# Training Academy

## Microsoft Office

## Automation

reveal group

## Course Path

Introduction to Intelligent Automation and UiPath Overview

User Interface Automation and Project Notebook

**Microsoft Office Automation**

Automation Bootcamp and Intelligent Automaton Demo

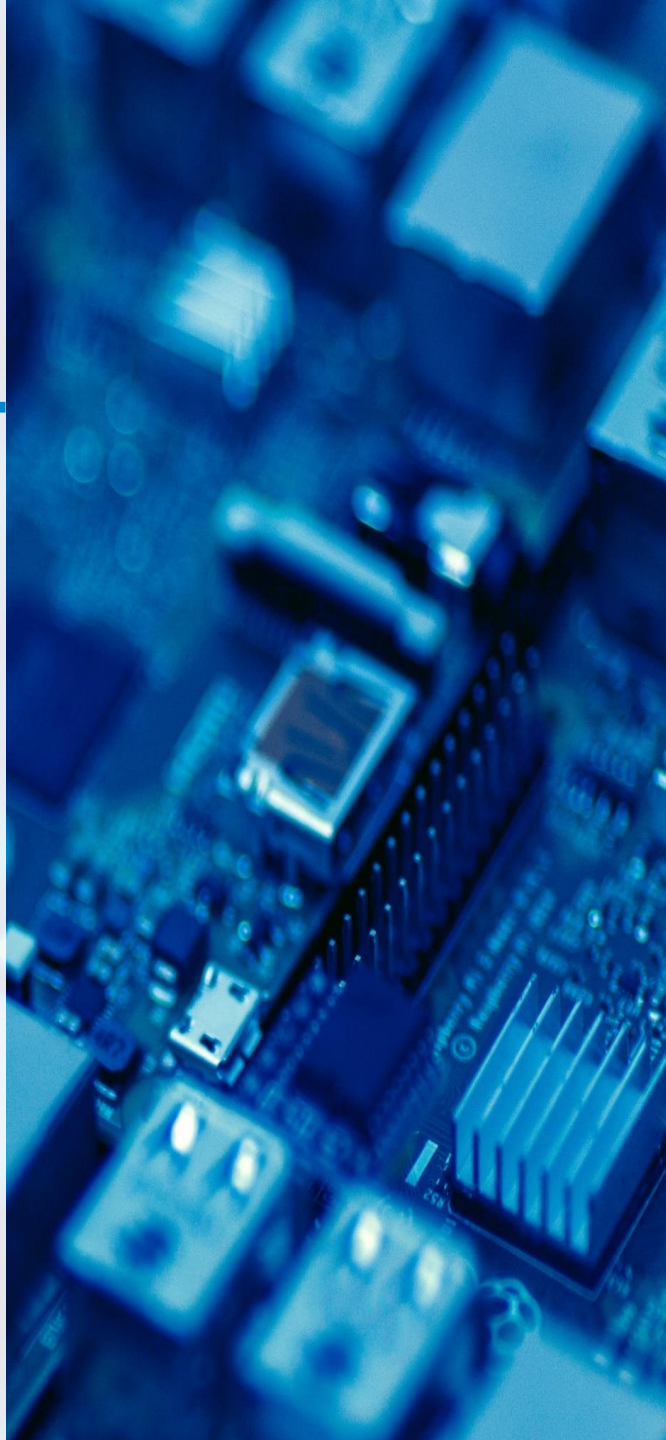
StudioX and Planning Your Automation

Decisions, Iterations and Scenarios with StudioX

Error Handling and Automation Lifecycle

# Agenda

1. Recap of Module 4
2. Excel Automation
3. Files and Folder Automation
4. Outlook Automation
5. Word Automation
6. Spotlight: Special Guest

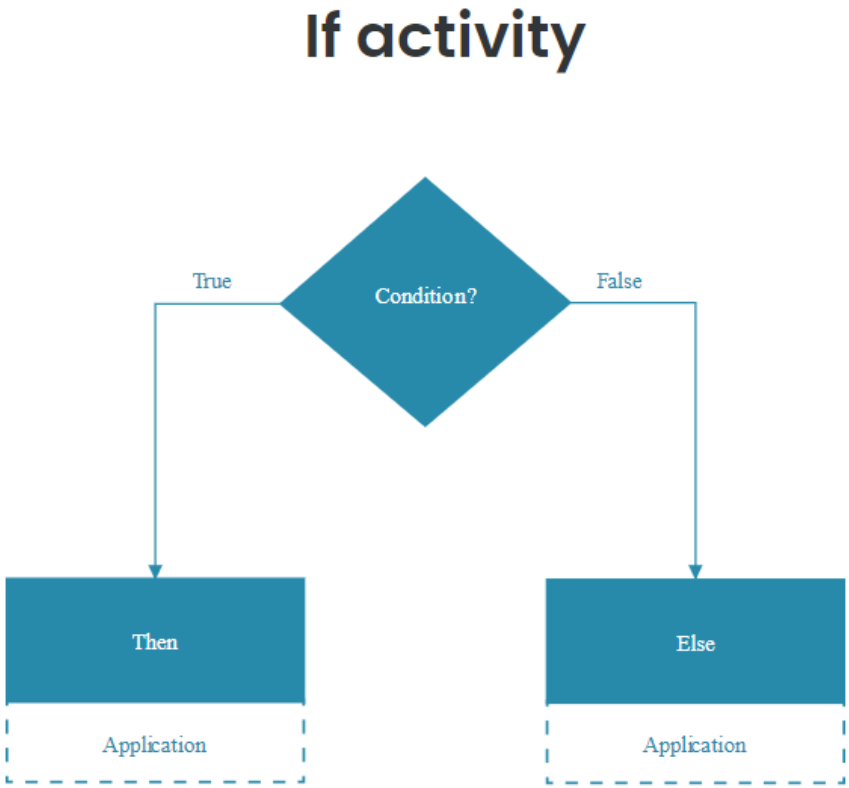


# Topic 1

## Recap of Module 4

## As a business user, taking decisions is a big part of your job. Let's see how you can translate some of those decisions for a Robot to perform

At some point in a task, a decision needs to be taken because the Robot has reached a step where one or more options are available. Depending on the answer given, the Robot will follow certain steps and ignore others. Without decisions, different paths would not be available for the Robot. This means that the solutions created would not be realistic.



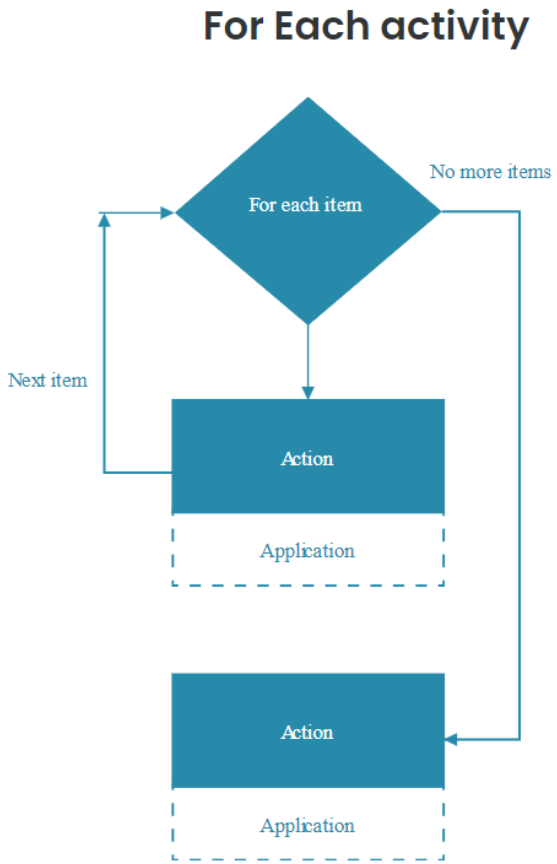

### What is If activity?

Found under Common activities, the If activity is used when we want the Robot to choose between two options, under a certain condition. The condition can be also formulated as a question: "Is cell B4 empty?". If the answer is true, then yes, the Robot will perform the following actions, else, the answer is false (the cell B4 is not empty), meaning the Robot will perform another set of actions.

This type of activity works only when the answer to the questions is Yes or No, or True and False.

## As a business user, you sure need to work with a succession of Excel rows, files or emails. Let's see how we can make the robot go through all the Excel rows, files or emails.

By now, you surely wondered how can you make the robot go through all the rows of an Excel file, rather than just indicating a specific cell. This action is called an iteration. It makes the robot repeat a set of actions for all the rows in an Excel file range. It can also repeat a set of actions for all the files in a folder or all the emails in an Outlook folder.



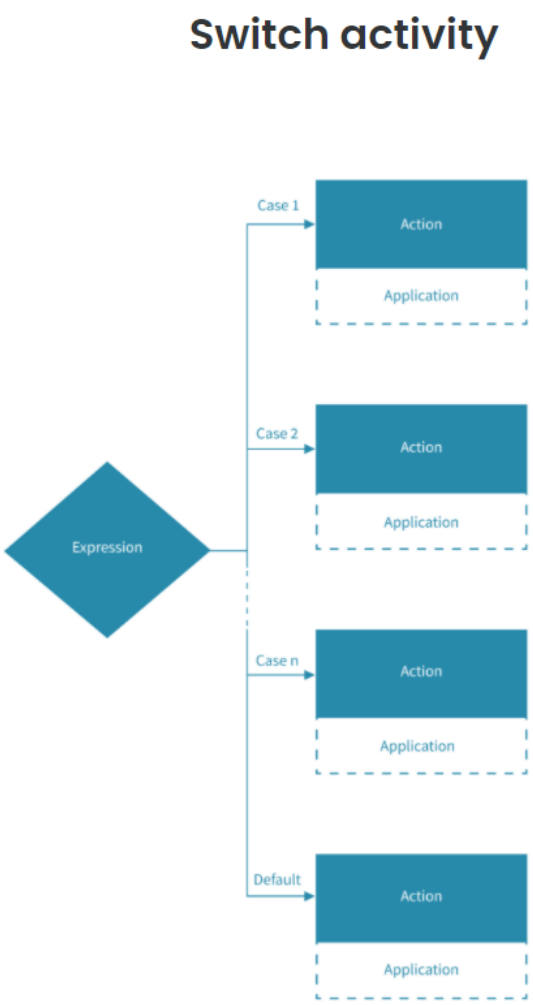

### What is For Each activity?

StudioX provides 3 types of For Each activities, that interact with different applications:

1. **Excel For Each Row** - this action makes the robot iterate through the rows of an Excel file range.
2. **For Each Email** - this action makes the robot iterate through the emails from an Outlook Folder. You can create filters, to work only on unread emails or emails that were sent from a specific address.
3. **For Each File In Folder** - this action makes the robot iterate through all the files from a folder and its subfolders. You can also filter the files the robot will pick by name or extension. Or pick the order in which the files enter the iteration.

**As a business user, sometimes, you have to control the actions based on a certain value. Let's see how you can build a robot that will switch between actions on a case value.**

When the value of one item determines different courses of action for the robot, you can use the Switch activity.




## What is Switch activity?

Found under Common activities, the Switch activity is used when we have an item (an Excel cell, a file extension, the subject of an email, etc) whose value determines different outcomes.

If we look at the knowledge check example, the condition also can be formulated as a question: "What is the value of cell B2?". The expression is the cell B2 and the cases are the different values the cell could take: "not started", "in progress" or "done". There can be a number of cases, but there is always a Default case that will cover all the different values that are not taken individually as cases.

This activity works when you know exactly the values the expression could take.

# Blueprint for Scale (BfS) covers five capability components required for a successful and scalable automation program

Blueprint for Scale

- Vision & Strategy
- Program Governance
- Organization & People
- Capability & Training
- Change Management


- Intake Approach
- Opportunity Assessment

- Application Management
- Technical Infrastructure
- Platform Management

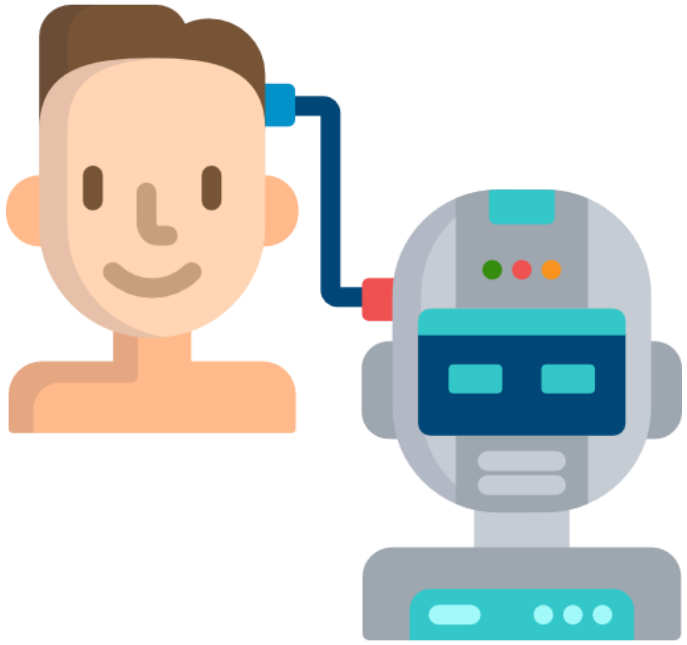
- Delivery Methodology
- Technical Best Practice
- Testing Approach

- Business as Usual
- Support Model
- Permissions & Credential Management

## Discussion:

- What are some challenges delivering Automation from a Build perspective? (Delivery Approach)

- What are some challenges delivering Automation from an Overall Perspective?



# Topic 2

## Excel Automation with StudioX

**As a business user, you most likely work a lot with Excel as it is a versatile tool that allows you to organize your data!**

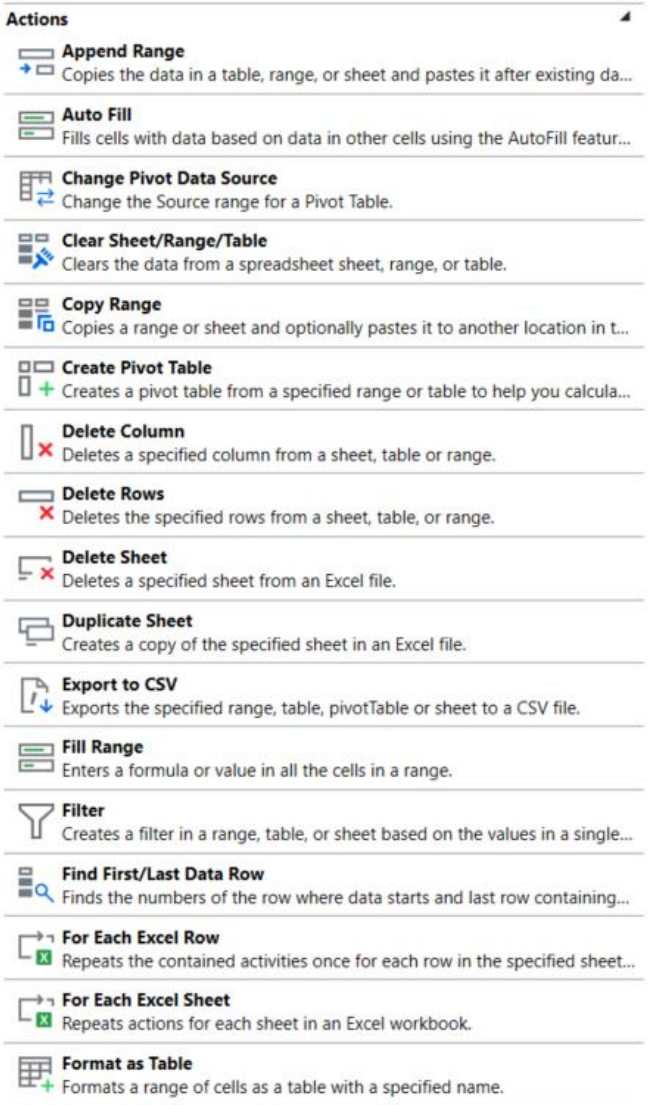
## What is Excel Automation?

Excel automation refers to task automation related to your Excel files. StudioX allows you to build automation projects involving various types of data from an Excel file through a number of dedicated activities.

## How do I use it?

When creating a new project that involves Excel, you have to make use of the Use Excel File resource. Inside it, an Excel file must be specified so that all the actions added afterwards can access the data within that file. When configuring actions, you can select sheets, tables, named ranges, and named cells from that file directly from StudioX, or, if needed, indicate them in Excel.

# Common Actions using Excel




**Insert Sheet, Column, Rows:** Working with Excel files involves adding sheets, columns and rows most of the time when we update data into the files. For this purpose, StudioX has 3 activities available which behave as you would expect in Excel.

**Delete Sheet, Column, Rows:** Just as we need to insert sheets, columns, rows we might need to delete some to continue working in Excel.

**Copy Paste Range:** You can copy paste data contained from one Excel File sheet to another using the Copy Paste Range.

**Sort Range:** Depending on your projects, you might need to sort out data in a specified sheet, table, or range by one or more columns. To automate this task you can make use of the Sort Range activity which will sort through data in a specified column, either Ascending or Descending.

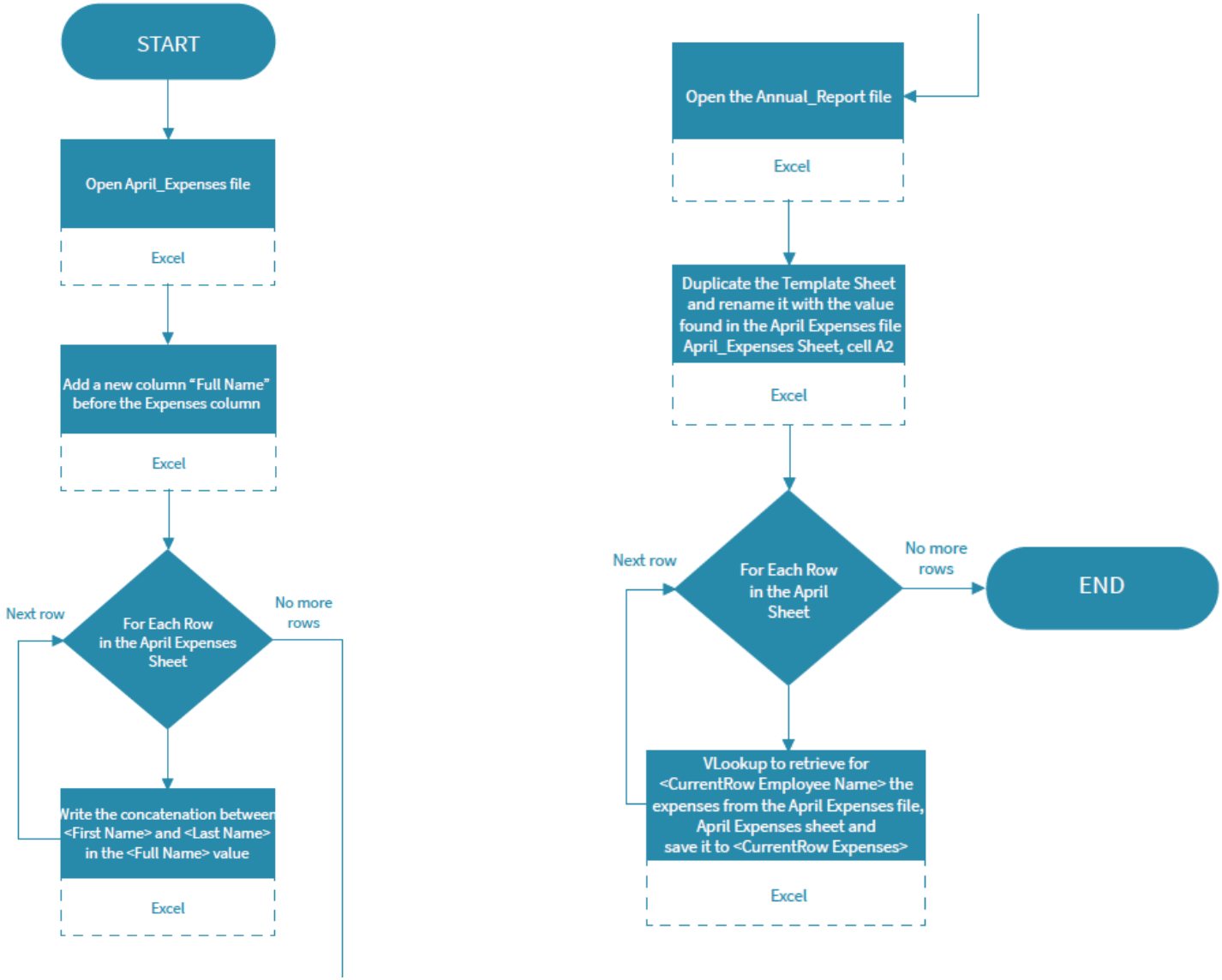
**Filter:** The Filter action enables you to create a filter in a range, table, or sheet based on the values in a single column. It can also be used to clear existing filters.

**VLookUp:** VLookUp, short for vertical lookup, is a built-in Excel feature that, when configured, looks and retrieves data from a specified column.

**Excel for Each Row:** Excel For Each Row. You would be inclined to use this activity when you are working with a range or sheet with multiple rows and you want to repeat one or more activities for each individual row.

**Run Macro:** If your Excel spreadsheet contains Macros that need to be used, you can easily select them with this activity.

# RobotPath: Working with Excel



# Recap of the Resources and Actions Used

- As our main automation goal for this project is working with Excel, we started with an **Use Excel File** resource, then we selected "April Expenses.xlsx" from a local folder and referenced it as "April_Expenses“
- Inside the Excel File resource, we added:
  a. An **Insert Column** activity where we indicated the "April_Expenses" sheet, checked the Has Header box and indicated where we want this column to be created and also the Name of the new column.
  b. We hit **Run** and observed that a new Full Name column has been inserted!
  c. We added an **Excel for Each Row** action and selected the "April_Expenses" sheet, checked the Has Headers box. Inside it, we added a **Write Cell** activity to perform the concatenation between the First and Last Name which will be saved under Full Name column.
  d. We ran the Project only for Excel for Each Row activity by right-clicking on it and selecting **Run from This Activity**.
  e. We searched and added a new **Use Excel File** resource where we selected the "Annual Report.xlsx" from a local folder and referenced it using the same name. Inside the Use Excel File we:
    - Added a **Duplicate Sheet** activity where we indicated the **Template** sheet from the "Annual Report" Excel and the April month from the "April_Expenses" file. We then ran the Project only for the **Use Excel File** activity by right-clicking on it and selecting **Run from This Activity.**
    - Next, we searched and added an **Excel for Each Row** activity in which we indicated the April Sheet from "Annual Report", confirmed it Has Headers and then dragged inside it a **VLookUp** action indicating employee name as the value to look up, Full Name and Expenses in the "April_Expenses" file for the location and save the retrieved data in the Expenses sheet from "Annual Report".
- We hit **Run** to complete the automation!

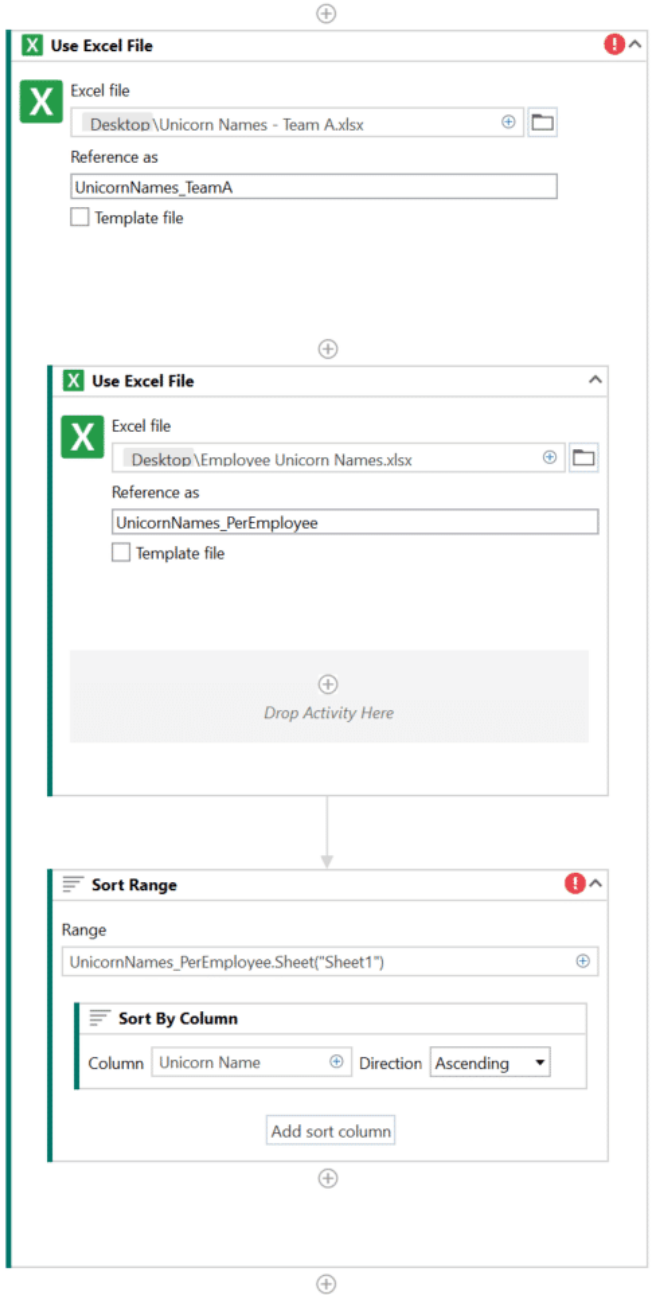
## Knowledge check: Match the features on the left with their corresponding definition

| | |
|---|---|
| Copy Paste Range | Lets you select an Excel file to use in the automation |
| For Each Row | Deletes a specified column from a sheet, table, or range in an Excel file |
| Use Excel File | Executes one or more activities for each row in a range, table or sheet |
| Duplicate Sheet | Copy pastes information to another location in the current workbook or a different one |
| Delete Column | Creates a copy of a specified sheet in an Excel file |

## Knowledge Check: We want to sort alphabetically the Employee Unicorn Names from the Employee Unicorn Names.xlsx. What seems to be the problem? Choose only one option!

A – Sort Range Activity must be placed outside the Unicorn Names – Team A Excel Resource

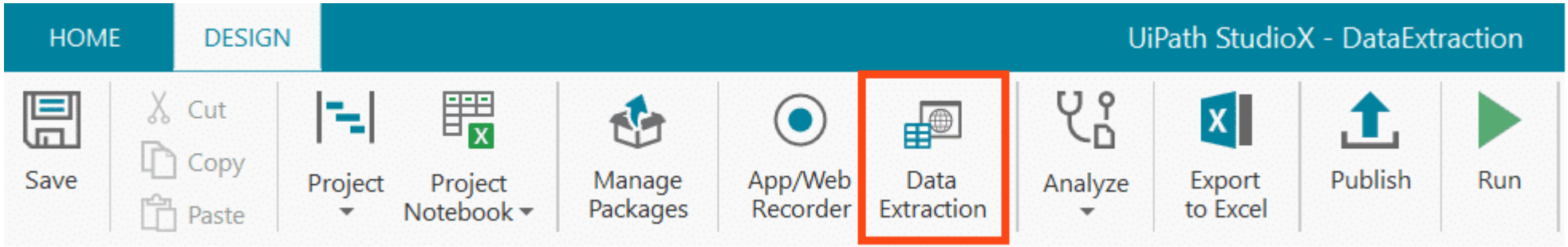
B – Sort Range Activity must be placed inside the Employee Unicorn Names Excel File Resource



# Data Extraction

## What is Data Extraction?

Data extraction, also known as data scraping, is a way of extracting data from a specified web page or application. You can use this activity to collect results that can span through multiple web pages either in an Excel spreadsheet or a particular location on your local folder. The Extract wizard guides you through the process of indicating the data to extract. You can start the wizard by clicking the Data Extraction button in the StudioX Ribbon.



# Build an Automation: Demonstrate Data Extraction on StudioX

**Step 1:** Open the Quotes to Scrape page: http://quotes.toscrape.com/

**Step 2:** After creating a Blank Task, click on Data Extraction in StudioX and you will immediately be prompted with the Extract Wizard. Read the detailed instructions and press Next.

**Step 3:** Hover over the elements which will appear with a green shape around them. Click on the first quote to proceed!

**Step 4:** You will be prompted with the Extract Wizard again for selecting the second element. Read the instructions on it and then press next.

**Step 5:** To select the second element in the list, pause configuration for a bit so that you can scroll to the bottom of the page to select the last quote. Click on F2 from the on-screen option or enable it by pressing the F2 key from the keyboard. You will see the timer showing up on top left, enough to allow you to scroll to the bottom of the page, wait for the seconds to pass, and select the last quote from the list! If you feel there is not enough time, increase the seconds by using the left-right arrows surrounding the number!

**Step 6:** You will observe that the Extract Text is already ticked, and you can also extract the URL. We don't need to enable this now, but we might need to do it later. For now, let's leave it like this, name Column 1 - Quotes, and then press Next!

**Step 7:** You will notice that you get a list with all the quotes available on the page. Let's extract more information, click on Extract Correlated Data and then repeat what you did previously for the Quotes, but this time selecting the Author name!

**Step 8:** After renaming the column Authors, you will observe that all quotes have been matched with their corresponding authors. Click again on Extract Correlated Data to add another column!

# Build an Automation: Demonstrate Data Extraction on StudioX (continued)

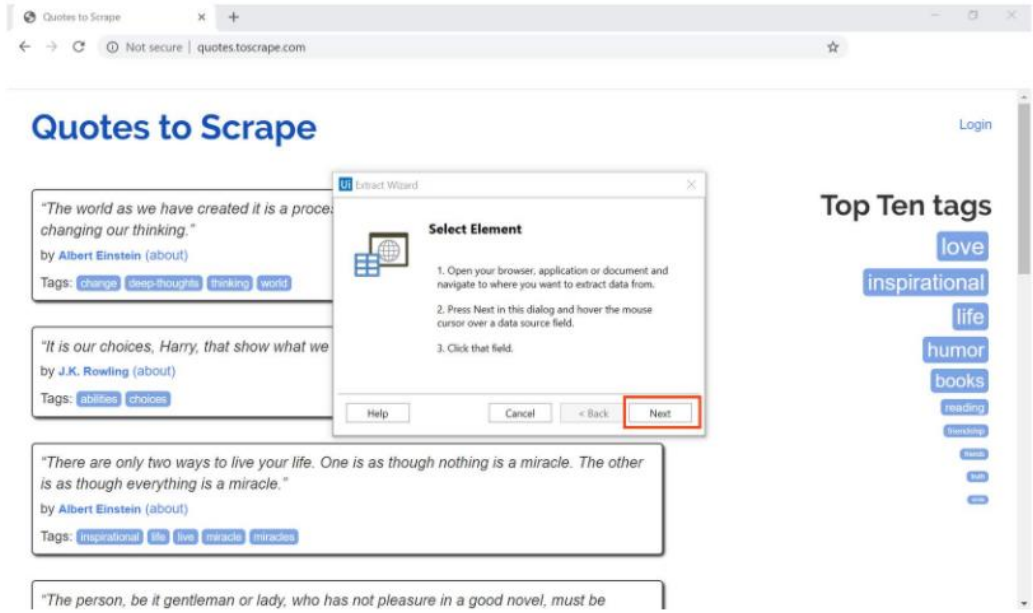
**Step 9:** Our next challenge is to retrieve the URLs where you can find more information related to each author! Repeat what you have previously done for quotes and authors. Click on the first ( about ) and last ( about ) and select Next!

**Step 10:** Uncheck the Text field and check the URL field instead, as we only need the URL, and rename it URL! Then, press Next!

**Step 11**: Selected Finish!

**Step 12:** You will be prompted with the question: Is Data Spanning on Multiple pages? What the Extraction Wizard wants to know is if there are pages that follow after this one with the exact same data! We select Yes!

**Step 13:** After confirming that data is present in other pages, select the Next button at the bottom of the page! To do so, pause execution again, scroll down until you reach the bottom of the page, hover over the Next button, and select it! As a side note, whenever you get to this step, do not indicate the number of the page, always indicate the arrows or next buttons.



## Build an Automation: Books Sales Report

**Step 1:** Open Books to Scrape and start extracting prices from the website: http://books.toscrape.com/

**Step 2:** Select each book genre from the website and then copy the prices associated with the books inside the genre. Paste them into the Extraction Price column.

**Step 3:** Insert the formula to obtain the Total amount between the extraction price in column F multiplied with the number of books sold in column D.

**Step 4:** Insert Pivot Table and select all columns inside the Books Sheet.

**Step 5:** Configure the Pivot Table by selecting Genre and Total

**Step 6:** Open Outlook and create a new email message for attaching the Books_Report file. Send the report via email!

**Note:** Few things to get you started:

- Extract for all the books from http://books.toscrape.com/ the book's name and price and save all that information in the Extracted Data sheet from the Books_Report.xlsx file.
- Perform a VLookup to get the previously extracted price for each book from the Books sheet.
- Create a Pivot Table in the Genre Overview sheet that uses the data from the Books sheet, where the fields are Genre and Total.
- Send the Excel file to yourself via email!

# RobotPath: Books Sales Report

## Things to consider:

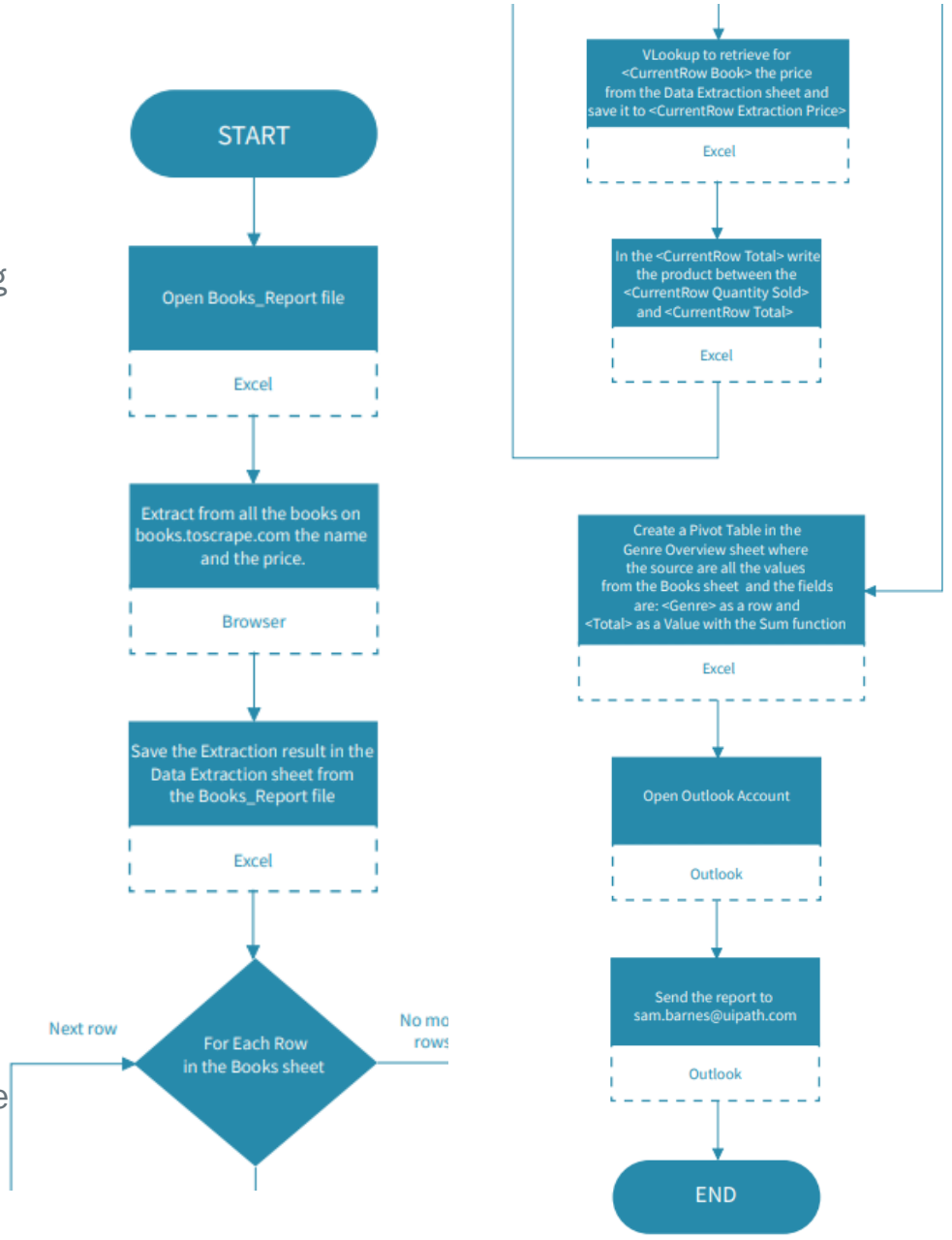
Extracting data for 1000 entries is not something that is done in an instant so a little patience will be needed.

In the Data Extraction action, edit the Close option from Properties to Always. Or manually close the books.toscrape.com browser window after each run. Otherwise, you'll find the data is not extracted correctly.

Test your project by using the "Run from this activity" option. You don't want to extract data from the website every time.

Pay attention to the Price Column, there is a Substitute formula there to remove the pound sign. Otherwise, you would get an error on the Product formula.

You cannot overwrite a Pivot Table. If you want to run the project and you already have a pivot table in the Excel file, make sure you delete it first. Otherwise, you'll get an error.



# Topic 3

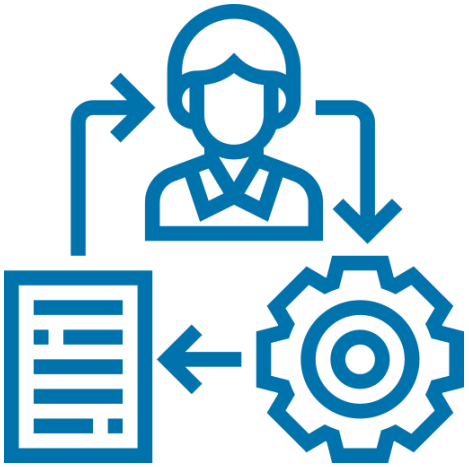
## Files and Folder Automation

**As a business or regular user you need to keep your data organized in such a manner that whenever you need something, it has to be in the right place. Sorting through your files and folders is always a time-consuming endeavor!**

## Working with Files and Folders

When we talk about keeping things in order, organizing and sorting through files and folders has always been something that's needed in both business and personal life. Actions like creating, copying or renaming files and folders which are part of our everyday tasks can now be automated through a series of simple steps so that you don't have to invest large amounts of time into doing this anymore.

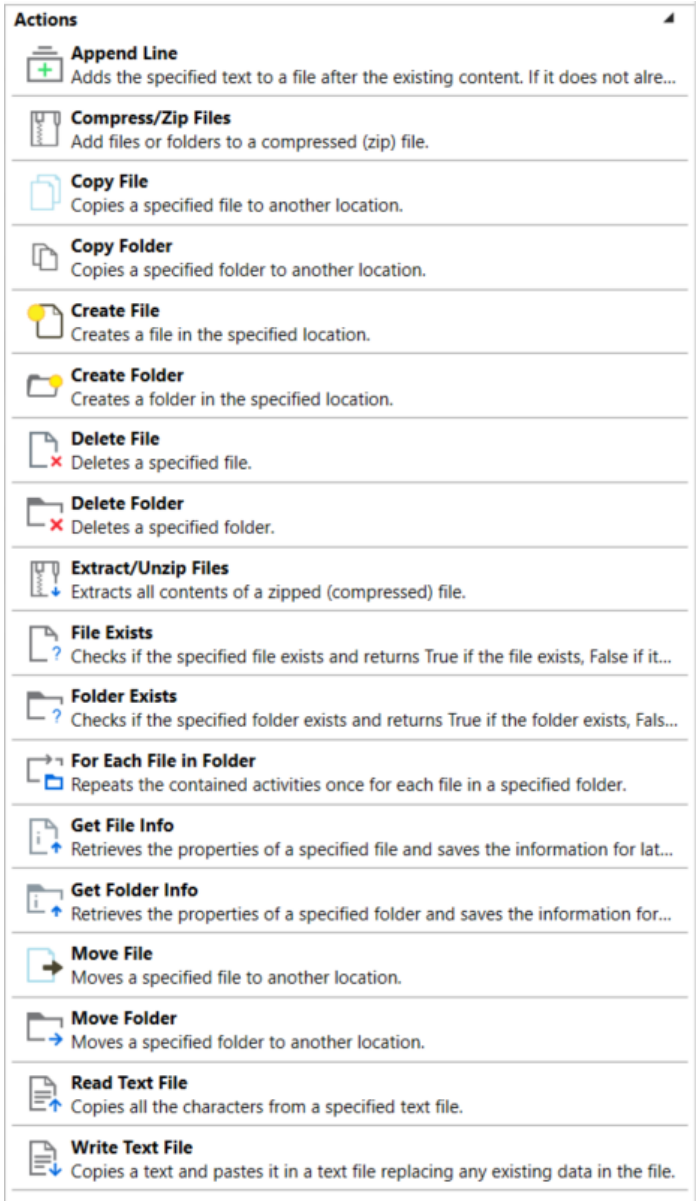
File automation refers to the automation of tasks the user performs with files and folders on the computer, such as creating, copying, or renaming files and folders.



### How do I use it?

In the File activity menu, you will find similar actions for both files and folders. You will not need a resource to apply file actions, unless you use, for example, information from an Excel file. In this case, you will need an Excel resource.

# Common Actions using Files and Folders




**Copy or Move:** copy file from one location to another

**Create or Delete:** to create a file, you will have to specify the file extension after the name

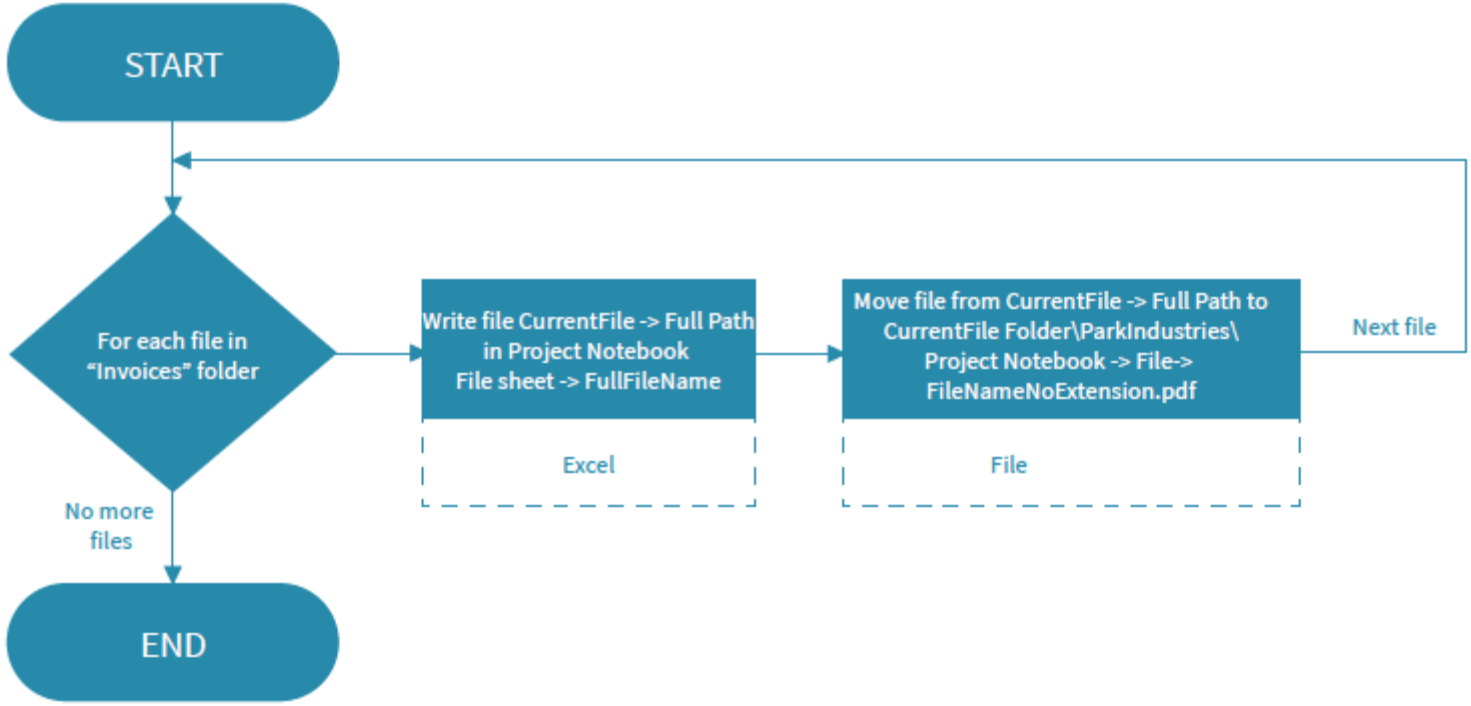
**File or Folder Exists:** to check if a specific file or folder already exists. If they do not exist, with the use of an If activity, you can further create them or move them from another location

**Get File Info or Get Folder Info:** retrieve file's properties (size, name, full path, creation date).

**For Each File in Folder:** action to iterate through the files in a folder and its subfolders. This activity will also retrieve the properties of the current file (seize, name, full path, creation date)

**Read Text File:** copy all the text form a file to either save it for later use, or use the **Write Text File** action to replace the existing text from another document or use the **Append Line** action to add it at the end of an existing document

# RobotPath: Moving and Renaming Files



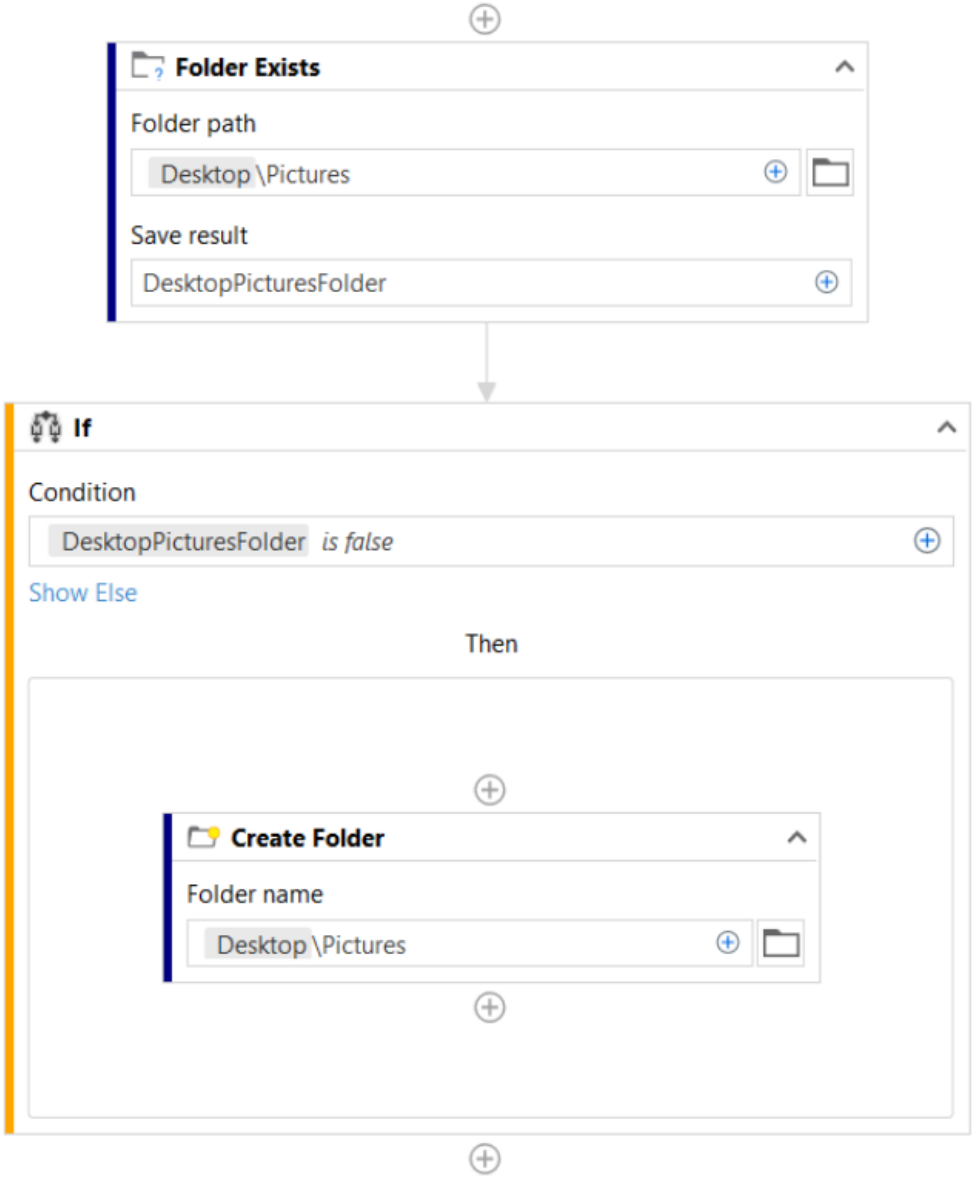
## Recap of the Resources and Actions Used

- We searched and dragged into the designed panel a **For each File in Folder** action where we indicated the location of our saved files.
- Next, we added a **Write Cell** action where we configured the desired parameters.
- We then opened the **Project Notebook** and made **changes** to the File sheet, more specifically in the **File Name No Extension!**
- We hit **Run** and observed there are changes to the Project Notebook.
- For our final step, we searched and added a **Move File** action where we indicated the current file location and also configured the final destination path.
- We saved and hit **Run** again!

## Knowledge Check: What is happening here?

**A –** The robot checks if the Pictures folder exists on Desktop, and if it exists, the robot replaces it with a new folder

**B –** The robot checks if the Pictures folder exists on Desktop, and if not, the robot creates it

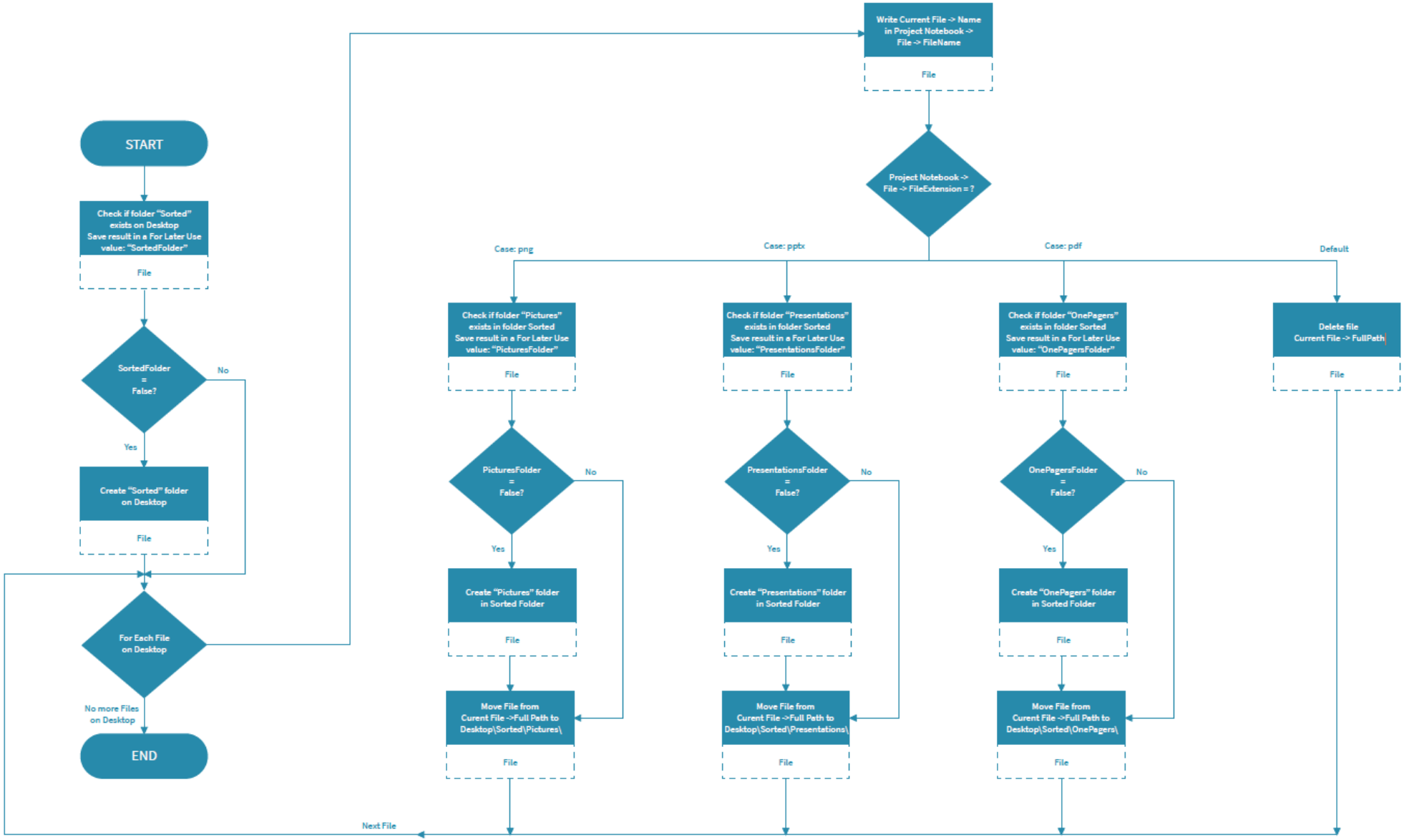


## Knowledge Check: Let's say you are a teacher, and you want to check your student's essay for plagiarism, what File activity would you use?

A – A **Read Text File** activity, to save all the file's text for later use, and then use that value in a plagiarizing detector.

B – A **Get File Info** activity, to save all the file's info for later use, and then use that value in a plagiarizing detector.

# RoboPath: Organize Your Local Drive



# Build an Automation: Organize Your Local Drive

**Step 1:** Open the folder with miscellaneous files, named Working Documents, and the destination folder, in our case a newly created Sorted folder. The goal is to transfer the files from Working Documents into the Sorted folder

**Step 2:** Inside the Sorted folder create a new folder for all Excel files, and copy-paste the excel files from Working Documents into the Excel folder

**Step 3:** Inside the Sorted folder create a new folder for all Images files, and copy-paste the images files from Working Documents into the Images folder

**Step 4:** Inside the Sorted folder create a new folder for all One Pages documents, and copy-paste the one pages files from Working Documents into the One Pager folder

**Step 5:** Inside the Sorted folder create a new folder for all Presentations documents, and copy-paste the Presentation files from Working Documents into the Presentations folder

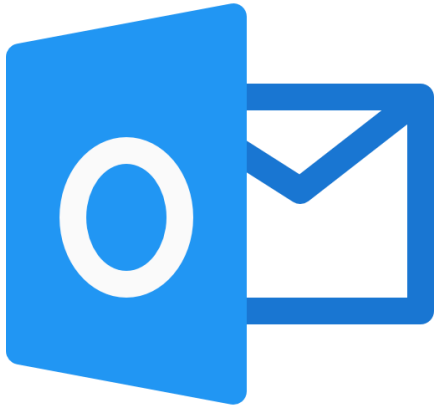
# Topic 4

## Outlook Automation

**As a business user, you are sending or receiving email messages, working with specific emailing groups, or downloading certain attachments on a daily basis!**

## What is Outlook Automation?

Outlook automation refers to task automation related to your email account. You can automate minor tasks involving your email account that have a regular cadence or those that are part of larger, more complex automation projects.

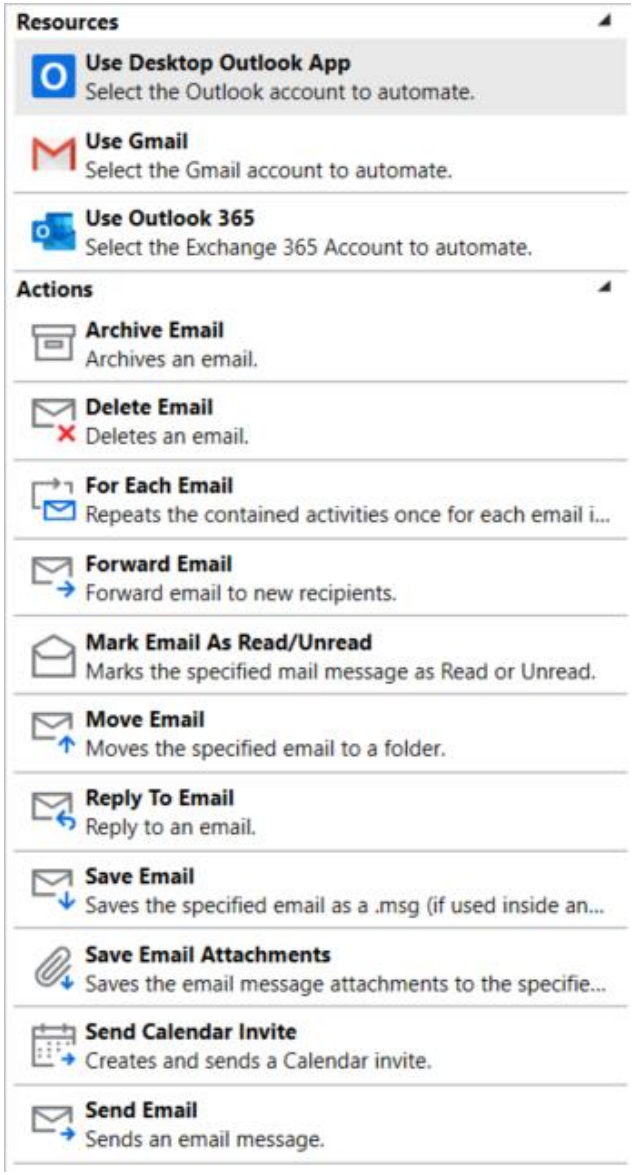


## How do I use it?

When creating a new project that involves Outlook, you have to make use of the Use Outlook Account resource.

As the automation project progresses, you can, of course, combine different resources to achieve your email automation goal. For example, using information from an Excel File to create an emailing list, or to just add context to the email's subject. Just don't forget that for values to travel from one resource to another they need to be nested together.

# Common Actions using Outlook




**Send Email:** to send email messages as you would normally do with the Outlook application. Values such as email recipients, CC's, messages subjects, body text or attachments can all be specified and customized.

**Reply, Forward, Delete, Marking Email as Read/Unread:** these actions can be added within the use Desktop Outlook App resource

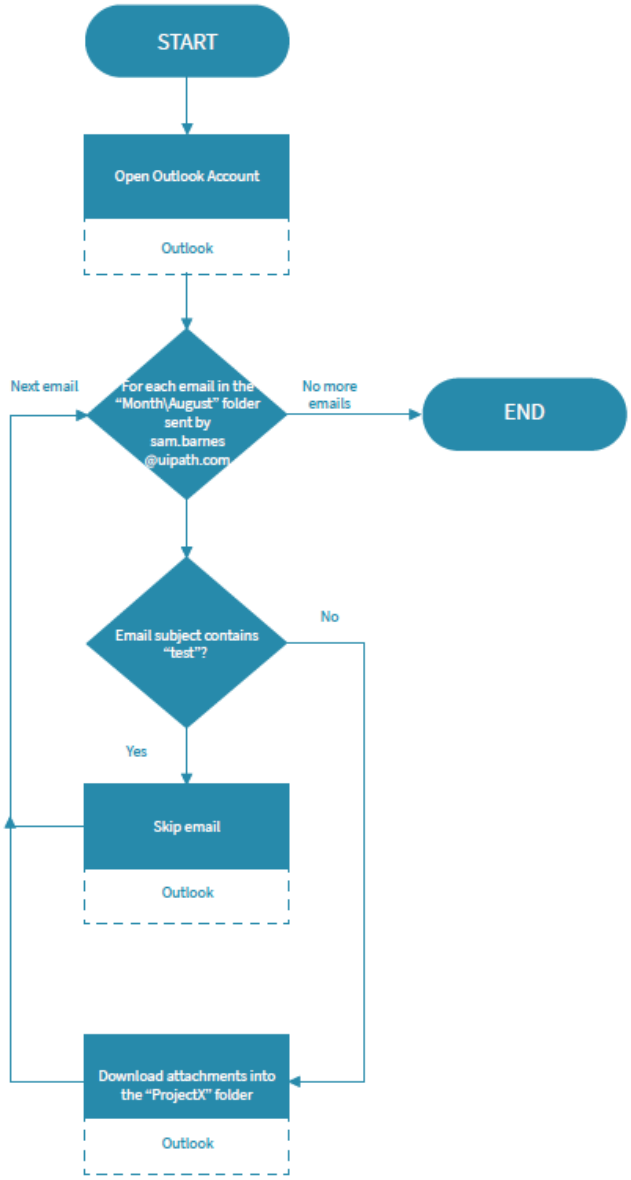
**Send Email Attachments, Save Email:** two of the most powerful features allowing you to speed up saving the information that you need

**Move Email:** to move email to a dedicated folder daily, once a week, or monthly

**For Each Email:** to execute a particular action on each email message found in an Outlook folder. For example, downloading all the attachments from the Inbox that contain a specified title or body text

**Use Text from Word in the body of email:** you can customize your message in Word and then send it in the body of an email for more flexibility

# RobotPath: Working with Outlook



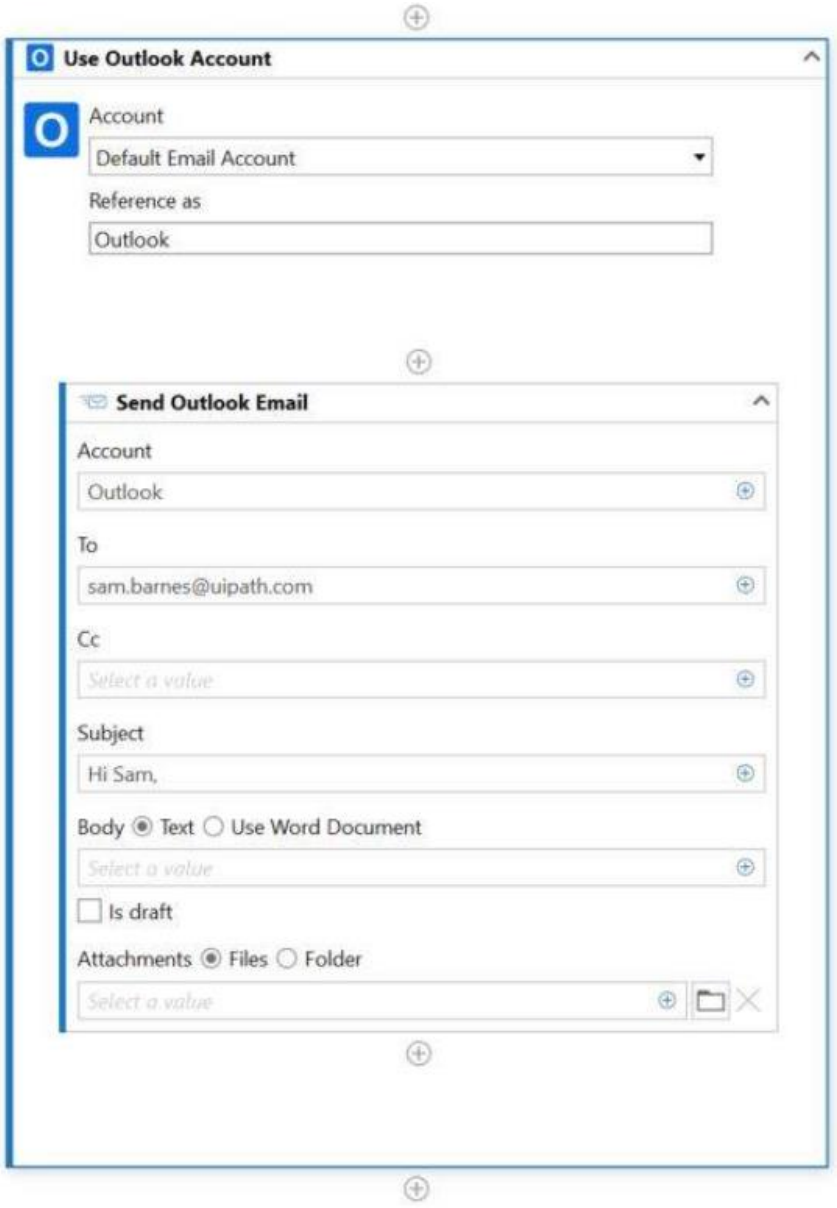
## Recap of the Resources and Actions Used

- We searched and added a **Use Outlook Account** resource and indicated the preferred Email Account.
- Next, we added a **For Each Email** action where we configured the desired parameters.
- We added filters to filter by email From and by Subject
- We then added a **Save Email Attachments** action and selected the folder in which we want to save them!
- We hit **Run** and observed all the attachments have been saved.

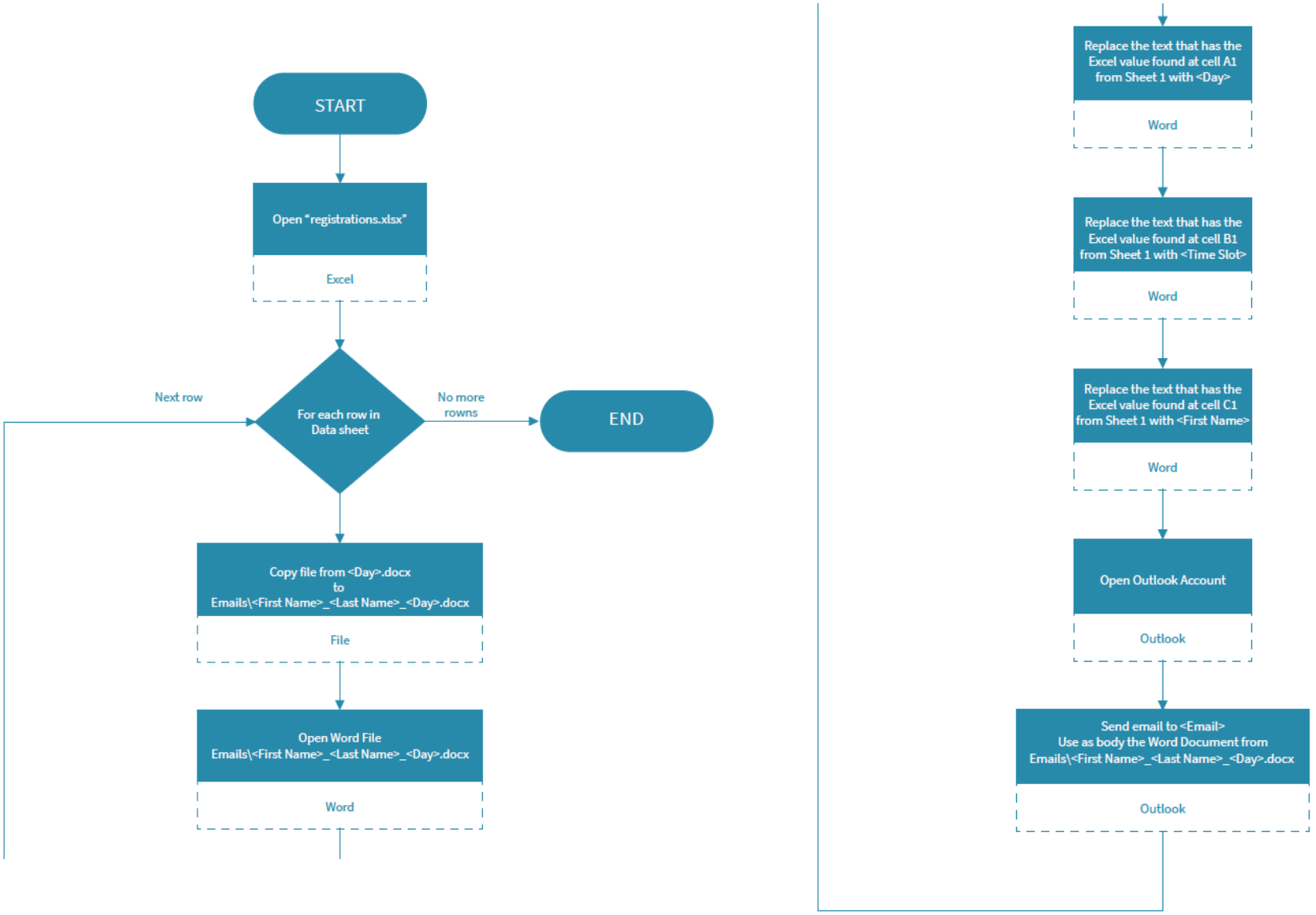
## Knowledge Check: You want to send an email using a Word document as the Body. Is this the correct way to do it?

**A –** Yes, Text option works similarly as Use Word Document

**B –** No, I need to click on Use Word Document to select the desired Word document.



# RobotPath: Build a Digital Assistant



# Build an Automation: Build a Digital Assistant

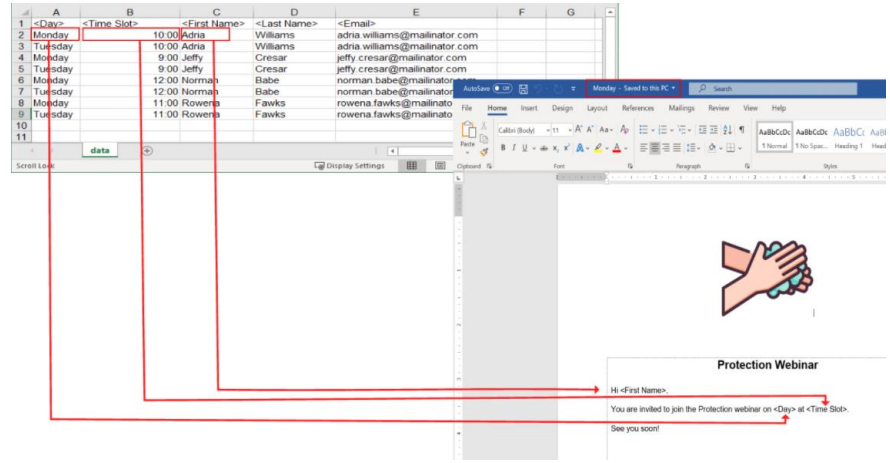
**Step 1:** Open the Excel registration file and the Word template for Monday. Use the details associated with Monday, more specifically Adria's, and fill them in the corresponding Word template.

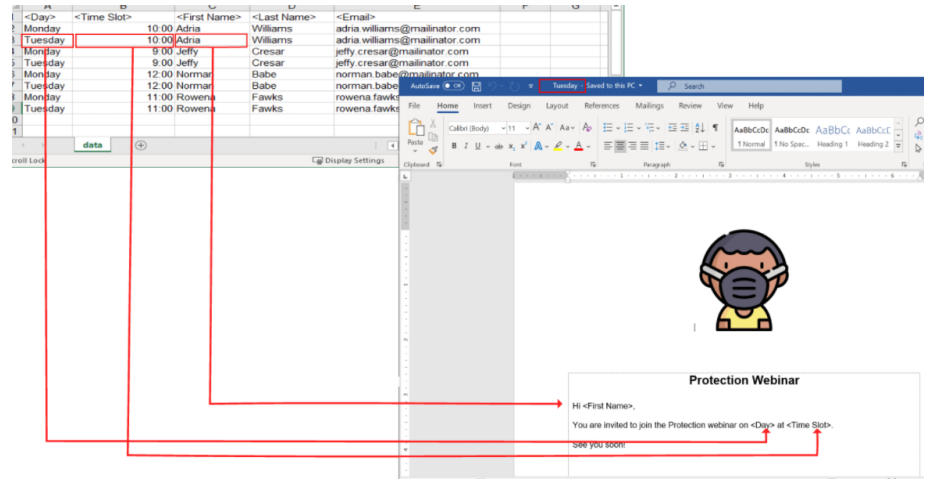
**Step 2:** Next, take the details from the first row in the registration file and fill them in the dedicated spaces in the Monday Word template. Fill in the Monday Word template details such as day, time and name.

**Step 3:** Then, open Outlook and create a new email message using the Monday Word template you just completed and fill in the email address. Create an email using the Word template as the body of the email, name it - Protection Webinar, and send it to Adria using the email address from the registration file. Send the Monday invitation!

**Step 4:** Proceed by taking the details from the second row in the registration file and fill them in the dedicated spaces from the Tuesday Word template. Fill in the Tuesday Word template details such as day, time and name.

**Step 5:** Then, open Outlook and create a new email message using the Tuesday Word template you just completed and fill in the email address.



# Topic 5

## Word Automation

## As a business user, you most likely work a lot with Word Templates and Word Documents

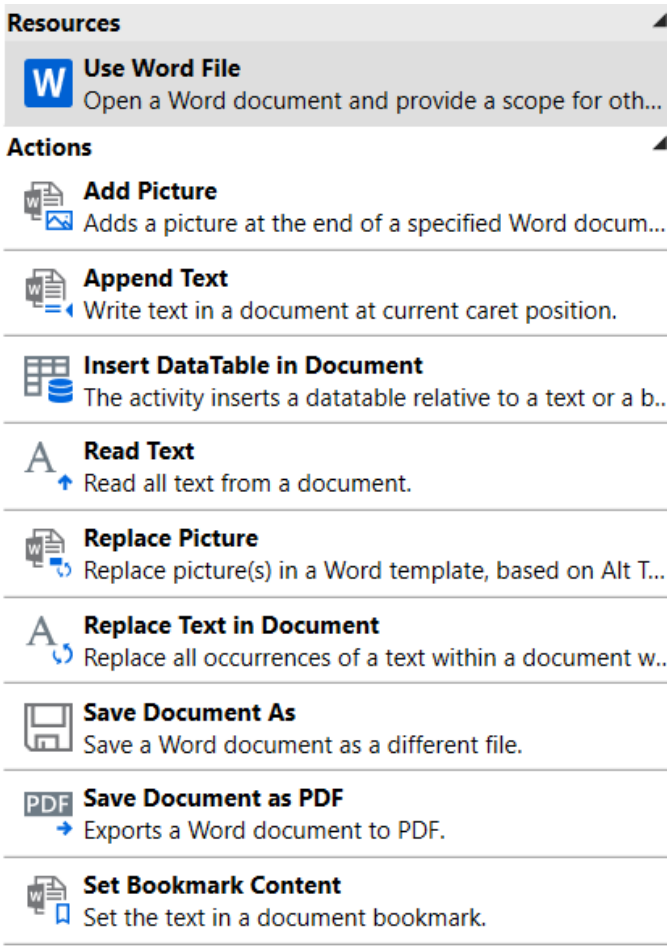
### What is Word Automation?

Word automation refers to task automation related to your MS Word application. StudioX allows you to build automation projects involving a limited set actions in Word such as extracting text, using word templates, and inserting data tables.

### How do I use it?

When creating a new project that involves MS Word, you have to make use of the Use Word File resource. Inside it, an MS Word file may be specified so that all the actions added afterwards can access and use that Word document. When configuring actions, find and replace text, add pictures, and add data tables for that Word document directly from StudioX.

# Common Actions using Word




**Replace Pictures:** make sure that the pictures have an Alt Text assigned and that the pictures do not filling a Shape.

**Replace Text:** action works just as the Word's Replace Text option. Pay attention to the text you want to replace first.

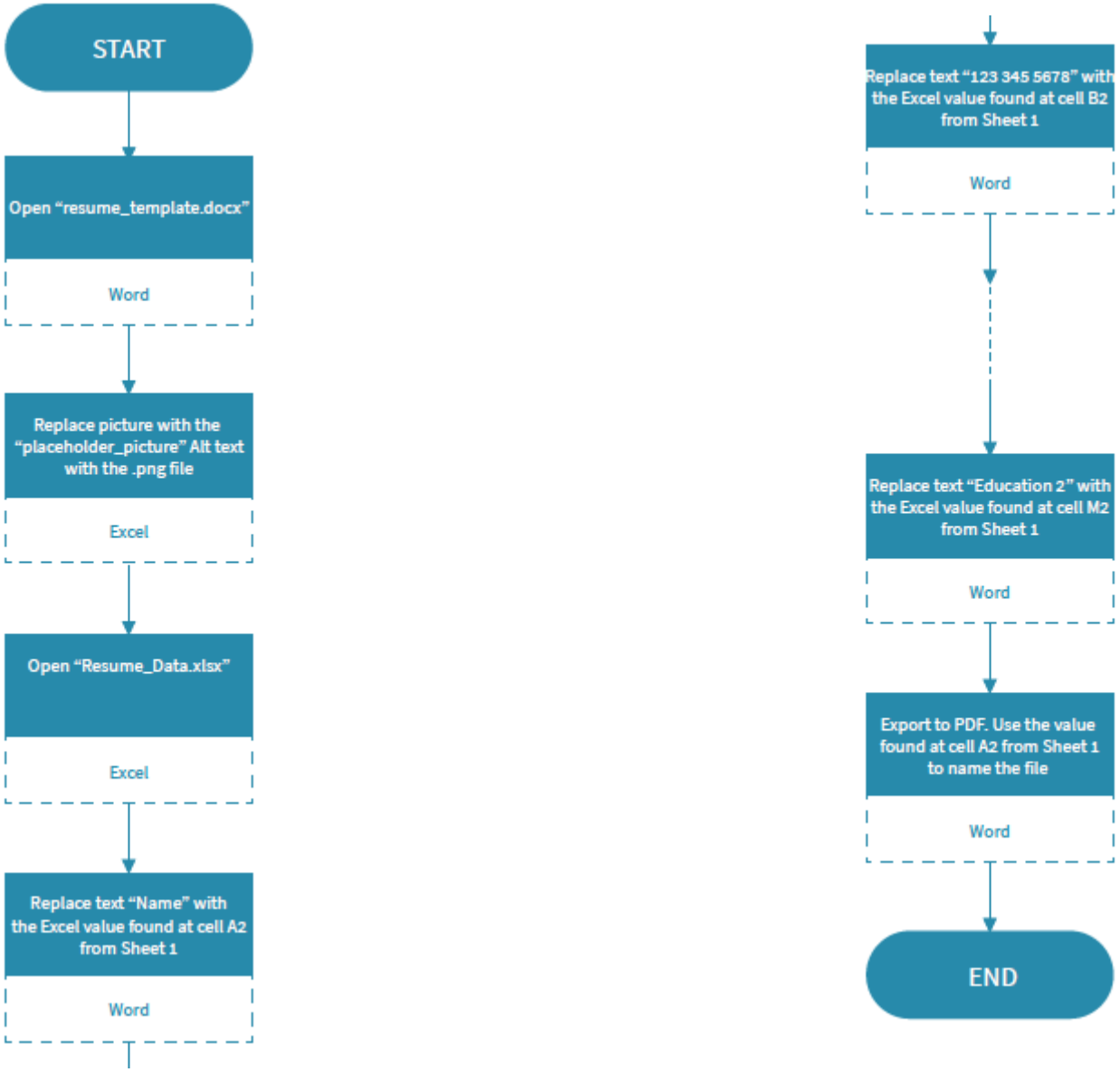
**Add Pictures, Append Text:** you can add pictures or append text at the end of the document.

**Insert DataTables:** at a specified position relative to a text or bookmark

**Set Bookmark Content:** to set text in a document bookmark

**Save Document as PDF:** you can use the Word file's content to export as PDF

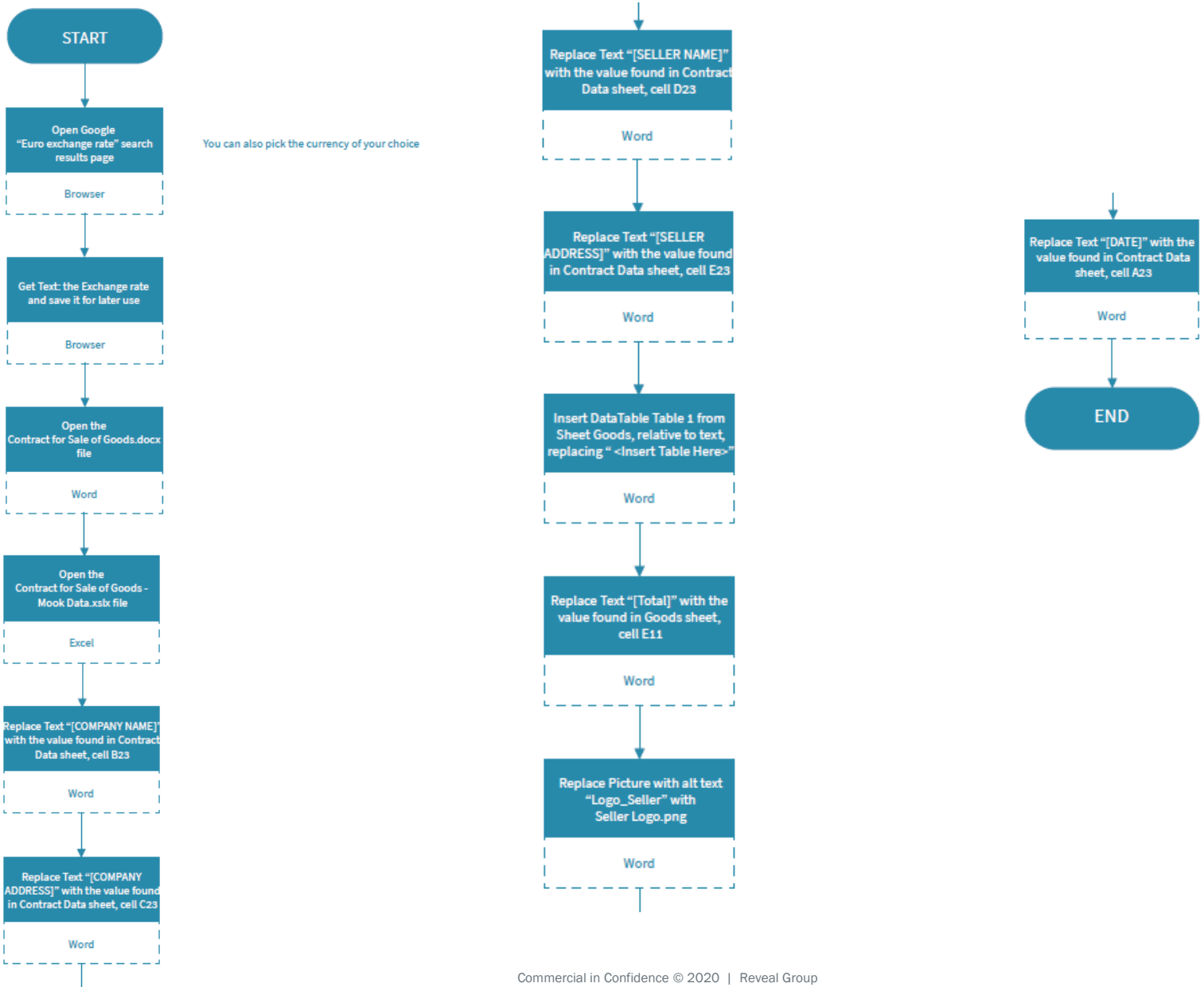
# RobotPath: Working with Word Templates



## Recap of the Resources and Actions Used

- We start by creating a new **Task Automation project**.
- We add a **Use Word File** resource and select the "resume_template.docx" file.
- Inside the resource, we add a **Replace Picture** action and provide the Alt Text of the picture to be replaced as well the new picture.
- Still inside the Use Word File resource, we add another resource, a **Use Excel File** activity and indicate the "Resume_Data.xlsx" file.
- Inside the Excel resource, we add the **Replace Text** actions that will replace the placeholder text from the template with the text from the Excel file.
- Lastly, we add an **Export to PDF** action and because we use a value from the Excel file, we place it inside the Excel resource.

# RobotPath: Modify Word Template



# Build an Automation: Modify Word Templates

**Step 1:** Open the Contract for Sale Goods - Mock Data Excel File, Contract Sheet and copy the company details into the Contract for Sale Goods Word document. Take the data available in the Contract for Sale Goods - Mock Data Excel file, Contract Data Sheet, and, one by one, copy and paste it into the Word document.

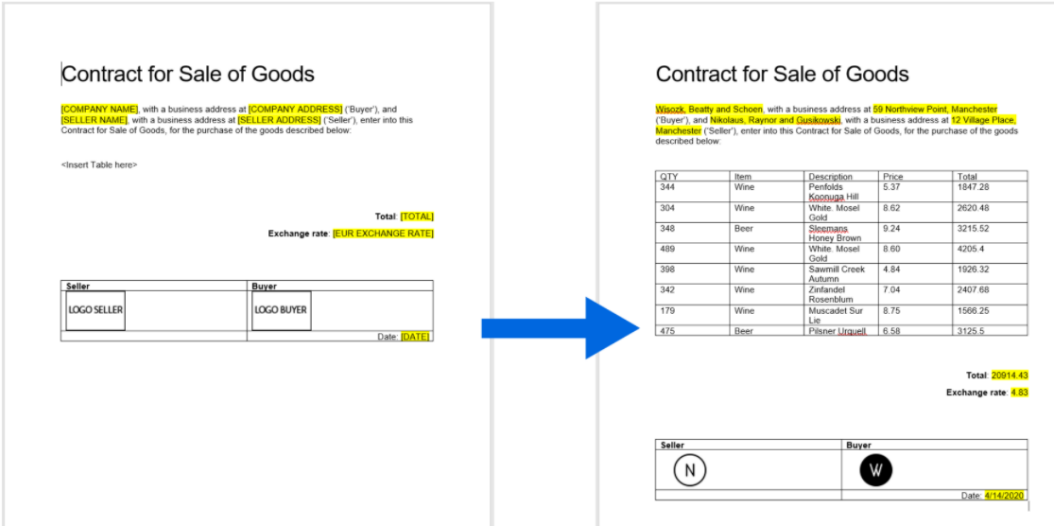
**Step 2:** Next, in the Contract for Sale Goods - Mock Data Excel File, open the Goods Sheet, copy the table and paste it in the Word document.

**Step 3:** From the Contract for Sale Goods - Mock Data Excel File, Goods Sheet, copy the Total amount and paste it into the Word file.

**Step 4:** Search online for the local currency vs euro currency rate. Type into a search engine currency rate exchange.

**Step 5:** Insert the buyer and seller logos in their designated places in the Word document.

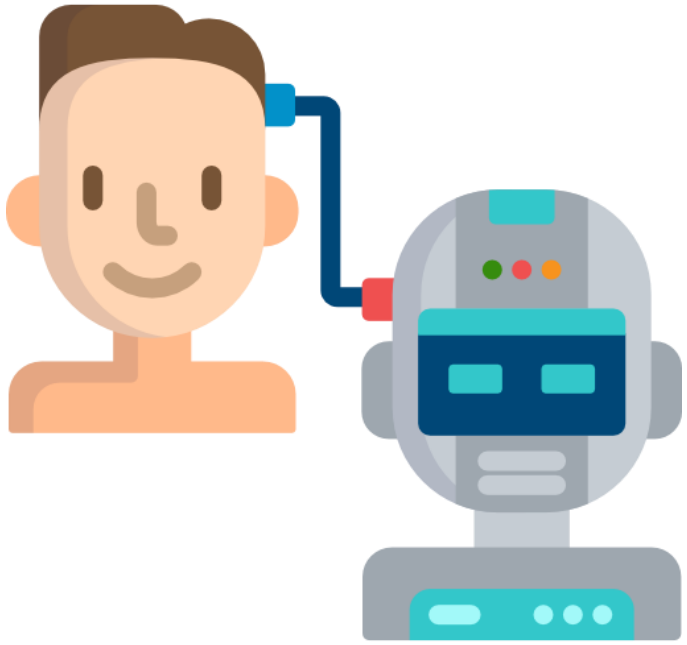
**Step 6:** Copy the date from Contract for Sale Goods - Mock Data Excel File, Contract into Contract for Sale Goods Word document.



## Discussion:

- What are some more RPA Ideas we can think of using Word?

- Since Word can extract text, what future functionality would be useful for StudioX?



# Topic 6

## Special Guest