**Lab Guide**

Exploring the RPA API

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Hands-on Lab

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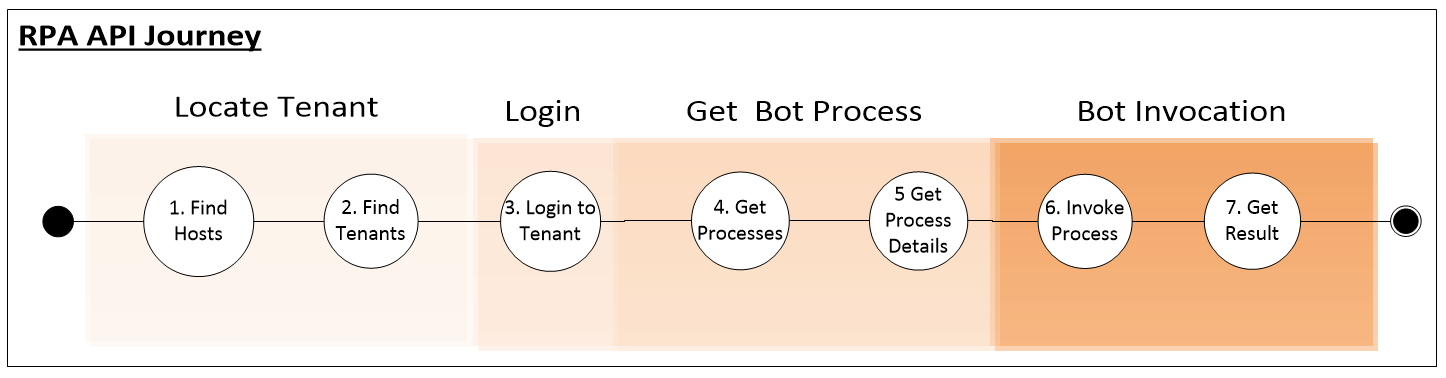
# Introduction

In this lab you will Explore the RPA API. The lab is based on the IBM RPA API documentation:

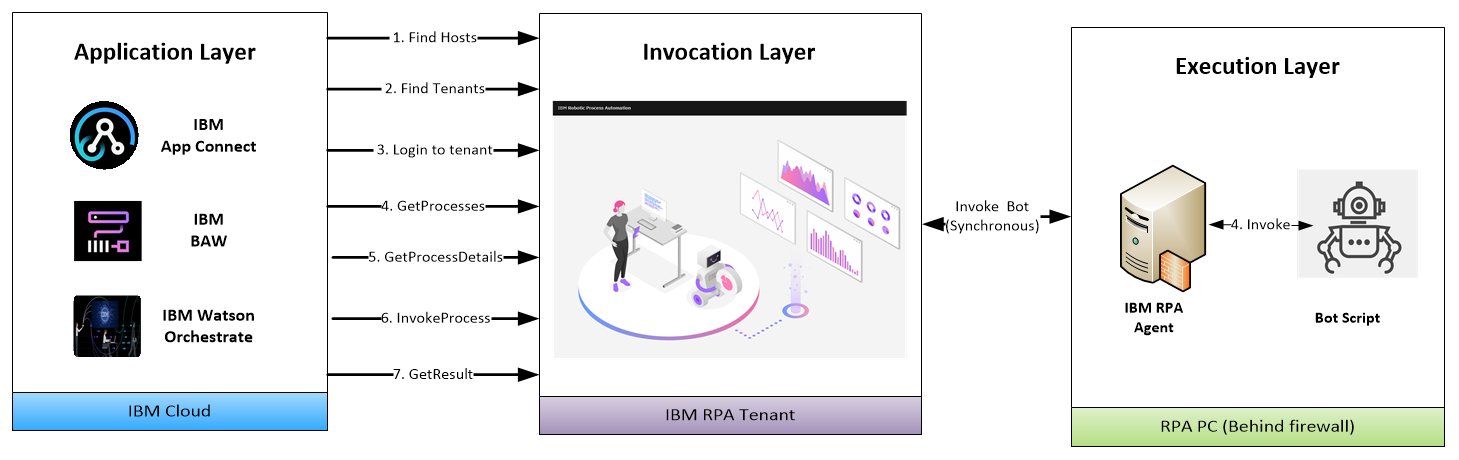
[**https://ww****w.ibm.com/docs/en/rpa/21.0?topic=automation-rpa-api-reference**](https://www.ibm.com/docs/en/rpa/21.0?topic=automation-rpa-api-reference)

# RPA API Overview

To run a bot using the RPA API, you follow a journey. The journey starts with finding a host and ends with returning the bot result. The flow diagram below describes each step in the journey.



The API is invoked against the RPA tenant. The tenant authenticates the caller, locates the process in which the bot resides and then permits invocation of the bot. It is at this point that the RPA tenant finds the designated computer and invokes the internal synchronous API to run the bot. See below:



The next section examines these steps in more detail.

## Prerequisites

### Complete Lab

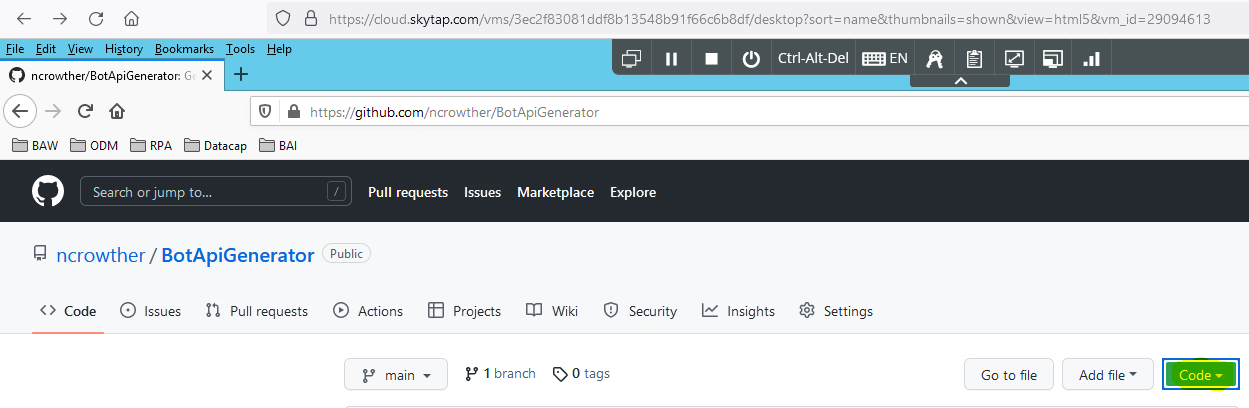
Completed steps 2.1 to 2.4 in the following lab:

### Download Zip

The prerequisite material for this lab is stored in **Github**. Using a browser, navigate to the folder:

<https://github.com/ncrowther/BotApiGenerator>

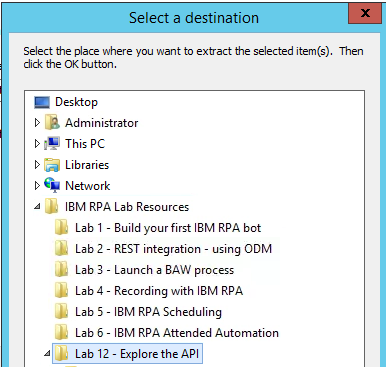
You should see the following:



Click on the  button, and then select *Download Zip*. Once downloaded, extract the zip to a new folder. If using the Skytap image, we recommend:

C:\Users\Administrator\Desktop\IBM RPA Lab Resources\Lab 12 – Explore the API

See below:



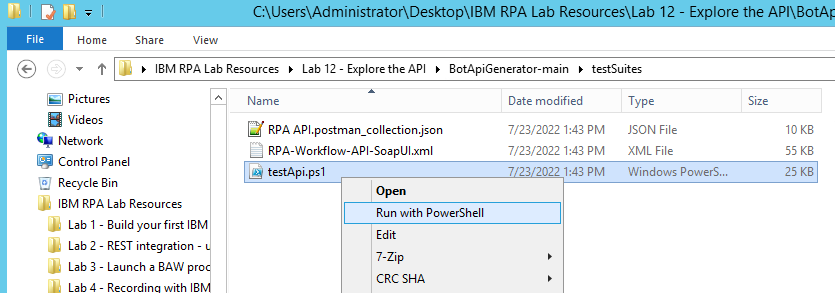
Once done, let’s get started with exploring the APIs in this lab!

# Exploring the RPA API

## Call the API from Powershell

Navigate to the Folder in which you unzipped the contents in the previous step:

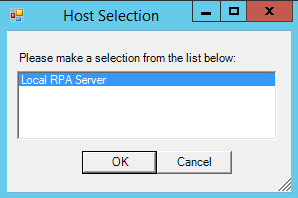
Right-click *testApi.ps1* and select *Run with PowerShell*:



A series of dialog boxes should appear. Let’s follow the steps.

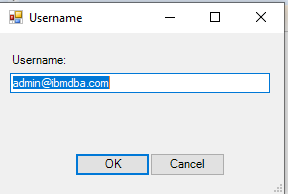
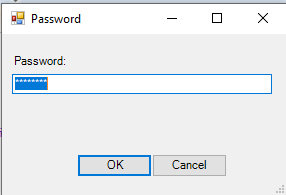
### Step 1 – Host Selection

If you are running within the Skytap image you will only be able to see the local host. Ignore the error message. Select *Local RPA Server*



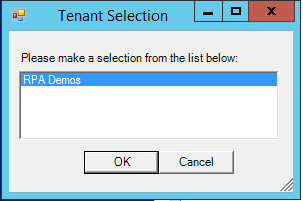
### Step 2 – Enter your tenant credentials

The username is [admin@ibmdba.com](mailto:admin@ibmdba.com), the password is *passw0rd.* These should already be the default values:

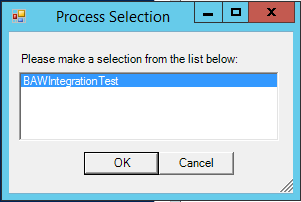
### Step 3 – Select the tenant

Select tenant. If you are running within the Skytap image you only have one option. Select *RPA Demos:*



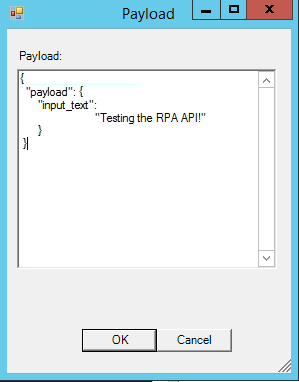
### Step 4 – Select the process

Select the process you defined in the earlier step:



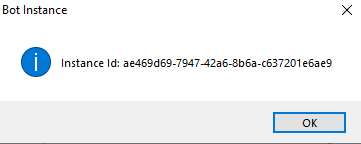
### Step 5 – Edit the payload

The payload will be generated from the bot input parameters. You can modify the input value if you wish:



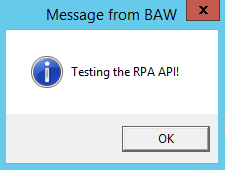
### Step 6 - Run the bot

The bot runs and a dialog box appears showing the instance id of the running process

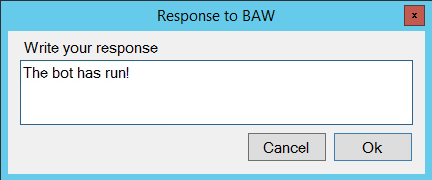


### Step 7 – View the Result

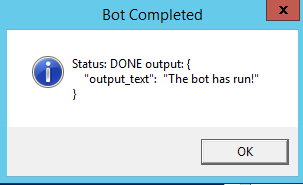
After a second, the bot runs, and you will see the following message:



Click OK and type your response:



The bot may take several seconds to run, in which case it will either be in *new* or *processing* state. When completed, the state will have a status of *done* and you will see the following dialog:

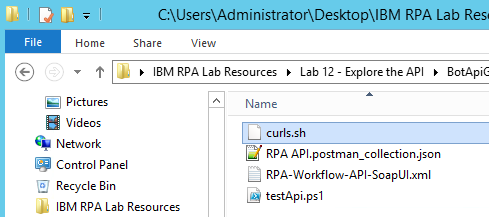


Press OK to finish.

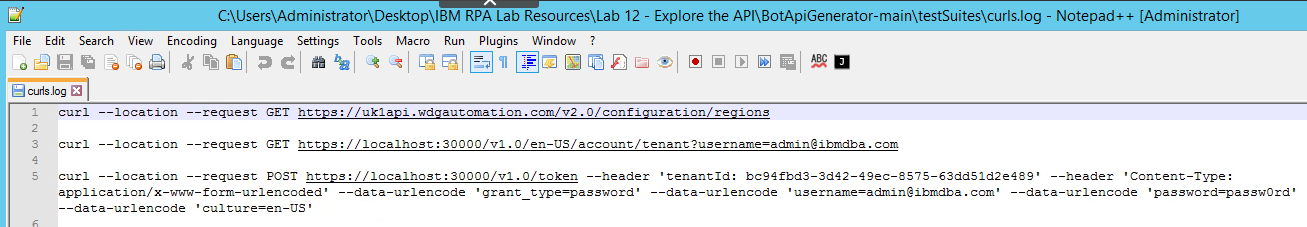
Congratulations, you have run your first bot using the asynchronous API!

### View and execute the API using curl

Curl is the de facto command to test REST APIs. The PowerShell script generates curl commands for you to run. To view, navigate to the directory in which you ran the PowerShell script. Right click *curls.sh* and edit it using NotePad++.



You will see the curl commands for the API invocations you made in the previous step:



Examine each curl command and see how it correlates to the API documentation:

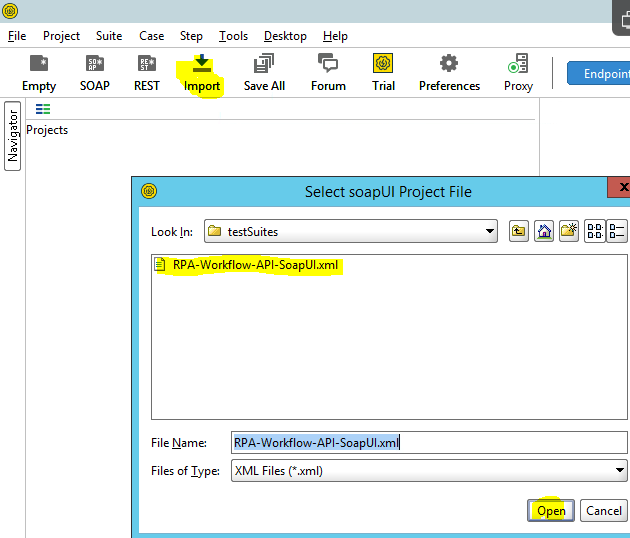
[**https://www.ibm.com/docs/en/rpa/21.0?topic=automation-rpa-api-reference**](https://www.ibm.com/docs/en/rpa/21.0?topic=automation-rpa-api-reference)

### Optional - run curl against your SaaS tenant

If you have access to an RPA SaaS tenant and the curl command, you can run the PowerShell script against your own tenant credentials and then run the curl commands.

## Testing the API from SoapUI

Click on the Windows toolbar and run *SoapUI* . Click the Import button:

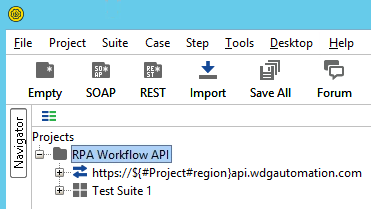


then select the following file:

C:\Users\Administrator\Desktop\IBM RPA Lab Resources\Lab 12 - API\BotApiGenerator-main\testSuites\RPA-Workflow-API-SoapUI.xml

Press *Open*.

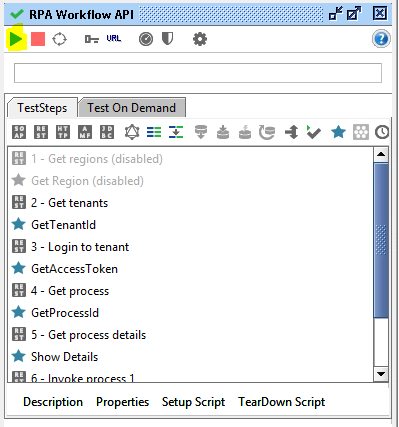
Check the file is imported :



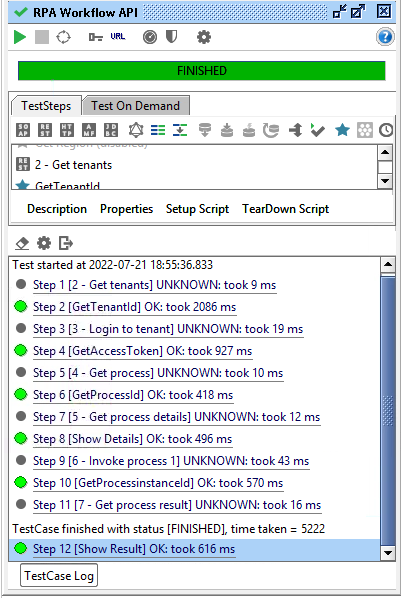
In the Tree navigator, navigate to *Test Steps* within *Test Suite 1*. See below:



Double-click *Test steps* to open the *RPA Workflow API* test runner. Click *Run* to invoke the RPA API calls in order. See below:

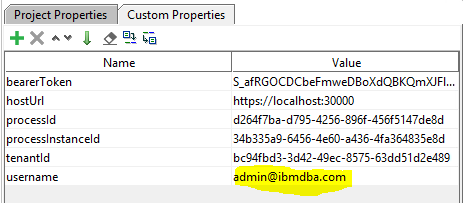


When running, you will be prompted for a series of dialog boxes showing you the API journey. Finally, you should see the following:



### Project Variables

The test suite sets and retrieves information into project variables. To view these variables, click on the project *RPA Workflow API* and the select the custom properties tab.



You can use these variables to write your own API invocations using your selected tenant and process. The most essential variable is *username*. If you are using the IBM Skytap image, this has set as the correct user. If you are not using this image, you will need to set *username* to your RPA user, and *hostURL* to

<https://us1api.wdgautomation.com>

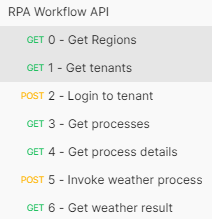
## Optional - Testing the API from Postman

This is an optional lab section for those who are experienced in using Postman.

Open Postman. Import the collection

C:\Users\Administrator\Desktop\IBM RPA Lab Resources\Lab 12 - API\BotApiGenerator-main\testSuites\[RPA API.postman\_collection.json](https://github.com/ncrowther/BotApiGenerator/blob/main/testSuites/RPA%20API.postman_collection.json)

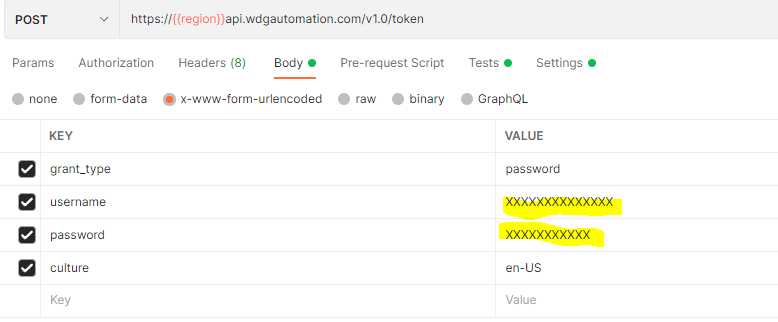
You should see the following test suite



Run ***0 – Get Regions.*** Select your region and tenant id and set them as variables in the Postman project environment:



Now run*Step 2 – Login to tenant.* This API call will require you to pass in your tenant credentials to the encoded body. See below:



Now run Step 3 to 6.

## Generating an Open API Specification

Up until now we have been using the raw RPA API calls. Modern applications often provide a way of viewing and invoking APIs through an *OpenAPI* specification. This specification defines an API definition file which the application can use to generate the appropriate calls and data structures to the API.

Let’s generate the OpenAPI for the bot from the previous section.

## Calling the Open API from App Connect

Nicely done! This concludes the lab.