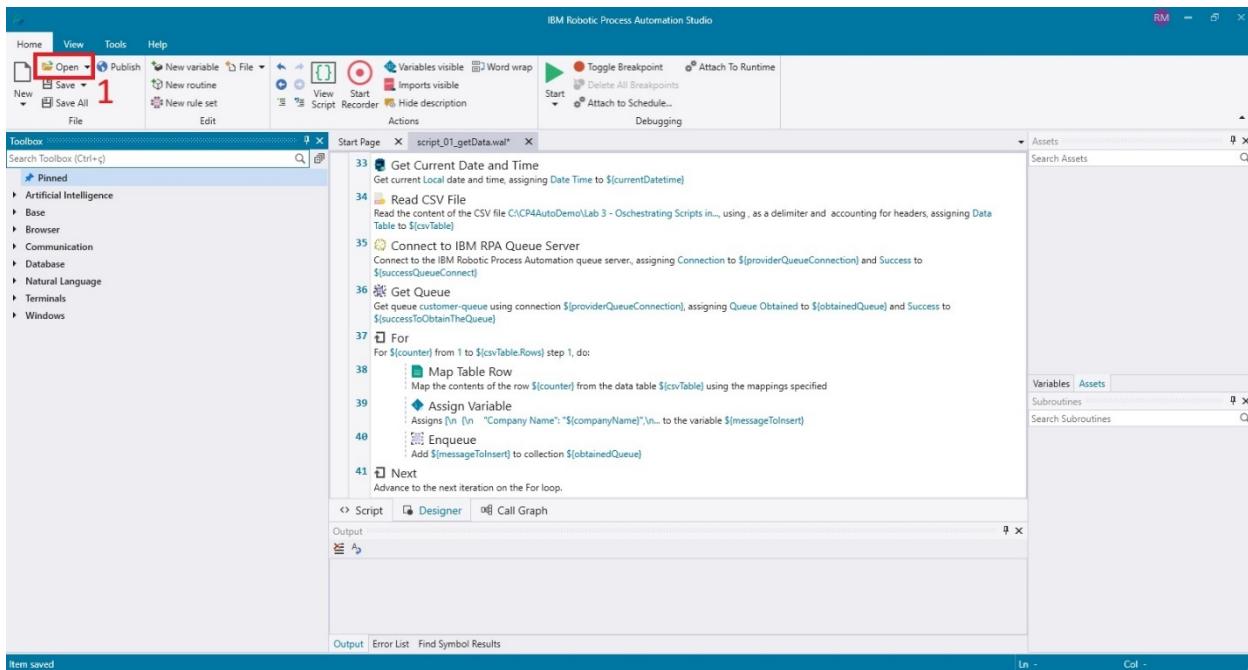
5.3.4.9 Summary and save script.



#	Description
1	For this script, it was necessary to enter the 3 commands: <input type="checkbox"/> Connect To IBM RPA Queue Server: to connect to the queue server. <input type="checkbox"/> Get Queue: to point to the queue that will store the items. <input type="checkbox"/> Enqueue: to queue each customer obtained from the CSV spreadsheet.
2	Save changes by clicking the Save button
3	WARNING! Do not run this script. Follow the steps in the guide until guidance on execution. As previously stated, this script is responsible for queuing the clients to be processed, so, for each execution, all CSV items will be queued, and this could hinder you in the final execution of the lab.

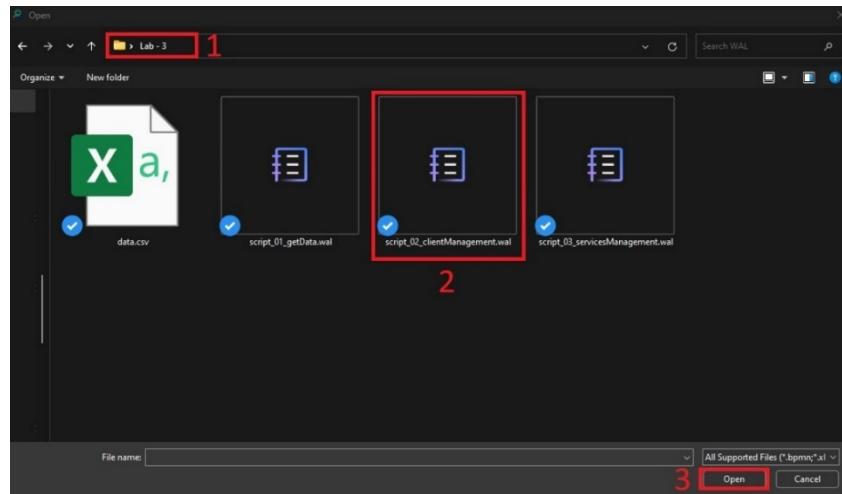
5.3.5 Changing script_02_clientManagement.wal

5.3.5.1 Open file



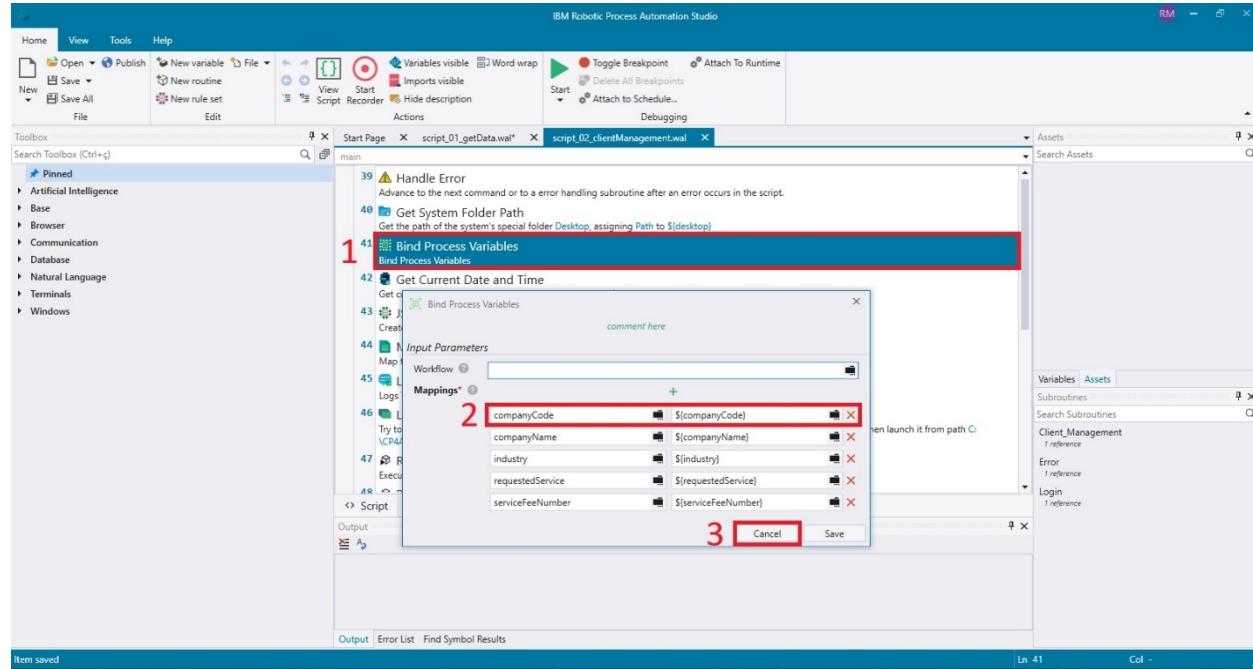
#	Description
1	Click on the Open button to search the script

5.3.5.2 Open script



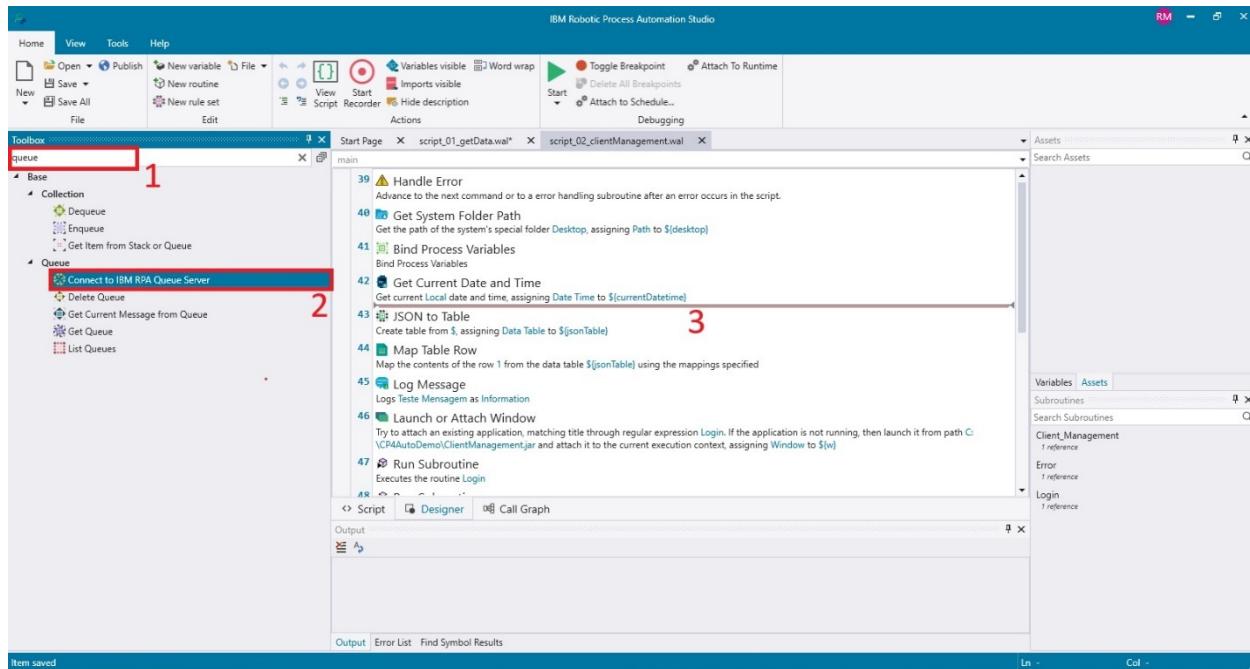
#	Description
1	All files are in the C:\CP4AutoDemo\Lab 3 - Orchestrating Scripts in IBM RPA
2	Select the script_02_clientManagement.wal
3	Click in the Open button

5.3.5.3 Orchestration process' variables binding.



#	Description
0	Before including the other commands, it is important to present the importance of this Bind Process Variables command. For more details, visit Orchestration process' variables binding documentation
1	Double-click the Bind Process Variables command (line 41)
2	For the Orchestrator to manage the items in the queue, it is mandatory to pass some process data to be the primary key. In this case, we have already configured the <code> \${companyCode}</code> variable. Other data can also be sent to the Orchestrator as it will be presented in the Control Center panel.
3	This command will not be changed, just click the Cancel button

5.3.5.4 Connect to Queue



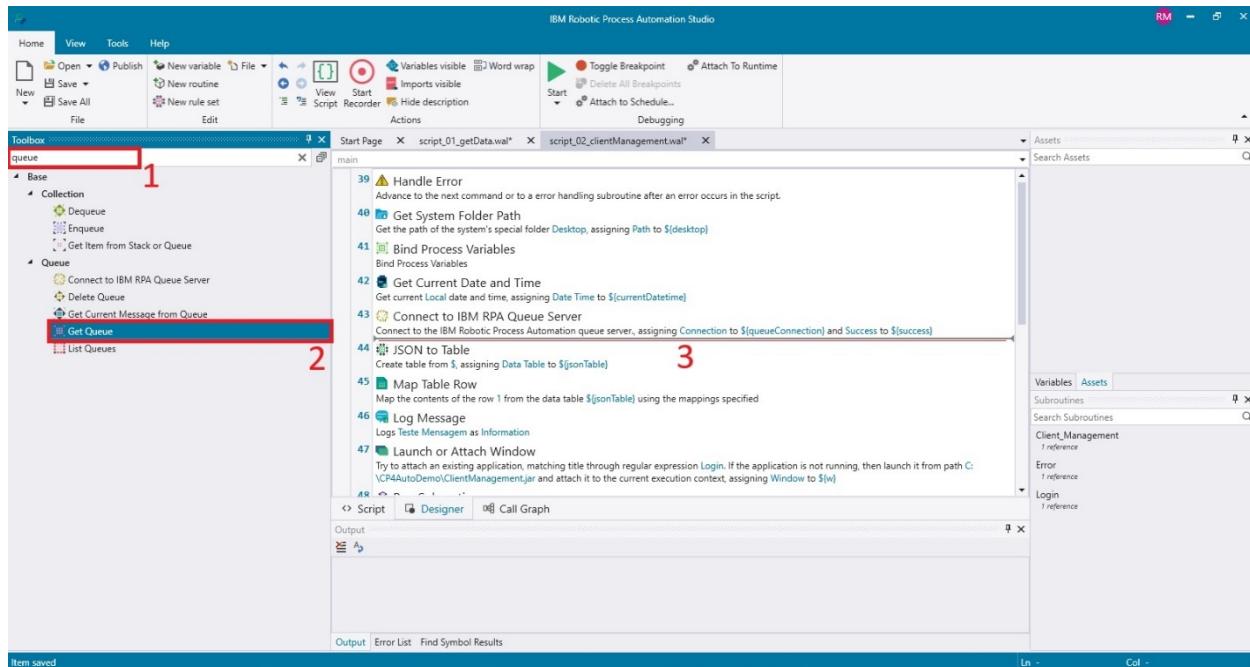
#	Description
1	Search " <i>queue</i> " in the toolbox
2	Let's use the command " Connect to IBM RPA Queue Server "
3	Drag the command positioning it between lines 42 and 43

5.3.5.5 Connection queue configuration



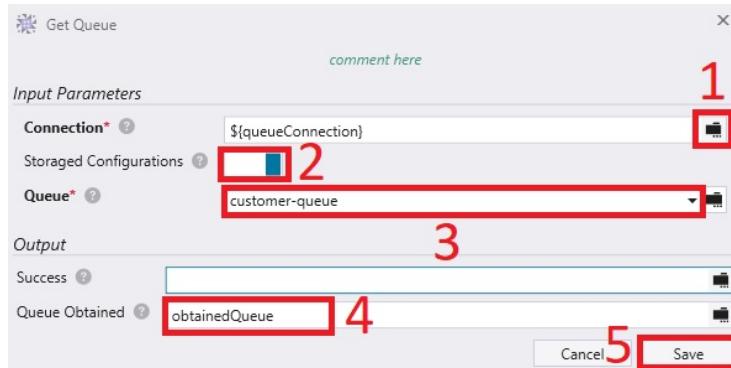
#	Description
1	Write " <i>success</i> " in the Success field
2	Write " <i>queueConnection</i> " in the Connection field
3	Click on the Save button

5.3.5.6 Get Queue



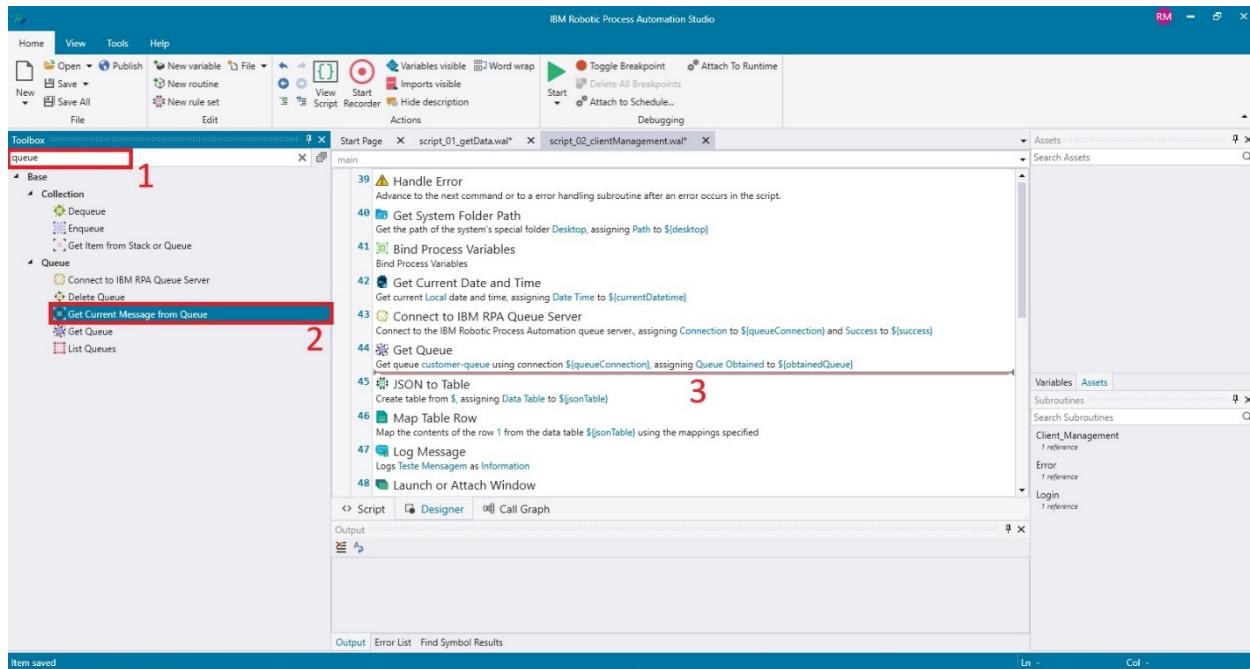
#	Description
1	Search "queue" in the toolbox
2	Let's use the command " Get Queue "
3	Drag the command positioning it between lines 43 and 44

5.3.5.7 Configurate the Get Queue



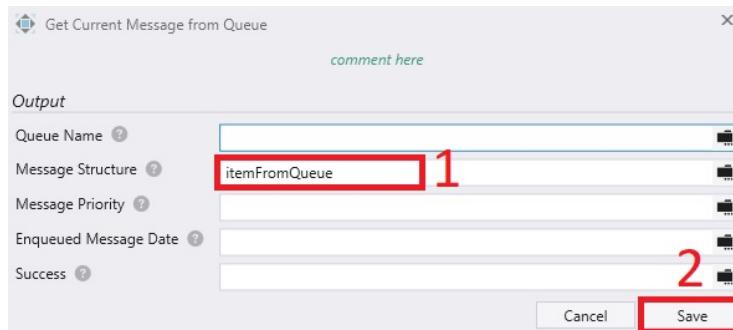
#	Description
1	Click on the button and select the Connection "\${queueConnection}"
2	Turn on the Stored Configurations
3	Select the "customer-queue", as mentioned previously
4	Write "obtainedQueue" in the Queue Obtained field
5	Click on the Save button

5.3.5.8 Get Current Message from Queue



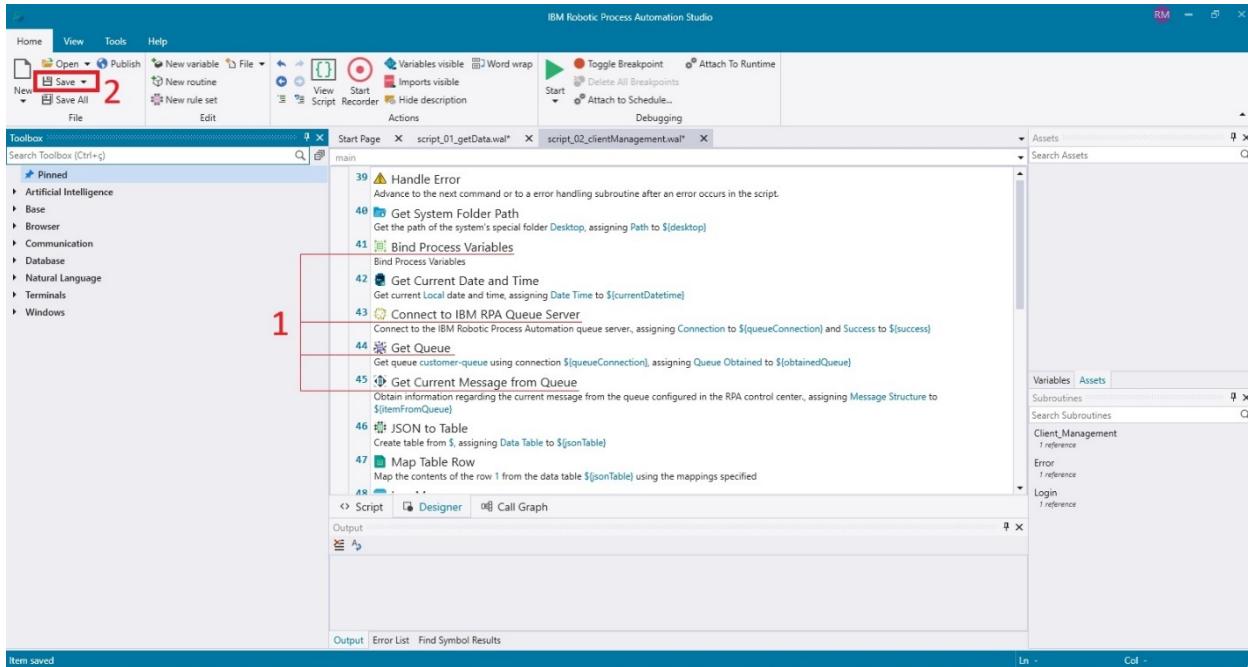
#	Description
1	Search " <i>queue</i> " in the toolbox
2	Let's use the command " Get Current Message from Queue "
3	Drag the command positioning it between lines 44 and 45

5.3.5.9 Enter the Message Structure



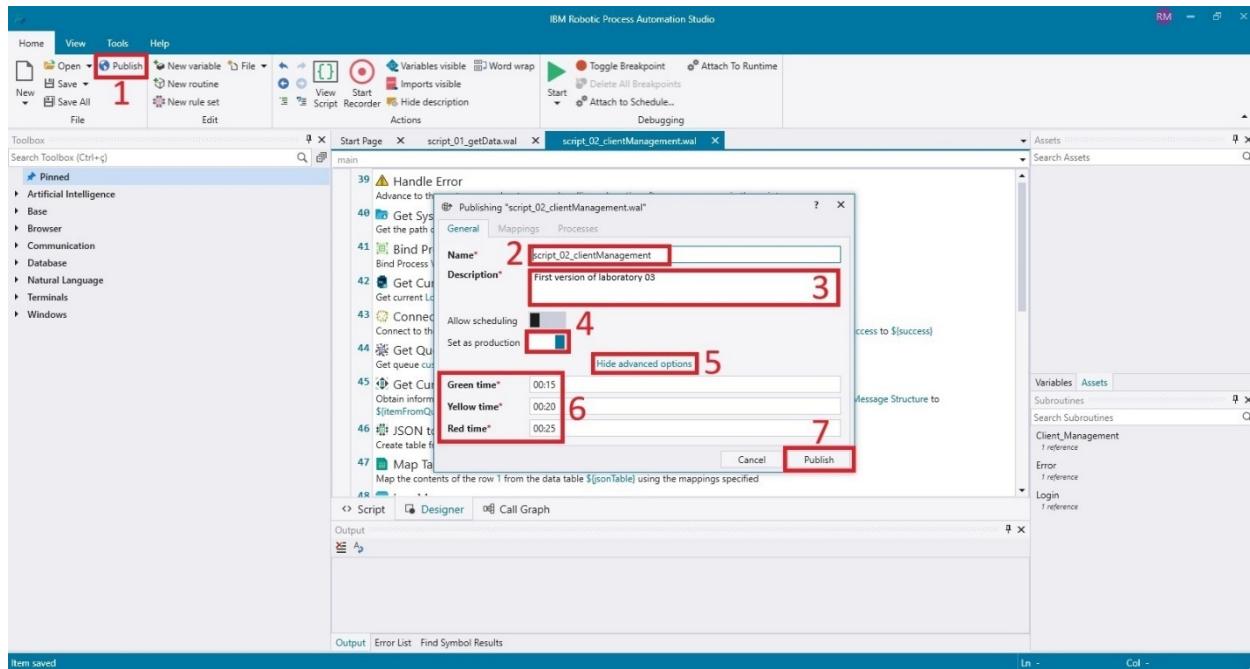
#	Description
1	Write " <i>itemFromQueue</i> " in the Message Structure field
2	Click on the Save button

5.3.5.11 Summary and save script.



#	Description
1	For this script, it was necessary to use these commands: <input type="checkbox"/> Bind Process Variables: To bind the primary key in the process. <input type="checkbox"/> Connect To IBM RPA Queue Server: to connect to the queue server. <input type="checkbox"/> Get Queue: to point to the queue that will store the items. <input type="checkbox"/> Get Current Message from Queue:
2	Save changes by clicking the Save button
3	WARNING! Do not run this script. Follow the steps in the guide until guidance on execution. This script will be executed automatically by the IBM RPA Orchestrator, so this script is not prepared to be executed in the conventional way.

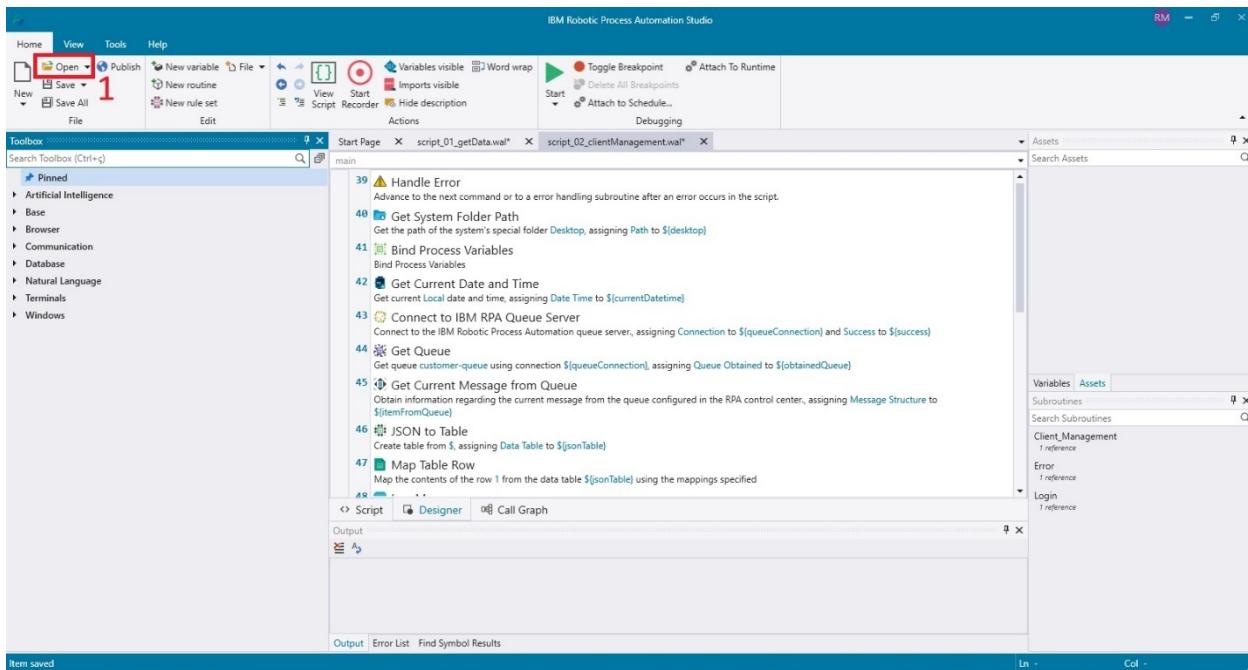
5.3.5.12 Publish script.



#	Description
1	As this script will be managed by the orchestrator, it is necessary to make it public in the Control Center, then click the Publish button.
2	Keep the script name " script_02_clientManagement "
3	Write a brief description about the script.
4	Turn on the Set as production
5	Click " Show advanced options " to see more options
6	Configure the times (hh:mm): <ul style="list-style-type: none"> <input type="checkbox"/> <i>Green time: 00:15</i> <input type="checkbox"/> <i>Yellow time: 00:20</i> <input type="checkbox"/> <i>Red time: 00:25</i> Find more information in the Publishing the script documentation
7	Click on the Publish button
8	WARNING! Do not run this script. Follow the steps in the guide until guidance on execution. This script will be executed automatically by the IBM RPA Orchestrator, so this script is not prepared to be executed in the conventional way.

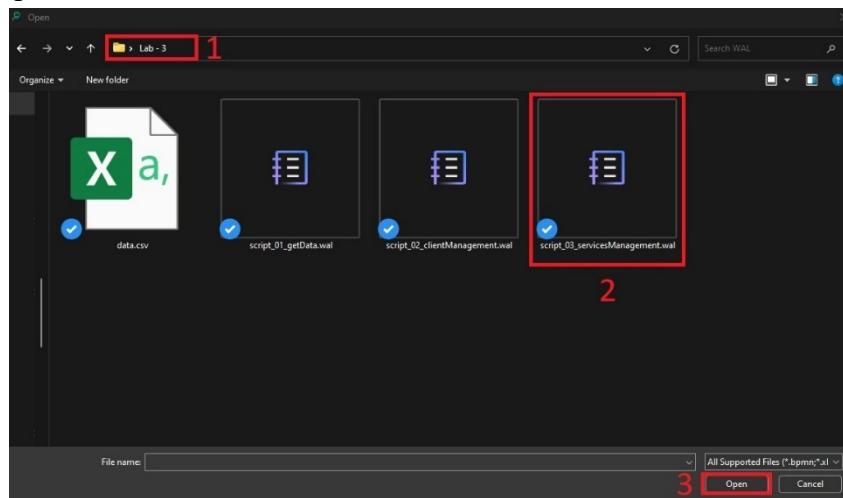
5.3.6 Changing script_03_servicesManagement.wal

5.3.6.1 Open file



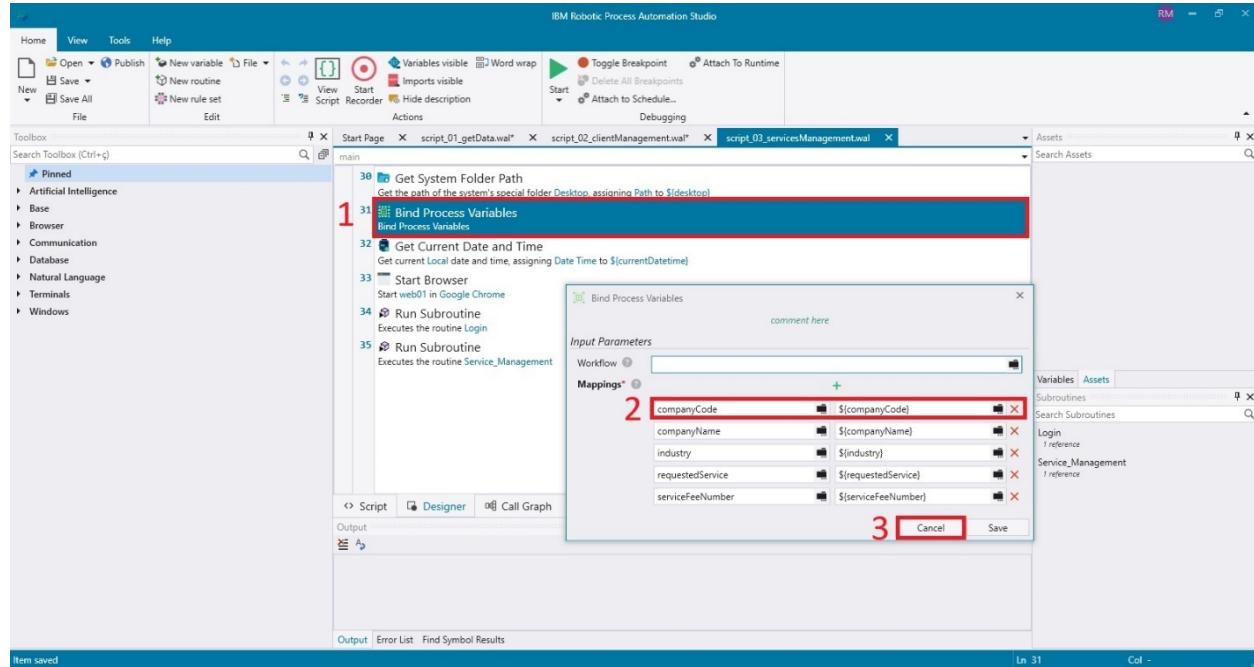
#	Description
1	Click on the Open button to search the script

5.3.6.2 Open script



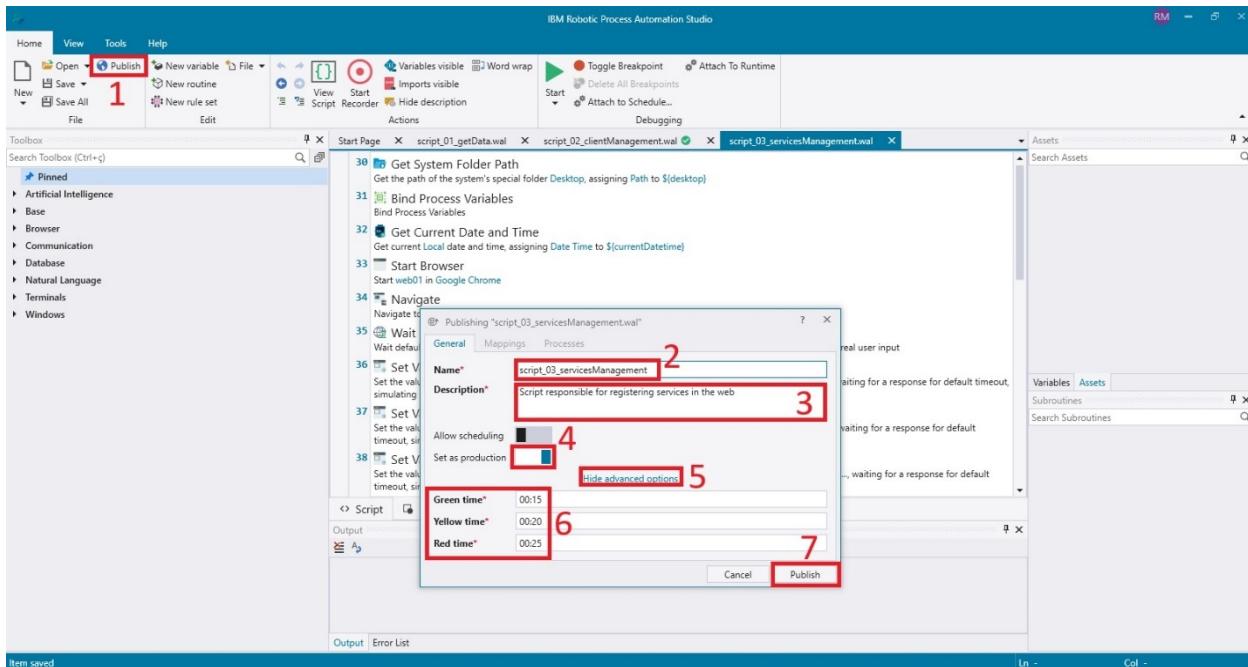
#	Description
1	All files are in the C:\CP4AutoDemo\Lab 3 - Orchestrating Scripts in IBM RPA
2	Select the “Script web.wal”
3	Click in the Open button

5.3.6.3 Orchestration process' variables binding.



#	Description
0	As in the previous script , before including the other commands, it is important to present the importance of this Bind Process Variables command. For more details, visit Orchestration process' variables binding documentation
1	Double-click the Bind Process Variables command (line 31)
2	For the Orchestrator to manage the items in the queue, it is mandatory to pass some process data to be the primary key. In this case, we have already configured the <code> \${companyCode}</code> variable. Other data can also be sent to the Orchestrator as it will be presented in the Control Center panel.
3	This command is already configured, so just click the Cancel button
5	WARNING! Do not run this script. Follow the steps in the guide until guidance on execution. This script will be executed automatically by the IBM RPA Orchestrator, so this script is not prepared to be executed in the conventional way.

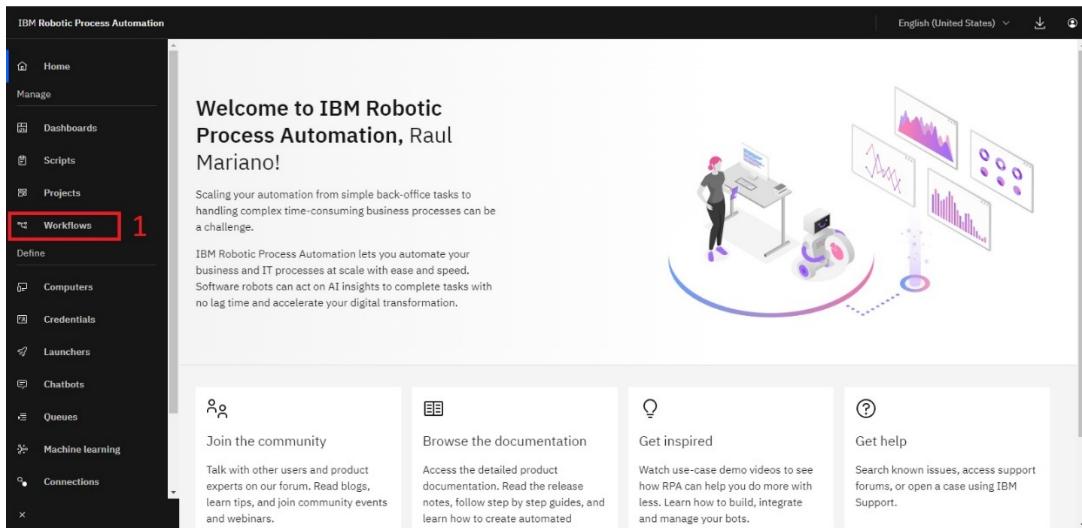
5.3.6.4 Publish script.



#	Description
1	As this script will be managed by the orchestrator, it is necessary to public it in the Control Center, then click the Publish button.
2	Keep the script name " <i>script_03_servicesManagement</i> "
3	Write a brief description about the script.
4	Turn on the Set as production
5	Click " Show advanced options " to see more options
6	Configure the times (hh:mm): <ul style="list-style-type: none"> <input type="checkbox"/> <i>Green time: 00:15</i> <input type="checkbox"/> <i>Yellow time: 00:20</i> <input type="checkbox"/> <i>Red time: 00:25</i> Find more information in the Publishing the script documentation
7	Click on the Publish button
8	WARNING! Do not run this script. Follow the steps in the guide until guidance on execution. This script will be executed automatically by the IBM RPA Orchestrator, so this script is not prepared to be executed in the conventional way.

5.4 Exercise 3: Create process and configure the steps.

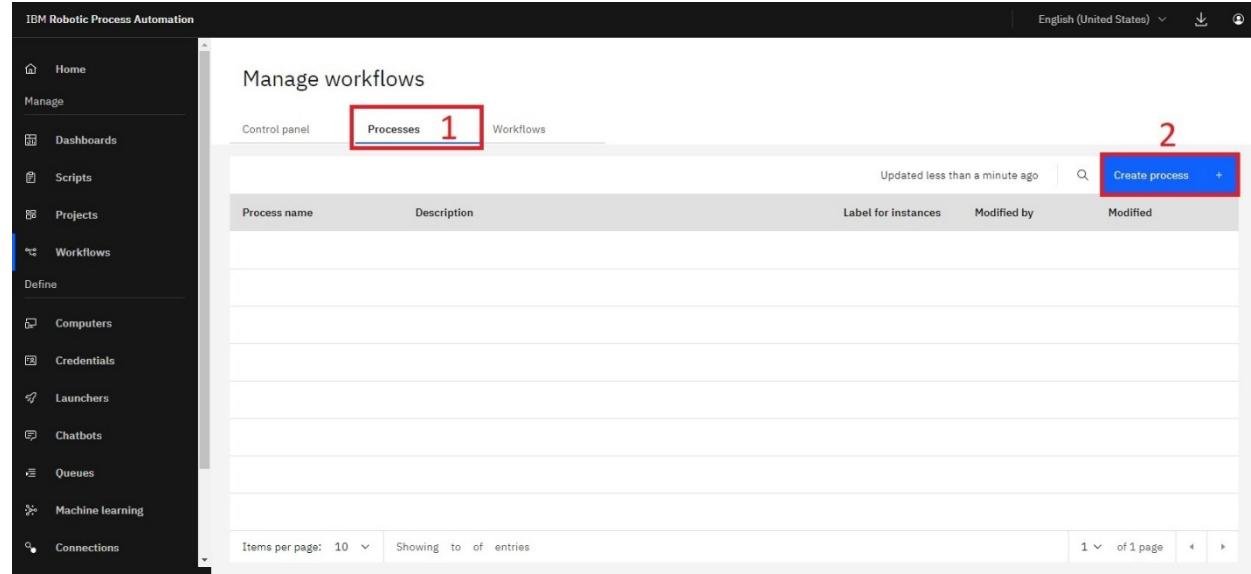
5.4.1 Return Control Center and access Workflows menu.



The screenshot shows the IBM Robotic Process Automation Control Center. On the left, a dark sidebar menu lists various options: Home, Manage, Dashboards, Scripts, Projects, Workflows (which is highlighted with a red box and has a red number '1' next to it), Define, Computers, Credentials, Launchers, Chatbots, Queues, Machine learning, and Connections. The main content area features a welcome message for Raul Mariano, a brief introduction to RPA, and four call-to-action cards: 'Join the community', 'Browse the documentation', 'Get inspired', and 'Get help'. A large graphic on the right depicts a person interacting with a computer monitor displaying charts and graphs, with a robot arm nearby.

#	Description
1	Click on the Workflows menu

5.4.2 Create Process



The screenshot shows the 'Manage workflows' page. The left sidebar is identical to the previous screenshot, with the Workflows menu item highlighted. The main area is titled 'Manage workflows' and contains a table with columns: Process name, Description, Label for instances, Modified by, and Modified. Above the table, there are tabs for 'Control panel', 'Processes' (which is highlighted with a red box and has a red number '1' next to it), and 'Workflows'. To the right of the table, there is a search bar, a 'Create process' button (which is highlighted with a red box and has a red number '2' next to it), and pagination controls.

#	Description
1	Click on the Processes tab
2	Click on the Create process button

5.4.3 Create Process: General

Create process

The screenshot shows the 'Create process' dialog box with the 'General' tab selected. The 'Process name' field contains 'Lab3_OrchestratingScripts'. The 'Label for Singular' field contains 'OrchestratingScripts'. The 'Label for Plural' field also contains 'OrchestratingScripts'. The 'Next' button is highlighted with a red border.

#	Description
1	Write “ <i>Lab3 OrchestratingScripts</i> ” in the Process name field
2	Write “ <i>Customer</i> ” in the Label for Singular field
3	Write “ <i>Customers</i> ” in the Label for Plural field
4	Click on the Next button

5.4.5 Create Process: SLA Configuration

Create process

The screenshot shows a software interface for creating a process. On the left, there's a sidebar with tabs: General (selected), SLA Configuration (highlighted with a blue circle), Steps, and Variables. The main area contains several input fields with associated descriptions and numbers:

- Target Waiting Time:** Description: "What is the desired time interval for an instance to wait to start being processed? What is the minimal acceptable percentage of instances that is required to meet this target?" Input field: **1** 00:00:05
- Waiting Time Required Service Level:** Description: "What is the minimal acceptable percentage of instances that is required to meet this target?" Input field: **2** 100%
- Target Handling Time:** Description: "What is the desired time interval for an instance to finish the whole process after starting? What is the minimal acceptable percentage of instances that is required to meet this target?" Input field: **3** 00:00:30
- Handling Time Required Service Level:** Description: "What is the minimal acceptable percentage of instances that is required to meet this target?" Input field: **4** 100%
- Target Processing Time:** Description: "What is the desired time interval, including waiting time, for an instance to finish the whole process? What is the minimal acceptable percentage of instances that is required to meet this target?" Input field: **5** 00:00:45
- Processing Time Required Service Level:** Description: "What is the minimal acceptable percentage of instances that is required to meet this target?" Input field: **6** 100%

At the bottom right, there are "Previous" and "Next" buttons. The "Next" button is highlighted with a blue rectangle and has a red number **7** overlaid on it.

#	Description
1	Set 00:00:05 to Target Waiting Time
2	Set 100% to Waiting Time Required Service Level
3	Set 00:00:30 to Target Handling Time
4	Set 100% to Handling Time Required Service Level
5	Set 00:00:45 to Target Processing Time
6	Set 100% to Processing Time Required Service Level
7	Click on the Next button

5.4.6 Create Process: Steps (1/4)

Create process

The screenshot shows the 'Create process' dialog with the 'Steps' tab selected. The 'Step name' field contains 'Step2_CustomerManagement'. The 'Input Queue' dropdown is set to 'customer-queue'. The 'Output Queue (On Success)' dropdown is set to 'service-queue'. The 'Priority on Success Queue' dropdown is set to 'Normal'. The 'Output Queue (On Error)' dropdown is set to 'Mark as error'. The 'Priority on Error Queue' dropdown is set to 'Normal'. A large red arrow labeled '7' points downwards from the bottom of the list of steps towards the 'Next' button at the bottom right.

#	Description
1	Write “ <i>Step2 CustomerManagement</i> ” in the Step name field
2	Select “ <i>customer-queue</i> ” in the Input Queue field
3	Select “ <i>service-queue</i> ” in the Output Queue field
4	Select “ <i>Normal</i> ” in the Priority on Success Queue field
5	Select “ <i>Mark as error</i> ” in the Output Queue (On Error) field
6	Select “ <i>Normal</i> ” in the Priority on Error Queue field
7	Go down

5.4.7 Create Process: Steps (2/4)

Create process

General

SLA Configuration

Steps

Variables

Mark as error

Priority on Error Queue
Normal

Which scripts will process the items in the input queue?

Script
1 script_02_clientManagement

Version
2 1 - "Script responsible for registering customer in the java app"

Where will this script run?

Computers
3 1 x Computers

Group (optional)

Group

Previous Next

#	Description
1	Select “ <i>script 02 clientManagement</i> ” in the Script field
2	Select the first item (latest version of the script) in the Version field
3	Select the “ <i>WIN-1GPQ0NALNPB</i> ” in the Computers field
4	Back to the top

5.4.8 Create Process: Steps (3/4)

Create process

1 **Add**

2 ▾

3 Step3_ServicesManagement

4 service-queue

5 Mark as success

6 Normal

7 Mark as error

8

#	Description
1	Click the Add button to add the last step of the process
2	To improve visualization, collapse Step2_CustomerManagement
3	Write “ Step3 ServicesManagement ” in the Step name field
4	Select “ service-queue ” in the Input Queue field
5	Select “ Mark as success ” in the Output Queue field
6	Select “ Normal ” in the Priority on Success Queue field
7	Select “ Mark as error ” in the Output Queue (On Error) field
8	Go down

5.4.9 Create Process: Steps (4/4)

Create process

The screenshot shows the 'Create process' dialog box. On the left, there's a sidebar with tabs: General (selected), SLA Configuration, Steps (selected), and Variables. The main area has four numbered steps:

- Priority on Error Queue: Normal (Step 1)
- Script: script_03_servicesManagement.wal (Step 2)
- Version: 1 - "Script responsible for registering customer in the web" (Step 3)
- Where will this script run?: Computers (Step 4)

At the bottom right, there are 'Previous' and 'Next' buttons. The 'Next' button is highlighted with a red box and a red number '5' above it.

#	Description
1	Select “ Normal ” in the Priority on Error Queue field
2	Select “ script_03_servicesManagement ” in the Script field
3	Select the first item (latest version of the script) in the Version field
4	Select the “ Computer name ” in the Computers field
5	Click on the Next button

5.4.10 Create Process: Variables (1/3)

Create process

These variables can be mapped to script variables in order to have their value stored.

Variables

1 Variable Name: companyCode

2 Type: Numeric

3 Business Key: Yes

4 Add Variable

Previous Create

#	Description
1	Here it is necessary to create the business key with the same name indicated in the code (5.3.5.3 and 5.3.6.3), then write “ <i>companyCode</i> ” in the Variable name field.
2	Select “ <i>Numeric</i> ” in the Type field
3	Set “ <i>Yes</i> ” in the Business Key field
4	Let's include one more variable, which was also defined in the code. Click on the Add Variable button.

5.4.11 Create Process: Variables (2/3)

Create process

The screenshot shows the 'Create process' dialog with the 'Variables' tab selected. It displays two variables: 'companyCode' (Type: Numeric, Business Key: Yes) and 'companyName' (Variable Name: companyName, Type: Text, Business Key: No). The 'Create' button is highlighted in blue at the bottom right.

The other variables registered in the Bind command (mentioned in previous topics [5.3.5.3](#) and [5.3.6.3](#)) must also be registered. Repeat this step for all variables, filling in the corresponding value:

1 – Variable Name	2 - Type	3 – Business Key	4 – Add Variable
Write “ <i>companyName</i> ”	Select “ <i>Text</i> ”	Set “ <i>No</i> ”	Click on the Add Variable button.
Write “ <i>industry</i> ”	Select “ <i>Text</i> ”	Set “ <i>No</i> ”	Click on the Add Variable button.
Write “ <i>requestedService</i> ”	Select “ <i>Text</i> ”	Set “ <i>No</i> ”	Click on the Add Variable button.
Write “ <i>serviceFeeNumber</i> ”	Select “ <i>Numeric</i> ”	Set “ <i>No</i> ”	Done! Go to the next section

5.4.12 Create Process: Variables (3/3)

Create process

x

General

SLA Configuration

Steps

Variables

These variables can be mapped to script variables in order to have their value stored.

Add Variable +

companyCode
companyName
industry
requestedService
serviceFeeNumber

1

2

Previous Create

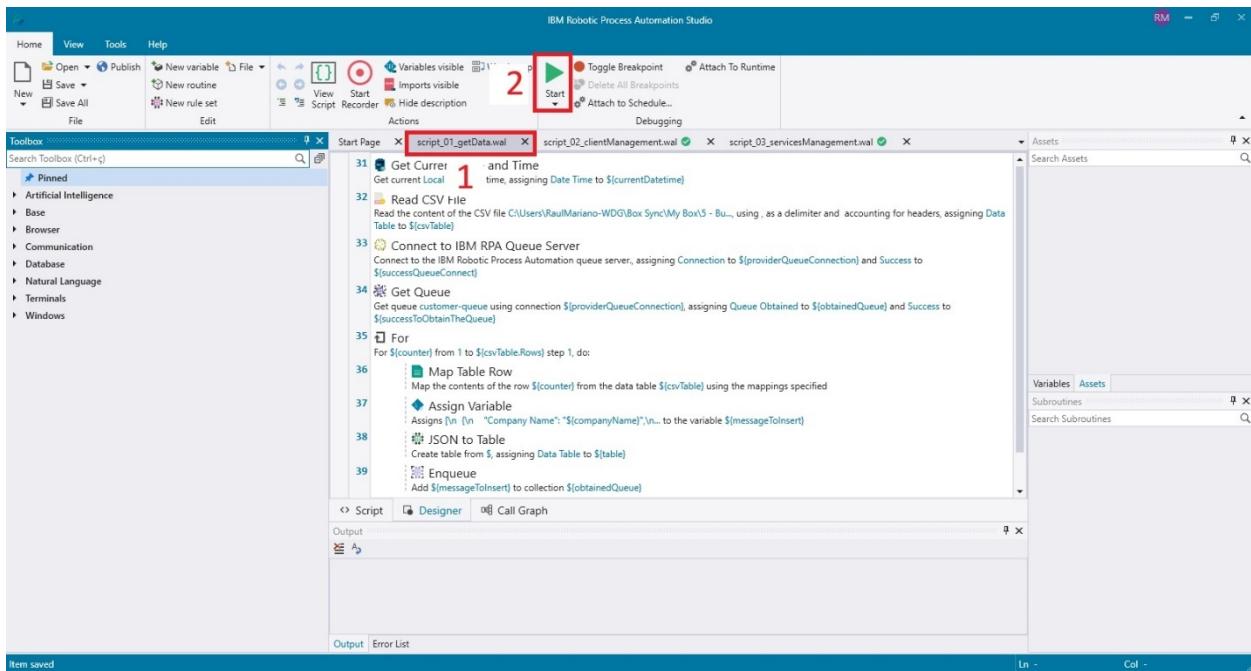
The screenshot shows a 'Create process' dialog. On the left is a sidebar with tabs: General, SLA Configuration, Steps, and Variables (which is selected). The main area contains a list of variables: companyCode, companyName, industry, requestedService, and serviceFeeNumber. A red box highlights the list of variables. At the bottom right are 'Previous' and 'Create' buttons; the 'Create' button is highlighted with a red box and labeled '2'. A red number '1' is placed over the variable list.

#	Description
1	Check that all variables were added correctly.
4	Click on the Create button to complete the registration.

5.5 Exercise 4: Execute bot and see results.

Now that all the scripts have all the commands, and the entire process registration process has been carried out in the Control Center. Let's run the bot and view the result.

5.5.1 Run Script getData.WAL



#	Description
1	Return to IBM RPA Studio, and open the first script, responsible for getting and enqueue data to processing (script_01_getData.wal)
2	Click in Start button to run
3	At this point, it is important to remember that the customer and service registration steps are managed by the IBM RPA Script Orchestrator, that is, as soon as the script_01_getData.wal is executed and inserts an item in the queue, the next steps will automatically be executed. WARNING! Customer registration is done in a java application, so DO NOT USE THE COMPUTER NOW . Wait 10 minutes for the entire process to complete.

5.5.2 See results of the process

#	Description
1	Back in Control Center, let's access the process panel to view processing information. Click on the Workflows menu
2	Select the Control panel tab
3	Select the Processes tab
4	Select the process that created: " Lab3 Orchestrating Scripts "
5	This is the main panel for monitoring processing, where: <ul style="list-style-type: none"> □ Pending: These are all items that are already in the queue awaiting their turn to be processed. □ Processing: It is the number of items being processed (you can have a scenario that allows simultaneous execution). □ Done: These are items that have already been successfully processed at all stages of the process, in this case, the customer and service has been successfully registered. □ Incomplete: All items that for some reason were not executed successfully.
6	You can see and manage the process steps.

Variables history

Congratulations, you have successfully completed this lab!!!