# IBM Robotic Process Automation

Hands-on Workshop

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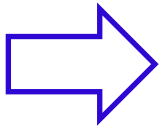
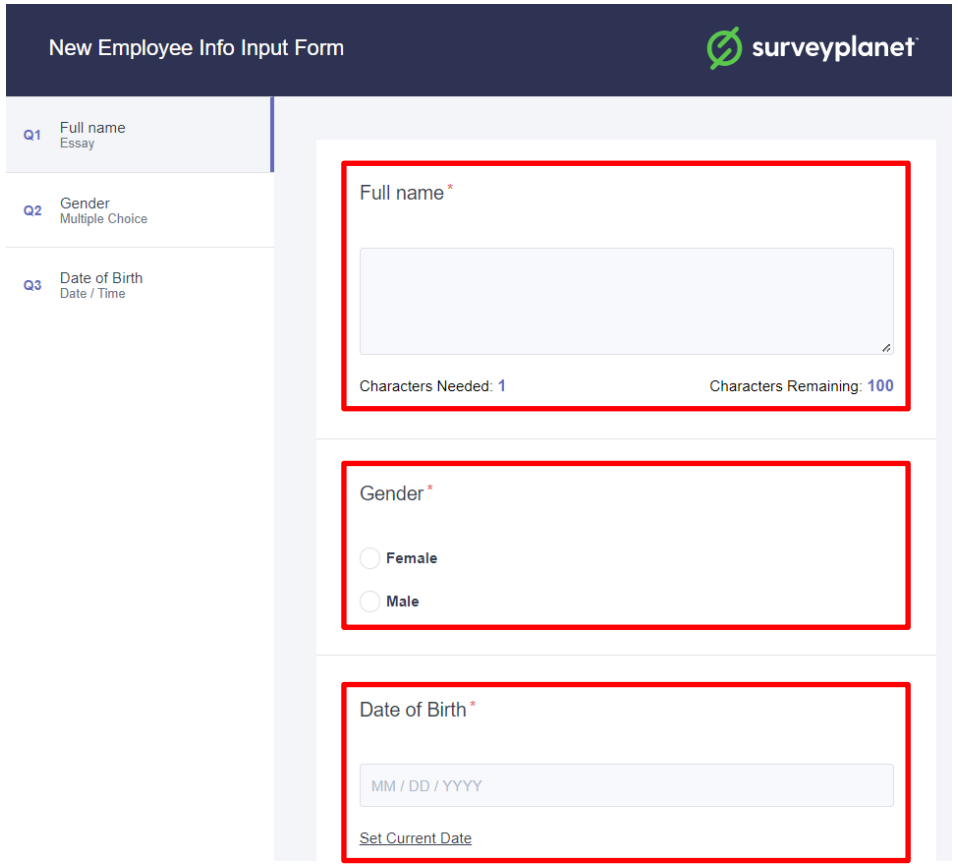
# Lab Exercise 1

## Transfer CSV Data to Web Form

# Lab 1 - Process Details

| | A | B | C | D |
|---|---|---|---|---|
| 1 | First Name | Last Name | Gender | DOB |
| 2 | Anna | Johnson | Female | 5/8/1983 |
| 3 | Bob | Smith | Male | 1/12/1990 |
| 4 | Cameron | Taylor | Male | 12/21/1988 |
| 5 | Donna | Brown | Female | 11/11/1991 |





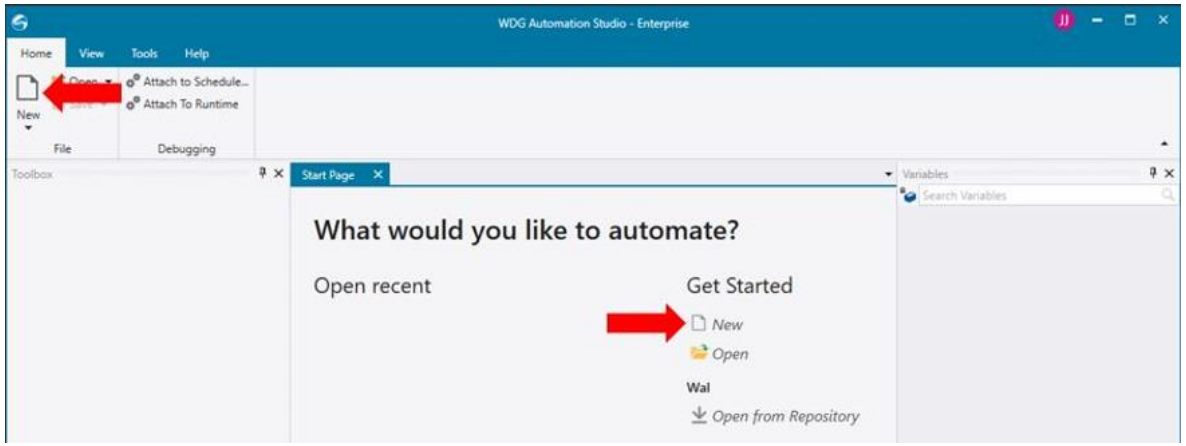

New hire details in csv file

Enter details into HR system

# Lab 1 – Create a new automation

**Create a new WAL file**

- Click the New icon from the top toolbar or New under "Get Started" section.

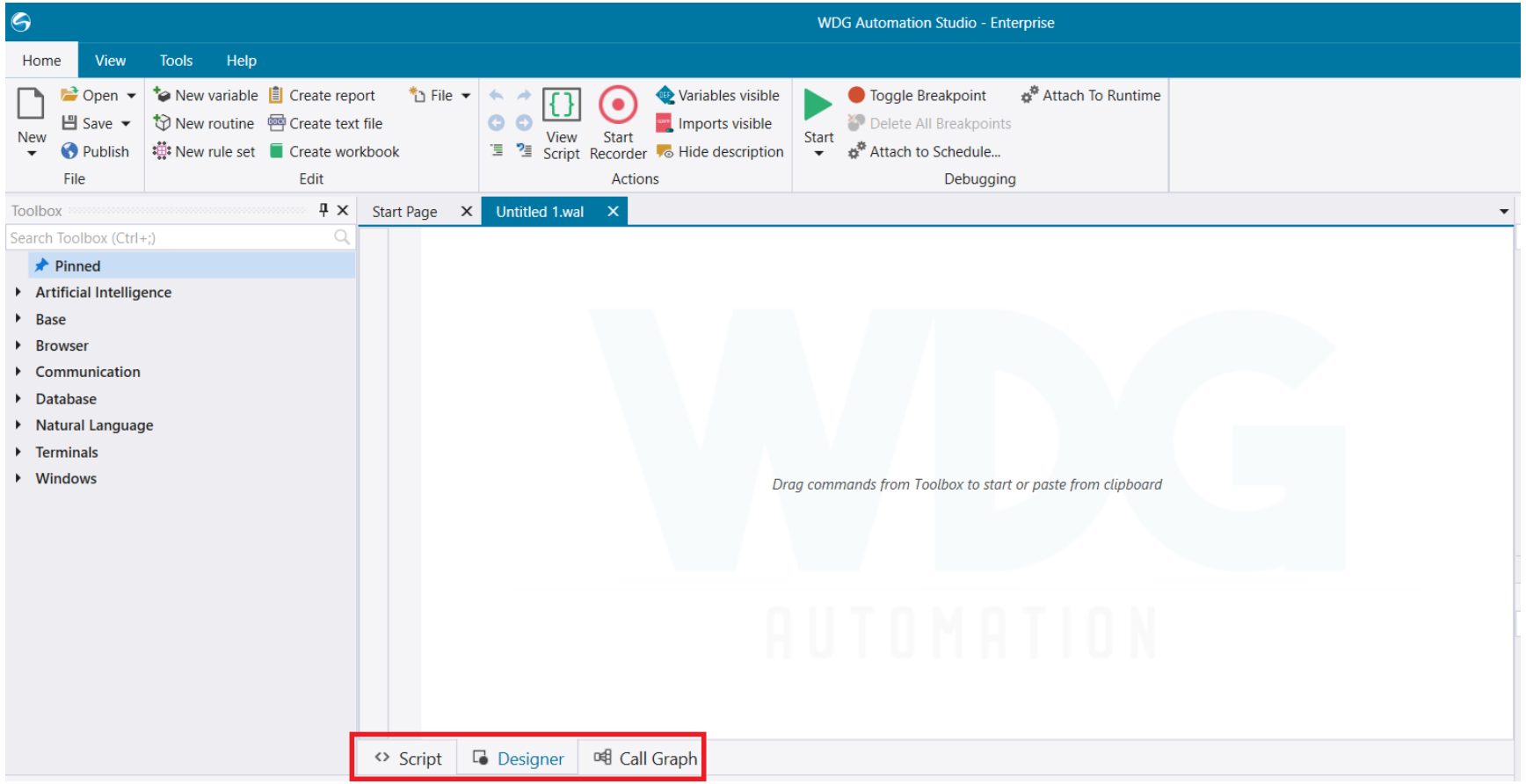



- Select “WAL File” and click Open.

# Lab 1 – Create a new automation

You should now have your Studio opened with an empty WAL file in your Designer view.

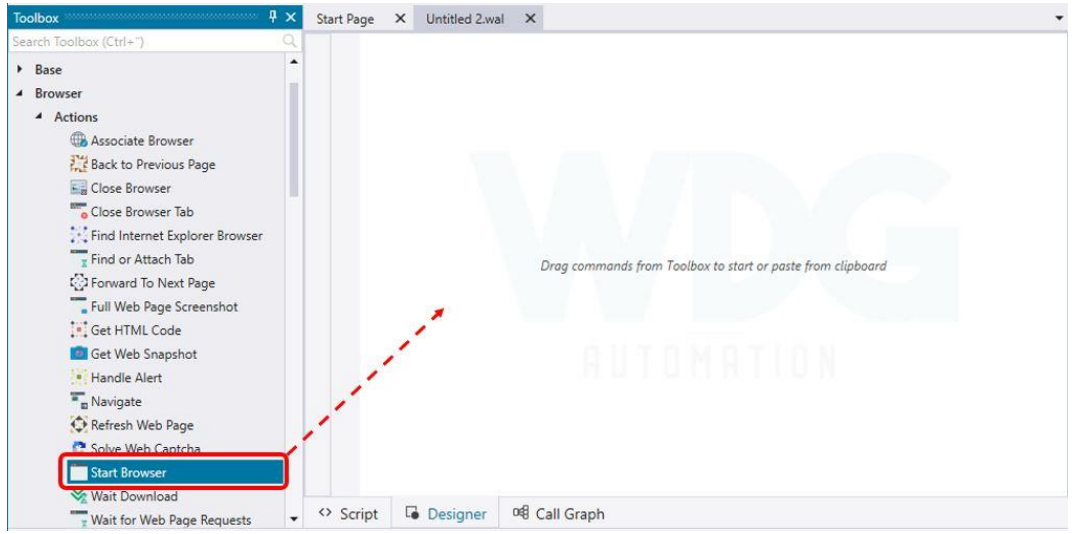
- You can change your view between *Script*, *Designer* and *Call Graph*.



# Lab 1 – Script

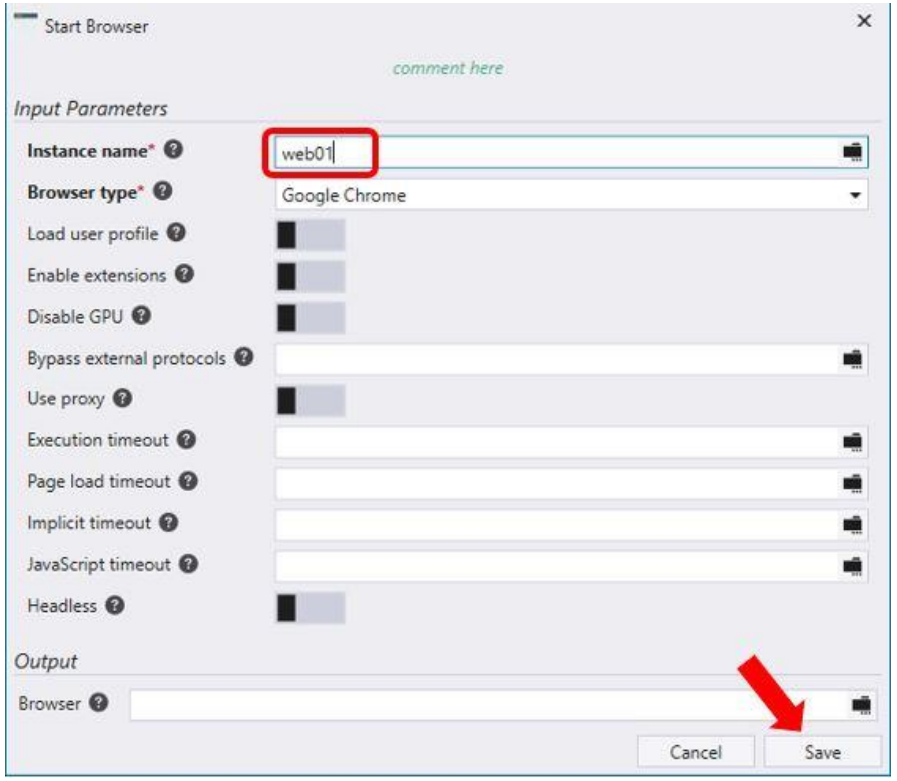
**Add Start Browser command from your Toolbox to your Designer view.**

- Find the command under Browser > Actions.
- Drag and drop it to your canvas.




**Fill in the command configuration.**

- Set a name to your browser instance: web01
- Browser type: Google Chrome
- Click Save button.



# Lab 1 – Script

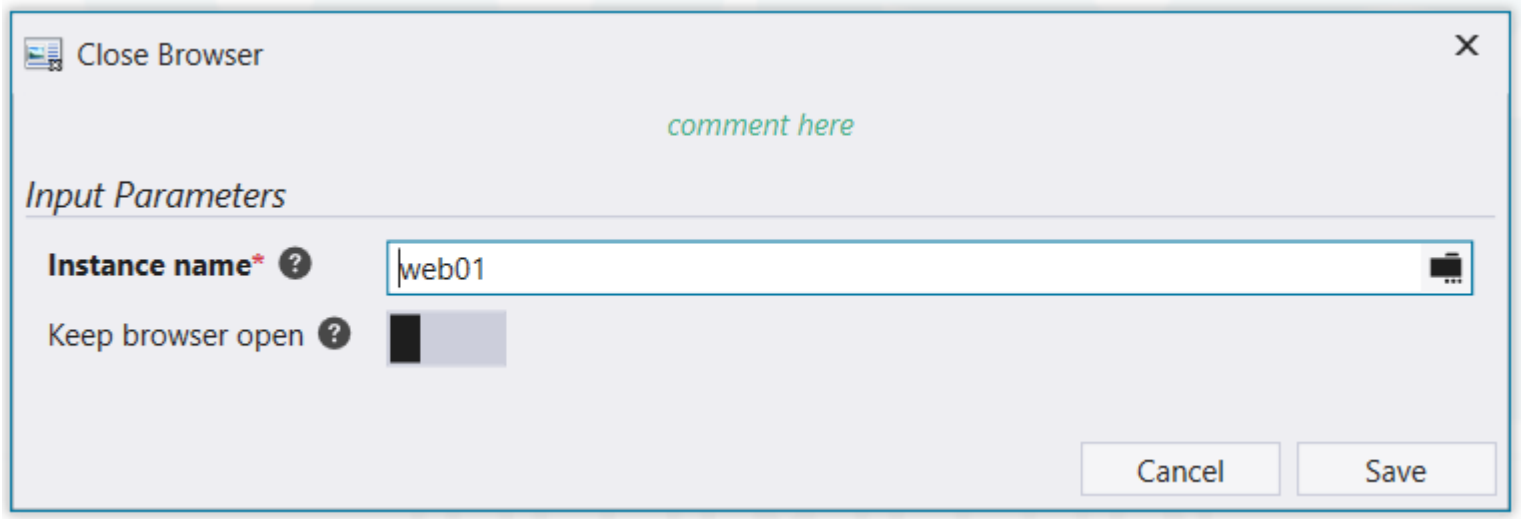
**Close Browser configuration window**

- This should pop up automatically

- Set the same instance name value that you used for Start Browser

- Set Keep browser open as disabled.

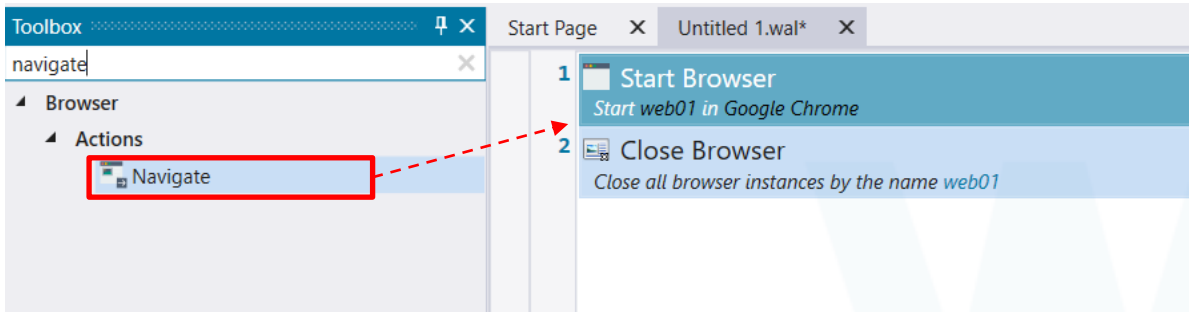
- Click Save button to close the configuration window.



# Lab 1 – Script

**Add in command Navigate after Start Browser.**

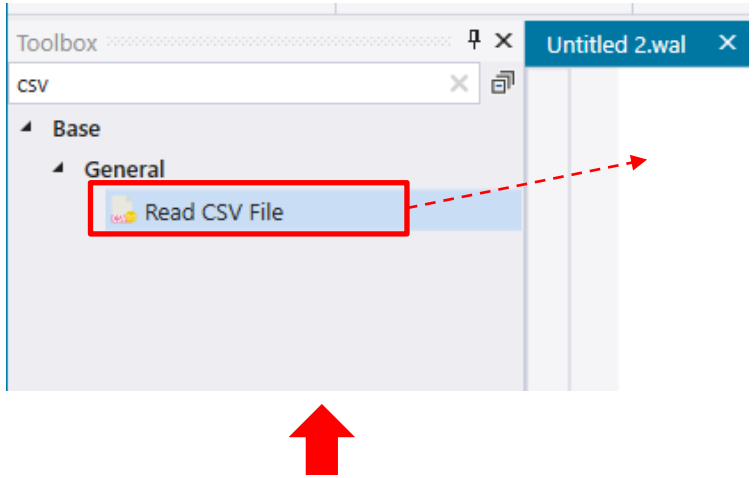
- Search **Navigate** in command Toolbox.
- Drag and drop it below the Start Browser command to your Designer view.
- Set the URL to **https://s.surveyplanet.com/ktxwh3t4**
- Click Save to save the command



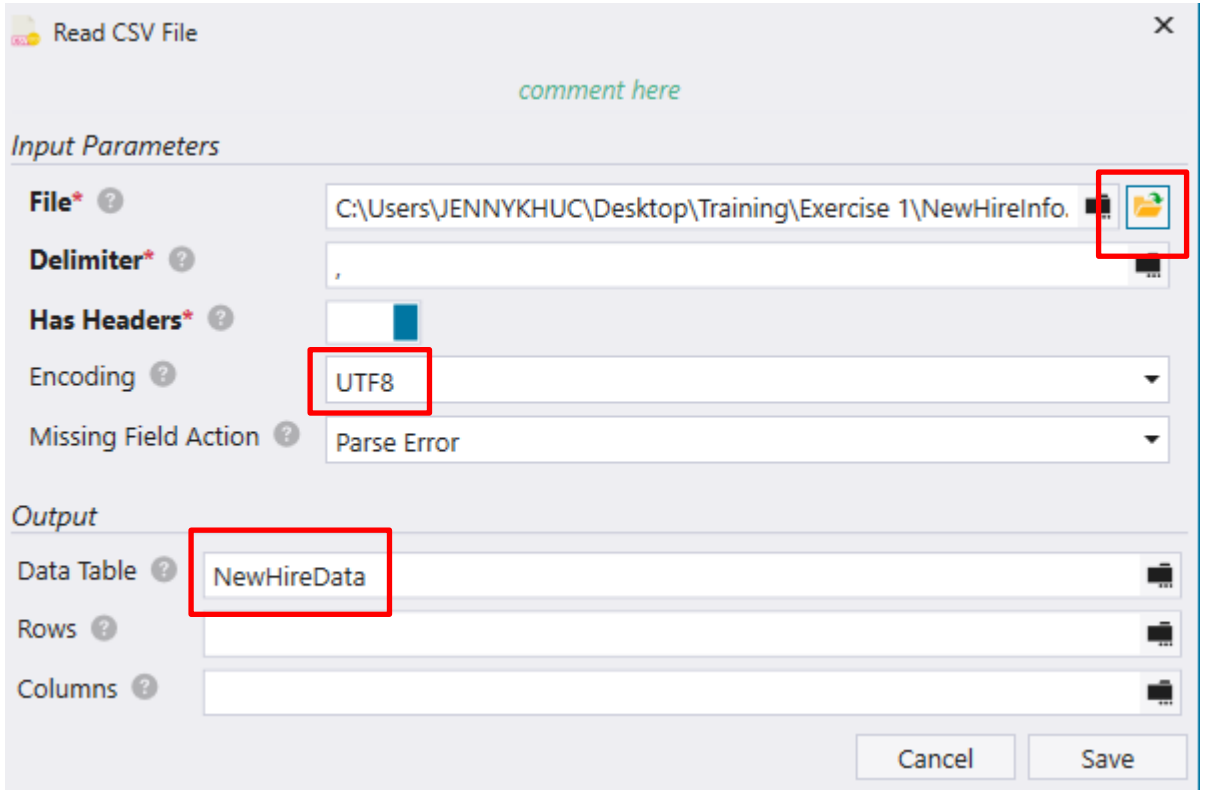

# Lab 1 – Script

**Read from CSV file**

- 1. Search for **Read CSV File** command in Toolbox.
- 2. Specify the location of the CSV file
- 3. Create a new variable to store the data table extracted from the CSV




1. Drag command from Toolbox




2. Click to specify location of file

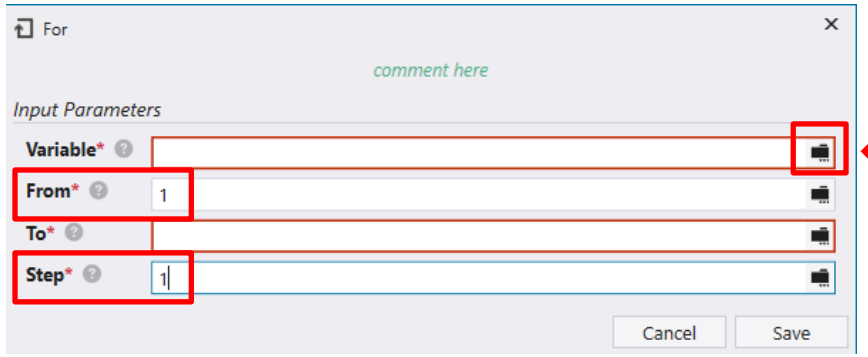
(Optional) Specify Encoding as UTF8

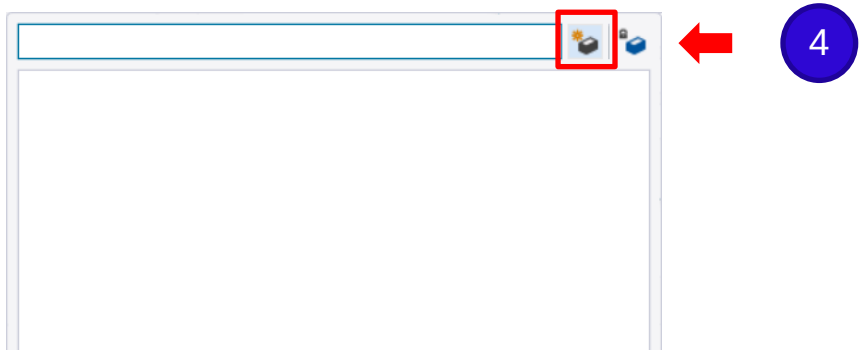
3. Choose a name for the data table

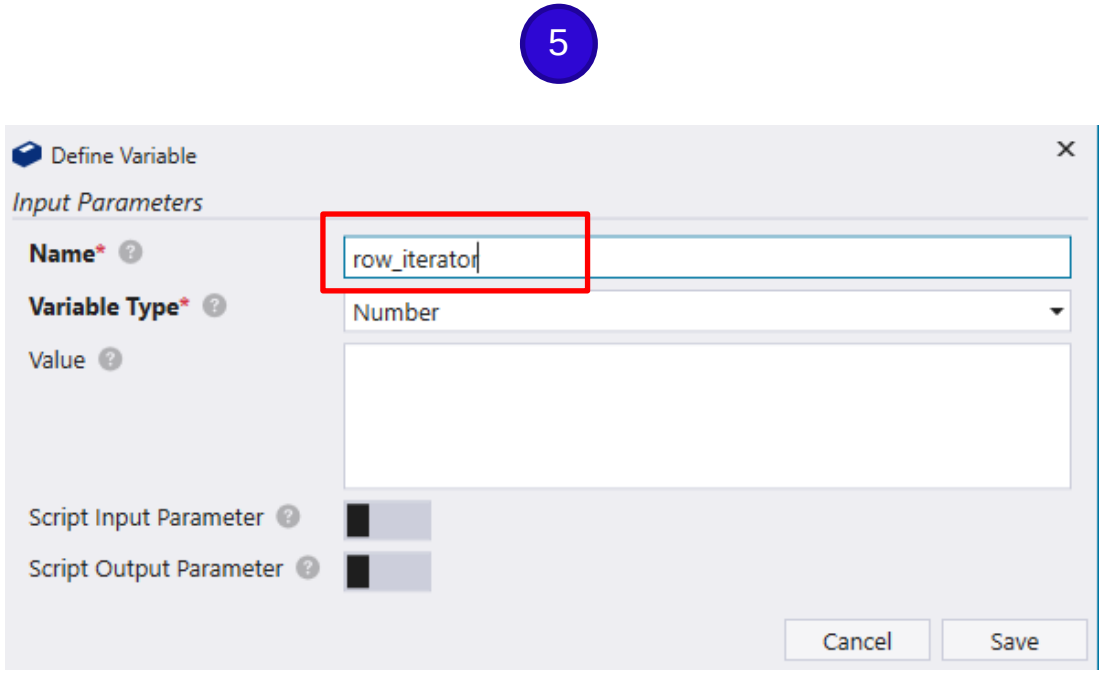
# Lab 1 – Script

**Insert a For loop**

- 1. Search **For** in the command toolbox and drag the command over to Script
- 2. Set From and Step to ‘1’
- 3-5: Create a new variable row_iterator to iterate the table



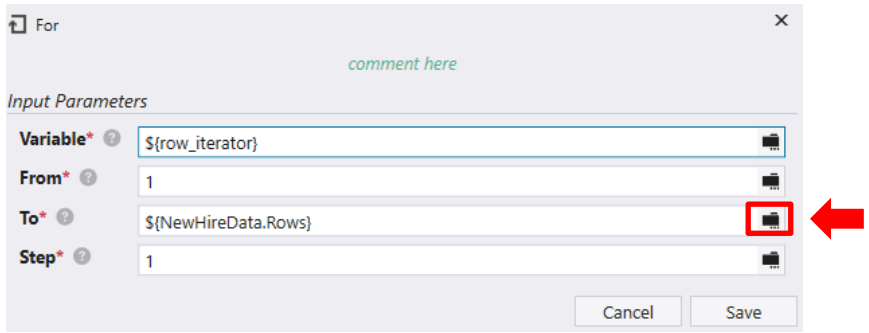



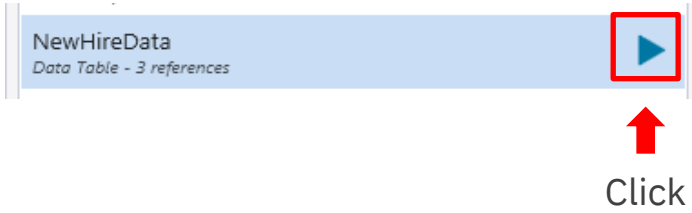



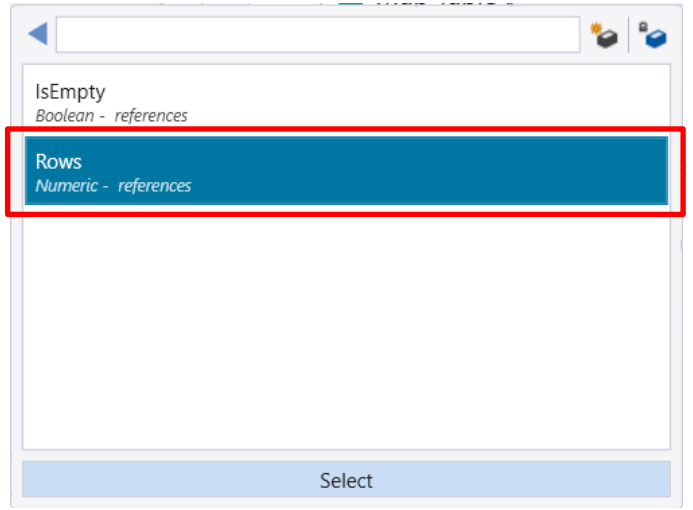
# Lab 1 – Script

**Insert a For loop**

- 6. Set To to the value of number of rows in the csv datatable following the steps below.
- This means the loop will run till the last row of the HireInfo table.



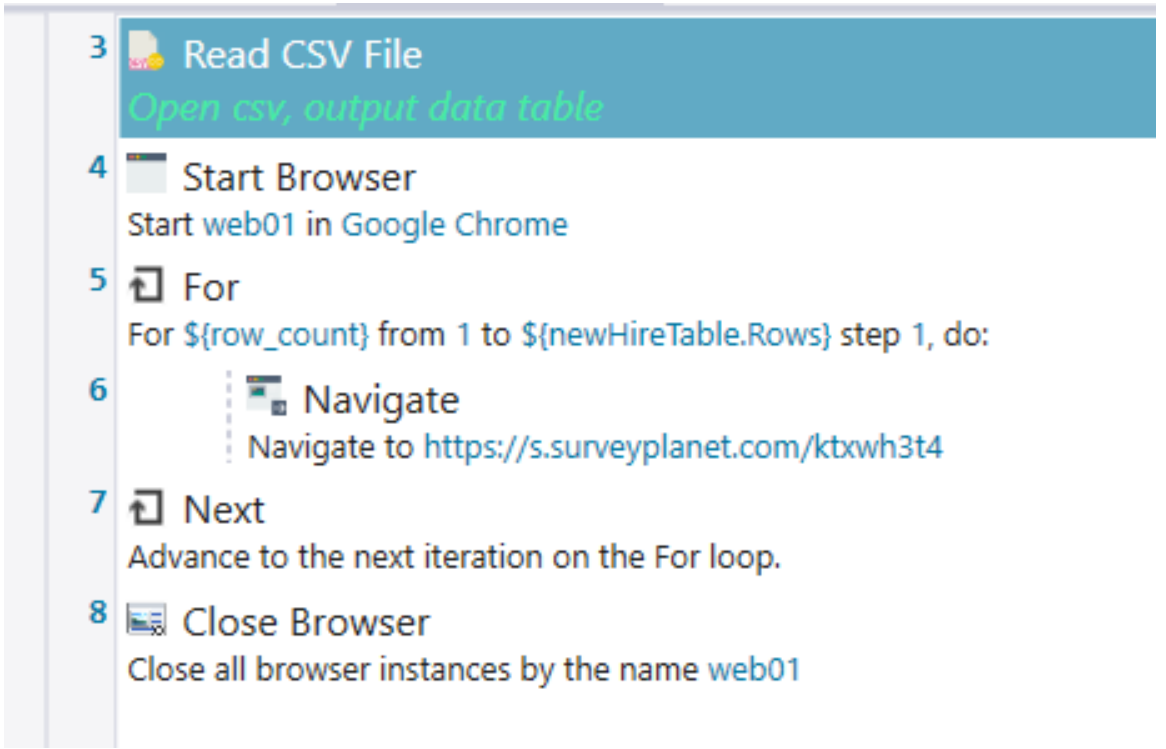



# Lab 1 – Script

**Organize the command order**

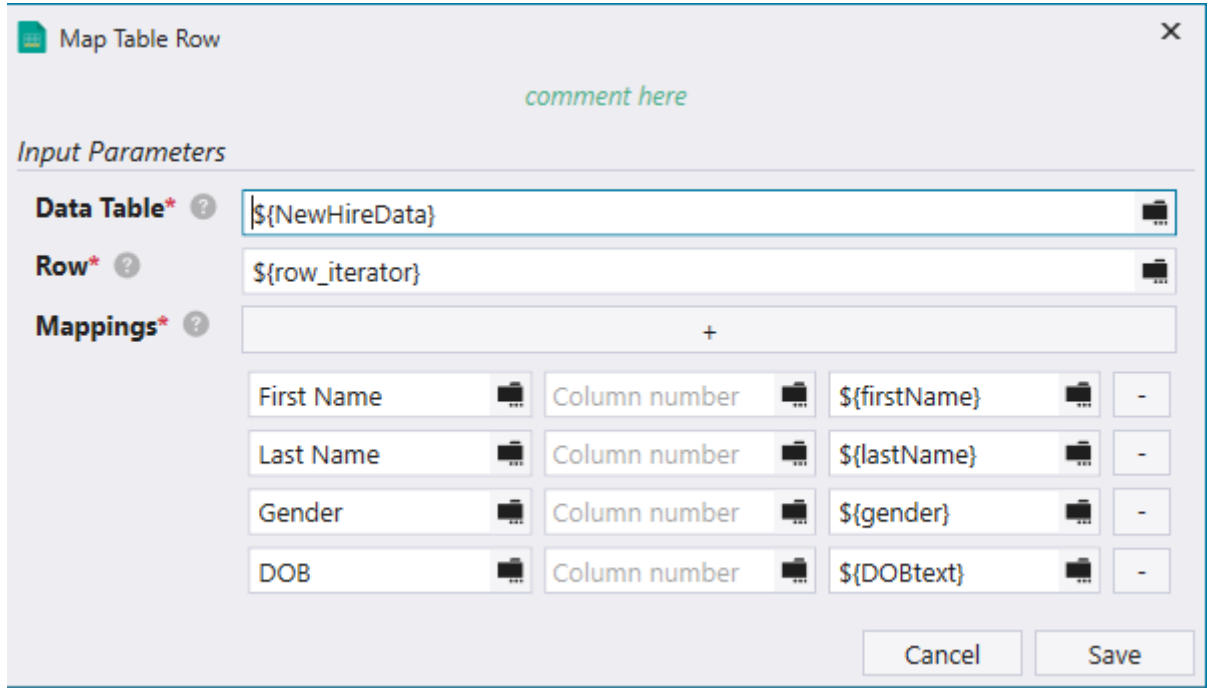
- You may drag and drop the command around to reorganize their order



# Lab 1 – Script

**Map Table Row**

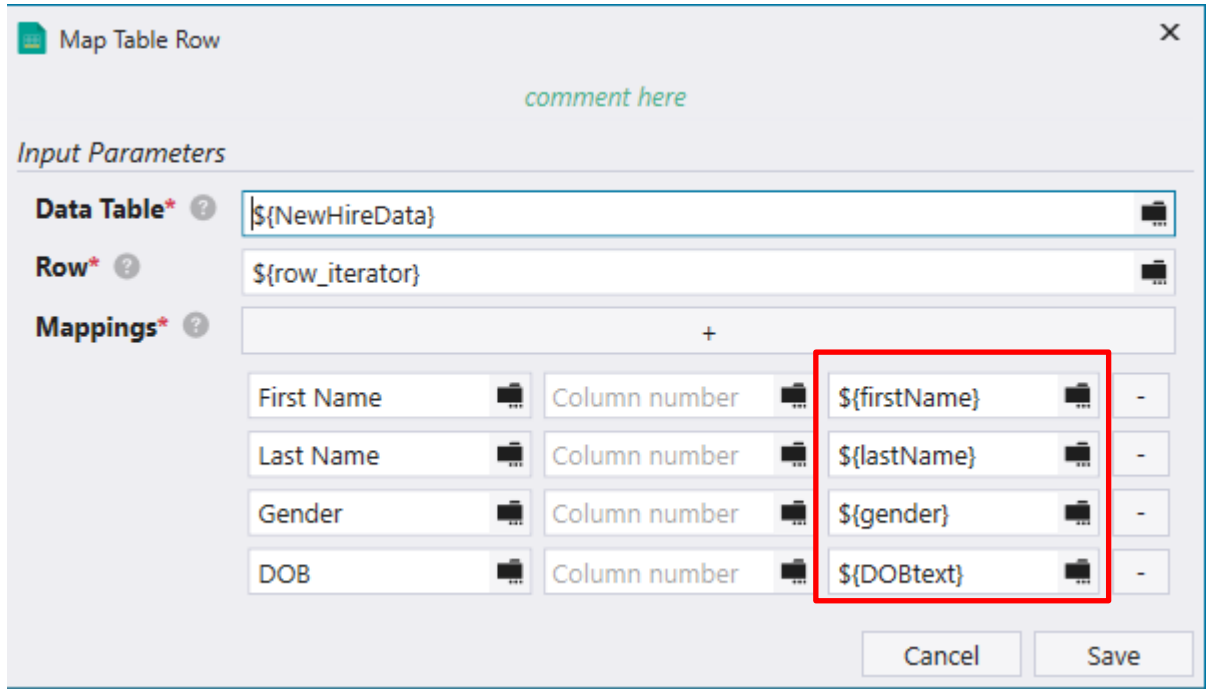
- Specify the data table and the row for each mapping
- Click the plus sign to add mapping
- You may use either column name (careful on spelling) or column number to map the value in the csv data table to 4 new variables for inserting into survey app later



# Lab 1 – Script

**Map Table Row**

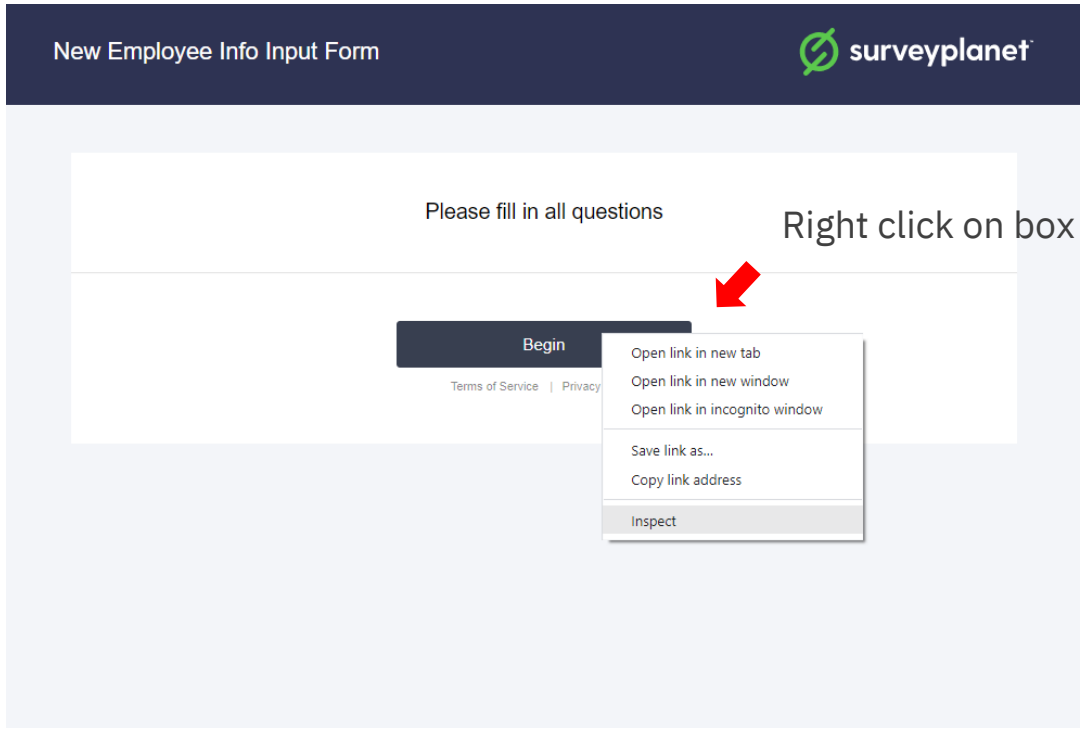
- Take note that you need to create a new variable for each of these field (similar to steps we did in page 11)

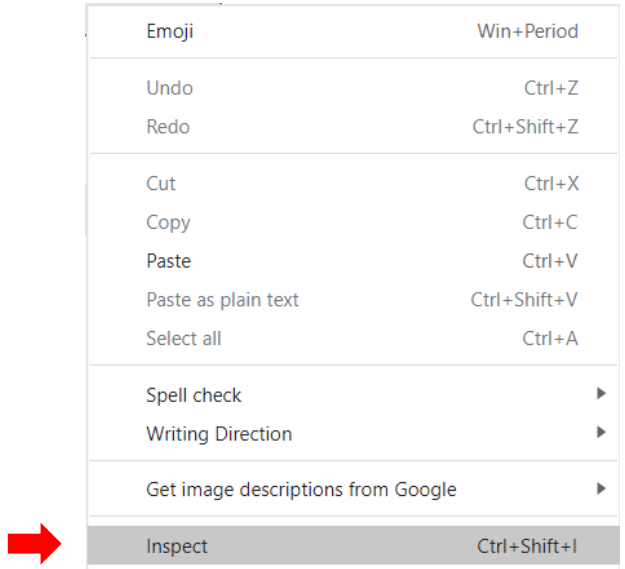


# Lab 1 – Script

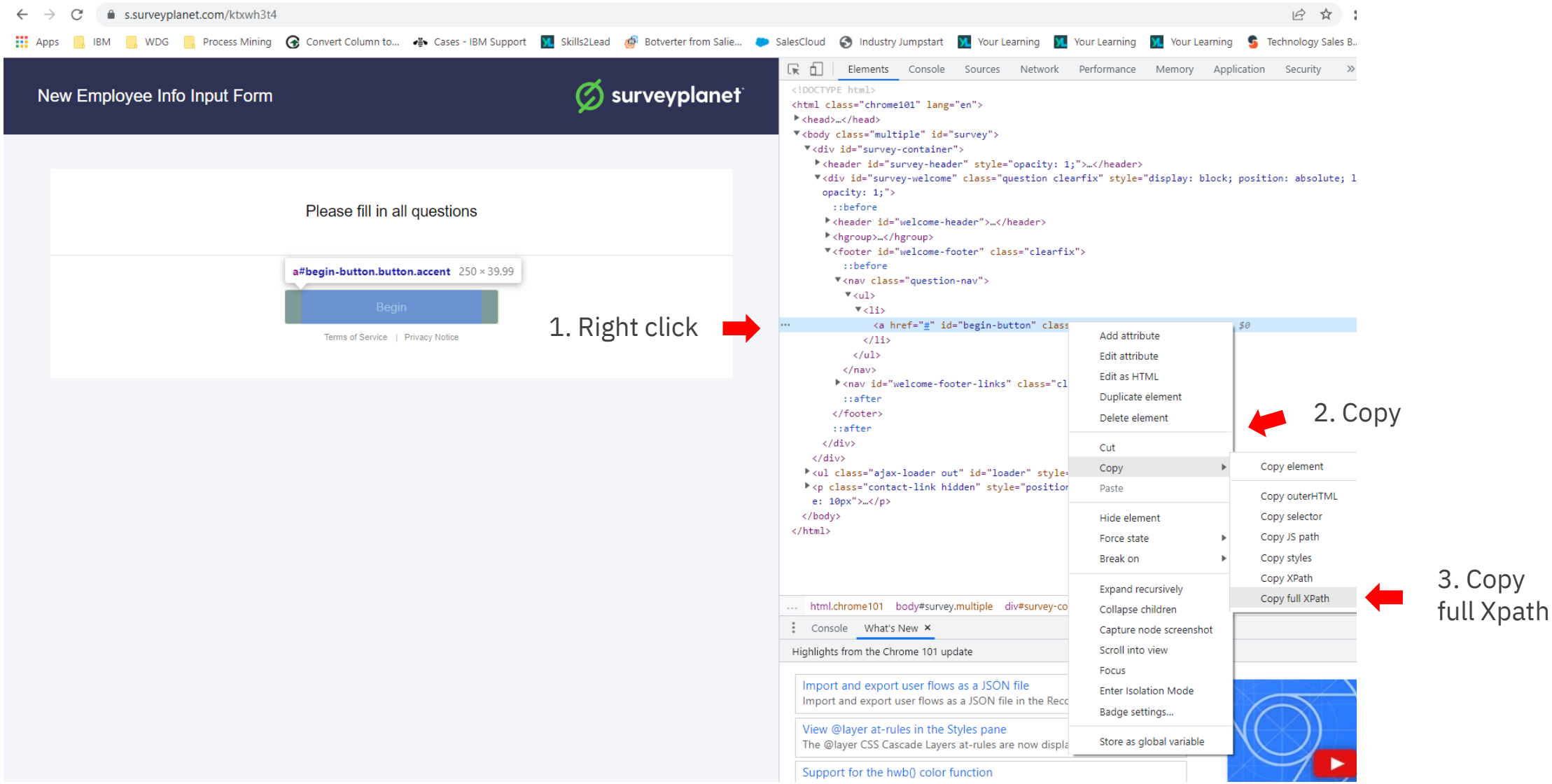
**Set the value in survey input box for First Name and Last Name**

- Now open a Chrome browser (Outside of studio) & Go to the survey link: **https://s.surveyplanet.com/ktxwh3t4**
- Copy selector for the Begin survey start button
  - Right click on the button > Choose Inspect



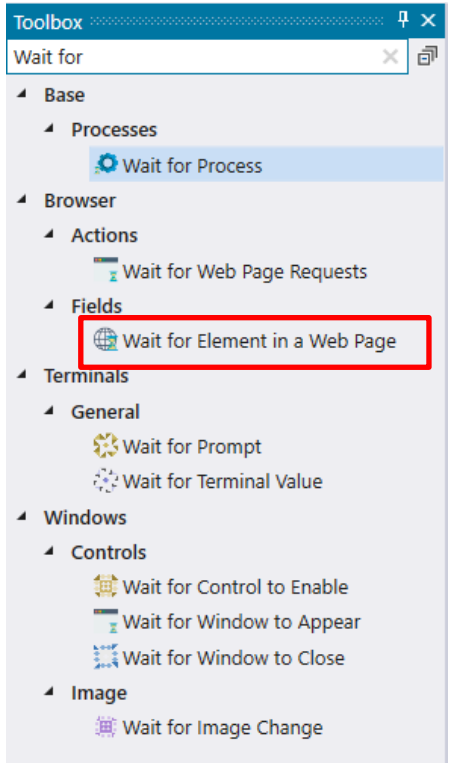
# Lab 1 – Script

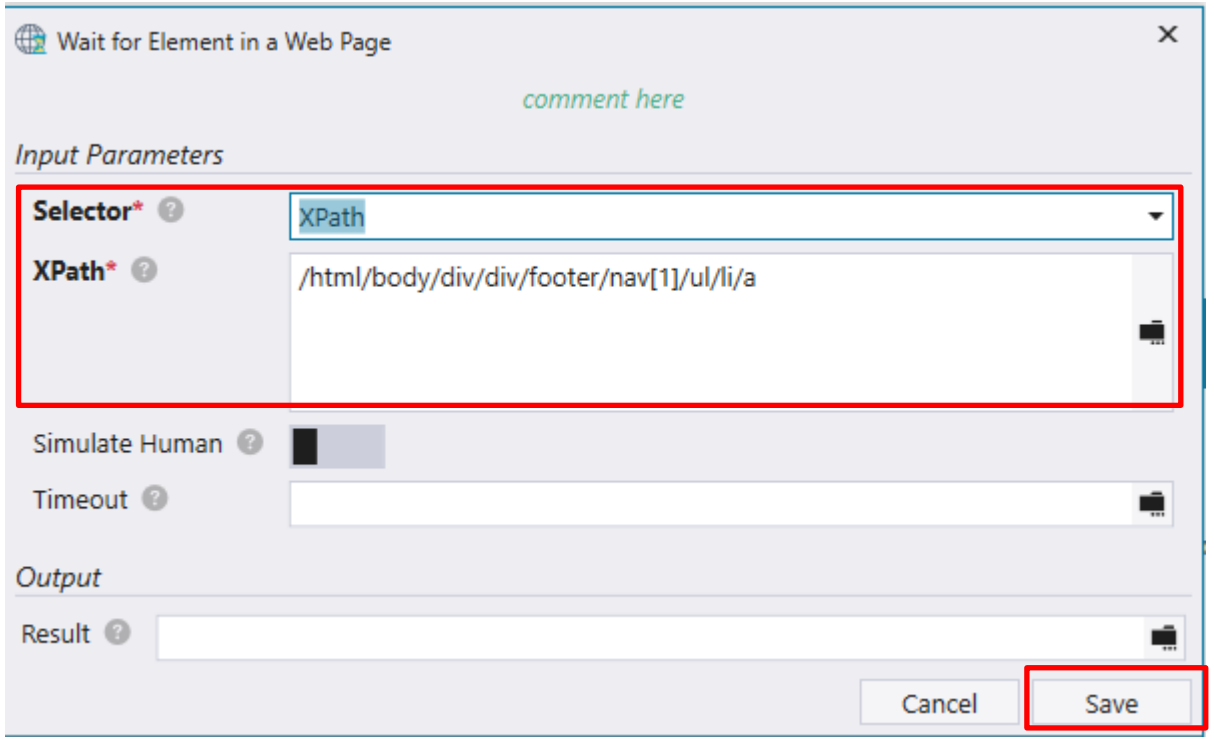

s.surveyplanet.com/ktxwh3t4
New Employee Info Input Form
surveyplanet
Please fill in all questions
a#begin-button.button.accent 250 × 39.99
Begin
Terms of Service | Privacy Notice
1. Right click
Elements
Console
Sources
Network
Performance
Memory
Application
Security
Add attribute
Edit attribute
Edit as HTML
Duplicate element
Delete element
Cut
Copy
Paste
Hide element
Force state
Break on
Expand recursively
Collapse children
Capture node screenshot
Scroll into view
Focus
Enter Isolation Mode
Badge settings...
Store as global variable
Copy element
Copy outerHTML
Copy selector
Copy JS path
Copy styles
Copy XPath
Copy full XPath
2. Copy
3. Copy full Xpath
Console
What's New
Highlights from the Chrome 101 update
Import and export user flows as a JSON file
View @layer at-rules in the Styles pane
Support for the hwb() color function

# Lab 1 – Script

**Before clicking the button, the bot should make sure the button is visible/ready**

- After copying the selector of the button, go back to RPA Studio, search for **Wait for Element in Web Page** command in Command Toolbox and drag it over to Script
- Choose **Xpath** for Selector Type
- Choose the appropriate selector type (Xpath) & Paste the copied button selector to the input



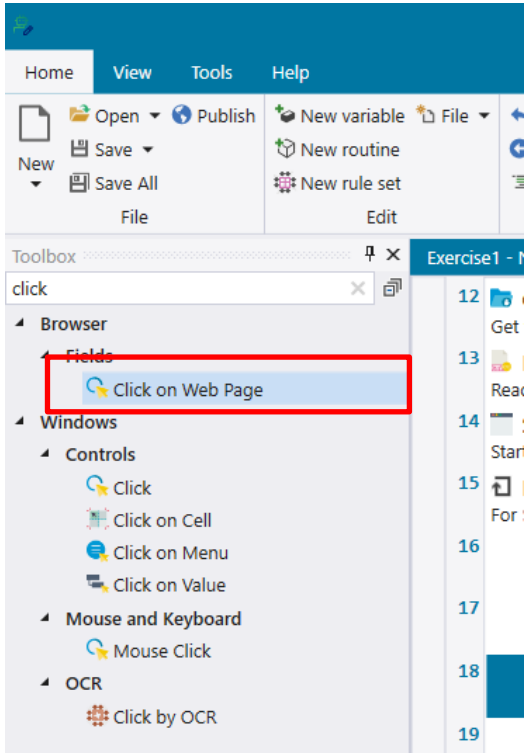

Paste button selector here

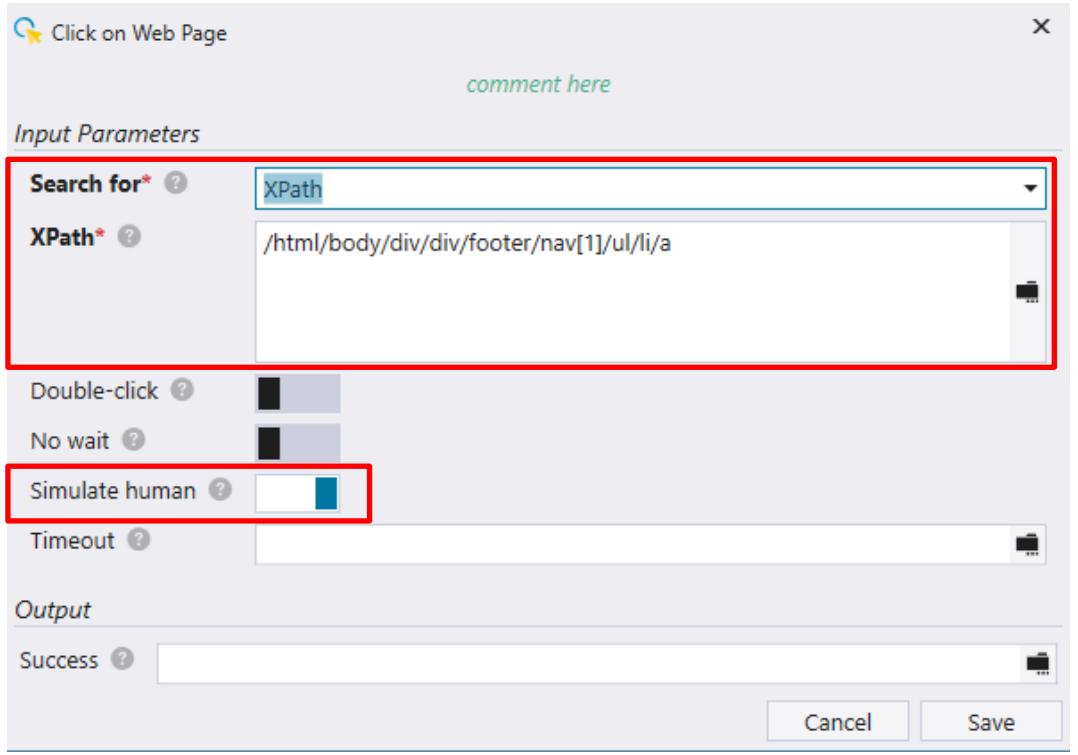
# Lab 1 – Script

**Add Click on Web Page**

- Search for **Click on Web Page** command in the command Toolbox
- Paste the selector value copied into the Xpath box > Save

Note that for Click and Set Value to web form, we usually switch on ‘Simulate human’ mode



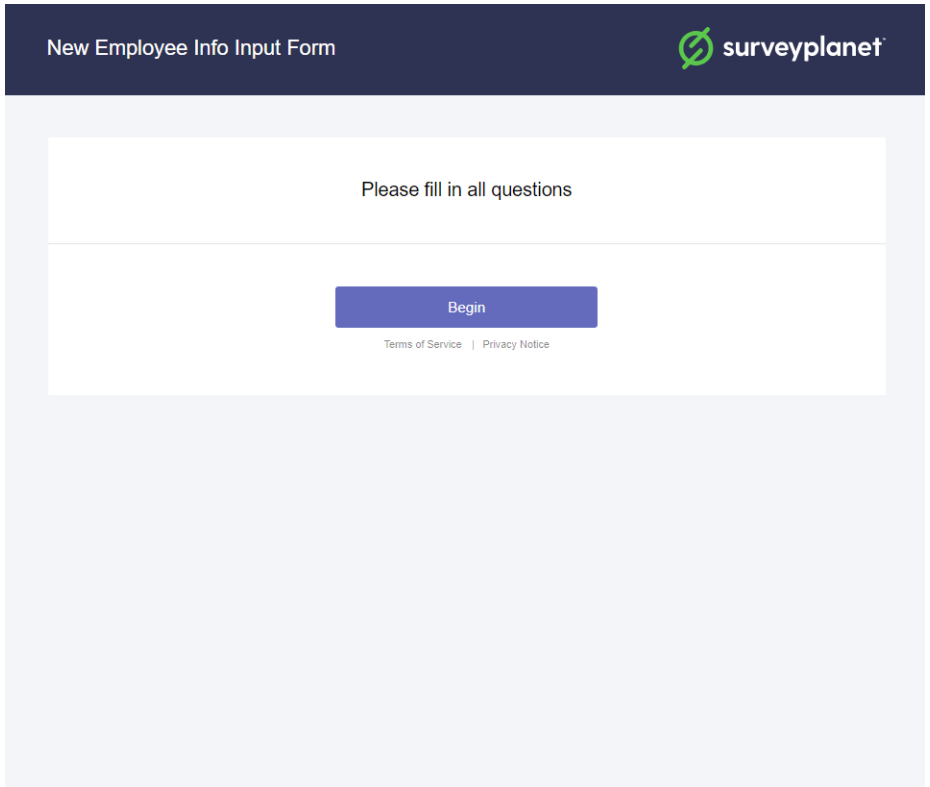



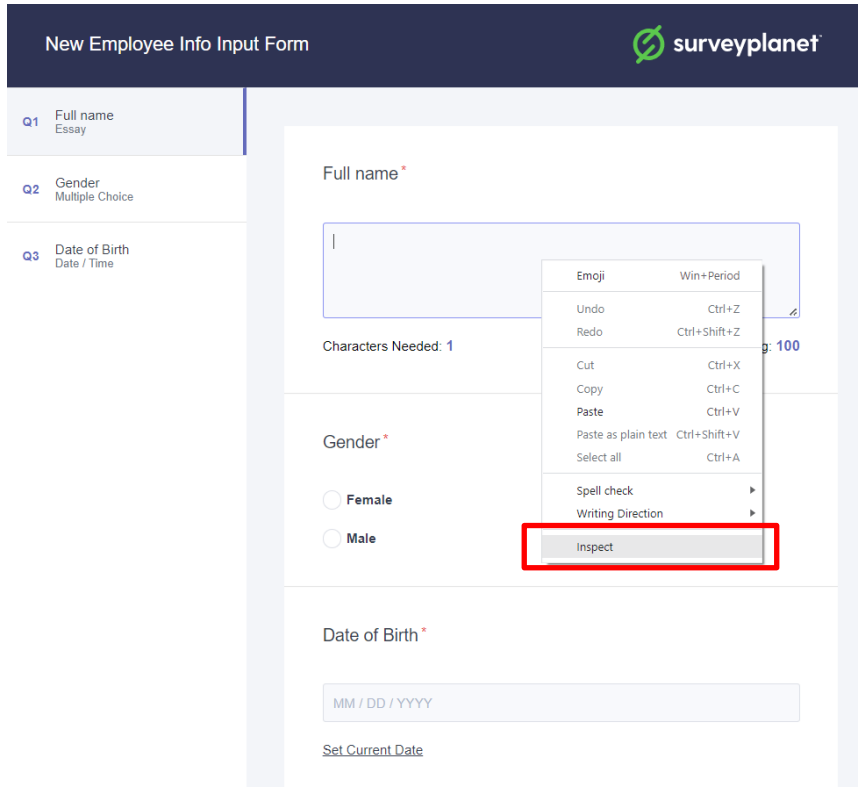

Paste the same button selector here

# Lab 1 – Script

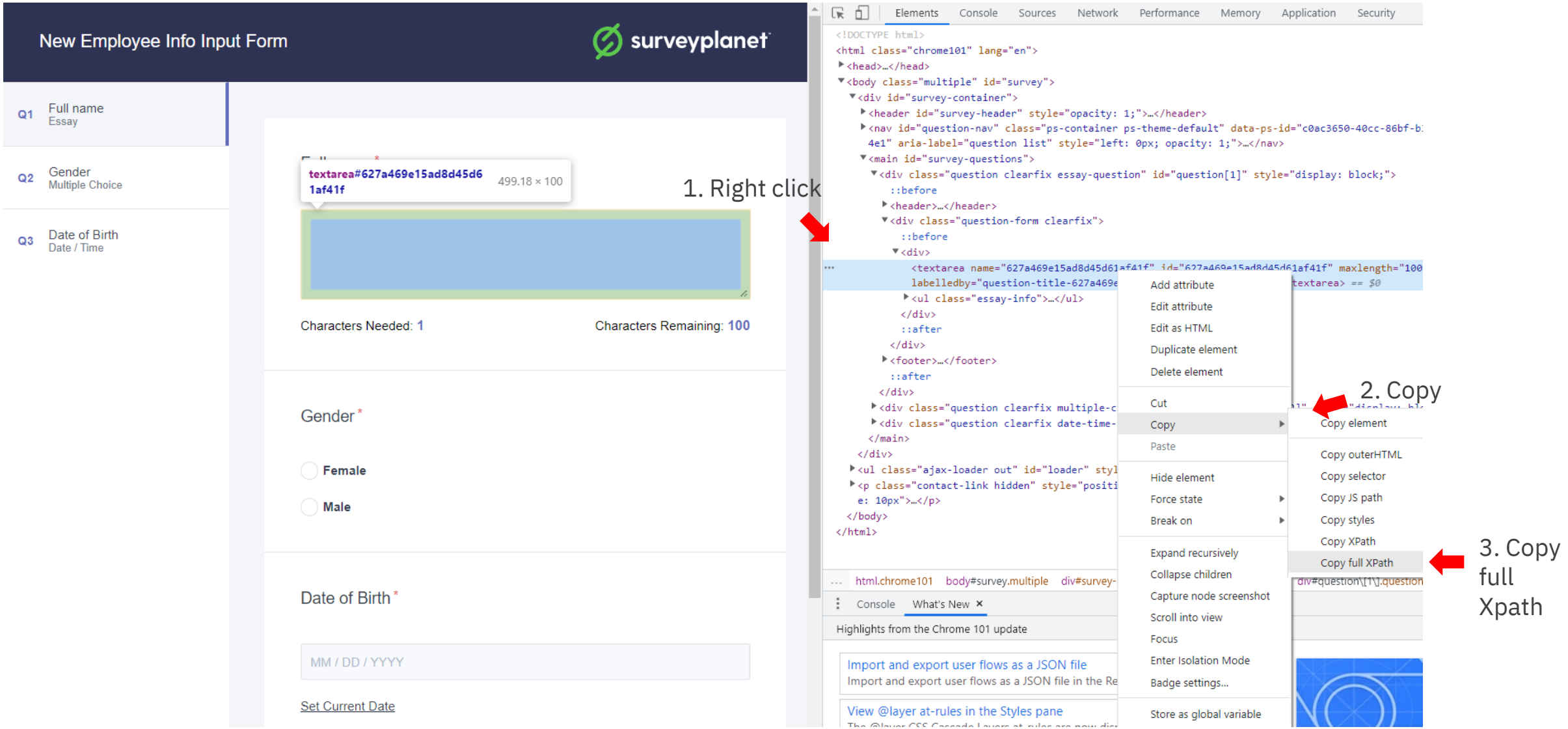
**Copy selector for the first input field Full Name**

- Go back to the Chrome web browser & Click Begin to go to the next page
- Copy selector for the input box for Full Name



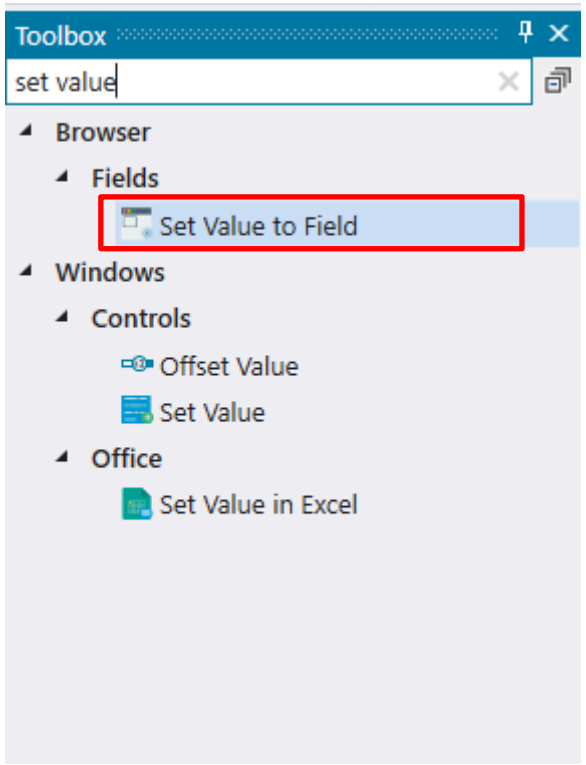
# Lab 1 – Script

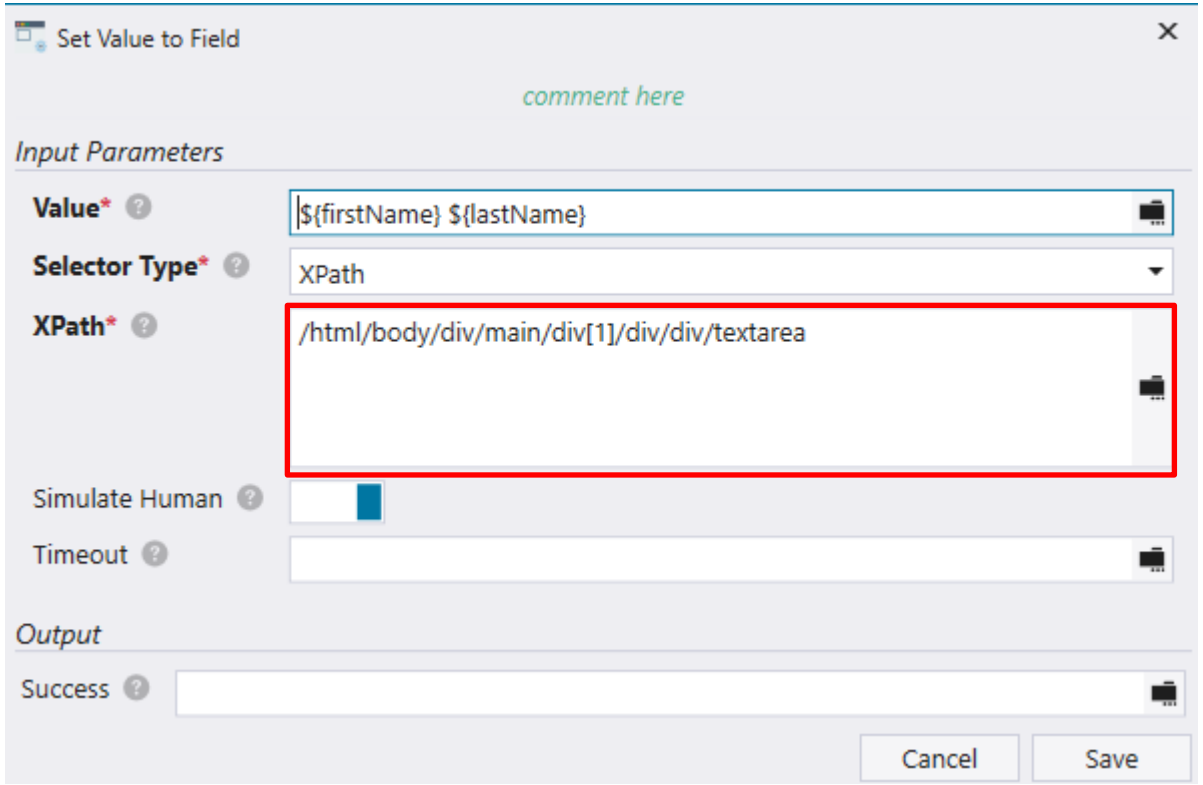

New Employee Info Input Form
surveyplanet
Q1 Full name
Essay
Q2 Gender
Multiple Choice
Q3 Date of Birth
Date / Time
textarea#627a469e15ad8d45d61af41f
499.18 × 100
1. Right click
Characters Needed: 1
Characters Remaining: 100
Gender *
Female
Male
Date of Birth *
MM / DD / YYYY
Set Current Date
Elements
Console
Sources
Network
Performance
Memory
Application
Security
Add attribute
Edit attribute
Edit as HTML
Duplicate element
Delete element
Cut
Copy
Paste
Hide element
Force state
Break on
Expand recursively
Collapse children
Capture node screenshot
Scroll into view
Focus
Enter Isolation Mode
Badge settings...
Store as global variable
Copy element
Copy outerHTML
Copy selector
Copy JS path
Copy styles
Copy XPath
Copy full XPath
2. Copy
3. Copy full Xpath
Highlights from the Chrome 101 update
Import and export user flows as a JSON file
View @layer at-rules in the Styles pane

# Lab 1 – Script

**Set the value in survey input box for FullName**

- Search for **Set Value to Field** command in Command Toolbox and drag it over to Script
- Choose **Xpath** for Selector Type
- Paste the selector value copied into the Xpath box > Save



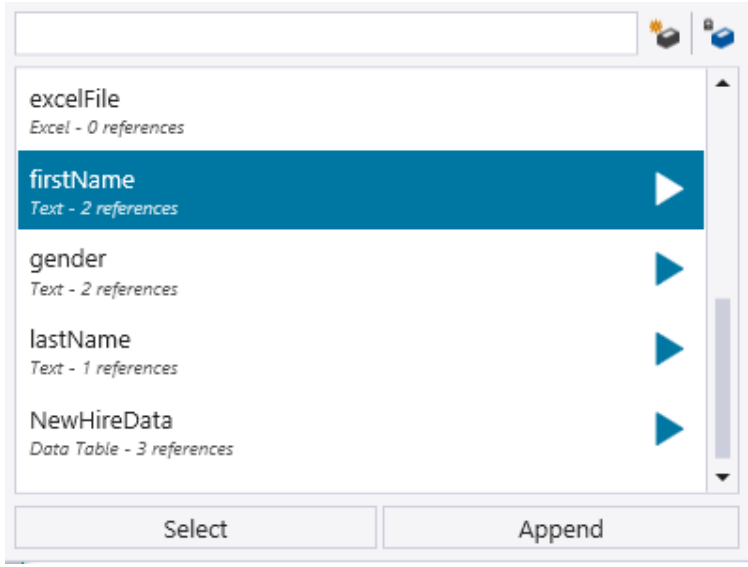

Paste selector here

# Lab 1 – Script

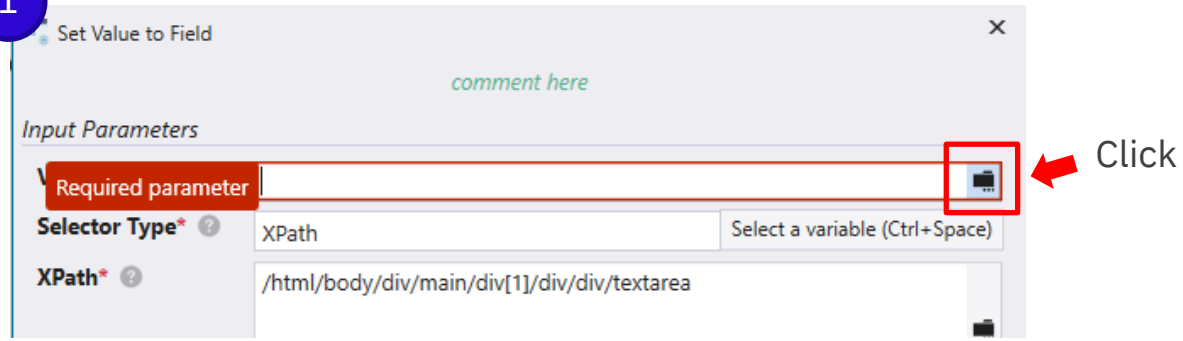
**Set the value in survey input box for FullName**

1. For the Value, click on *select variable* button
2. Click on firstName, and then Append lastName
3. Add a space in between the two variables

2

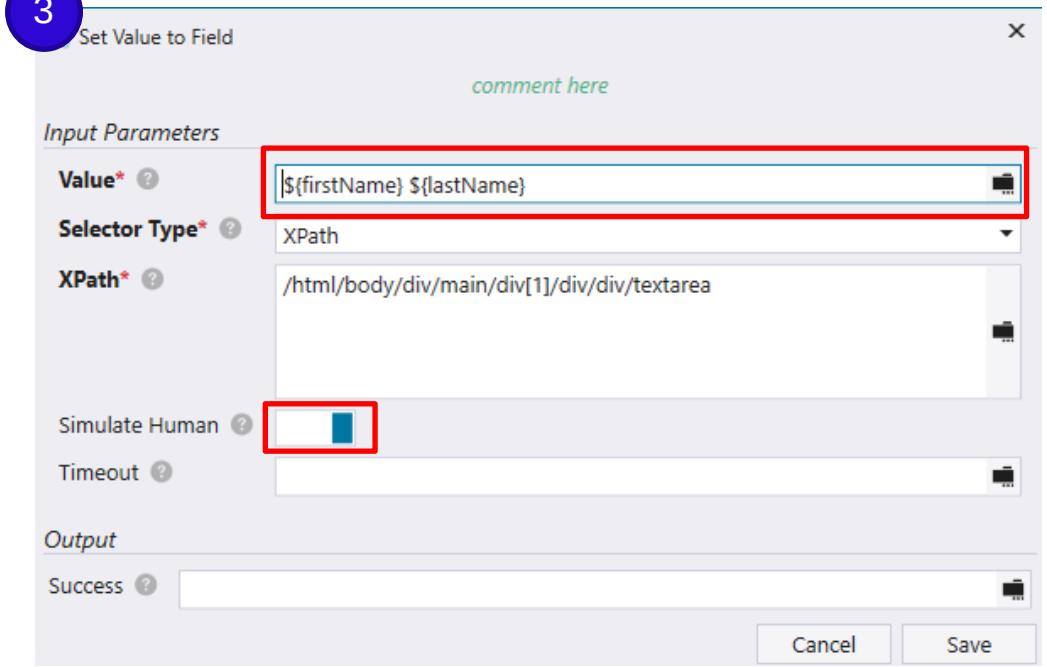



1




Click

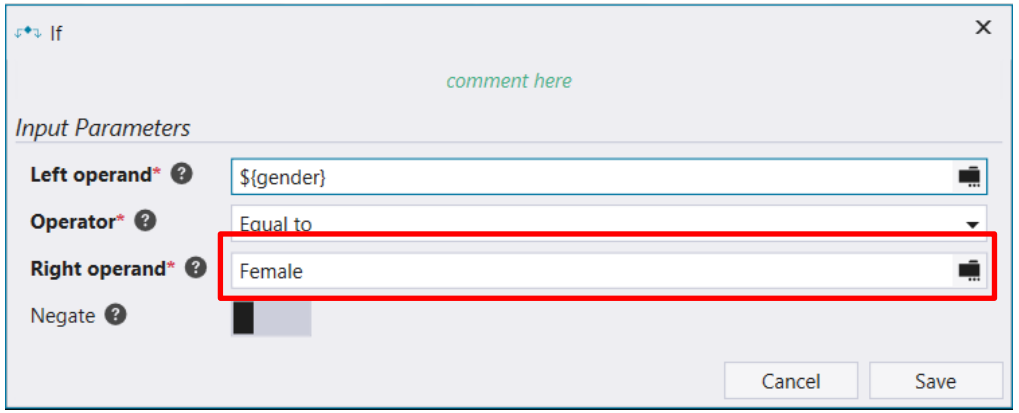
3

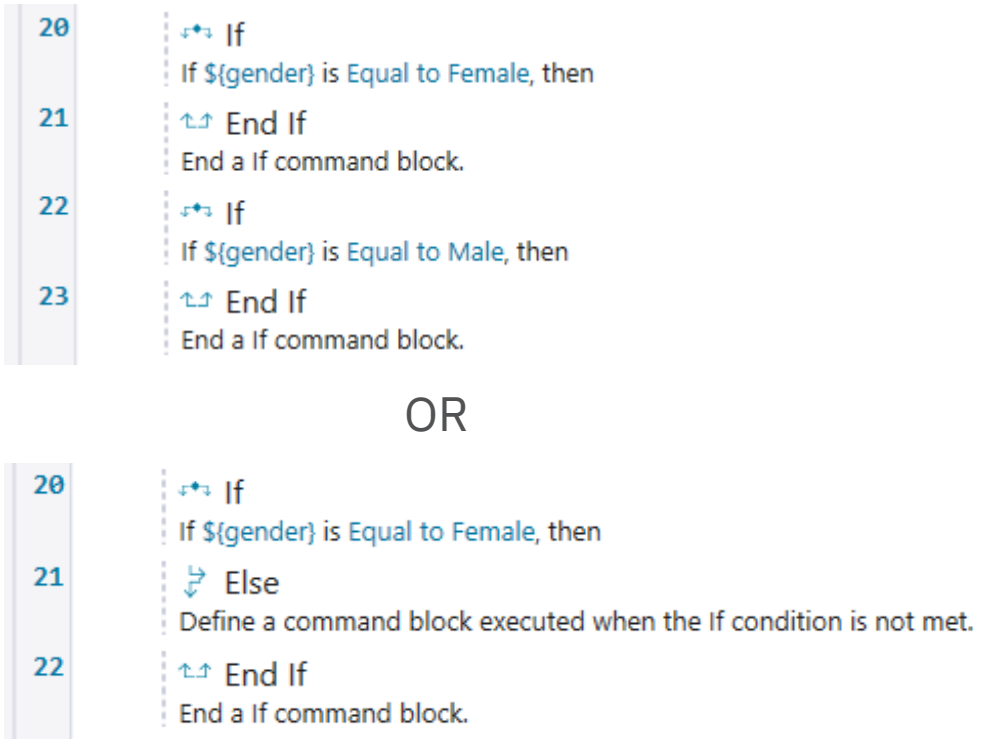


# Lab 1 – Script

**Insert If condition**

- For the gender, we need to compare variable value and decide which radio option to select
- Search for the **If** command in Toolbox & change Right operand to 'Female'
- Do the same for the condition if ${gender} = *Male* (you may add another **If** command or add an **Else/ Else If** command in between the If/End If condition)
- The script should look like the below



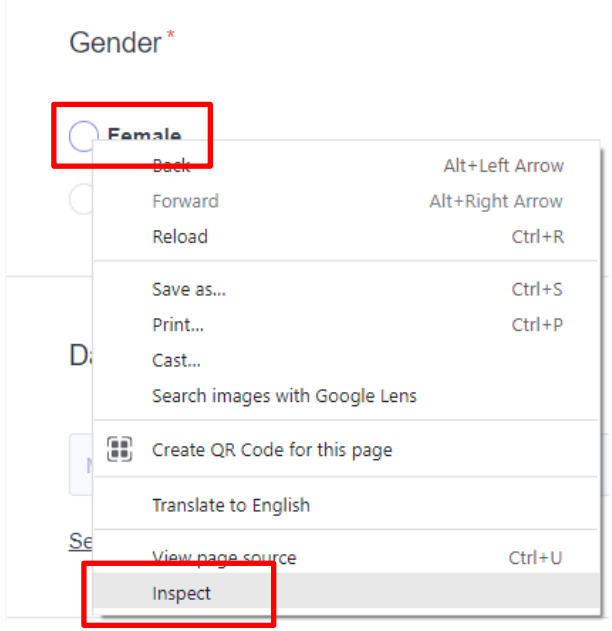



# Lab 1 – Script

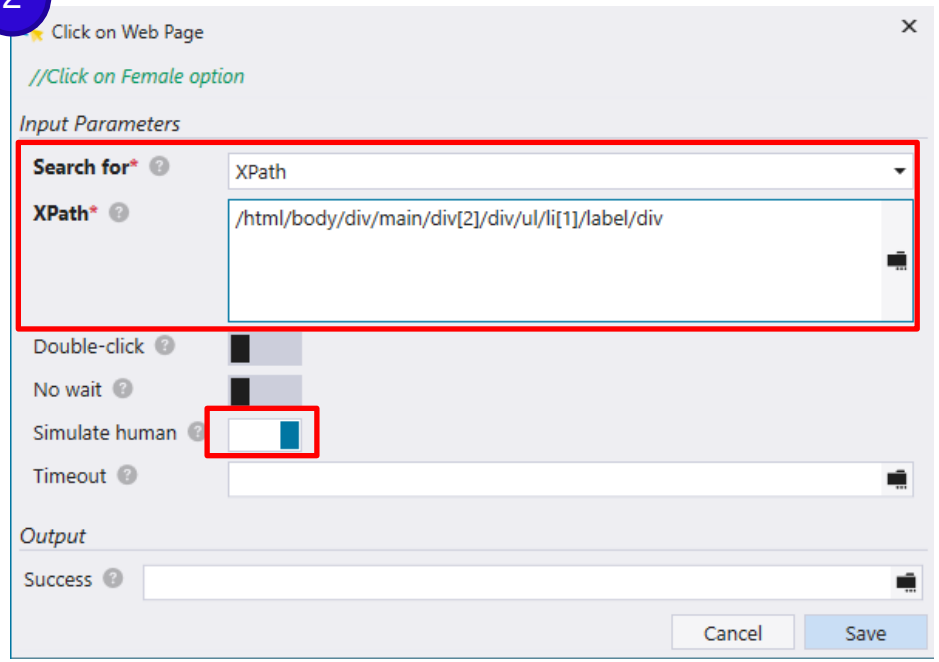
**Add Click on Web Page**

- Copy the selector for each ‘Female’/’Male’ radio option
- Find **Click on Web Page** command and insert the selector (similar to the Begin click that we did at the beginning)
- Make sure that the Click commands are inserted in between the If/End If or Else/End If command line like below

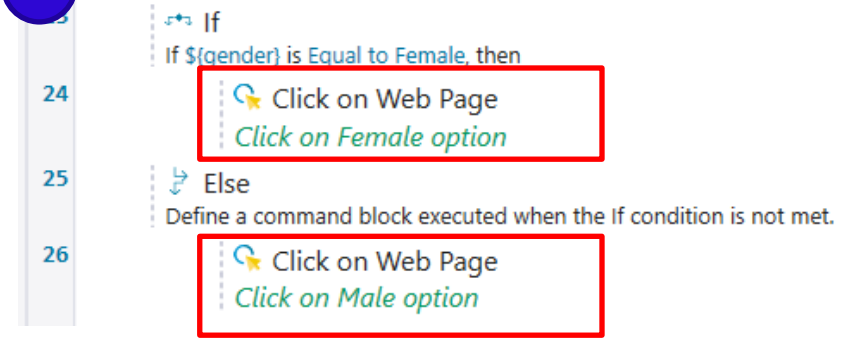
1



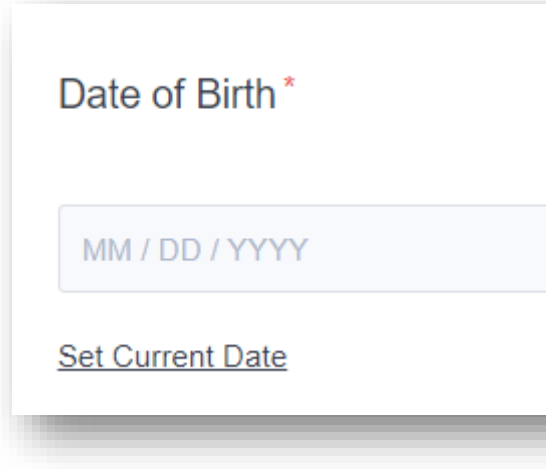

2




3

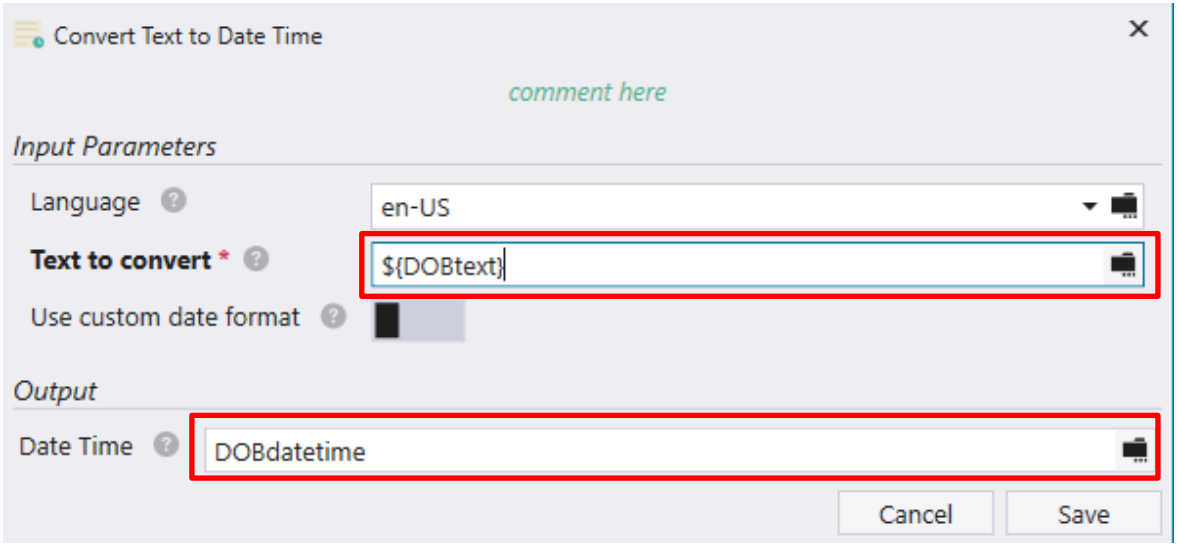


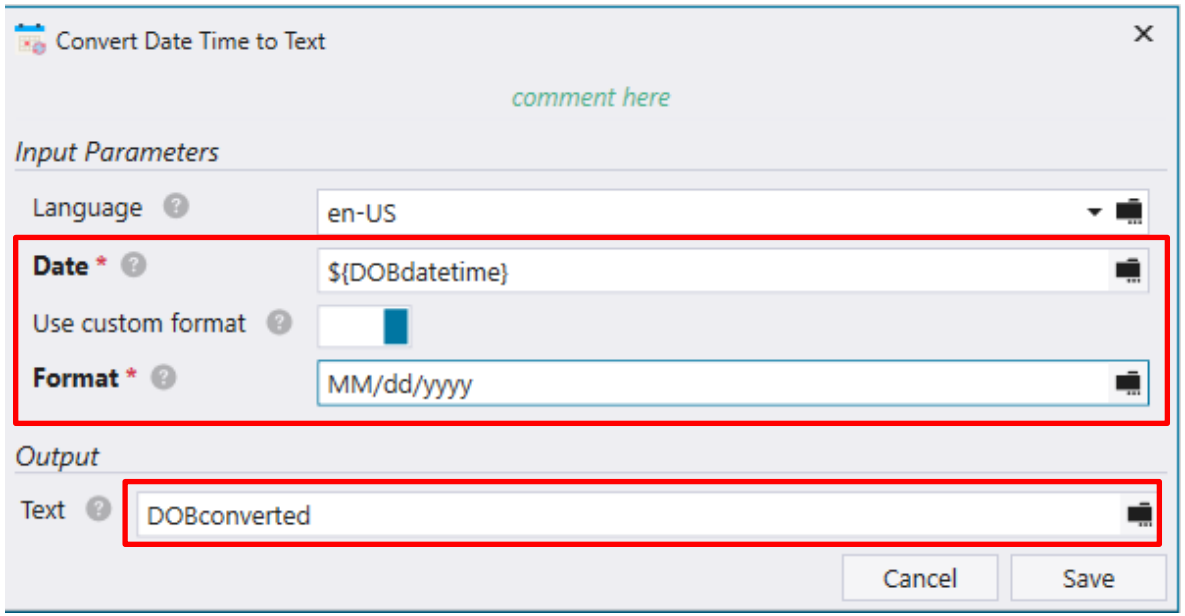
# Lab 1 – Script




**Set Date value to Date of Birth survey box**

- This is slightly trickier, as the value we extract from CSV is currently in a different date format
- Use command **Convert Text to Date Time** to convert the csv text to date time
- Then use another command **Convert Date Time to Text** to convert the date back to the required format in the web form.

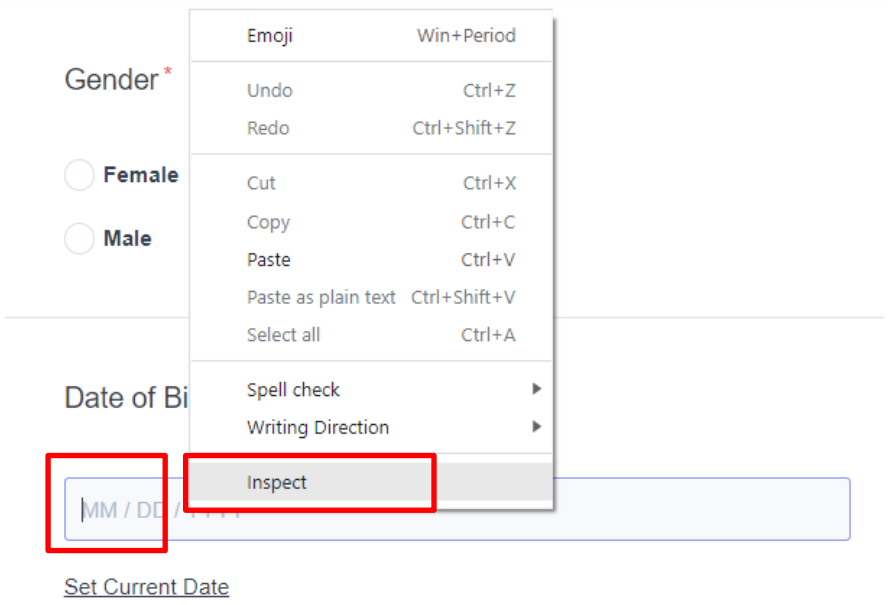


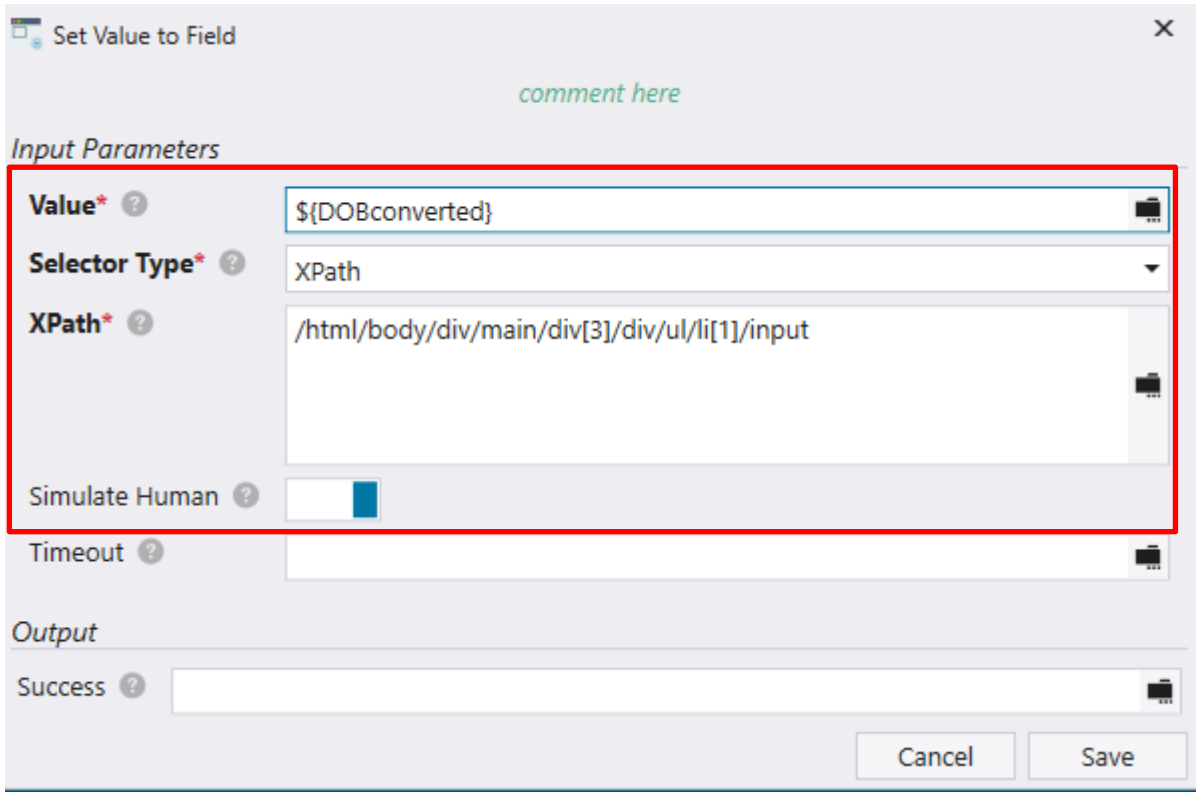



# Lab 1 – Script

**Set the value in survey input box for FullName**

- Copy selector for the Date of Birth field
- Search for **Set Value to Field** command again and add it to Script

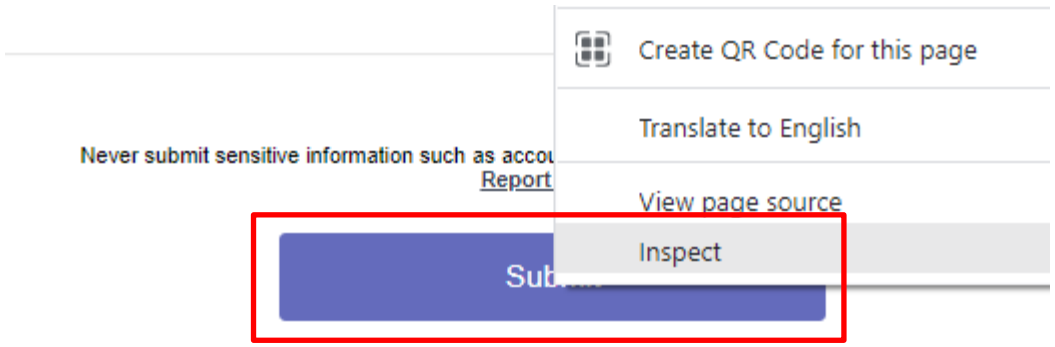


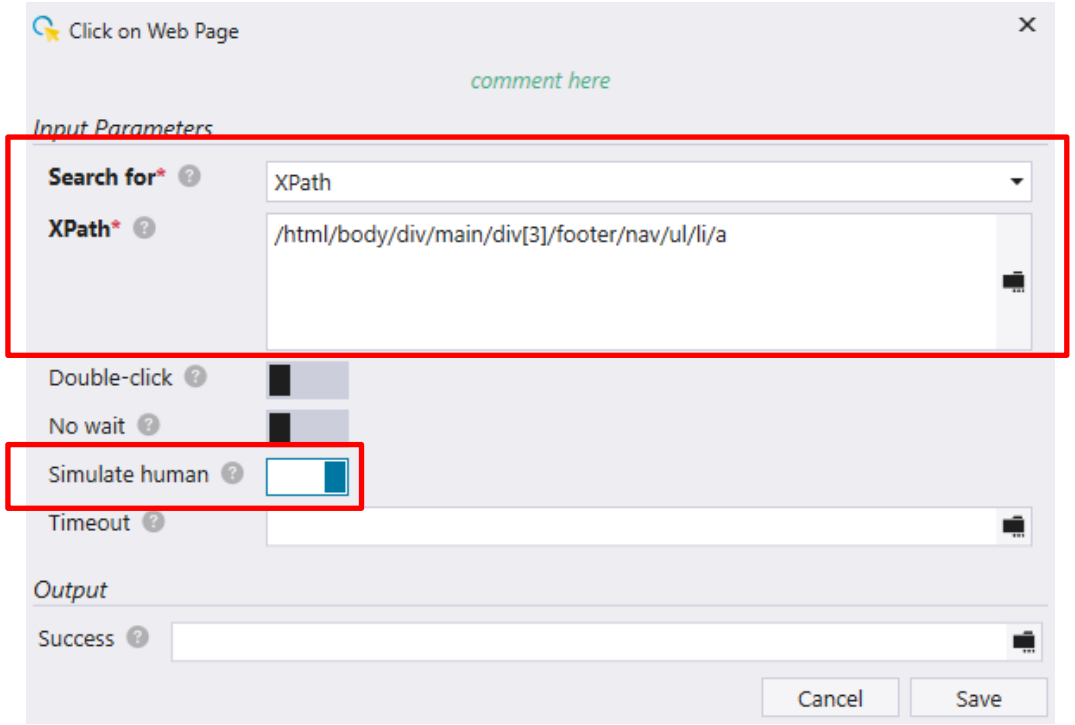



# Lab 1 – Script

**Click Submit button**

- Copy Selector for the Submit button in the web form
- Add one last **Click on Web Page** command and paste the selector copied

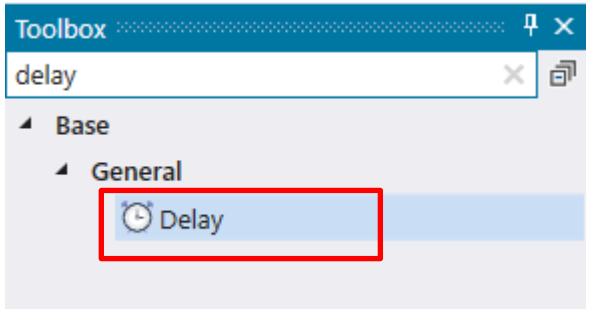


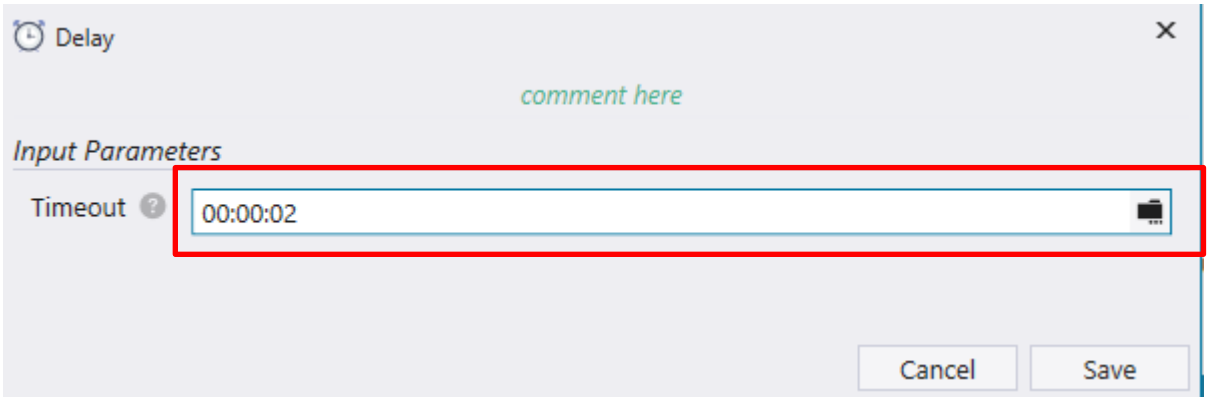



# Lab 1 – Script

**Add delay/wait command to ensure form submission will be completed before the bot loop to next entry**

- Search for **Delay** command. Add a delay of 00:00:02 (2 seconds)
- This command will ensure the bot will wait for the page to finish loading before continue to next action.
- The script is now completed.

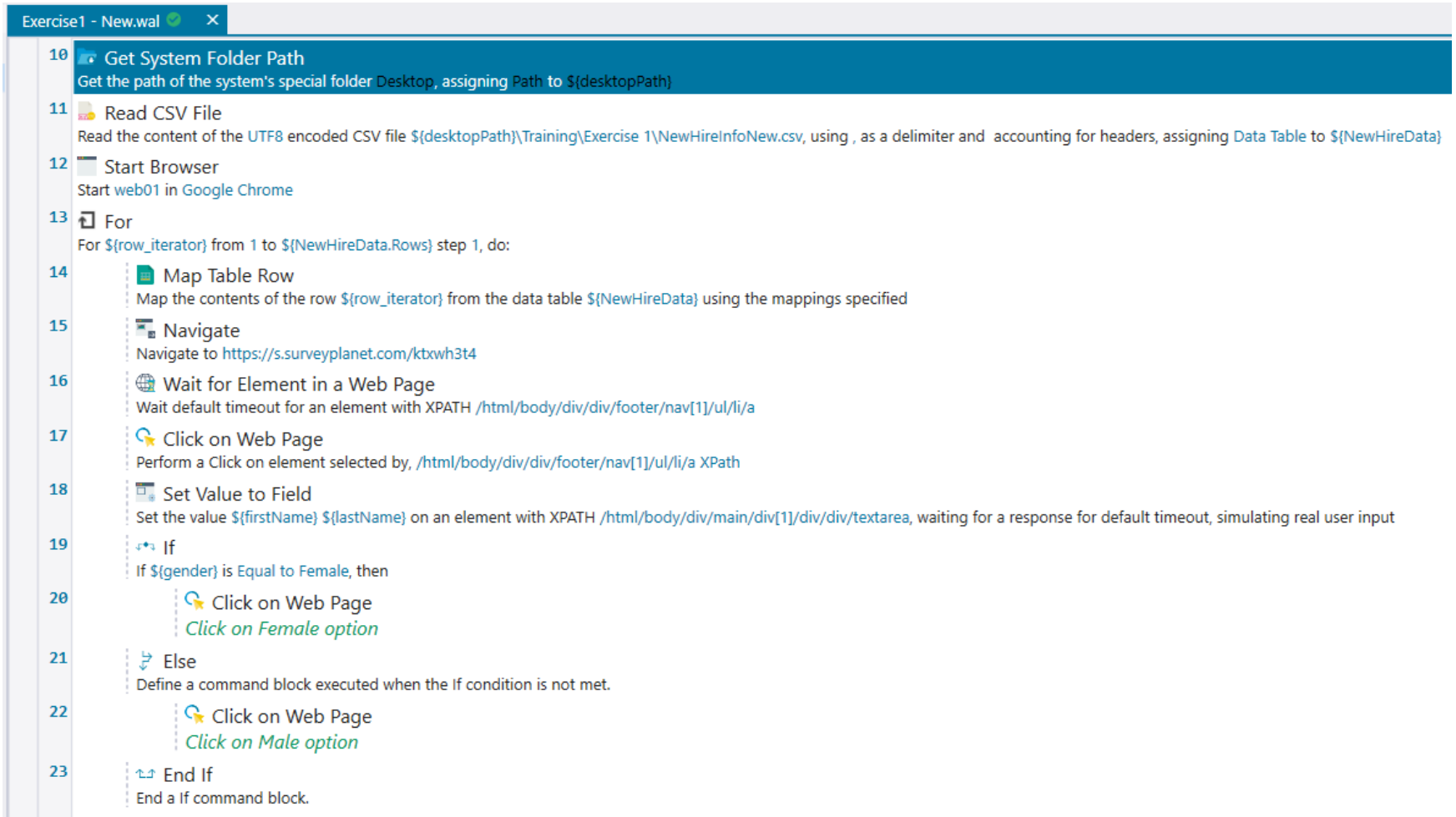


# Lab 1 – Script

**Debugging**

- For the last step, let's check through the order of the command



# Lab 1 – Script

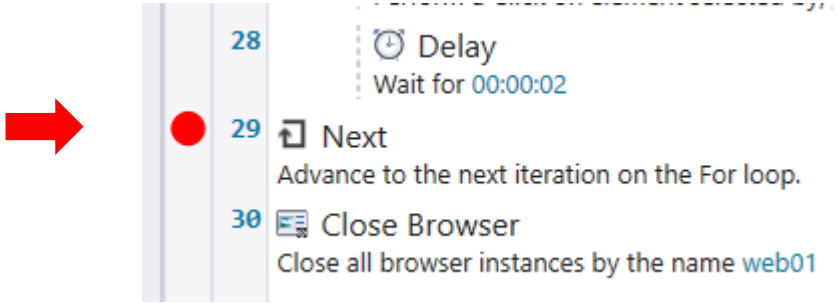
**Debugging**

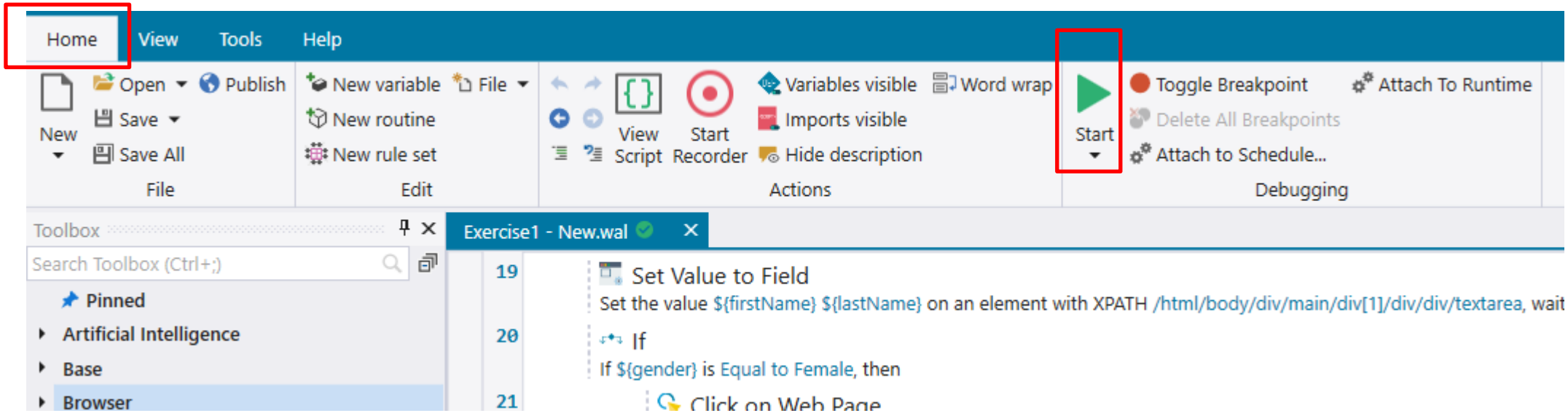
- For the last step, let's check through the order of the command

# Lab 1 – Script

**Debugging**

- You may add Breakpoint to the script (click on the left panel besides the command counter)
- The breakpoint is useful to observe the progress of the script and pin point any issue
- From top menu, click on Start to run the bot

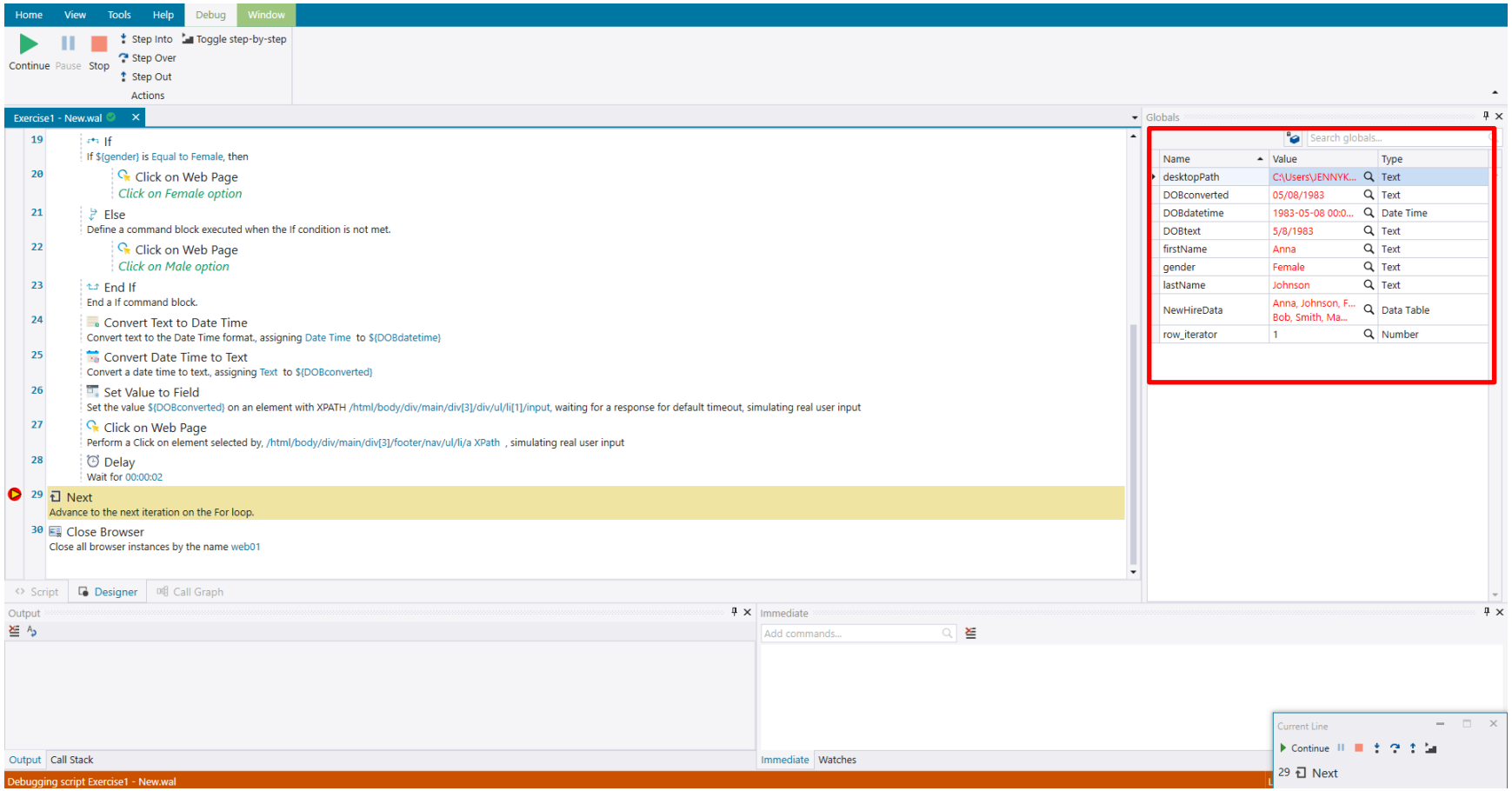


# Lab 1 – Script

**Test the bot**

- From top menu, click on Start to run the bot
- It is recommended to test run the bot along the way so it is easier to keep track of errors



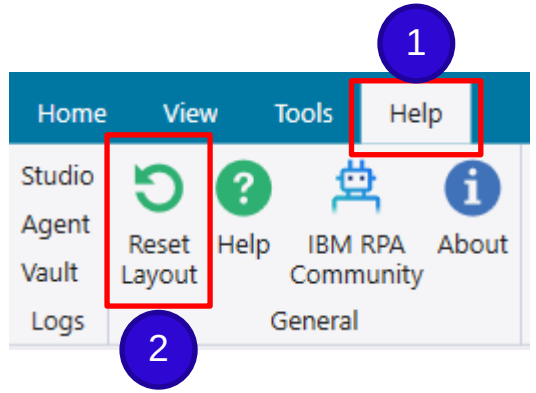

Variable values will be updated at each breakpoint or when an error occurred.

# Lab 1 – Script

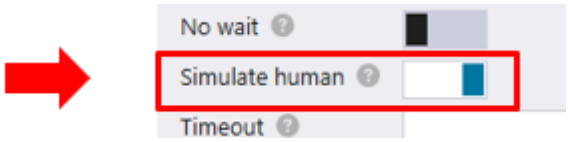
**Some useful tips:**

- In case the layout of Studio was moved around (Toolbox is not visible/Output window is not visible etc.)

→ Go to Help menu, and choose Reset Layout




- Use “Simulate human” as much as possible so the bot won’t run too fast and make result in failure of execution.



# Lab 1 – Script

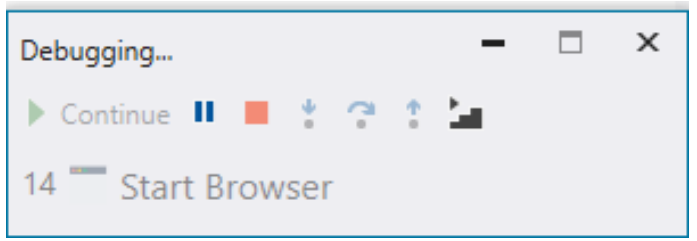
**Some useful tips:**

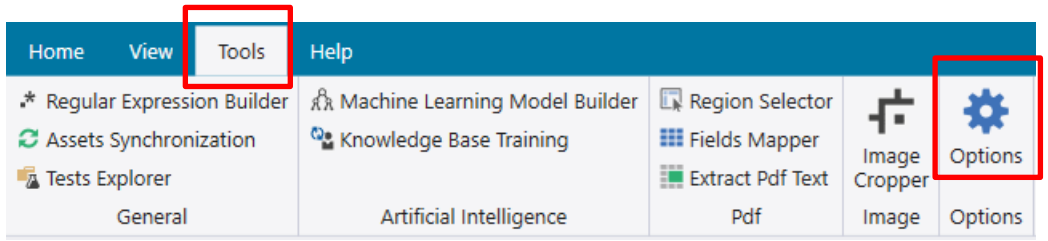
- If you want the debugger menu to be visible during bot execution.

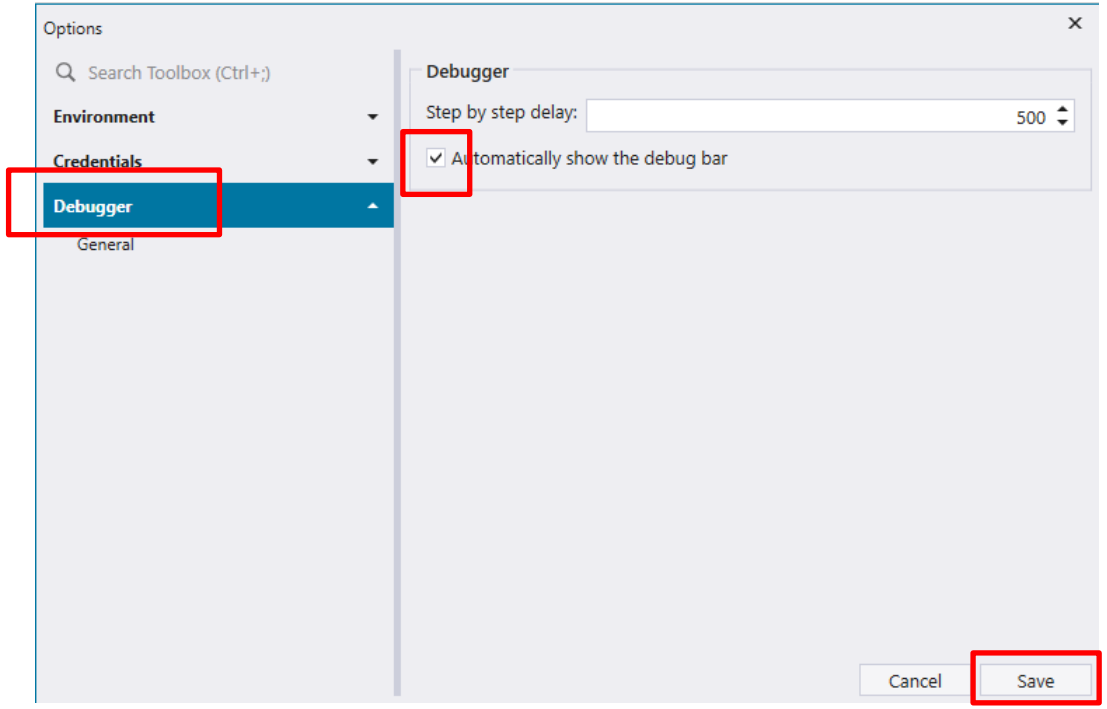
→ Go to Tool Menu > Options

→ Go to Debugger tab > Check on Automatically show the debug bar and Save

→ The Debug menu should be visible during debugging now



# Practice Exercise

# Practice: Currency Conversion

Website link: https://www.ofx.com/en-sg/currency-converter/

Suggested steps in the bot:

1. Ask user for input on “From currency”
2. Ask user for input on “To currency”

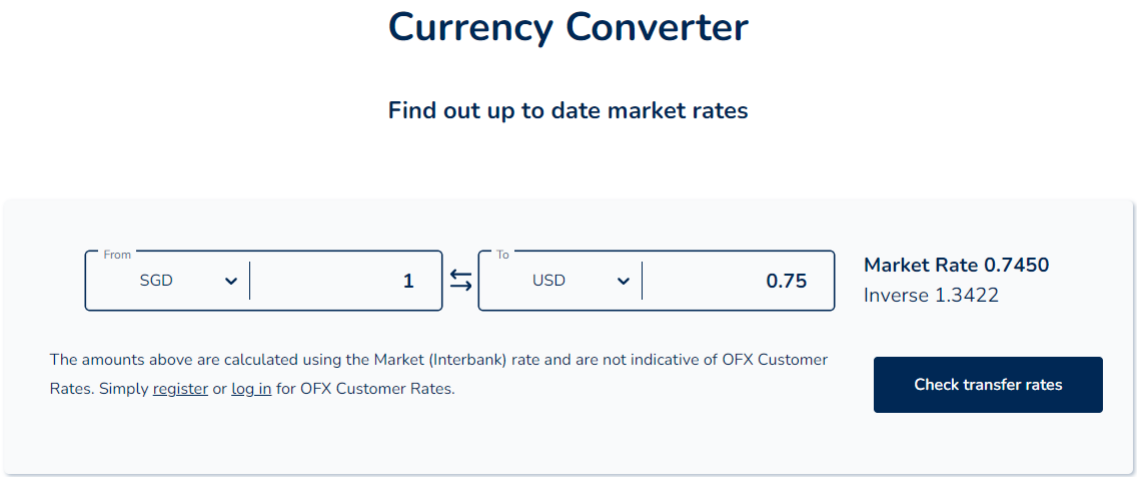
Hint: you may consider the “Input Box” command to get user input

2. Start a new browser and navigate to webpage
3. Set the currency value for the “From currency” and “To currency” on the webpage as per user input

Hint: you may consider using the command Set Value to Field and Web Send Keys to insert value and press Enter to register value

5. Click Convert
6. Find and store the result of conversion into a text file (e.g. 1 USD = 0.82752 EUR)

Hint: you may apply Get Element Value command to get conversion value on the webpage (also make sure to apply appropriate delay/wait command to ensure the result is visible)



# Additional Materials

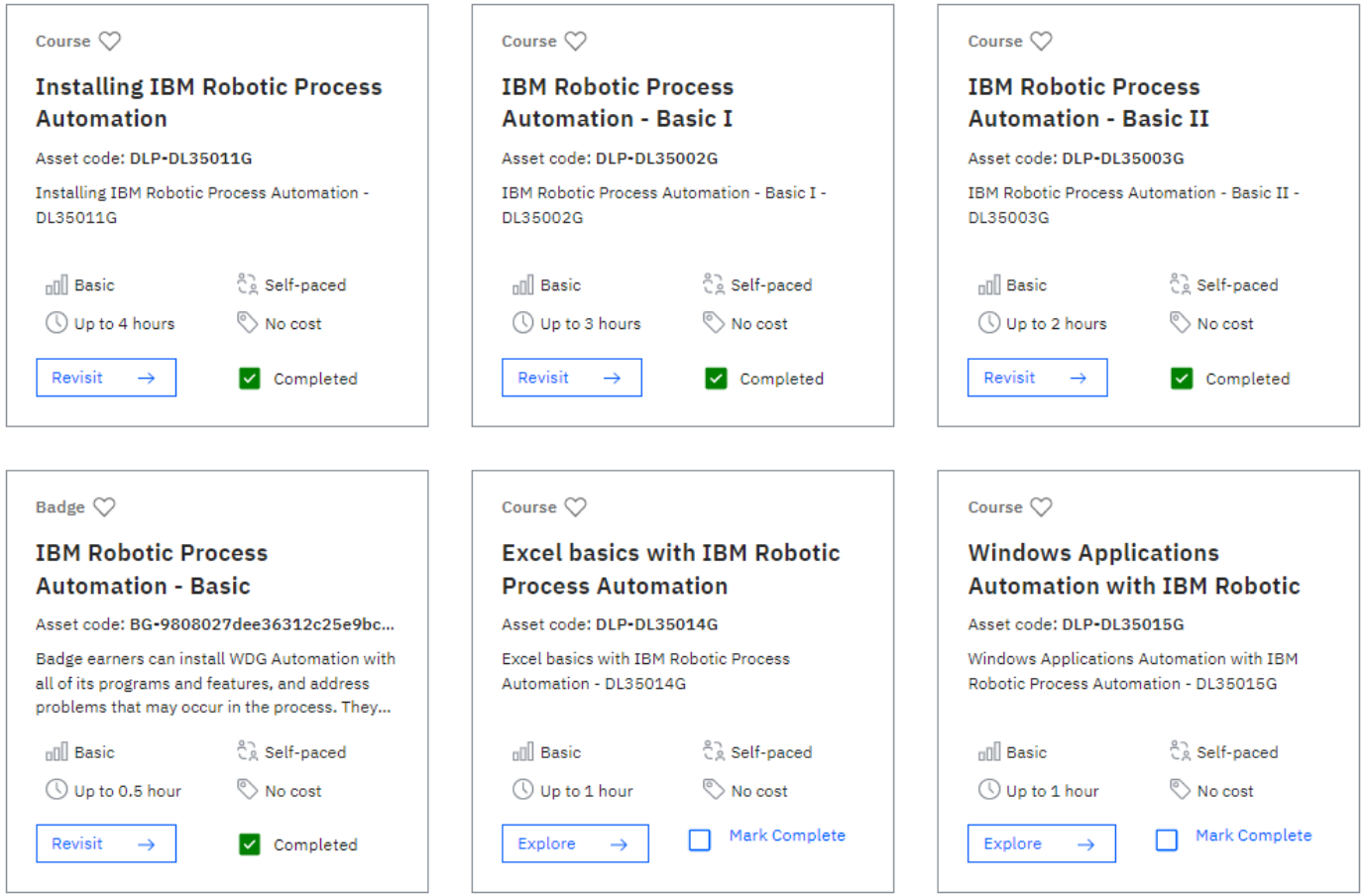
*To access the training, it is required to signup for an IBMid with your company email id first.

# IBM Education Badges (RPA Learning Journey)

## Introduction

IBM Robotic Process Automation is a technology that encompasses the use of smart robots in any process requiring efficiency, consistency, and speed, with no risk of mistakes.

| Badge | Duration |
|---|---|
| Basic | 8 hours |
| Intermedia | 4 hours |
| Advance | 5 hour |





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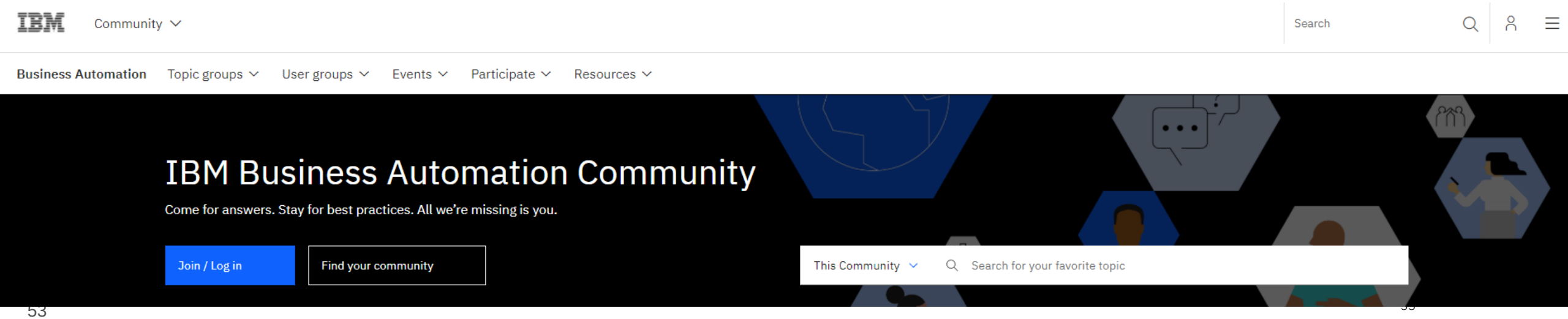
*To access the forum, it is required to signup for an IBMid with your company email id first.

# Additional Learnings/ Resources

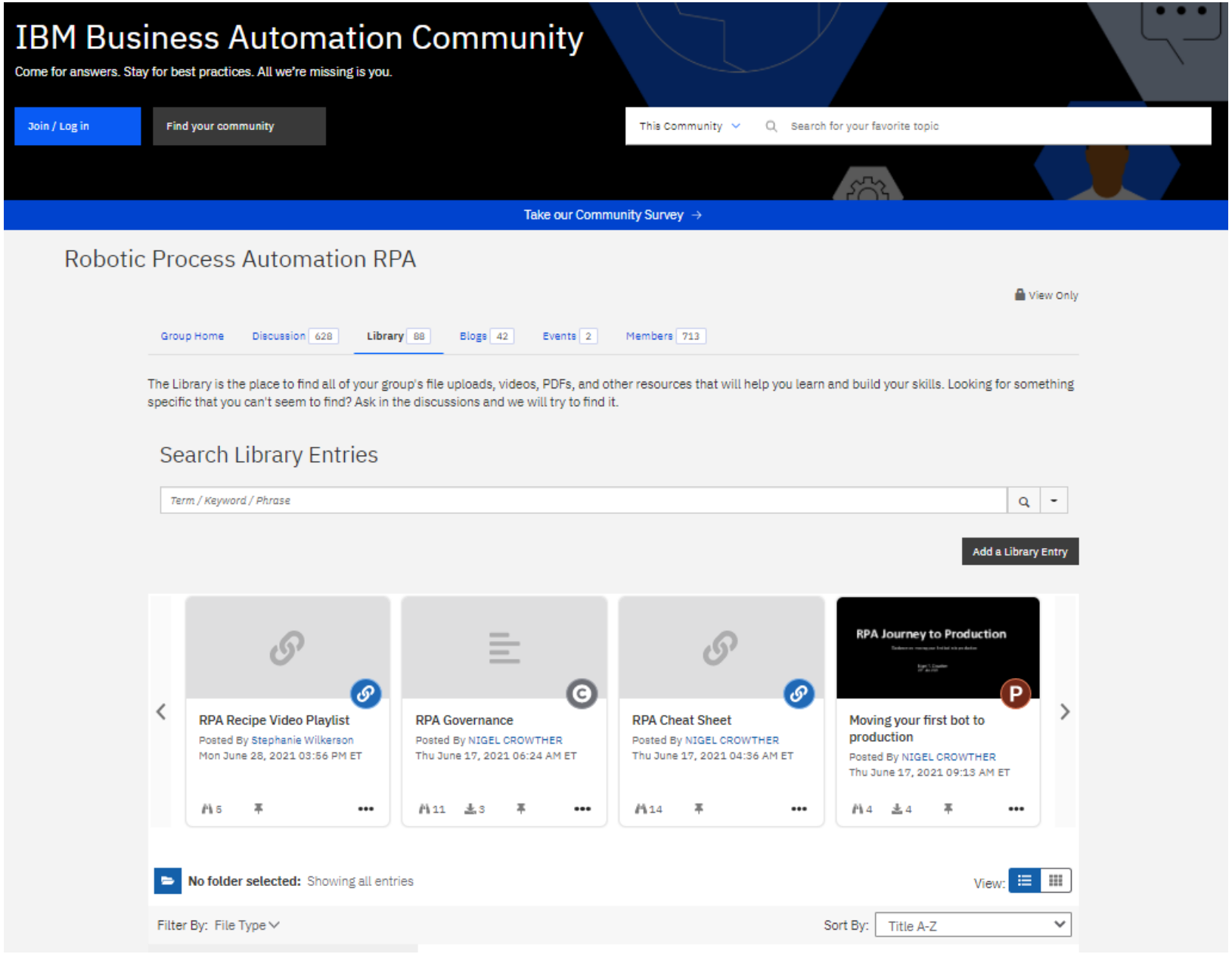
IBM RPA Documentation
- Information on installations, RPA commands, and functionalities in details.

IBM RPA Forum*
- An external community , IBM Business Automation community - Robotic Process Automation topic, where you can find a Discussion forum and regular Blog postings.

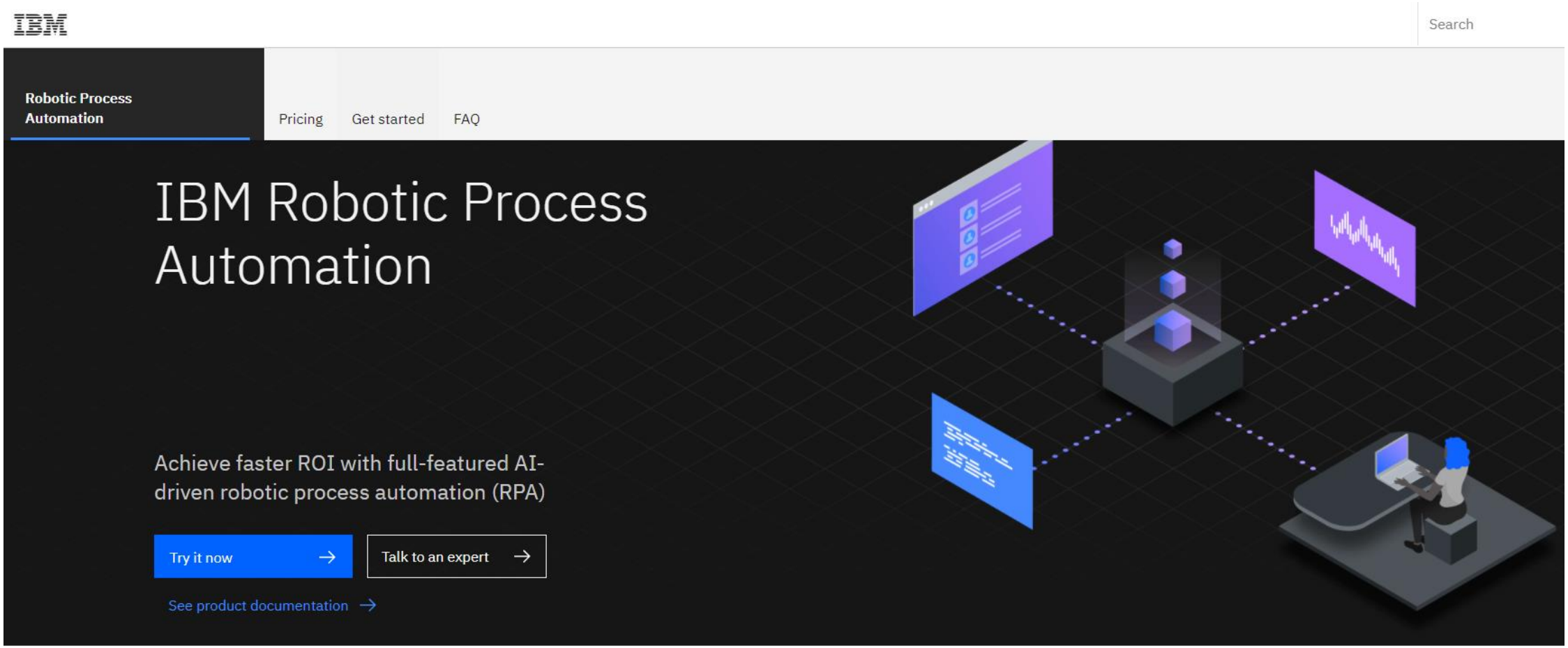


# IBM RPA Community site

https://community.ibm.com



# IBM RPA Trial: https://www.ibm.com/products/robotic-process-automation




Trial Introduction video: https://youtu.be/fwDvlZ3ZVoA