REST integration – using ODM with IBM RPA

Hands-on Lab

Version 1.2 for
Business Partners
Virtual Workshop
using on-prem

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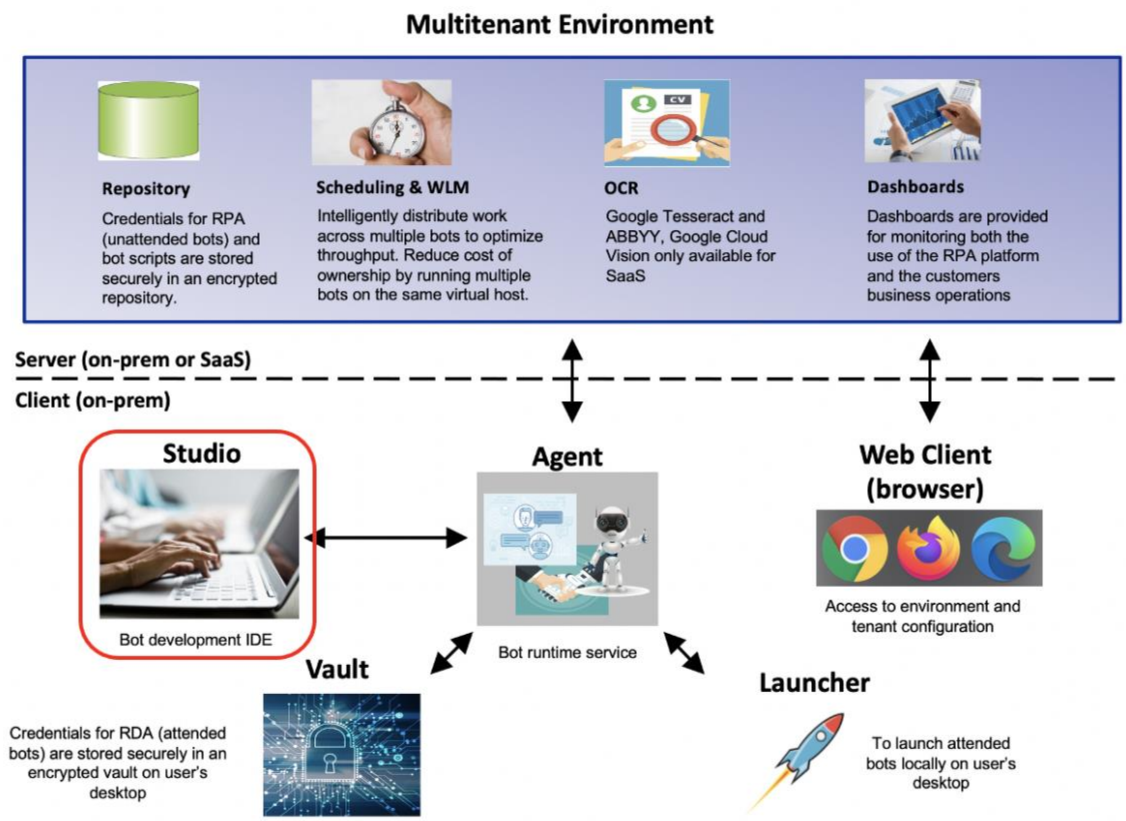
1. Introduction

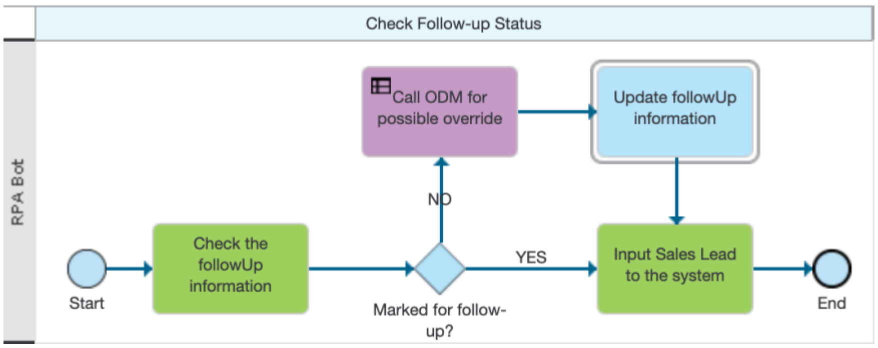
This hands-on lab you will use IBM RPA Studio to make outbound calls via assorted functionality. You will utilize the sales leads file from previous labs and query assorted services.



Use case

In Lab 1 you learned how to automate processing of sales leads that arrive in a CSV/Excel format. The bot you created in Lab 1 automatically entered the sales leads into the online opportunity system of record (JK Automation Sales Leads).

You will now modify your automation to make an outbound call to IBM ODM rule engine using its REST API to know whether or not to override the follow up requested flag when it's set to "No". The flow diagram below shows the logic that we're going to add to our automation script.



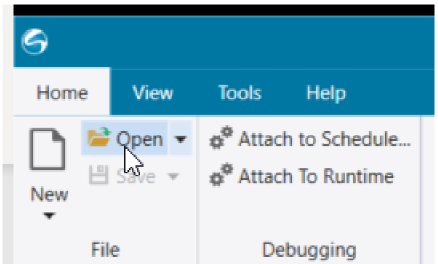
Prerequisites

None. You are good to go. We have installed the needed decision service to you and IBM ODM (the rule engine we're going to use) should be also up and running.

2. Lab Instructions

Open completed lab

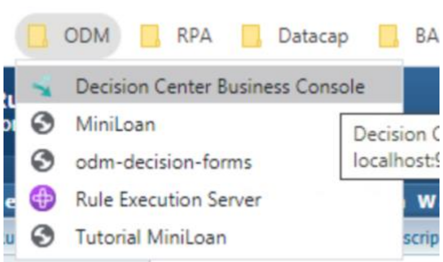
_1. In IBM RPA Studio, Select `Open`.



_2. Navigate to **sales-lead-automation-REST-START.wal** in *Desktop → IBM RPA Lab Resources → Lab 2 – REST integration – using ODM* and click `Open`.

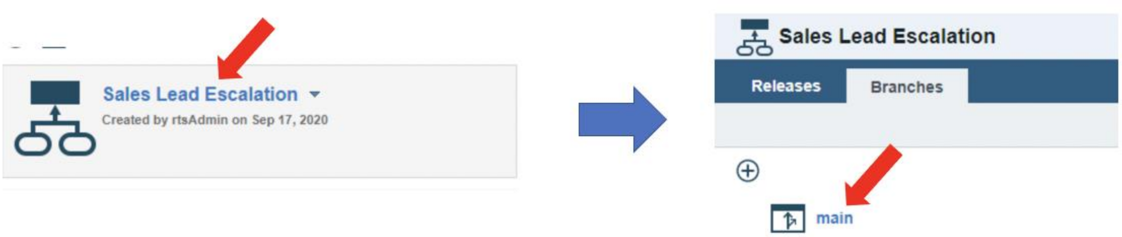
Examine the Decision Service

_1. Open up ODM Decision Center. Open **Chrome** (icon in the task bar) web browser and from the bookmarks bar select **ODM → Decision Center Business Console**.

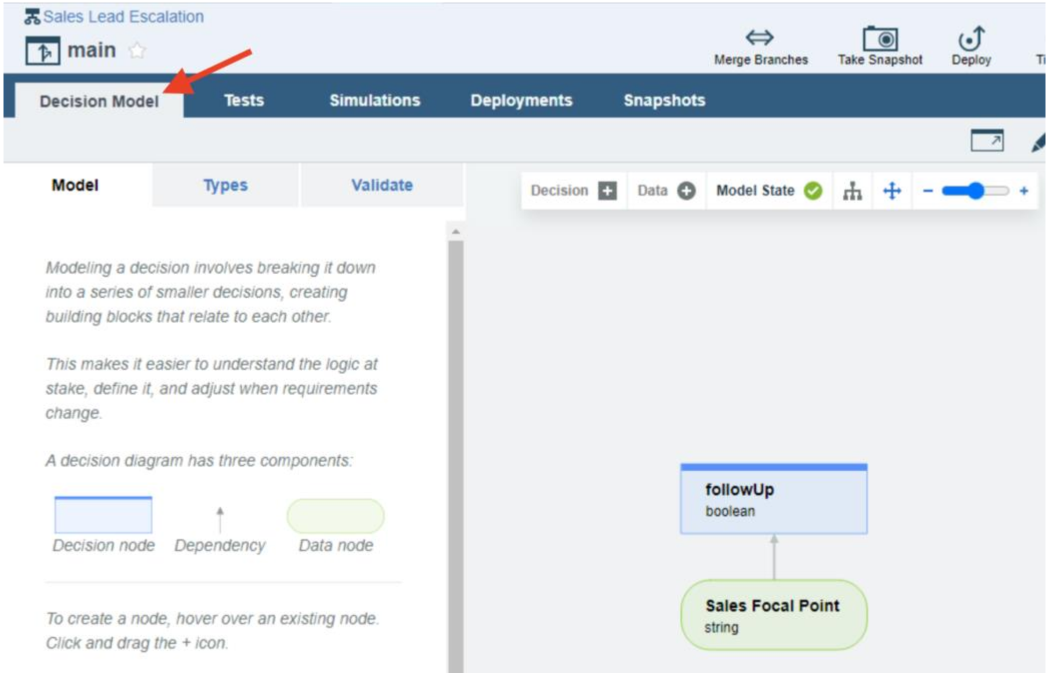


_2. Login as **rtsAdmin** with password **rtsAdmin**.

_3. Move to LIBRARY tab (if not already) to see all the Decision Services managed in the ODM environment. Click the name **Sales Lead Escalation** and then **main** branch.

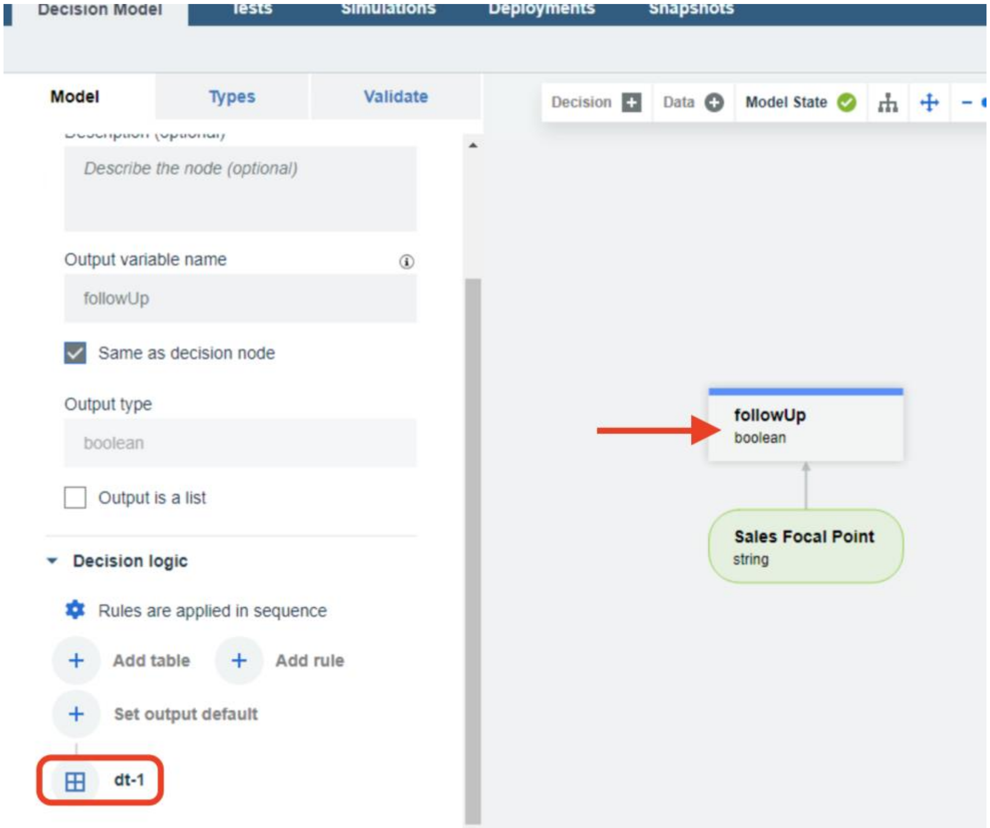


_4. Move to **Decision Model** tab (if not opened by default) to view the decision service we're going to use with our automation.



This simple decision service is modeled using the integrated DMN (Decision Model and Notation) based modeler. It takes one input (as modelled with green input data node), Sales Focal Point as a string, and has one decision node for the decision logic that provides a single Boolean value as the out from the service.

_5. **Click the blue decision node** to select it and then scroll down the left-hand side model panel to see the Decision logic components inside the node. It just has one decision table named **dt-1**. **Click** it to see how it has been implemented.

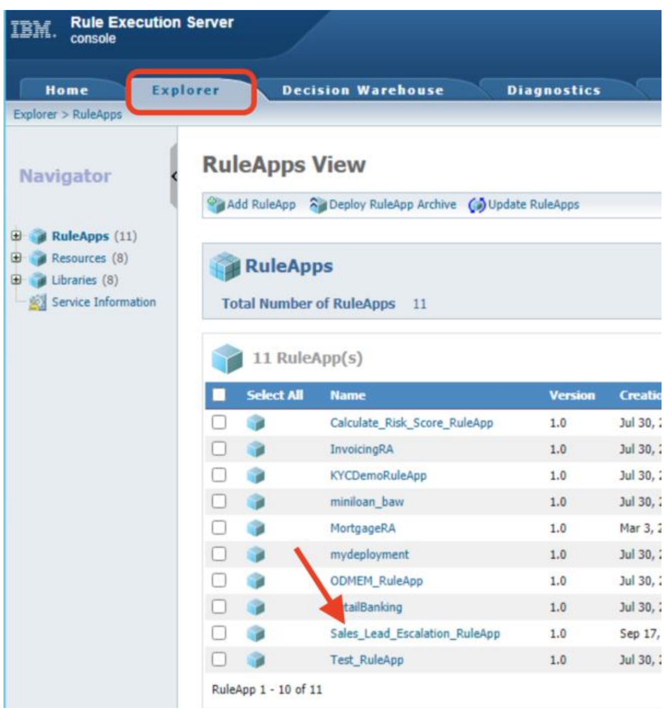


_6. Decision table is just to set (override) the followUp information within the sales leads that our automation bot reads from the CSV file. If the recorded interest (Sales Focal Point) is for example for *Cloud* (the 1st row of the table), we set the followUp Boolean to false (not selected) and for *Robotic Process Automation*, we set it to true. Nice and simple.

_7. Next, log into your **Rule Execution Server Console** with username **resAdmin** and password **resAdmin**. You can open the login page from bookmarks bar: *ODM → Rule Execution Server*.

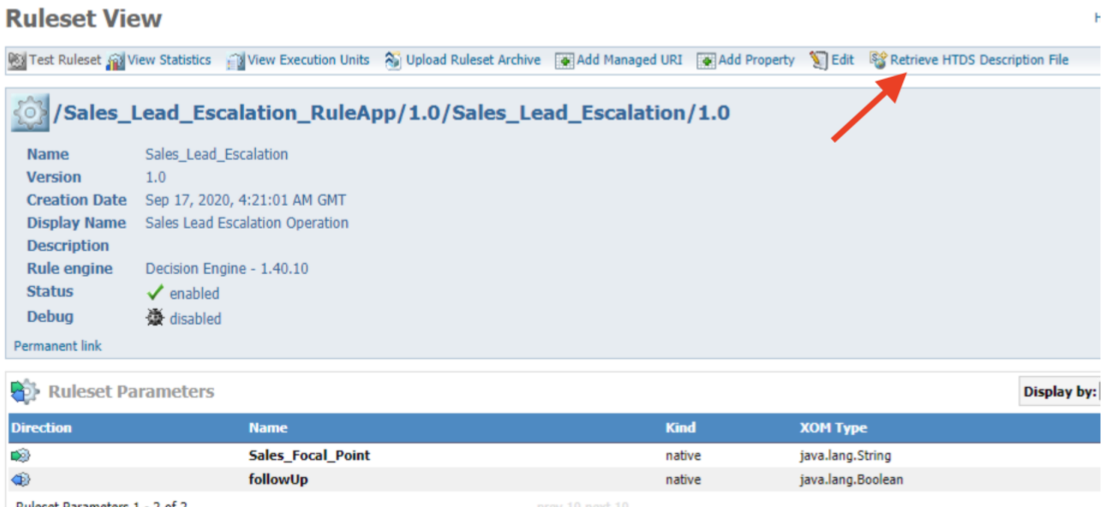
Since the decision service is already installed to rule execution server (RES), we can test and retrieve its REST endpoint via the RES console.

_8. Select **Explorer** at the top of the screen and find our *Sales_Lead_Escalation_RuleApp* and **Click** on it.



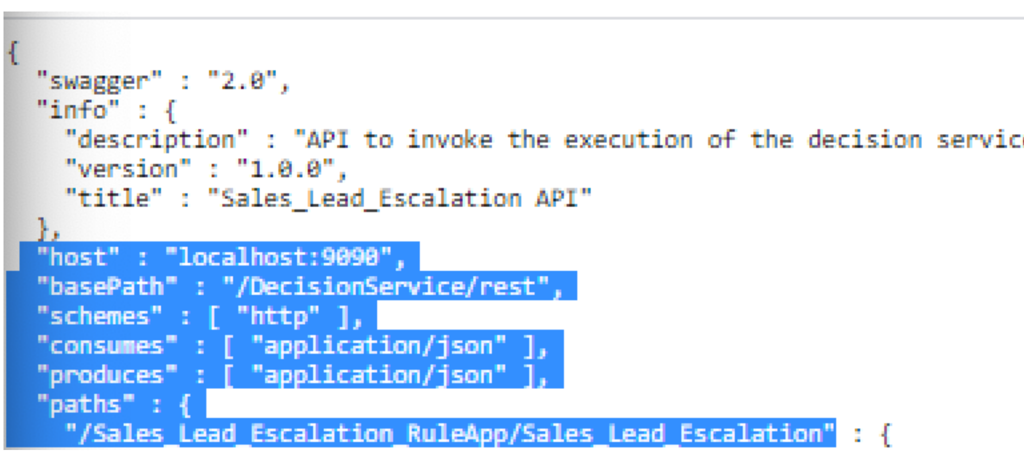
_9. On next view, **click** the latest *Sales_Lead_Escalation* Ruleset.

_10. **Click** *Retrieve HTDS Description File* in the top right



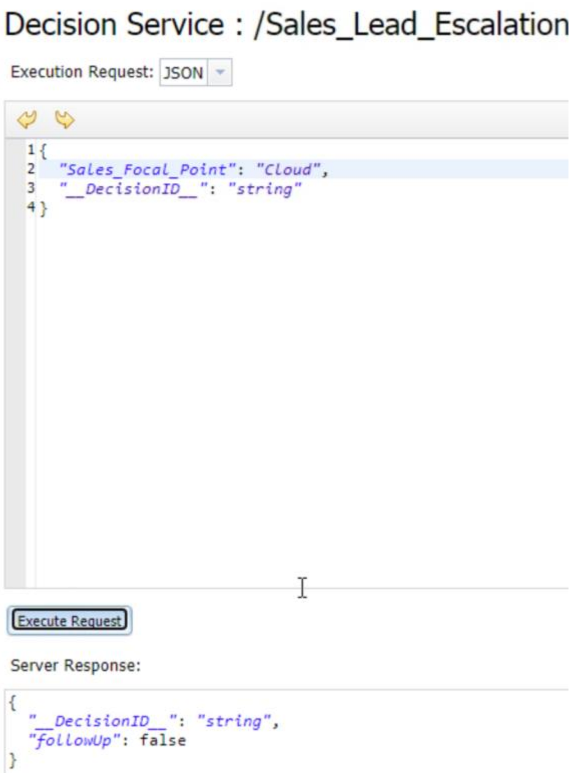
_11. Select **REST** as the Service protocol type, **OpenAPI – JSON** as the Format, check **Latest ruleset version** and **click view**. This brings up the Swagger document for the decision service REST API.

_*12.* For us, the most relevant information is highlighted below. We will use this information later on when we're conducting the actual REST call to ODM. ***You do not need to copy any information from here, it's just for your refence and to understand how to get it from IBM ODM.***



_13. Go Back to Ruleset View (should be still open in one of your browser tabs) **click** on *Retrieve HTDS Description File* again.

_14. This time please select TEST instead of VIEW (keep the other options same). This will show us a sample payload. If you want, you can test the service by inserting “**Cloud**” as Sales_Focal_Point value and **clicking Execute Request button** at the bottom of the view.

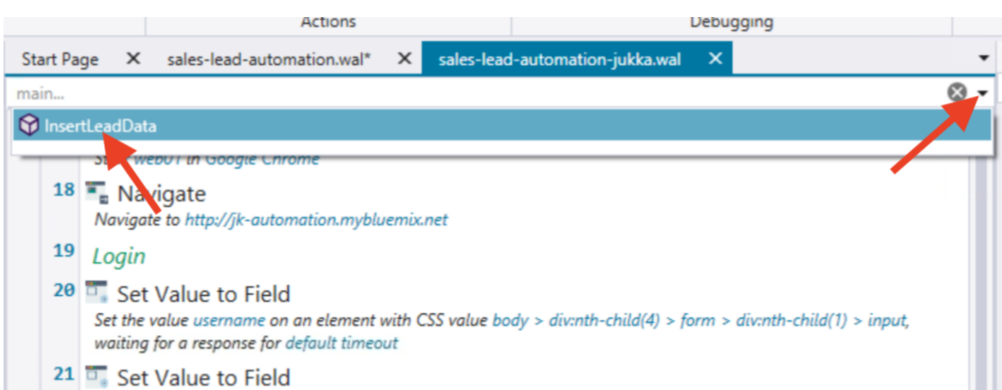


Good. Now we know how to call the service using its REST API. You can close your browser now.

Call the Decision Service

_1. Go back to your Studio and select Designer mode at the bottom of the screen, if not selected.

_2. Select the dropdown bar at the top of our script and select our subroutine *InsertLeadData* to open it.



_3. We want to modify how we handle the follow flag, if the REST call to our decision service comes back as true. Navigate to the **IF** command (line 51) in our *InsertLeadData* Subroutine.

_4. Drag a **HTTP Request** command from the toolbox just before the **IF** command. The configuration window will open.

_5. Set the values to what you see listed below:

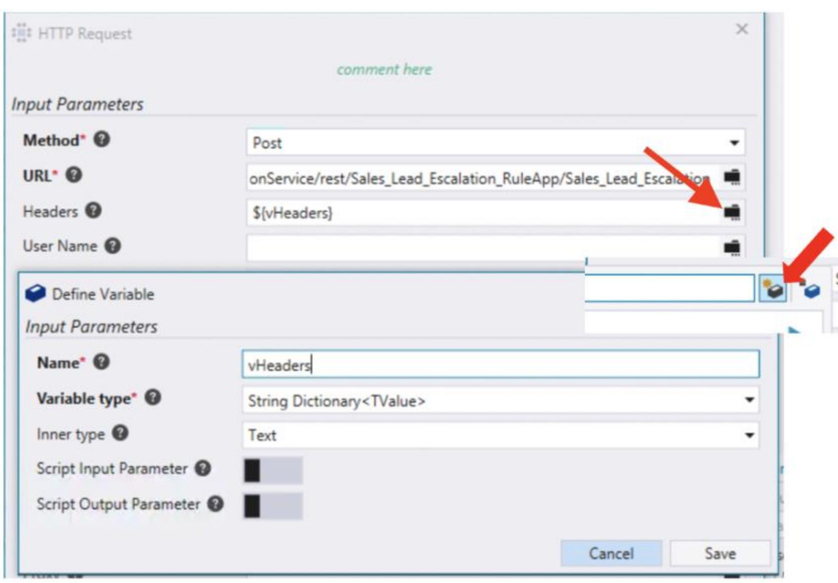
- Method: Post
- URL: http://localhost:9090/DecisionService/rest/Sales_Lead_Escalation_RuleApp/Sales_Lead_Escalation
- Headers: create a new variable named **vHeaders** (look below)
- Body: { “Sales_Focal_Point”: “${interest}” }
- Response: vRES

********** IMPORTANT **********

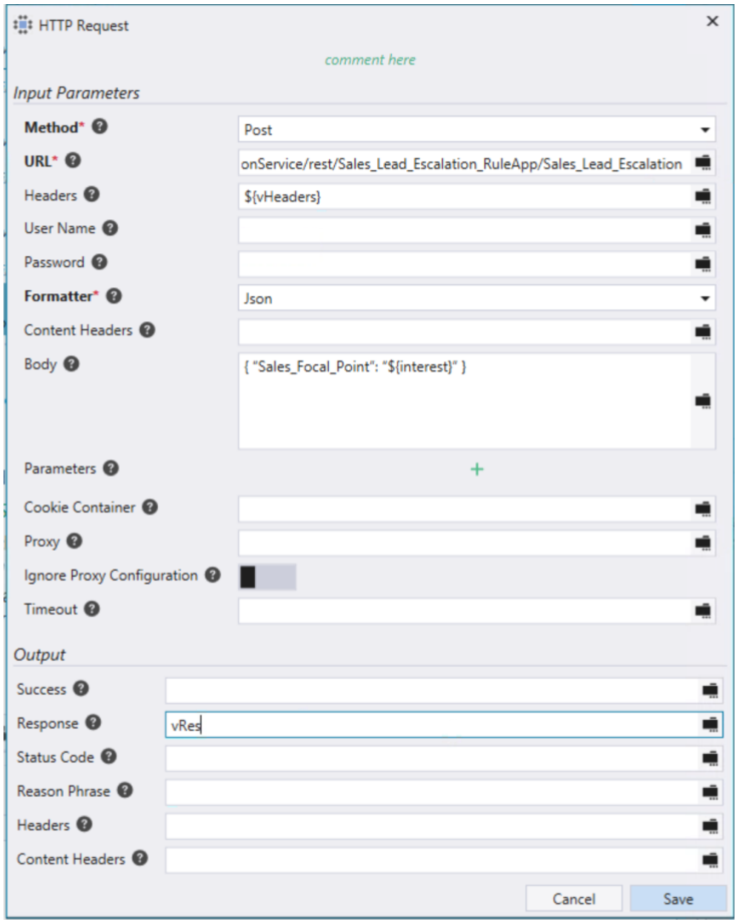
Note: *Sales_Focal_Point* and the *${interest}* variable in the Body field are enclosed in double quotes! If you copy the text from here to your Studio, **you need to re-enter the double quotes manually in Studio**. Copying to VM changes the characters so that Studio does not register them as double quotes.

********** IMPORTANT **********

You will need to **Click the folder icon next to headers** to manually create a new String Dictionary of Type Text. First click the folder then **the brick with the star** next to it to open the Define Variable window.

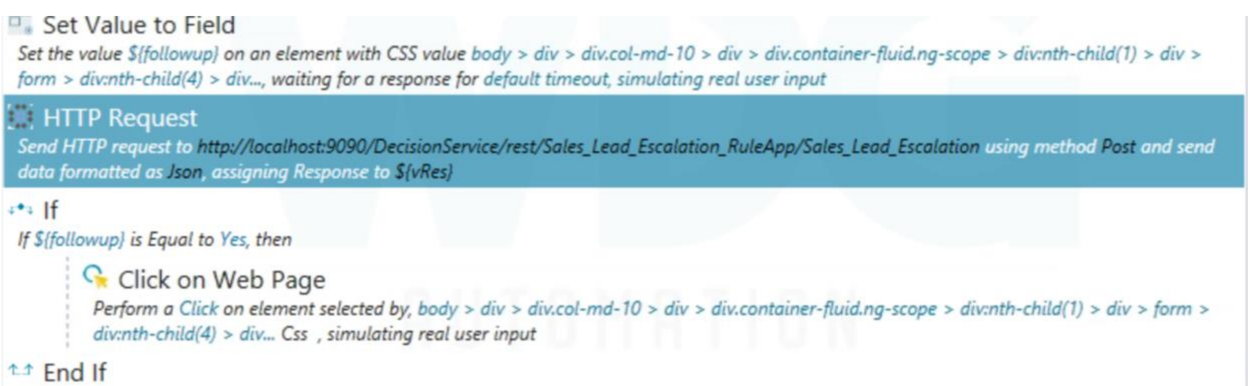


Your configuration should look like this:



Click **Save**.

Your InsertLeadData subroutine should have now a HTTP Request command just before the IF command.



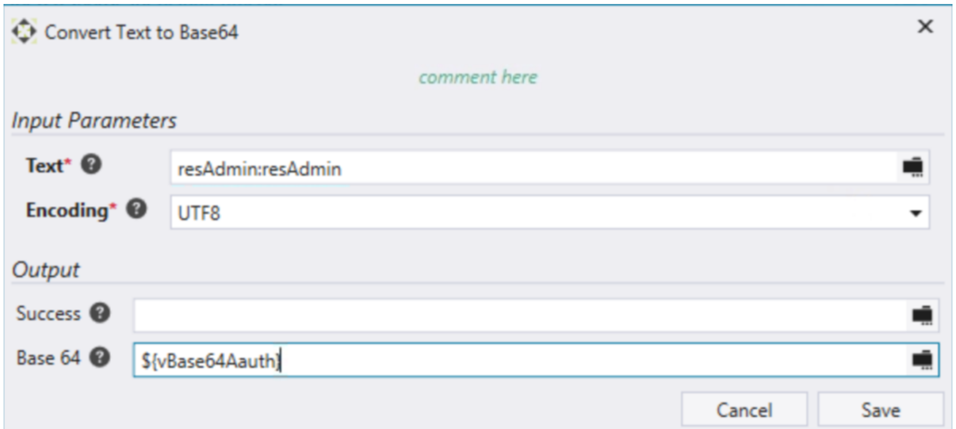
_6. Now Navigate back to your main script by closing InsertLeadData inside the box using the X-icon .

_7. Create a new variable called **vBase64Auth** of type Text.

_8. For the First Line of the Code (Line 20) add a **Convert Text to Base64** Command from the toolbox with your actual ODM RES Server credentials in a format of *username:password*. For our ODM RES Server the Text need to be **resAdmin:resAdmin**.

In real life we would store and get these from IBM RPA secure repository, but for the demo we take the easy way.

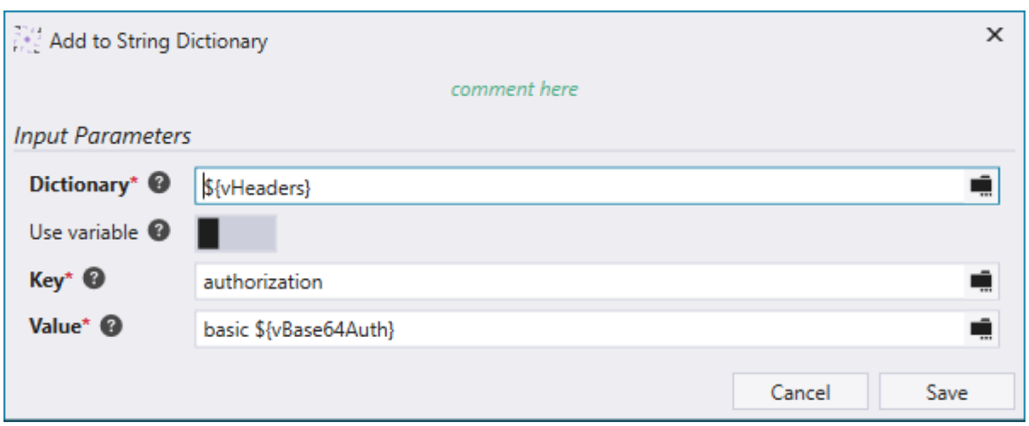
Set the *Base 64 output* to our newly created variable of **vBase64Auth**.



_9. Add an *Add to String Dictionary* Command on Line 21 just after the Convert Text to Base64 command and configure it as follows:

- Dictionary = ${vHeaders}
- Key = authorization
- Value = basic ${vBase64Auth}

Click **Save**.



_10. Navigate back to our *InsertLeadData* subroutine using our dropdown selector

_11. Now, we can run some JavaScript to extract out the response, so right after our HTTP Request, add a ***Run JavaScript*** command.

_12. Insert JavaScript to parse out the response, ensuring no special chars (e.g. new line return) inserted along:

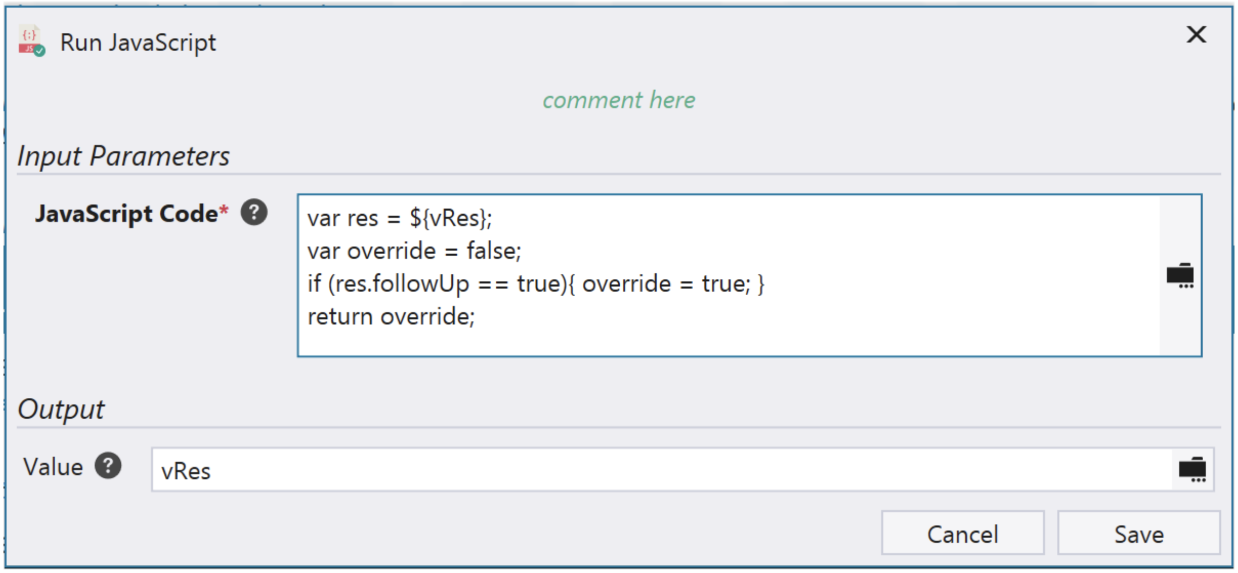
```
var res = ${vRes};

var override = false;

if (res.followUp == true) { override = true; }

return override;
```

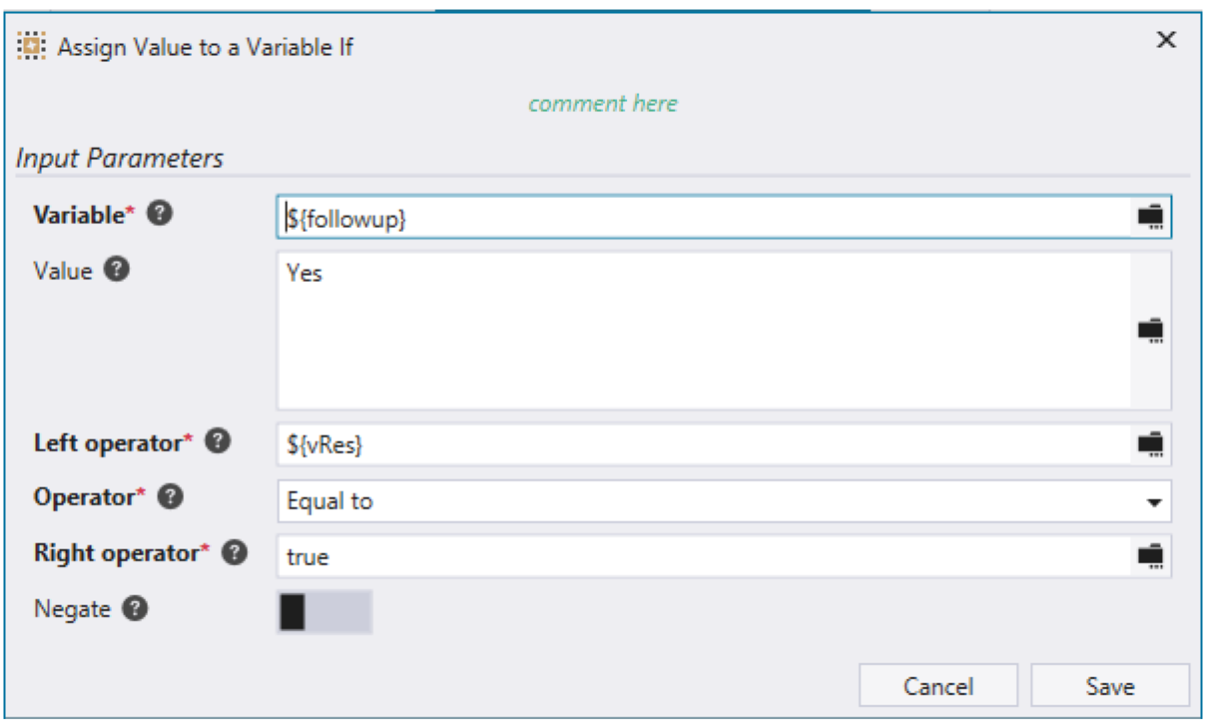
You should have the code above inserted as below:



Make sure to set also the output value to **vRes**!

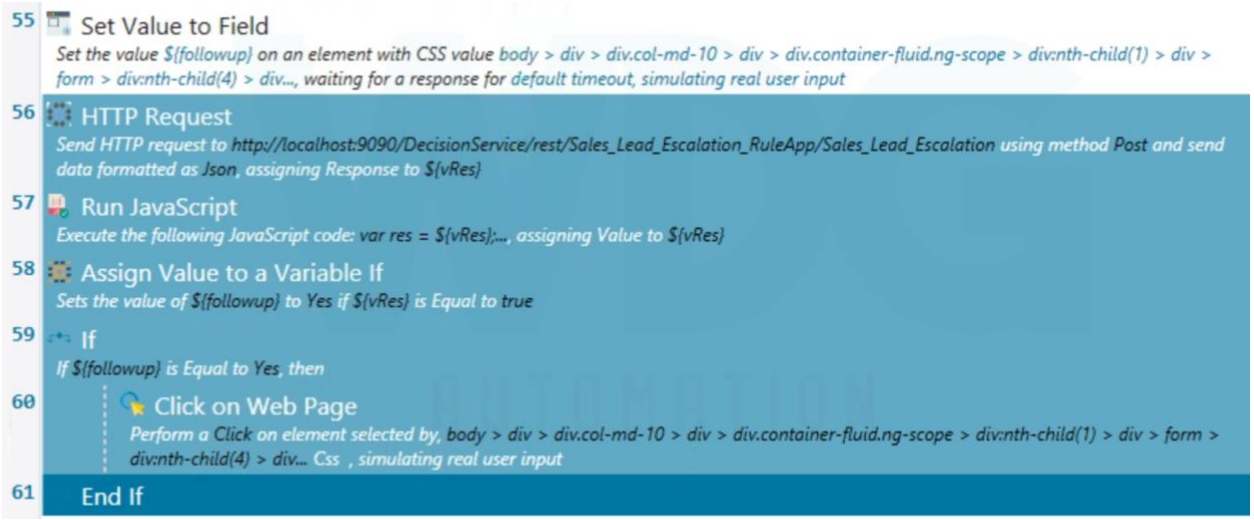
Click **Save**.

_13. Pull an ***Assign Value to a Variable If*** command from the Toolbox and place it below the Run JavaScript command. Configure as shown in the picture:



Click **Save** to close the configuration windows. Also **save your work** by hitting Ctrl+s or using the Save option from the toolbar.

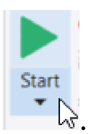
You should have similar sequence in your subroutine.



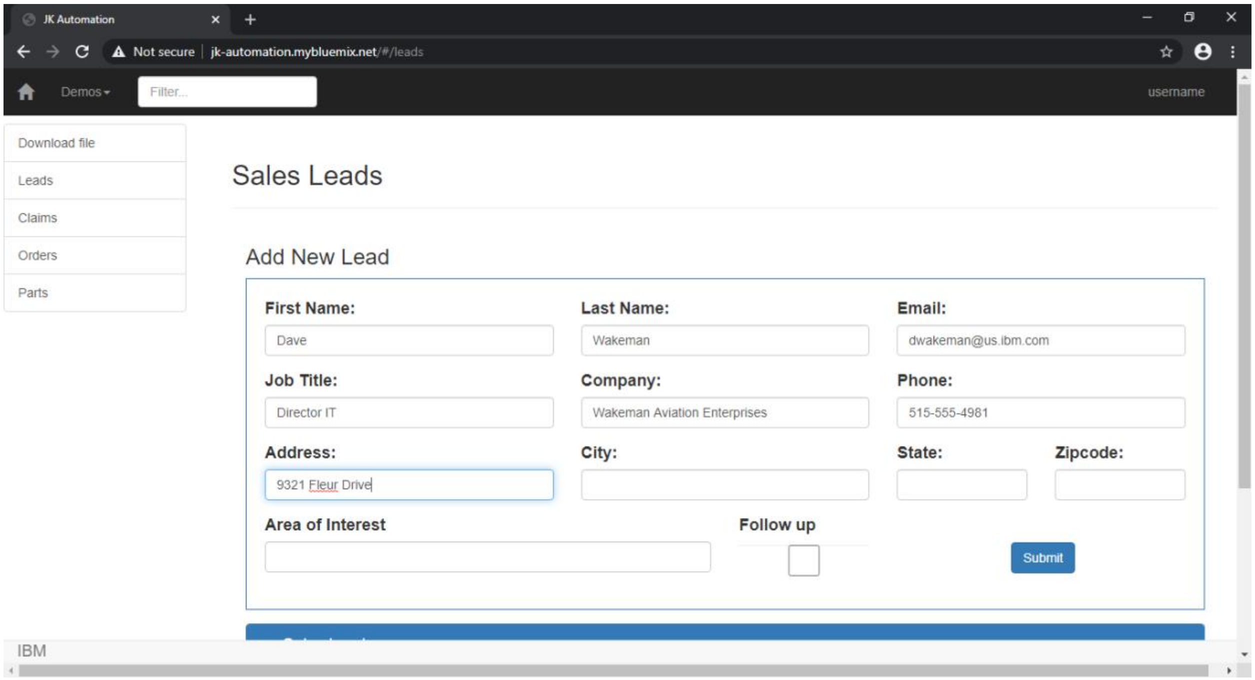
Nice work. You should be ready for testing!

Test your automation

_1. Click the green `Start` icon form the top toolbar. Alternatively, you can hit `F5`.



_2. You should see the bot filling in the form automatically.



_3. Note the follow-up flag such as for **Pramond Prince** and **Sheri Williams** that we expect not to be flagged. Now they should be flagged since the overriding decision service.

SalesLeads.csv

```
First Name,Last Name,Job Title,Company,email,phone,Client Address,Client City,Client State,Client Zipcode,Area of Interest,Followup Requested
Paul,Pacholski,Consultant,Hannibal Enterprises,pacholsk@hannibalent.com,905-883-8234,119 Barkley Drive,Thornhill,ON,L3T-6N2,Auto ML,Yes
Dave,Wakeman,Director IT,Wakeman Aviation Enterprises,dwakeman@us.ibm.com,515-555-4981,9321 Fleur Drive,Des Moines,IA,50309,Robotic Process Automation,Yes
Pramod,Prince,IT Developer,United Third Bank,pramod@unitedthirdbank.com,612-555-2341,332 Hennipen Ave,Minneapolis,MN,55404,Microservices,No
Otto,Pilot,CIO,"Autonomous Cars, Inc.",otto@autocars.com,669-555-8221,9876 Infinite Loop,San Joes,CA,95002,Autonomous Cars,Yes
Stu,Liebowitz,Vice President,Craymore Computers,stu@craymore.com,512-555-1488,11501 Burner Rd,Austin,TX,78702,Business Process Management,Yes
Sheri,Williams,Director of Operations,Piston Manufacturing,sheri@pistonmfg.com,313-555-2991,503 Fasbinder Parkway,Detroit,MI,48202,IT Service Management,No
Monika,Datar,Data Scientist,Covfefe Pharmaceuticals,monika@covfefepharma.com,212-555-5591,51 Astor Place,New York,NY,10026,Machine Learning,Yes
Jeff,Goodhue,Director of Programming,Dojo Networks,jeff@dojo.com,424-555-4398,33912 Sunset Blvd,Culver City,CA,90233,Content,Yes
Satoshi,Nakamoto,Lead Developer,Programming Anonymous,satoshi@coinbit.com,929-555-2358,3928 Crypto Lane,Seattle,WA,98114,Case,No
Timothy,McGee,Data Scientist,Coach K Communications,tim@coachk.com,919-555-0720,928 hoopsville Lane,Raleigh,NC,27676,Data Science,Yes
Josh,Bockman,Director of IT,HealthFirst Patient Services,josh@healthfirst.com,617-555-1103,321 King St,Boston,MA,2132,Business Rules,Yes
Stuart,Jones,Enterprise Architect,Wessex Financial Services,stuart@wessex.com,630-555-9227,71 S Wacker,Chicago,IL,60624,Cloud,No
```

THIS COMPLETES THIS HANDS-ON LAB

3. Work with a Completed Automation

If you just want to run the automation without authoring it or if you just want to look at a completed solution, you can open the **sales-lead-automation-REST-completed.wal** from the lab folder (*Desktop* → *IBM RPA Lab Resources* → *Lab 2 – REST integration – using ODM*.

Refer to Test your automation section to start your bot.