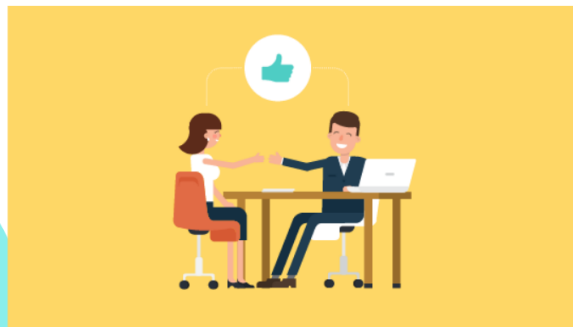


It's a Must Read
for Everyone who
is planning to
attend RPA
UiPath
Interview...



55+ RPA UIPATH MUST READ INTERVIEW QUESTIONS



How to Crack RPA UiPath Interview?



BY SHARATH RAJU

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Preface

In this guide we will discuss about different types of questions that can be asked in a RPA UiPath interview, in order for the employer to test your skills in RPA and Automation in general. In the following sections we will discuss about RPA and its abilities, general questions regarding UiPath and its functionality, and many other topics.

About the Author

I'm Sharath Raju, a Senior RPA Developer with 7+ years of Experience in RPA Domain and current pursuing master's in ML and AL from LJMU, UK. My main interests include RPA, UiPath, Web Development and AI Field.

You can follow me on:

[Linkedin](#)

[Youtube](#)

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Increase Your Chances Of Getting Hired As A RPA Developer

If you are someone who is tired of attending interviews 😞 because of no proper guidance or just because you didn't have real time experience...

Or

If you are someone who already have some offers, but looking out for some good opportunities in terms of compensation 💰, growth 🧑 or many other N reasons...

Then, you have come to the right place 🍷

If the above feelings shows up in your mind, don't worry...

You are not alone, they comes up in everyone's mind...

Okay... now let's look at the different reasons you might be trying to switch the job 🤔

- You work as QA engineer now, and you want to upgrade to developer and you found RPA interesting over the other alternatives
- May be you have a BPO job, and that drains your energy by the time you are home
- You might be someone who has lost the job recently due to some unexpected issues
- May be you already work as a developer and use other technologies and one day you came across RPA and it impressed you
- If you are student, then the RPA might be interesting to you as it's an emerging technology
- Or it can be just that, the market that you are working now is getting saturated and the chances of competition is much more...

One of the above might have triggered the thought in you to pursue the RPA developer career



Now what?

Since it's an completely unknown terrain to you...

The fear of failure and the uncertainty in terms of outcomes might hit you down creating thousands of thoughts in mind

Isn't it?

Again, believe me it's too common to happen...

Don't be worried 😊

Because, It's possible to switch the career...

I'm not telling that just for the sake of making you feel little confident, but it has happened to lot of people that I know...

And if they can make it, wouldn't you be?

Yes definitely, you can make it too🙌

But if you are someone, who is thinking it will happen in a week or a month...

Sorry I don't want to see you failing at your attempt, so you can drop the article here and go with whatever approach you have in your mind..

But...

But...listen!!!

If you are really serious about the change that you are seeking in your career and the opportunities that you are trying to grasp

Then it's better that you know, that it's going to take more time than that...

May be 2months, 4 months 21days , 6 months, 6 months 13days or 1 year sometimes

Can't predict the exact time, but if you keep making progress by learning new things, it will happen one day👊

Now, assuming you are all set by now and serious about your career advancement and have the commitment to make the needed progress👊

Now what?

Here comes the challenge 😊, most of the time you will not find the right guidance because of which you end up wasting your valuable resource which is time ⌚

A lot of them go through it every day, and then soon realise it but by that time they might have already spent a huge amount of time learning everything possible but not the things that are needed for them to crack the interview...

So keeping that pain in mind, I will try my best to guide you with the help of this article 🙌

Let's begin now...

Wait, that get confused when I use few terms that you are not yet familiar with because you will be learning those things soon anyway 😊

First things first,

As an RPA professional, get yourself familiar with some industry use cases which the organisations around the global are automating, as that will give you the basic idea of how

RPA is changing the way the businesses operate and what are the business processes that you can identify in your organisation and automate them 🤖

You can refer : <https://trubot.datamatics.com/resources/rpa-use-cases/>

Now, what?

By now, once you go through few of the use-cases...

You know the opportunities available and might want to take the advantage

Isn't it?

Now is the time to get ourselves equipped with the needed skills 😎

#1.

One thing to remember while learning RPA is that, all the tools that facilitates RPA have the same functionality at the core. So don't be worried about which tool to pick. Perform some research on which tool is leading the market and directly jump into it without wasting much time because if you can get yourself familiar with on RPA tool then learning one more will be a damn easy thing!!! Believe me 🙌

#2.

Now, try to understand the basics of that tool and concentrate more on the core features of that particular RPA tool.

Make a note of everything possible so that you can keep it with you for future reference.

#3.

Next immediate thing that you have to do is, get started with some basic programming.

Wait wait, did I make you feel uncomfortable?

Sorry if I had, but learning the basic programming is going to add a lot of advantage to you and your profile because it will give you a competitive advantage over the others and will provide you the needed skills to excel in the market and the project implementation 🙌

Select a language of your choice but...

Preferably .Net as most of the RPA tools are build [upon](#) .Net framework 👍

#4.

Get yourself familiar with Microsoft office products like Excel, Word, Outlook e.t.c and try to perform some automations on them.

#5.

Now, it's the time to get our hands 🖐 on some websites and web applications!!

You can pick some e-commerce sites, social networking sites e.t.c

Start automating the routine tasks that you perform on this sites manually and feel that they can be automated 🙌

#6.

And now because most of the applications that we interact with at enterprise level are desktop applications in general, so it's required that we get familiar with desktop apps automation.

It's not difficult than the web applications, so not to worry much about it.

#7.

API Automation: You can try to interact with APIs using your preferred RPA tool.

Because most of the RPA implementations at organisations include API integration in it!!

#8.

Database integration: This is one of the mandatory things that you should get yourself familiar with, as we will deal with SQL, Oracle database.e.t.c during our process automations to fetch the input and to save the data.

#9.

Data Extraction: This is also one of the most frequently used things during our process automation, try to learn the different methodologies available for extracting the data from PDFs and other documents 🙌

#10.

Version Control: This component has it's own importance by itself as it is something which helps us in keeping the track of changes made to the code and also helping different team members to collaborate while building the solutions.

#11.

Tool Framework: Most of the tools used for the RPA implementation already have some or the other form of frameworks that they recommend while implementing the automations, as they will help you build some robust solutions.

#12.

If you get a chance to work with any of the below mentioned things and automate them then, you can have more better understanding of how to integrate RPA with them and also it can add some advantage to you over your fellow candidates while appearing for interviews 🙌

ServiceNow, Mainframes, Salesforce etc.

Yeah, that's all you need to increase your chances of getting selected.

And if you can learn all this core elements of RPA, then you can go ahead and start exploring the advanced features of RPA.

But, please don't jump directly into the advanced topics before going the mentioned topics 😊🙏

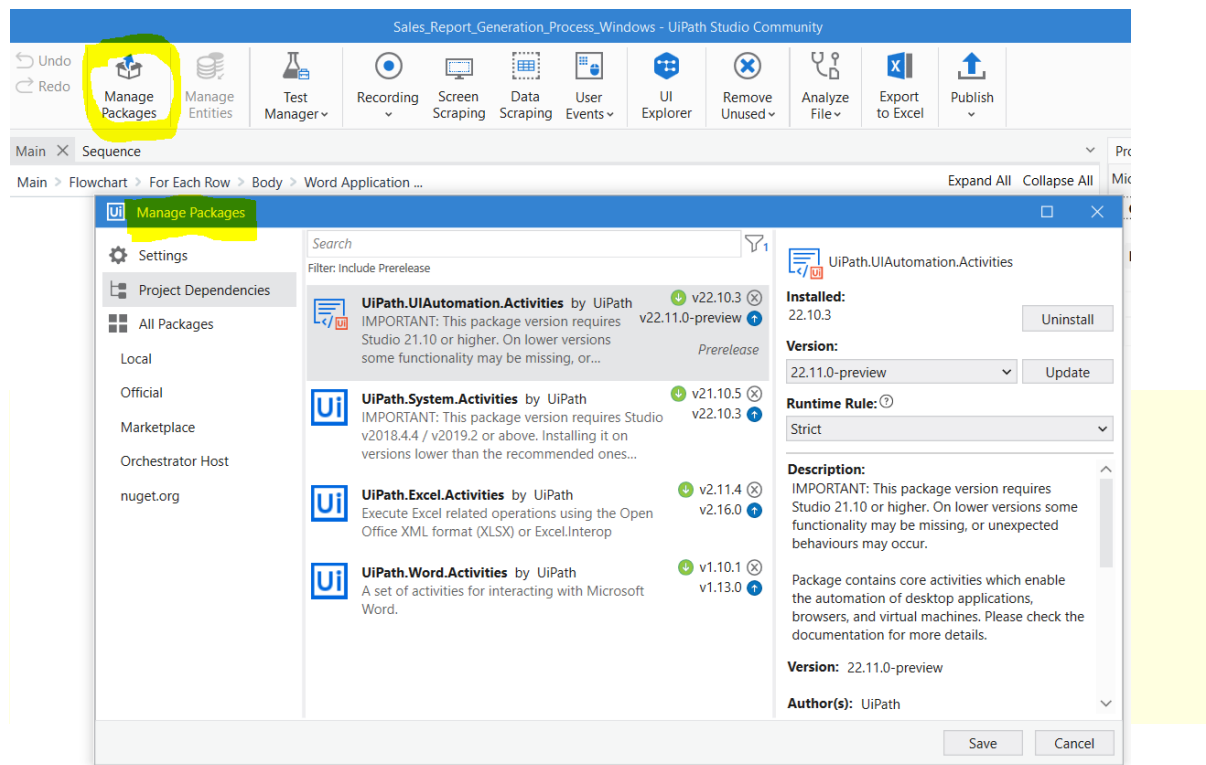
Good luck, do your best!! 🙌🙌

PS: I will be updating this article often, so that it will stay relevant.

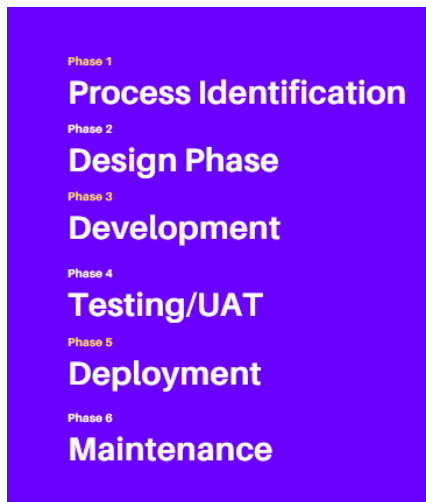
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1. What are the benefits of Manage Packages option in UiPath?

The Manage Package option in UiPath Studio allows users to download activity packages and libraries. It also allows users to view and update the ones already installed for the project and add new packages which are required for the current project or remove them when not required. The Manage Packages window always shows up the Project Dependencies list when opened.

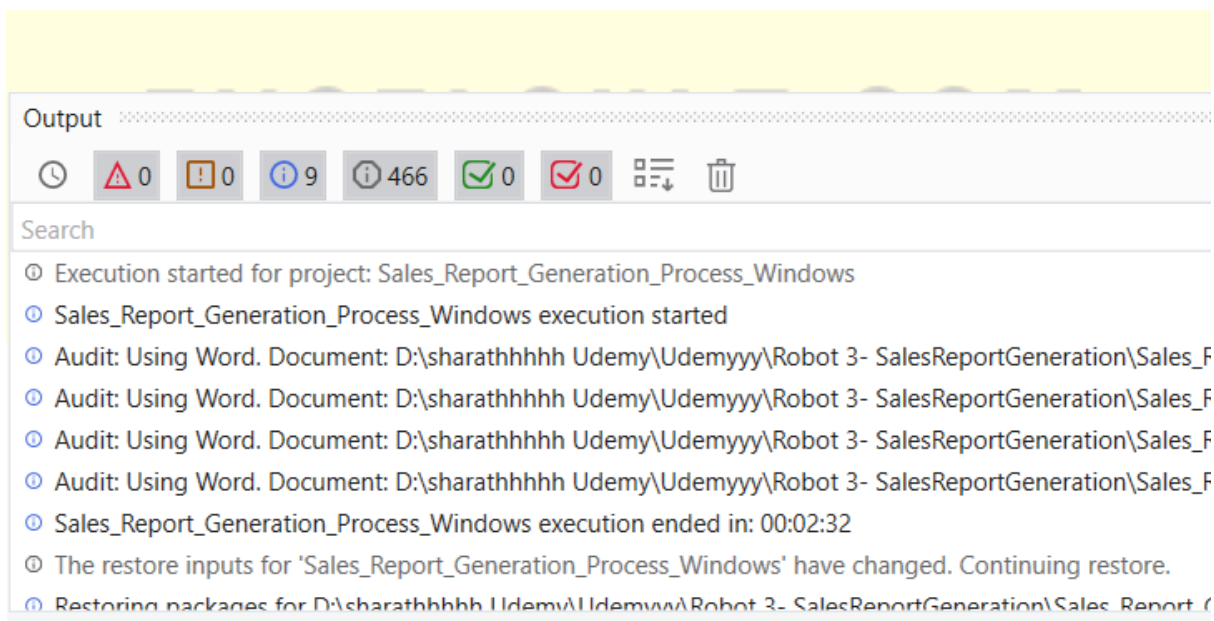


2. What are the steps involved in RPA Life Cycle?



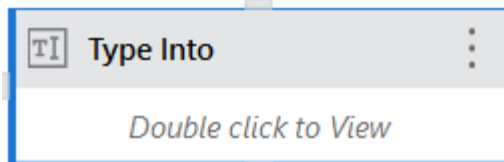
3. What is the use of Output Panel in UiPath Studio?

The Output panel in Studio enables you to display the output of the Log Message, Write Line activities, or display errors and warning messages, as well as the logs when the debug mode, is activated.

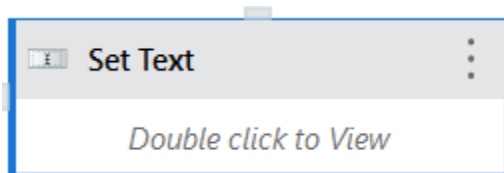


4. Name two activities that can be used to enter data into the Web app?

1. Type Into Activity: Type into will simulate the same keystrokes as how a human types text into a text box (Type Into is normally typing from a keyboard)



2. Set Text Activity: Set Text will set the given value in the text box in one attempt (Set Text is like Pasting the content)



Simply, In Set Text it's like a copy-paste where it will directly paste that content whereas in Type into it will enter characters just as human types which helps us in using special keyboard facilities like Tab, Capslock etc

Type Into can be used for Edited fields only, while Set Text can also be used in a scenario where text box is disabled.

5. What is an array and example?

An array is a collection of similar types of data. For example, if we want to store the names of 100 people then we can create an array of the string type that can store 100 names.

We can access the data inside arrays using indexes.



Accessing Array Elements

- An element is accessed with the help of index no.

```
int mark[5]={19,10,8,17,9};
```

Each and every array starts with index0.

mark[0] mark[1] mark[2] mark[3] mark[4]

19	10	8	17	9
----	----	---	----	---

6. What is a Data Type and give a few examples of UiPath-supported data types?

Data Types specify the type of data a variable can hold or store, all variables defined must be assigned to one of the data types.

Commonly used datatypes in UiPath are :

- Generic Value
- Text
- Boolean
- Number
- Array
- Date and Time
- Datatable

Common data types

Data type:	Example value:
Integer	35462216
Floating-point	0.002756
Char	H
String	Hello, World!
Boolean	true

ComputerHope.com

There are a lot of datatypes available apart from the above and can be accessed by selecting “*Browse for Types*” Option available.

For more info: [Click here](#)

7. Can you please explain about dynamic selectors?

Let's first understand about the selectors first, it is a functionality provided by the UiPath Studio which helps us to interact with the Graphical User Interface (GUI) elements of the web apps, windows apps or any other Ui app by identifying their tags and attributes.

Let's look at an example:

This is how we humans see it...



This is how a software or a bot see it...

```
<html title='Google' />  
<webctrl tag='INPUT' type='text' aaname='Google Search' />
```

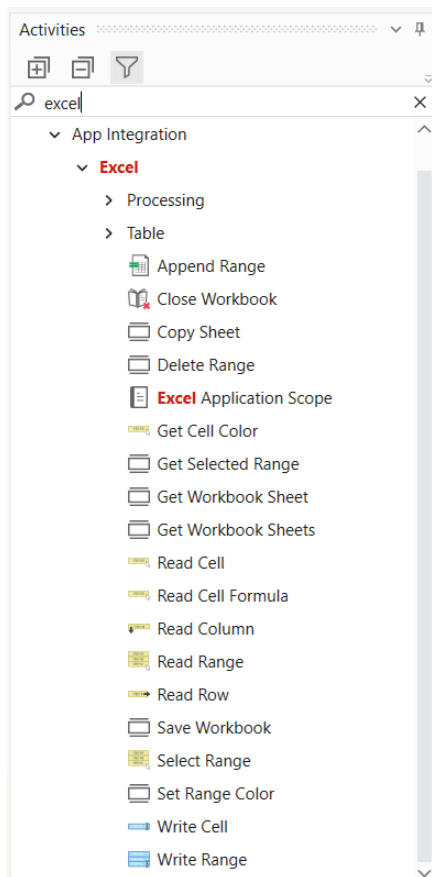
As we can see from the above, selectors are composed of several nodes and each node has one or more attributes associated with it. Modifications to the attributes can be done as per the requirement.

For example, if the title of the window is not constant, the value of the attribute can be modified to make it dynamic by using wildcard characters .i.e. * and ? which helps us in converting static selectors into dynamic selectors.

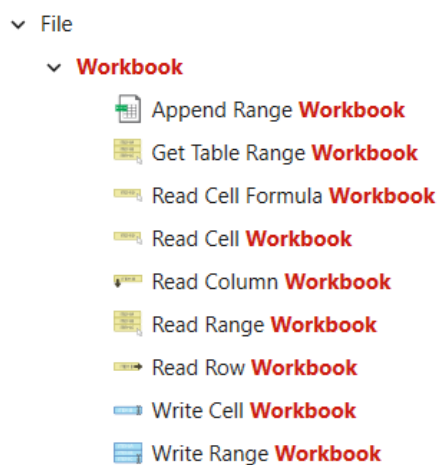
Some of the attributes are id, class, type, attribute, etc.

8. Difference between excel and workbook activities of UiPath?

To use “**Excel**” activities, MS Office(Excel) should be used installed on the target system. Excel files can be kept open while using the file. Excel activities can only be used within the Excel Application Scope.



To use “**Workbook**” activities does not require Excel to be installed to use them. Excel file should be closed while using the file.



Note: Excel Activities have got more features when compared to Workbook activities

9. What is an attended and unattended bot?

Robots can be attended or unattended based on the requirement

Attended Bots:

These front-office bots can be useful when the entire end-to-end process cannot be automated and it should work along with the user to achieve the results.

It allows the data exchange between the user and the robot.

They can be triggered by system events.

Example: call Center-To fetch the required information

Unattended Bots:

These back-office bots can be implemented when the entire end-to-end process can be completely automated and the bot can work independently without any human intervention.

They can be triggered by system events or they can be scheduled.





Example: Bank-To process the transactions

10. Difference between variables and arguments?

Variables are used to pass the data between the activities of the same project, while **Arguments** are used to pass the data between the workflows, XAML files, or projects.

Name	Variable type	Scope	Default
myInputDT	DataTable	Flowchart	Enter a VB expression
str	String	Flowchart	Enter a VB expression
Create Variable			

Variables Arguments Imports

  100%  

Arguments have global scope in a workflow, XAML file or project by default, unlike variables where we can define the scope for them manually as per the requirement.

Name	Direction	Argument type	Default value
in_email	In	String	Enter a VB expression
in_id	In	Int32	Enter a VB expression

Create Argument

Variables Arguments Imports

100%

Variables and Arguments both are cases insensitive.

11. What is AS-IS and To-Be Process?

AS-IS process is nothing but the Pictorial representation (Flow diagram) of the existing process and in RPA it represents the steps carried out manually by the business team.

Flow diagrams or flowcharts are generally prepared by using tools like Microsoft Visio by Business Analysts covering all the steps in the process.

The to-Be process represents a new approach to the existing process and in RPA it represents a design that will be used to automate the process to increase efficiency.

12. What do you mean by PDD and SDD?

PDD stands for Process Design Document. A PDD contains the details about the Process like steps that are executed in the AS-IS process and the To-Be process.

As a best practice in the IT industry, a PDD has to be signed off by the Business team to start a process in order to avoid challenges in the future.

SDD stands for Solution Design document which contains the details about the design that will be used to automate the process.

A few companies call it a Development Specification Document which majorly covers the details of the Workflows implemented in the code.

Additional Reference:

[PDD](#)
[SDD](#)

13. Please explain something regarding Project documentation work?

The business Analyst will take of the “Business Requirements Document(BRD)”

SDD, PDD, and TDD will be handled by the technical team.

It is a good practice to have a step-by-step detailed document (i.e Key Stroke Document) of the manual process along with screenshots for best results.

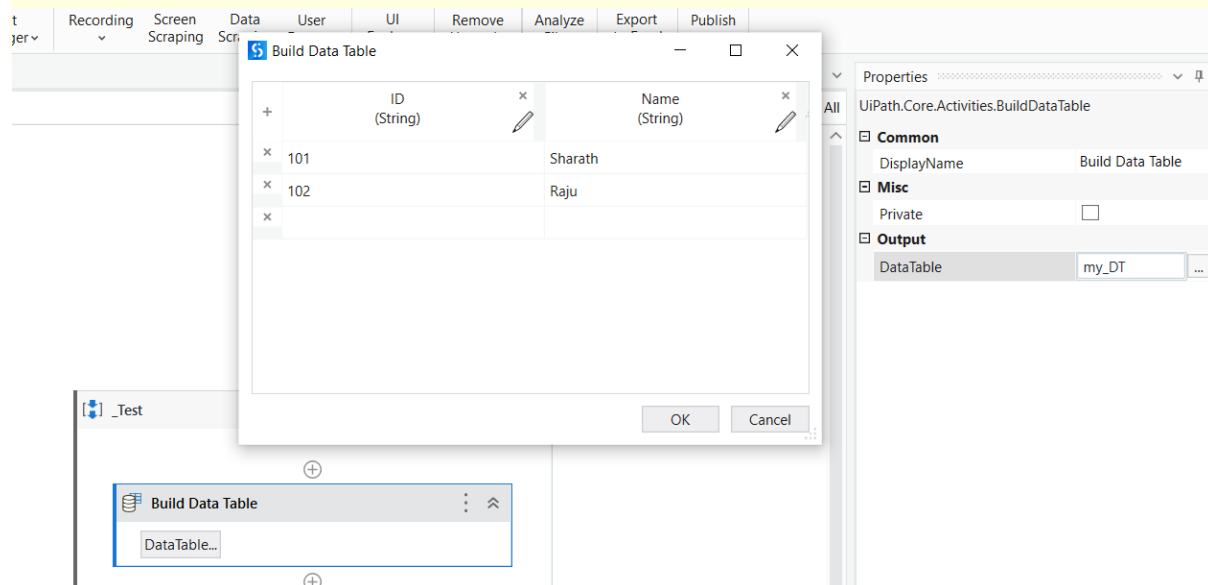
Additional Reference:

[Article on documentation](#)

14. What is a DataTable? How can we get the number of rows and columns in a DataTable?

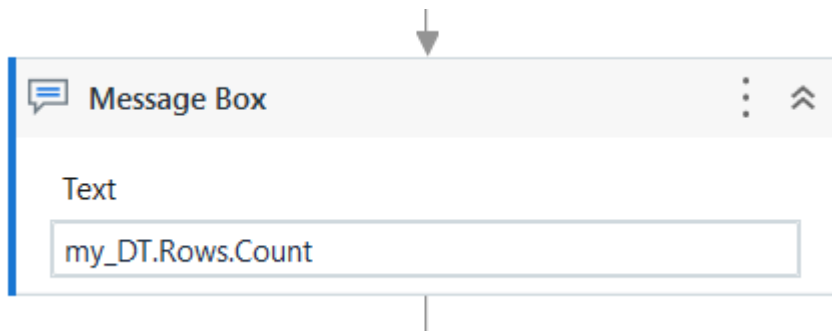
The DataTable in C# is similar to the Tables in SQL. That means the DataTable is also going to represent the relational data in tabular form i.e. rows and columns and this data is going to be stored in memory which can be used later for any manipulations.

Let's assume that my_DT is the DataTable variable :



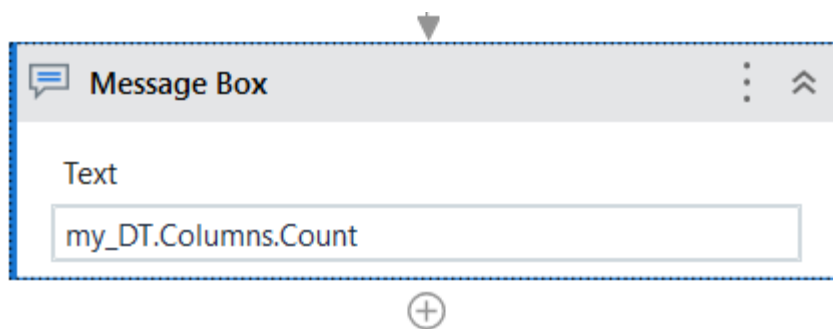
To get the number of rows in a DataTable “my_DT”, we can use the following code snippet :

```
my_DT.Rows.Count
```

To get the number of columns in a DataTable "my_DT", we can use the following code snippet :

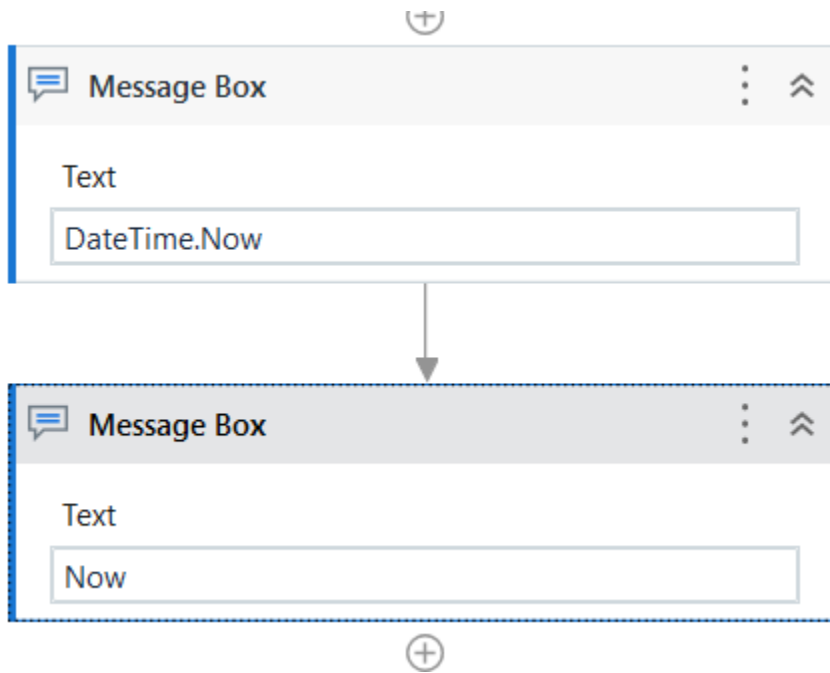
```
my_DT.Columns.Count
```



15. How do you get the current date, add/subtract days from the current date, and add/subtract hours from the current date?

1. To fetch the Current Date, please use the below code snippet :

DateTime.Now or simply we can use Now



Output:



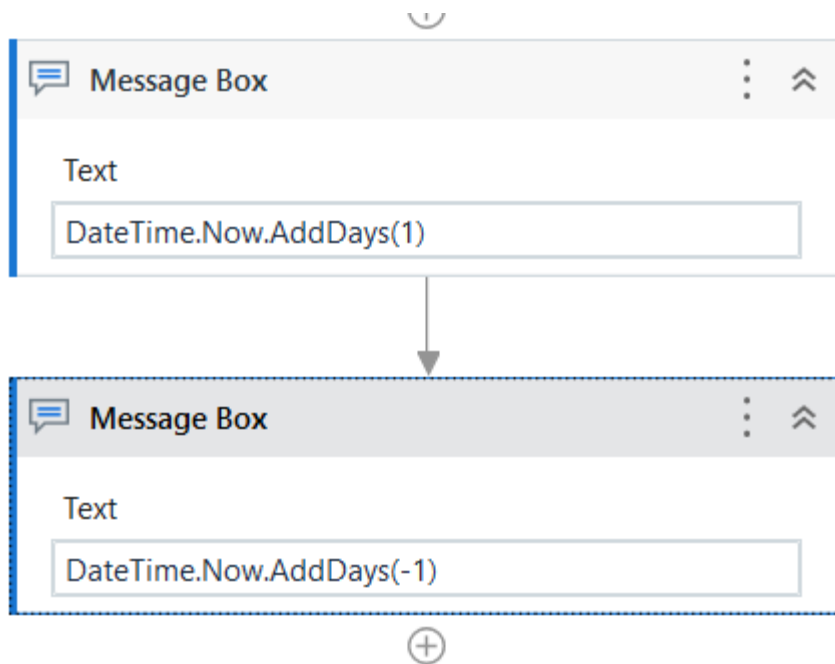
2. To Add/ Subtract days from the current date, please use the below code snippet:

ADD :

```
Datetime.Now.AddDays(1).ToString
```

SUBTRACT:

```
Datetime.Now.AddDays(-1).ToString
```



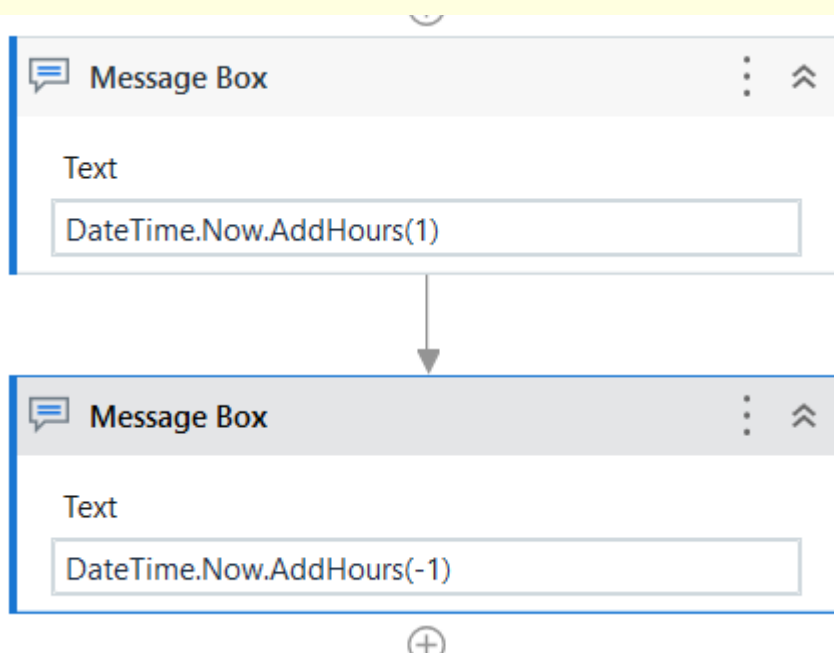
3. Add/ Subtract hours from the current date, please use the below code snippet:

ADD :

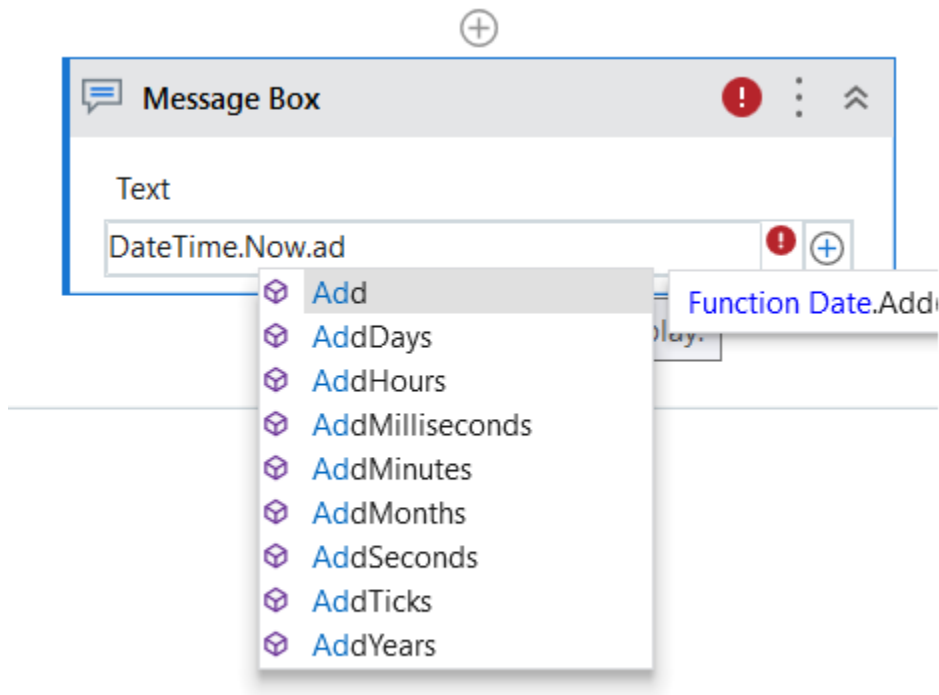
`Datetime.Now.AddHours(1).ToString`

SUBTRACT:

`Datetime.Now.AddHours(-1).ToString`



Similarly, it can be done for years and months.



16. How to get all the files from a given folder?

We can use the below code to get the list of files in a given folder...

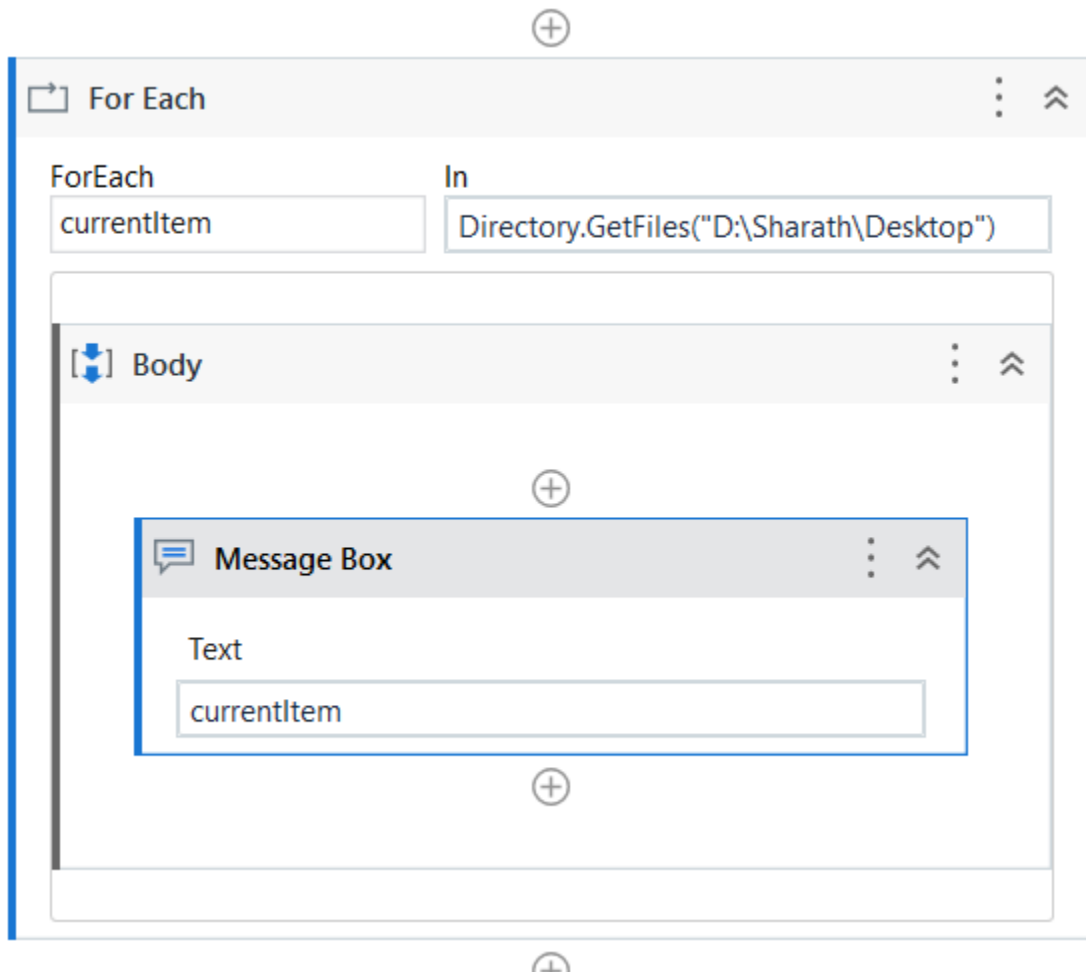
```
Directory.GetFiles("ourFolderPath")
```

Example:

```
Directory.GetFiles("D:\Sharath\Desktop")
```

The above will give you an array of strings as output which, can contain all the file names which are available in that folder.

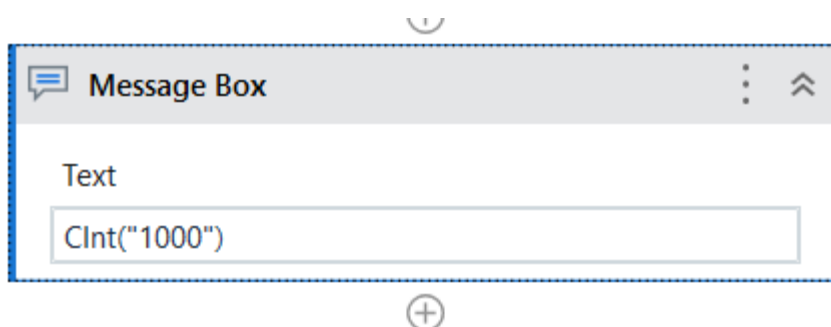
And if we want to display those on the screen, we can use the "For Each" activity and a message box along it.



17. What is the use of CInt?

CInt is one of the very frequently used Data Conversion function

It has the ability to convert from a variety of types (including String, Double, and others) to Integer(Int32) types. The original data for instance, if it was double or it was a string like "1000," an Int32 numeric value 1000 would be produced.



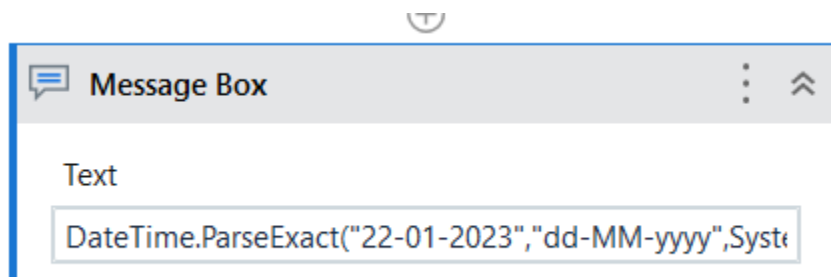
Additional Resource: [Click here](#)

18. Can you please convert the below date which is in String Type to DateTime Type please?

Input: "22-01-2023" (String Type)

Code :

```
DateTime.ParseExact("22-01-2023","dd-MM-yyyy",System.Globalization.CultureInfo.InvariantCulture).ToString("dd-MM-yyyy")
```



The above code does the required work.

Output: 22-01-2023 (DateTime Type)

Though the output remains the same visually, this output will be used for comparisons.

Note: You don't have to mug up the code, you can just remember that the ParseExact function of the DateTime class is used in this kind of situation :)

19. How to find Common/Uncommon values between two lists?

Lists in programming are commonly used to store the collection of items such as String, Int, and so many data types.

We might sometimes need to find the common/uncommon items between the two *Lists* or two *Arrays*.

Let us see how to implement it!!!

Common Values

```
list_1.Intersect(list_2)
```

UnCommon Values

list_1.Except(list_2)

Note:

Replace list_1 and list_2 with your appropriate lists

Example

Implementation using UiPath :

Let us implement a workflow that takes two sample lists and displays the common and uncommon values.

Step 1: Drag the “Assign” activity into the designer panel and initialize list 1 with some sample data as shown below.

```
list_1 = new List(Of Int32)(New Int32(){1, 3, 4, 6, 7})
```

Step 2: Drag another “Assign” activity into the designer panel and initialize list 2 with some sample data as shown below.

```
list_2 = new List(Of Int32)(New Int32(){1, 2, 4, 5})
```

Step 3: Drag the “For Each” activity into the designer panel and supply the below-mentioned code into it and use “Message Box” to display the Common values between two lists

```
list_1.Intersect(list_2)
```

Step 4: Drag the “For Each” activity into the designer panel and supply the below-mentioned code into it and use “Message Box” to display the Uncommon values between two lists

```
list_1.Except(list_2)
```

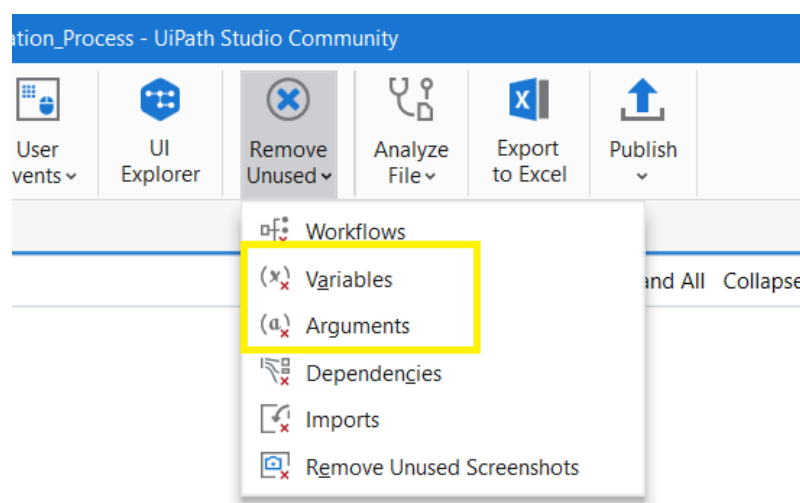
Step 4: Finally, run the project!!!

20. What are the benefits of ReFramework ?

- **Reusability:** It works with any kind of process and is independent of data source (i.e QueueItems, Excel files, Database, PDF, emails, and JSON response).
- **Exception Mechanism & Retry Facility:** It helps us to capture the exception that occurred in transaction processing and allows us to re-execute the transaction.
- **Logging:** It Generates logs at every transaction level, which can help us in auditing the process
- **Config File:** It enables us to maintain our frequently changing values i.e. URLs, File paths e.t.c in a single place, that the process will actually use while executing.

21. If in a project, you have a lot of unused variables and arguments, Is it possible to remove them all at once? If YES, then how?

In UiPath Studio, we have an option called, Remove unused, using which we can remove any of the displayed components like variables, arguments, dependencies, etc by just simply clicking on the required selection



22. Why do we always use Excel as a configuration file in ReFramework? Can't we use .txt or .csv or .json files instead of it?

We can actually use any of the above-mentioned file types as a configuration file, but we prefer an excel file because of its tabular form, it's considered to be more readable and easy to edit tool among all the above-mentioned types.

23. What is the difference between For Each, While, and a Do While activity?

Let's first understand the meaning of a loop:

In computer programming, a loop can be defined as a sequence of instructions or statements that are continuously being repeated until a certain condition is reached.

The above can be achieved in UiPath Studio by using the following activities:

1. For Each Activity
2. While Activity
3. Do While Activity

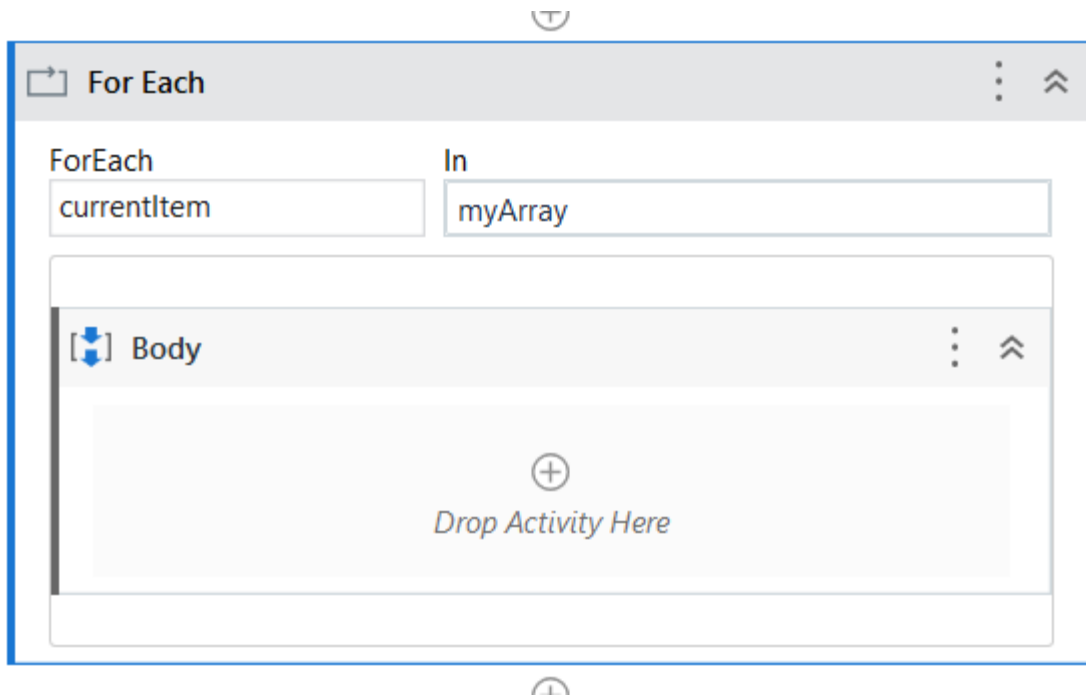
But the main frustration comes when we don't know when to use which activity, right?

No worries, let's dissect them a bit.

For Each Activity

Use this when you are sure about the number of iterations you need to run, here the input can be an array, list, or any enumerable.

Example: When we have a basket full of oranges(Here basket means array or list), we take each one out and check for its quality and sell it if it's good or throw it if it's spoiled (Here each orange refers to each element in the array or list)

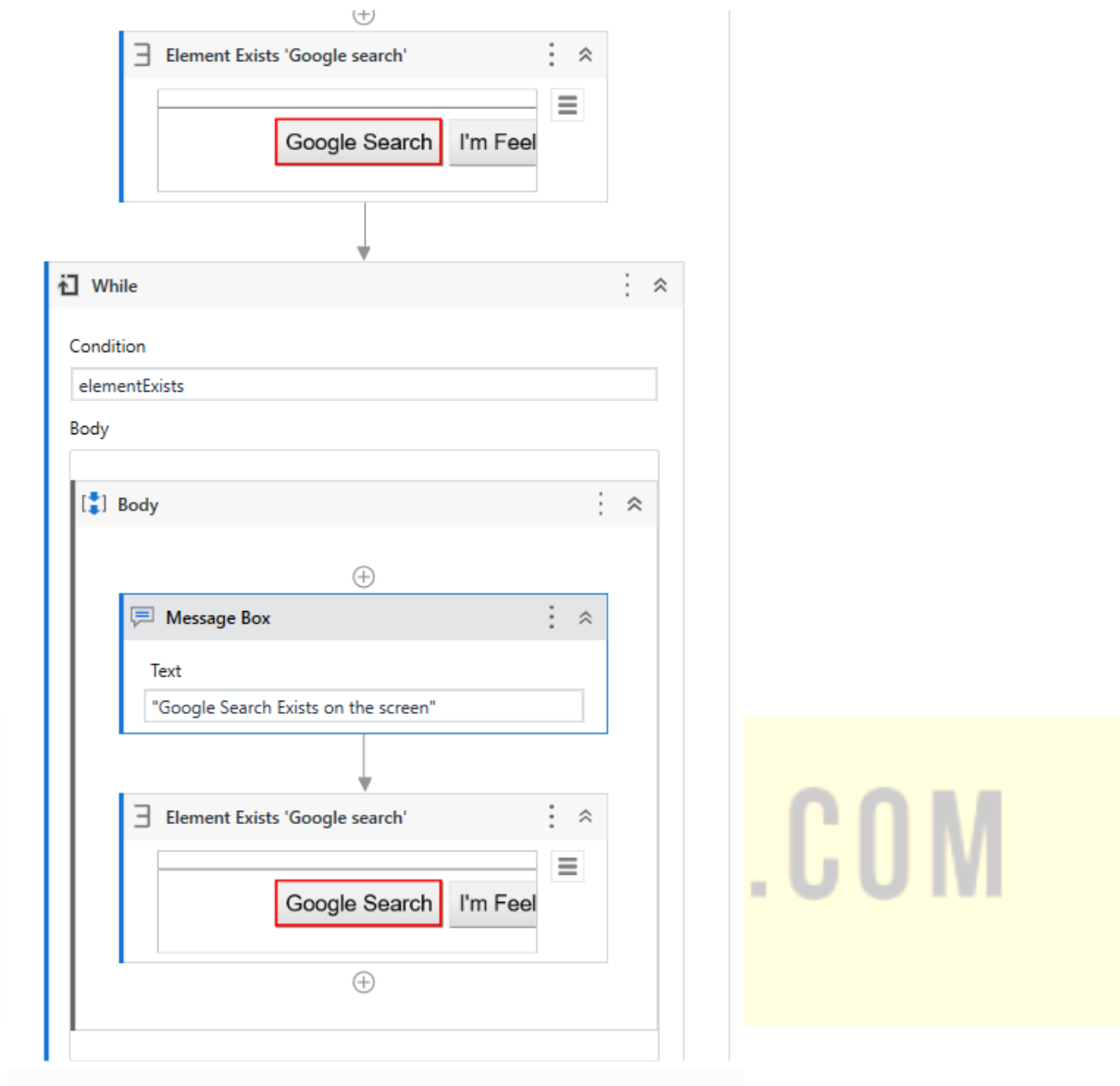


While Activity

Use this when you are not sure about the number of iterations you need to run and the condition on which the loop should be checked changes based on what you do inside the loop.

Example: As long as the search button of a web app exists on the screen, the While Activity will keep displaying the Message - "Google Search Exists on the screen" on the screen.

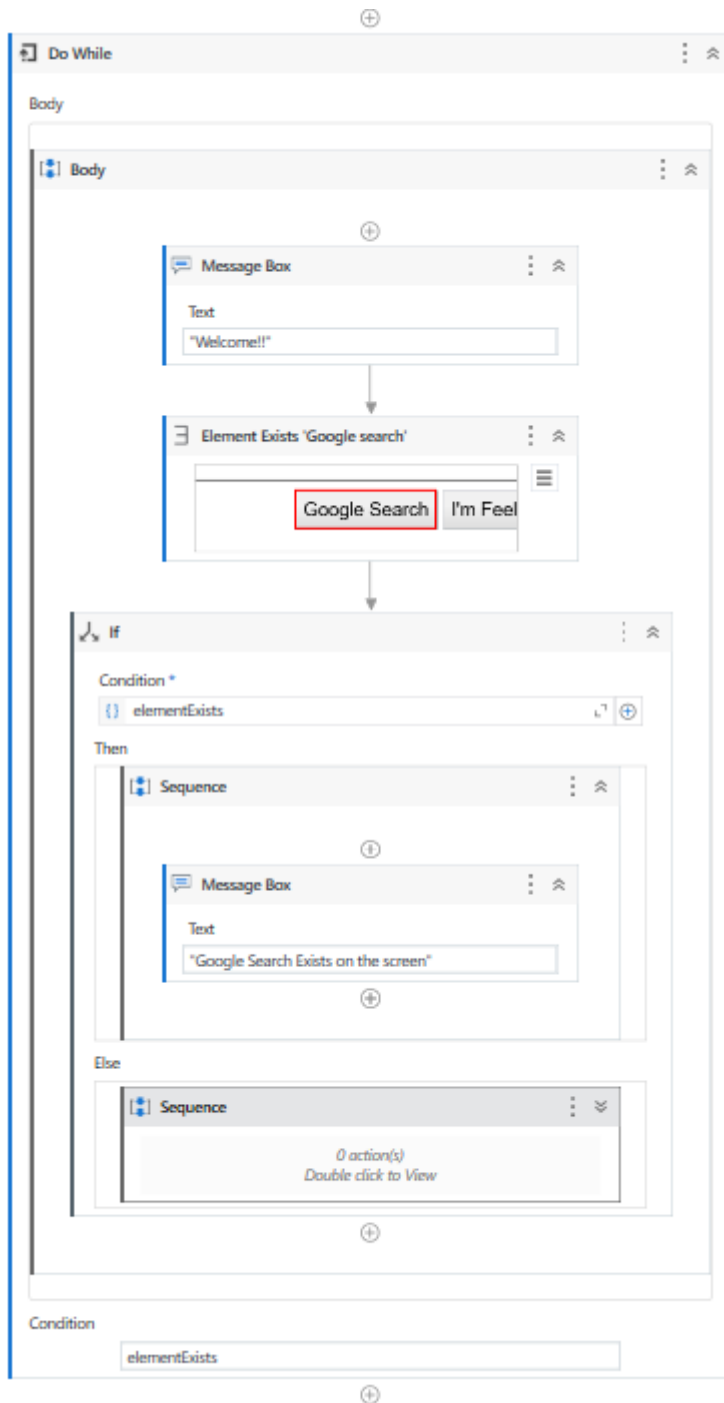
But once you close the browser, it will fail and terminate the loop.



Do-While Activity

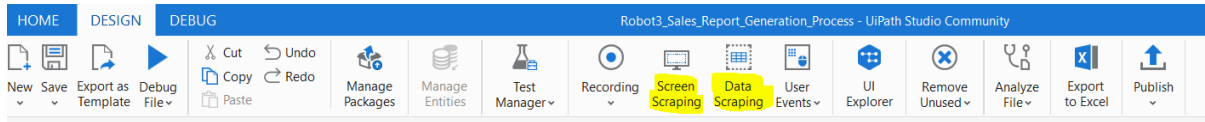
Use this when you want to run something at-least once and based on the conditions run it further till the condition fails.

Example: When you want a "Welcome" Message to be displayed on the screen irrespective of google search button exists or not, and then search for the google search button then we use the Do While Activity



There are a lot of examples and applications available for these activities and each one should be used accordingly.

24. What is the difference between Screen scraping and Data scraping?



Screen Scraping: This functionality is used to get a single text value from the screen.

Data Scraping: This is a very helpful functionality when we are trying to scrap data of type tabular form from a browser, application, or document.

25. What types of exceptions will be retried in UiPath?

There are two types of Exceptions in UiPath

1. **Business Exception**
2. **System Exception**

1. A **Business exception** can be defined as a user-defined exception, it is explicitly thrown by the process when certain criteria defined for the process are not met
i.e. If the phone number contains any alphabet in it, the Provided date is out of the required date range.

Retrying the transaction does not solve the issue, so we basically notify the user about this error.

2. A **System Exception** can be defined as unknown exceptions which are generated by the end applications (which are automated) or slow network issues
i.e., Application not responding, while connecting to the database, while performing string manipulations.

These types of exceptions have a chance of being solved by retrying the transaction.

So, only System exceptions are retried in UiPath.

26. What is a Nuget Package?

NuGet (pronounced "New Get") is a package manager designed to enable developers to share reusable code.

Put simply, a NuGet package is a single ZIP file with the .nupkg extension that contains compiled code (DLLs), other files related to that code, and a descriptive manifest that includes information like the package's version number.

UiPath accepts the code in the form of a Nuget package. When you publish a project to the orchestrator or to the local drive. It is actually stored as a Nuget Package.

Even the Custom activity that we create is actually packaged as a NuGet package.

27. What is a reusable component in UiPath?

Any Workflow which can be used at different places in a project.

Ex: Login Module specific to an application can be re-used and the module can be shared with the team for use rather than building the workflow from scratch.

A reusable component can be a single XAML or a library.

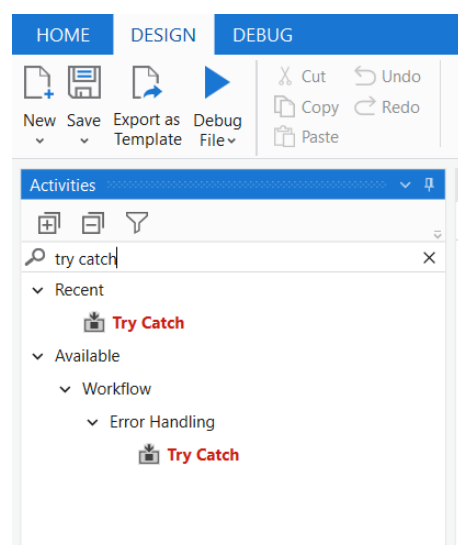
This actually helps in rapid development as we will have the modules already ready with us when starting up a project.

And also it is a good practice to create smaller modules while managing a bigger or more complex project.

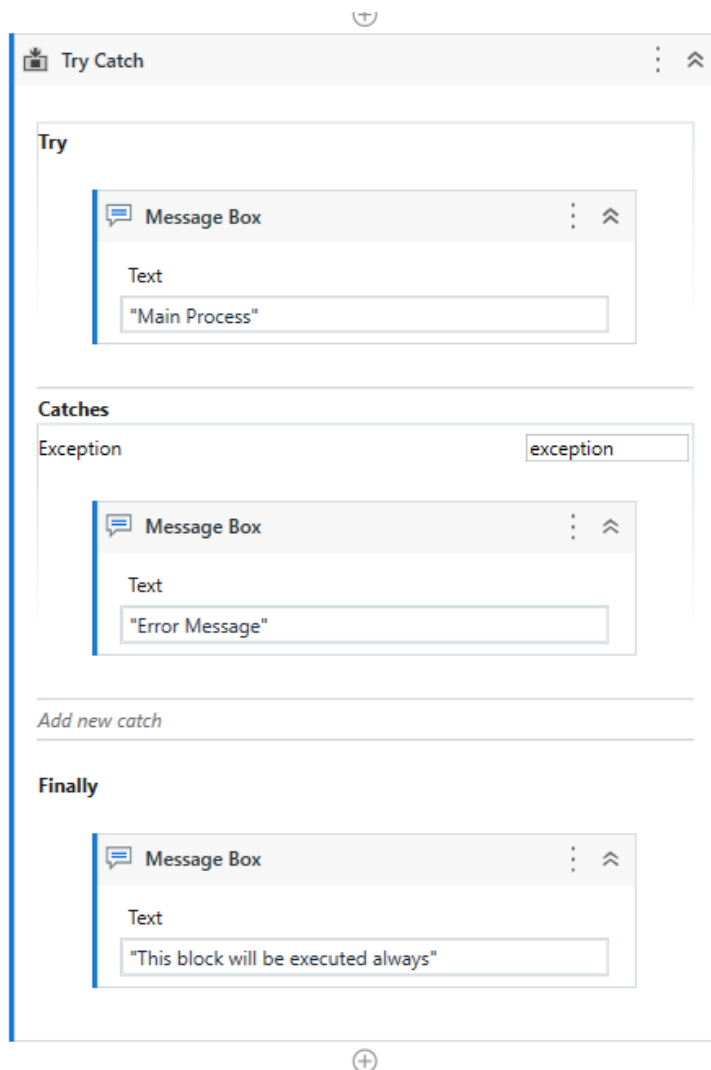
Additional Reference: [How to create a Library in UiPath?](#)

28. What is the purpose of the Try-Catch activity in UiPath?

The try Catch function in UiPath is similar to any other Try Catch implementations in other Programming languages.



Whenever we surround any activity or workflow with Try Catch, any exception that occurred inside it goes to the catch block and logic inside the catch block gets executed.



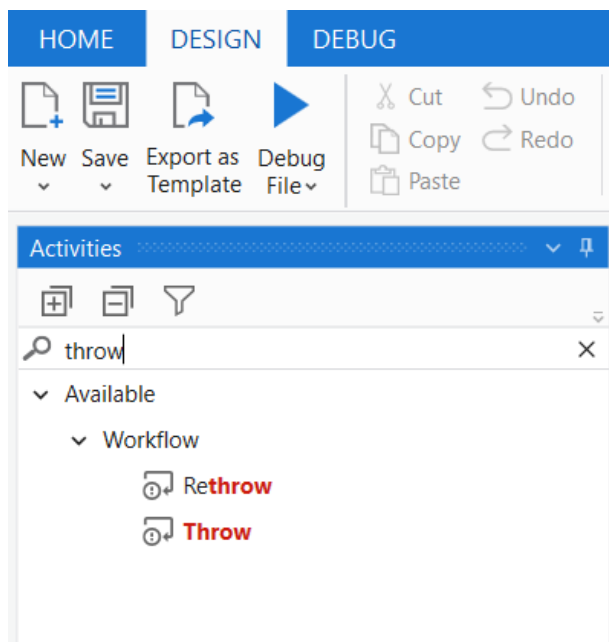
As we can see in the above screenshot:

Try Block is the place where we add our activities, which are to be executed.

And if there arises an exception while executing them, the Catch Block will be executed

And there is another block which we can see, the Finally block - It will be executed always (Irrespective of whether the error occurs or not)

29. What is the difference between throw and rethrow?



The “**Throw**” activity in UiPath is to generate your own exceptions like an invalid mobile number or when the required application is not responding. They can be a system or business exception.

The “**Rethrow**” activity in UiPath takes an existing exception that has been encountered and regenerates it at a higher level.

This is useful mainly in a situation where you don't want to throw an exception immediately but throw it later after performing any additional steps which might be required and then throw it.

30. Can you please name a few of the exceptions that you have faced during your automation?

Based on the type of automation that we are performing, we might have different exceptions - below are a few of them:

UiPath.Core.SelectorNotFoundException - This is one of the most seen common exceptions when we are working on UI Automation and the elements are not available on the screen during execution.

System.NullReferenceException - This exception/error mostly occurs when we are using a variable or performing any operation on it with no value set to it.

System.IO.FileNotFoundException - This exception occurs when we are trying to access a file that doesn't exist.

System.IndexOutOfRangeException - This Exception occurs when we are trying to access an element in an array, list, or a datatable when it doesn't actually exist.

System.OutOfMemoryException - When data or data sets that reside in memory become so large that the common language runtime is unable to allocate enough contiguous memory for them, an OutOfMemoryException exception results.

System.InvalidCastException - An InvalidCastException exception is thrown when the conversion of an instance of one type to another type is not supported. For example, attempting to convert a Char value to a DateTime value throws an InvalidCastException exception.

31. How can we retrieve file name along with extension from the file's full path?

Suppose we the following path with us:

"C:\Users\User\Desktop\Sharath\RPA UiPath.txt"

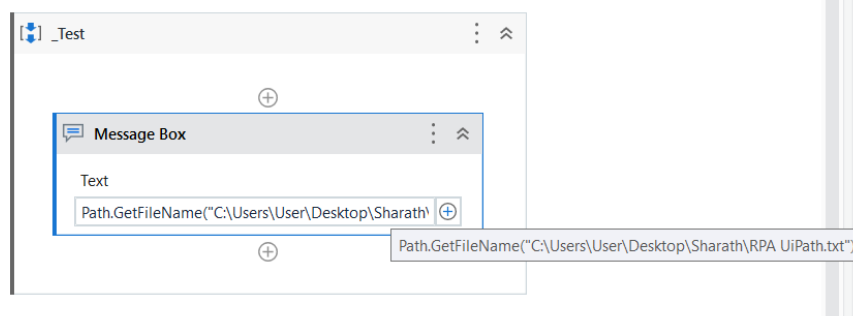
System.IO.Path: This is an important class in .NET - It provides built-in methods.

It helps when handling file paths. It is part of System.IO.

We can use the below code get the filename

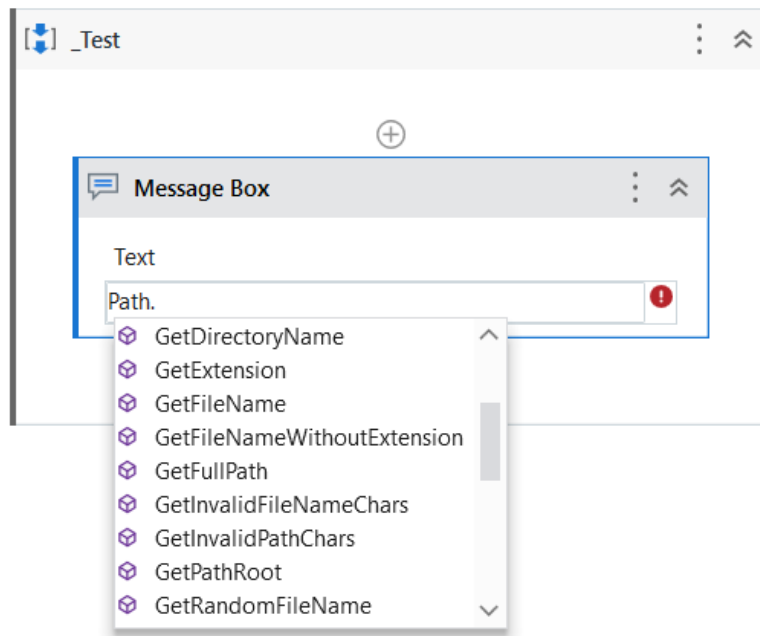
Input: ("C:\Users\User\Desktop\Sharath\RPA UiPath.txt")

Code: Path.GetFileName("C:\Users\User\Desktop\Sharath\RPA UiPath.txt")



Output: RPA UiPath.txt

There are many other options available to us



Important Methods and theirs uses:

The following list provide a sampling of the methods available in the Path class:

ChangeExtension: Allows you to change the file extension of a path string.

Combines: Allows you to combine two path strings into one.

GetDirectoryName: Returns the directory information included in a path string.

GetExtension: Returns the extension included in a path string.

GetFileName: Returns the file name and extension of a path string.

GetFileNameWithoutExtension: Returns the file name without the extension for a path string.

GetFullPath: Returns the absolute path for a path string.

GetInvalidFileNameChars: Returns a character array containing the characters not allowed in file names.

GetPathRoot: Returns the root directory information for a path string.

GetRandomFileName: Returns a random file or folder name.

GetTempFileName: A uniquely named, zero-byte temporary file is created with the full path returned.

GetTempPath: The path to the system's temporary directory is returned.

HasExtension: Determines if a path string contains an extension (true) or not (false).

IsPathRooted: Gets a value indicating whether the specified path string contains absolute or relative path information.

32. How to Split a string in UiPath?

Sometimes we might want to break down a string datatype value into an array of substrings based on some separator.

A separator can be a space, a comma, a newLine e.t.c

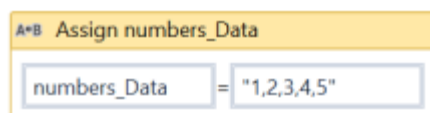
Implementation using UiPath :

Let's develop a project which takes a string value consisting of numbers separator by comma and displays the values.

Step 1:

Drag "Assign" activity into the designer panel and initialize the string variable with some sample data as shown below.

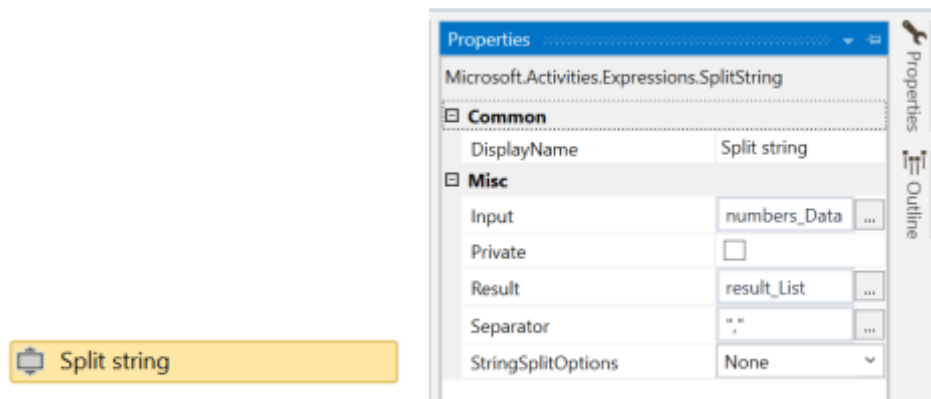
numbers_Data = "1,2,3,4,5"



Step 2:

Drag "Split String" activity into the designer panel and supply the below-mentioned parameters.

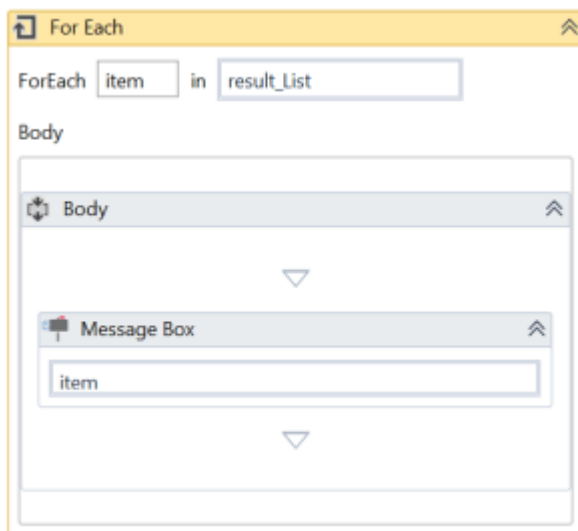
Input: numbers_Data
Result: result_List (Array of strings)
Separator: “,”



Step 3:

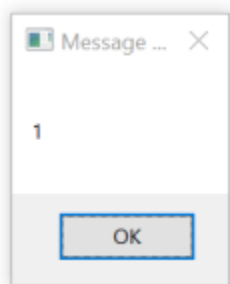
Drag “**For Each**” activity into the designer panel and supply the above-created list variable to it.

Then, drag “**Message Box**” activity to display the values available in the list variable.



Step 4:

Finally, execute the project to display all the values available in the list on by one!!!

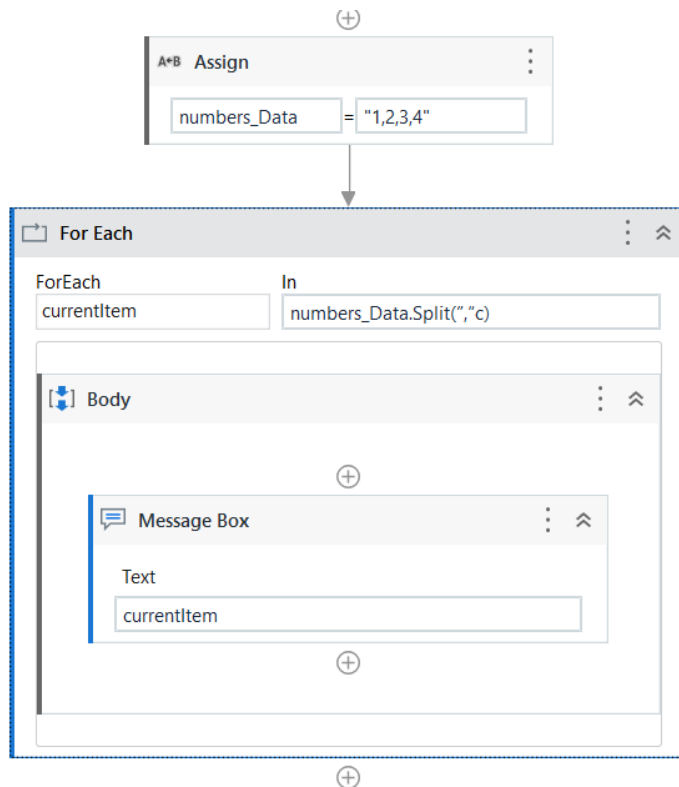


And another way to do the same would be by using the below piece of code:

If the input is **numbers_Data** = "1,2,3,4,5"

Code : `numbers_Data.Split(",c)` i.e. Here the delimiter is comma

Output: Array of Strings



33. What are the different approaches to remove new lines available in a text string.

Let's look at different ways of doing it:

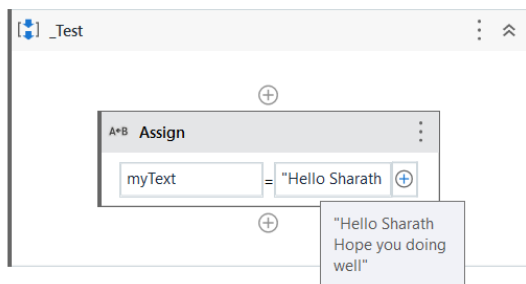
Solution 1:

If we have the input string as:

Hello Sharath

Hope you are doing

well

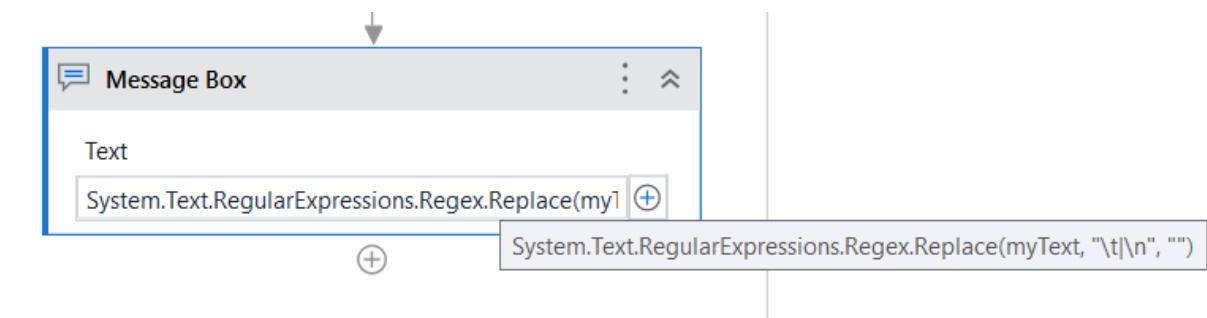


Let' write the code to handle it:

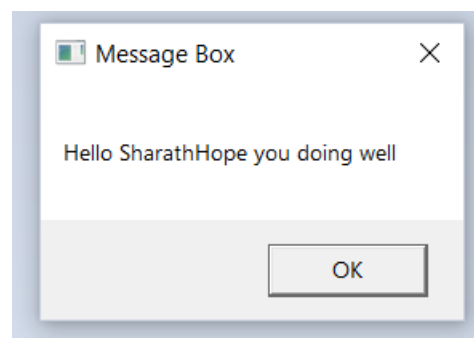
`System.Text.RegularExpressions.Regex.Replace(myText, "\\t\\n", "")`

The `\n` symbol means literally *new line*. This will go to the start of the next new line.

The `\t` symbol means *add a tab* (which is usually 4 spaces but can easily be 2 or 8 depending on the context).



Output:



Solution 2:

Code: `myText.Replace(Environment.newLine,"")`

Solution 3:

Code: `myText.Replace(vbLf,"")`

34. How can you get unique values from a specific column from a DataTable in UiPath?

There are different ways to do it, let's look at a few of them:

Solution 1:

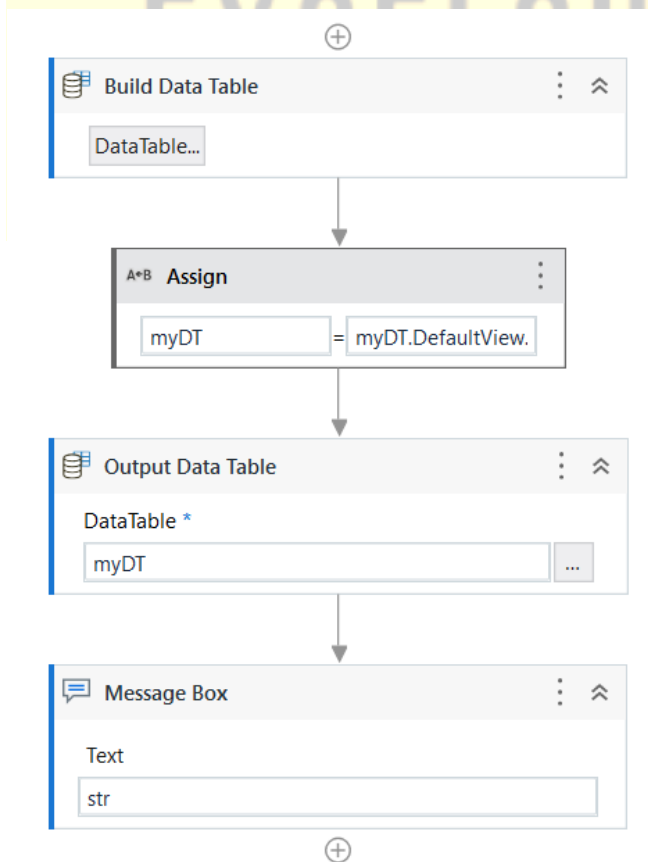
`myDT.DefaultView.ToTable(true, "Name")`

Where,

myDT is our DataTable

"Name" is our Column name for which we want unique values

Let's have a look at how it can be implemented in UiPath:



Solution 2:

We can use the below LINQ query to achieve it, but it will be a bit complex way compare to the above

```
myDT = myDT.AsEnumerable().GroupBy(Function(i) i.Field(Of String)("columnWithDuplicates")).Select(Function(g) g.First).CopyToDataTable
```

Note:

1. Useful when we are removing duplicates with respect to some "Column" name
2. Simply replace the "columnWithDuplicates" with your required column name

35. Can we rename DataTable Columns programmatically in UiPath? If yes then how?

Yes, it's possible.

Let us see how to do it!!!

```
dataTable.Columns("old_ColumnName").ColumnName = "new_ColumnName"
```

Note:

1. old_ColumnName is the specific column that you want to rename
2. new_ColumnName is the column name with which you want to rename the above old column name with.

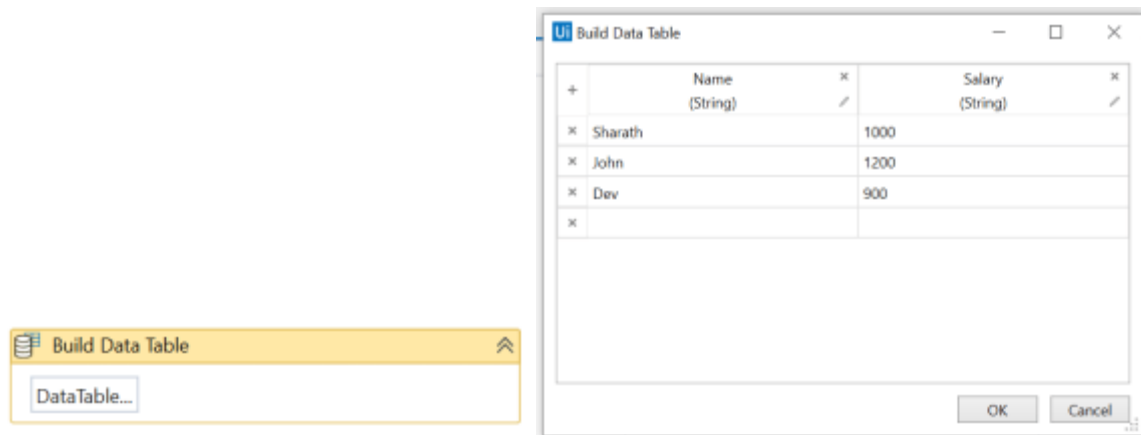
Example

Implementation using UiPath :

Let us implement a workflow which takes a sample DataTable as input and we will try to **rename an existing column** of it from "Name" to "FirstName"

Step 1:

Drag "Build Data Table" activity into the design panel and populate it with some sample data.



Step 2:

Drag “Assign” activity into the design panel and fill it with above-mentioned code.

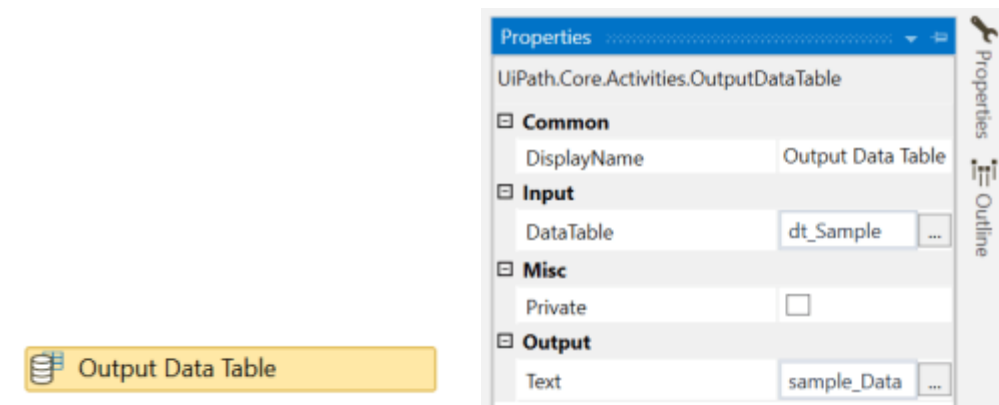
Note:

We are renaming “Name” column of above build DataTable to “FirstName”



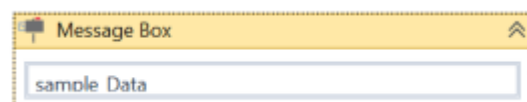
Step 3:

Drag “Output Data Table” activity into the design panel and convert Datatable to String type.



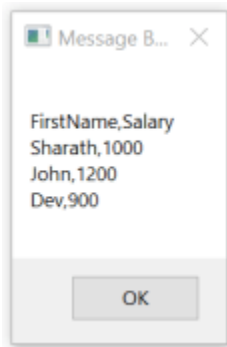
Step 4:

Drag “Message Box” activity into the design panel to display the modified data table.



Step 5:

Finally, let’s run the project.



36. Have you ever used Invoke Code Activity? If yes can you please give an example.

As the process becomes a little complex, we might want to write our own code as per the requirement.

More customization is possible in UiPath by using VB.Net.

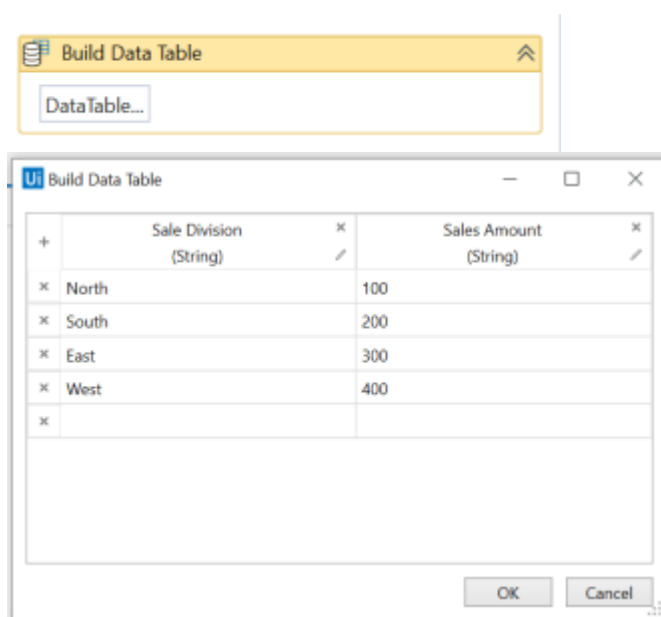
Example

Implementation using UiPath:

Let us implement a workflow which takes a **sample data** table as input and outputs the **SUM of total sales**.

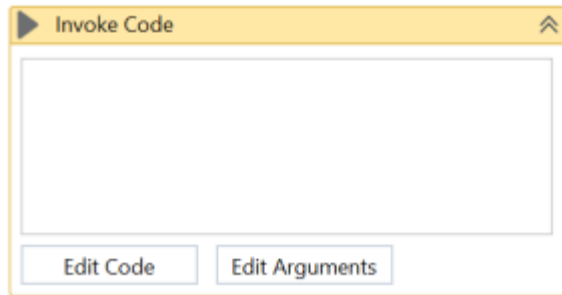
Step 1:

Drag “Build Data Table” activity into the design panel and populate it with sample data.



Step 2:

Drag “Invoke Code” activity into the design panel.

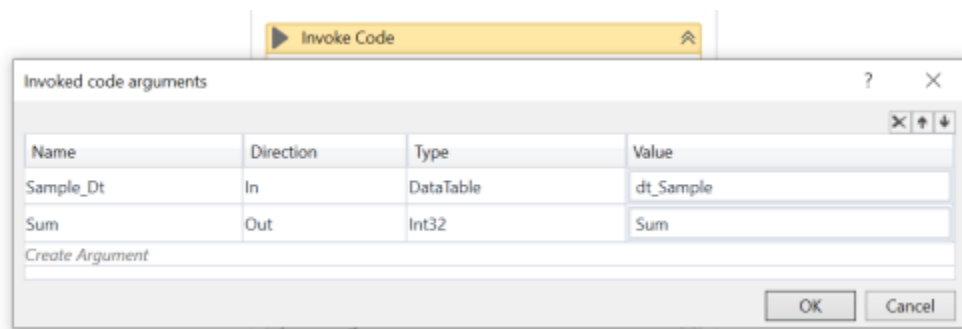
**Step 3:**

In “Invoke Code” activity, click “Edit Arguments” option to pass the required parameters as below.

Note:

Sample_DT is our DataTable (IN Argument)

Sum is the summation result (OUT Argument)

**Step 4:**

In “Invoke Code” activity, click “Code” option to write the execution code.

Note:

Below code is used to count the total sales of all the divisions

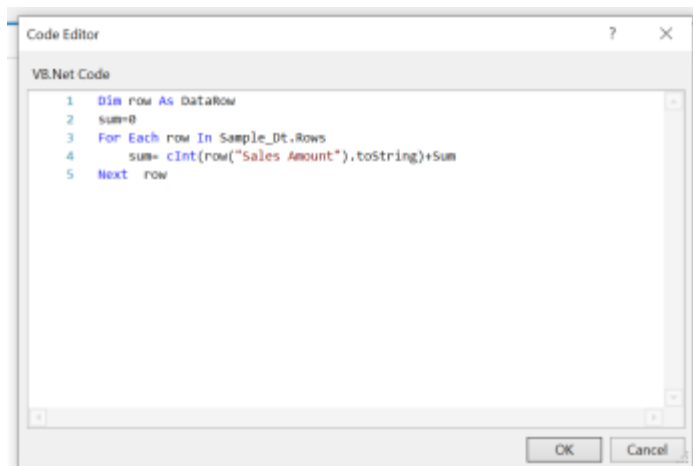
Dim row As DataRow

sum=0

For Each row In Sample_Dt.Rows

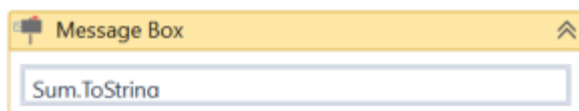
sum= clnt(row("Sales Amount").toString)+Sum

Next row



Step 5:

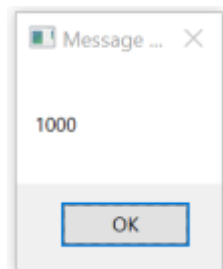
Drag “**Message Box**” activity into the design panel and pass the “**Sum**” value into it.



Step 6:

Finally, let's run the project.

Now, we can see total sales value being displayed.



37. What do you mean by “The given key was not present in the dictionary” error?

This error occurs when we try to access a dictionary element using a key that does not exist in it.

In .Net, Dictionary class is a generic collection of keys and values pair of data. The Dictionary class is defined in the System.Collections namespace. A generic namespace is a generic class and can store any data type in a form of keys and values.

Each key must be unique in the collection, so that you can then use that key to access its corresponding value.

Example:

A dictionary looks like

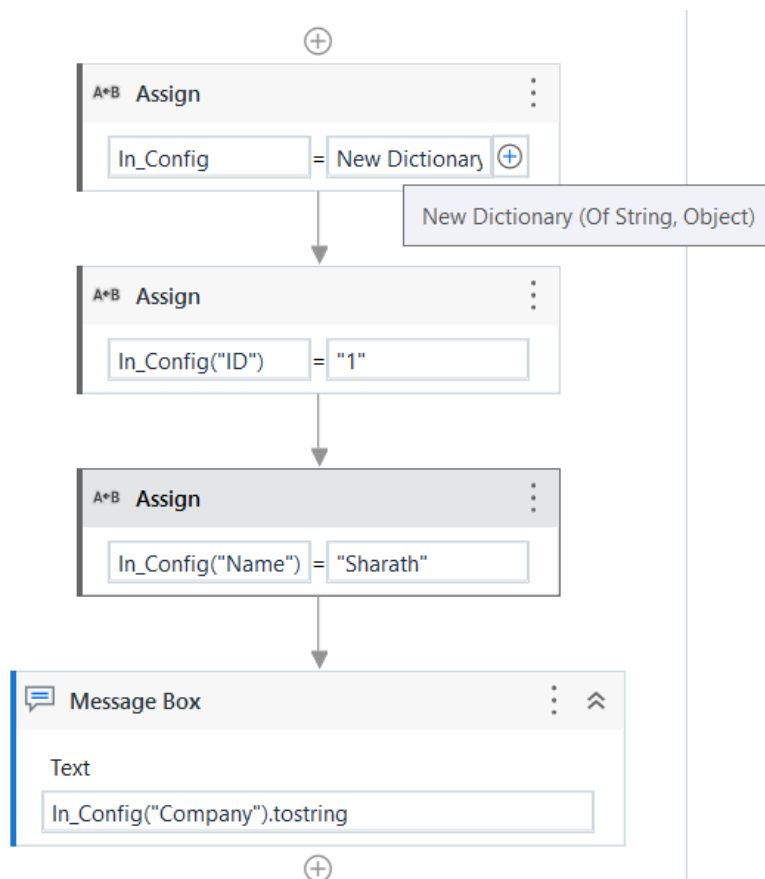
```
my_Dictionary = {ID:"1",Name:"Sharath",Company:"Apple"}
```

When we want the value of ID, we can use my_Dictionary ("A") and you will get the value 1.

Let's implement it in UiPath:

Here we have initialised a dictionary called in_config and added some items to it called ID and Name.

But now we have tried accessing COMPANY name which wasn't added to it, now when the flow is executed, we can expect the mentioned error, please find the below screenshots.



Error:

△ Message Box: The given key 'Company' was not present in the dictionary.

In a scenario where you try to fetch the value of a key which is not available in the dictionary, then you will encounter the above error.

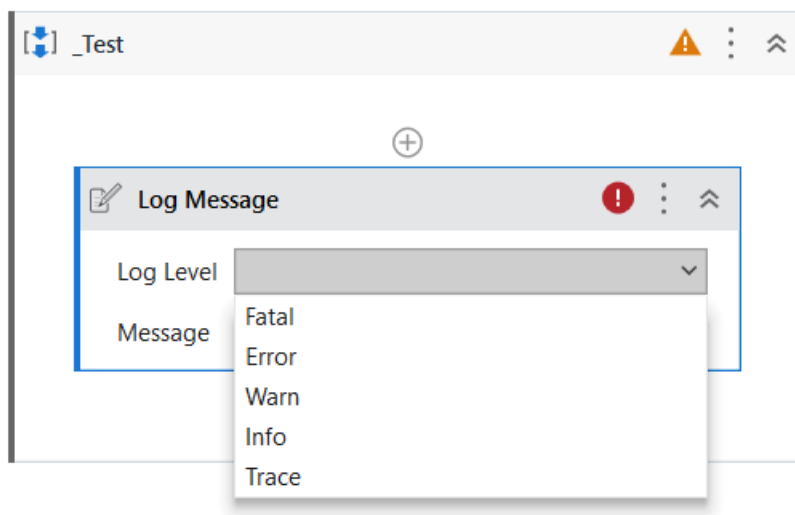
For us here we got the error because we were trying to access value “Apple” by using “Company” which was not added to the dictionary itself.

38. What are the different log types available in Log Message activity in UiPath?

Log Message Activity will actually allow us to log important information at specific stages of the process wherever required.

Depending on the option selected from the **Log Level** drop-down list, the message or the information will be logged which can be later analysed.

It accepts only string as input.



We have the above options available:

Fatal: This is an error that causes a program to abort and may therefore return the user to the operating system. When this happens, data that the program was processing may be lost and terminate prematurely

Error: It is an issue caused by some unexpected activity which has the potential to stop the entire process but most of the times the error allows an app to continue executing, but causes it to produce incorrect results. It is mostly similar to fatal but not as serious as it.

Warn: Warnings reports the unusual findings detected when running a program that may indicate a problem, although compilation can proceed.

Info: This can be helpful when we want to log some information at a specific point of execution which can be useful during auditing in the future.

Trace: This type of logs, stores all the minute details of the process during its execution and this are mostly preferred when we try to debug an issue to find it's root cause.

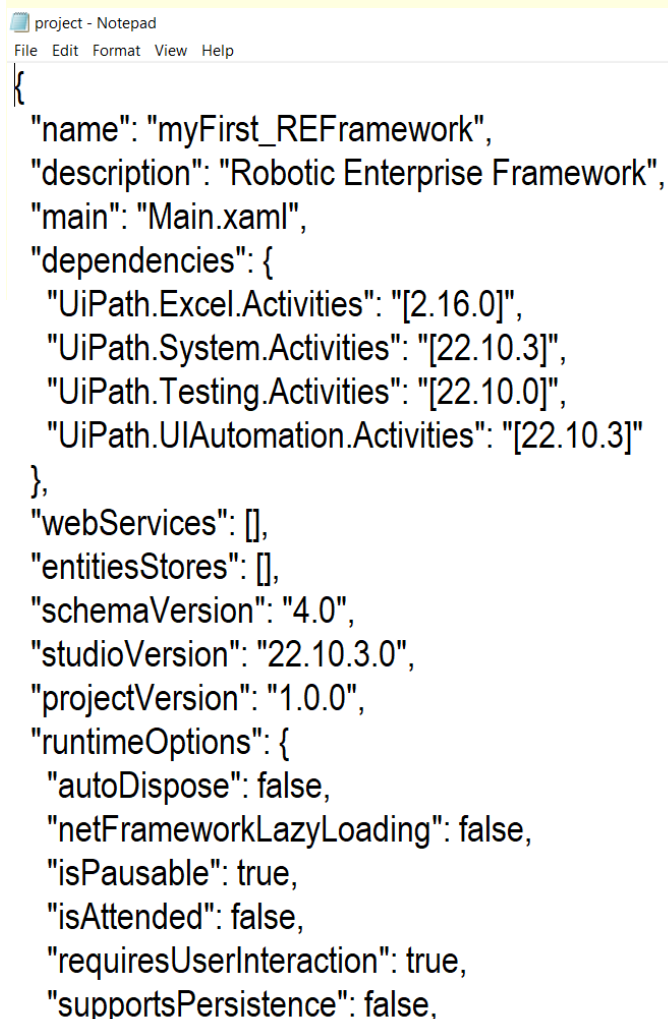
39. What is the importance of project.json file in UiPath project?

What happens if we delete it?

project.json is an automatically generated file which is created while creating a project in UiPath Studio.

It contains the various details regarding the project being implemented, some of them are

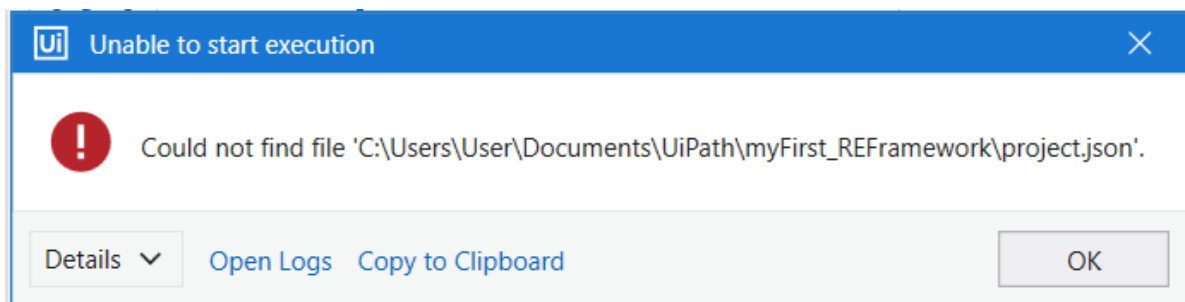
- Title of the project
- Description of the project
- Project Dependencies
- The version of Studio used to create the automation project
- The version used when publishing this project to a feed
- The language set for the process (VisualBasic or CSharp)



```
{
  "name": "myFirst_REFramework",
  "description": "Robotic Enterprise Framework",
  "main": "Main.xaml",
  "dependencies": {
    "UiPath.Excel.Activities": "[2.16.0]",
    "UiPath.System.Activities": "[22.10.3]",
    "UiPath.Testing.Activities": "[22.10.0]",
    "UiPath.UIAutomation.Activities": "[22.10.3]"
  },
  "webServices": [],
  "entitiesStores": [],
  "schemaVersion": "4.0",
  "studioVersion": "22.10.3.0",
  "projectVersion": "1.0.0",
  "runtimeOptions": {
    "autoDispose": false,
    "netFrameworkLazyLoading": false,
    "isPausable": true,
    "isAttended": false,
    "requiresUserInteraction": true,
    "supportsPersistence": false,
```

If project.json file is deleted, we wouldn't be able to execute the project.

We would be faced with the below error if you try to run the project.



40. What's the need of debugging, can you please also mention the steps you follow? And how is it different from testing?

Debugging, in computer programming, is a process that involves identifying a problem or a bug, isolating the source of the problem and then either correcting the problem or determining a way to work around it.

The final step of debugging is to test the correction or workaround and make sure it works.

The basic steps in debugging are:

1. Recognize that a bug exists.
2. Isolate the source of the bug.
3. Identify the cause of the bug.
4. Determine a fix for the bug.
5. Apply the fix and test it.

Testing vs Debugging

Testing and debugging are important activities during software development and maintenance.

Testing is performed to check if the code contains errors whereas **Debugging** is done to locate and fix these errors.

41. Can you please explain the difference between List, Array and Dictionary?

Use an **Array** when you work with a sequence of elements of same type or need to randomly access an element at a given index (0, 1, 2, ...)

```
new string[]{"value1","value2"}
```


Use a **List** when you are working with a collection of elements of same or different type or need to randomly access an element at a given index (0, 1, 2, ...), In list it is possible to add duplicate records

```
new List<of string>(new string[] { "value1", "value2" })
```

Use a **Dictionary** when you have key/value format and need fast retrieval via key. In dictionary key must be unique. It is not possible to add duplicate key in dictionary. The reason is because a dictionary is a lookup, while a list is an iteration

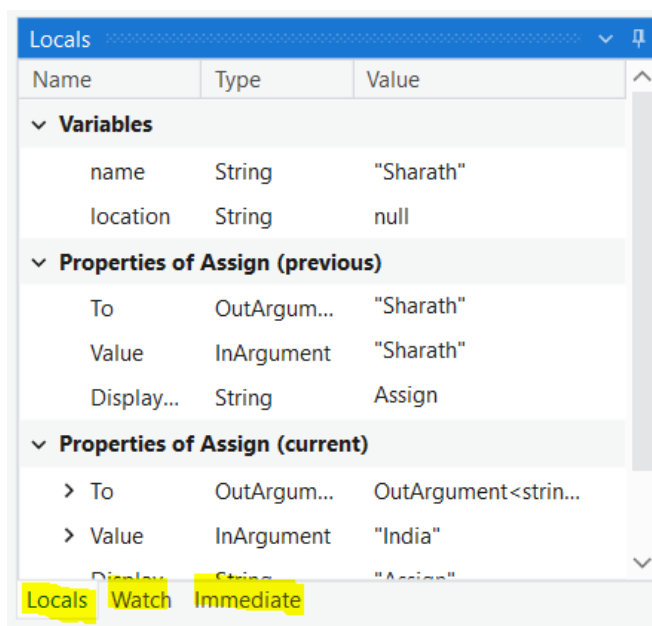
```
New Dictionary<Of String, Object> From({ "ID", "1" }, { "Name",  
"Sharath" }, { "Country", "India" })
```

Which one of this is faster?

Dictionary uses a hash lookup so it's faster, while your list requires walking through the List/Array until it finds the result from beginning to the result each time.

42. What is the difference between Watch Panel and Immediate Panel?

All the below panels are visible only during the debugging state:



Local Panel

It is helpful to understand the current values and data for various variables and arguments and also helps you understand the previous run and current run details.

Watch Panel

can be set to display the values of variables or arguments, and values of user-defined expressions that are executed till that point of time but the only difference here is it helps

you concentrate only on specific things that you need to monitor rather than displaying all the information available like Local panel

Immediate Panel

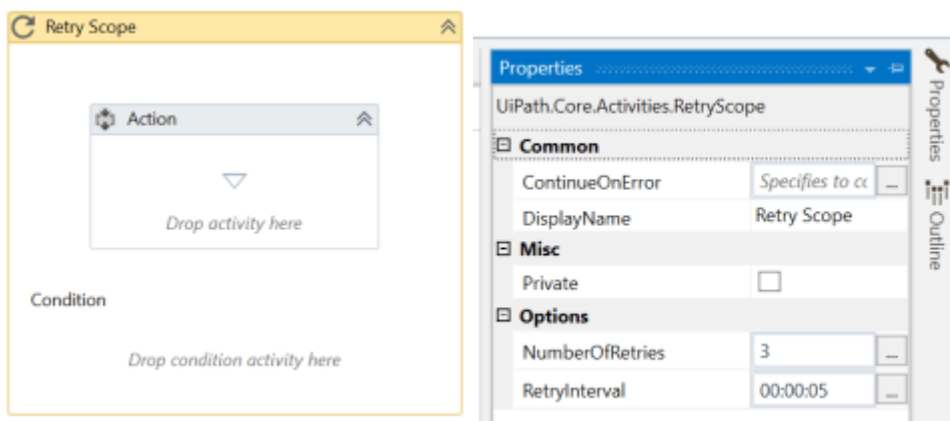
It can be used for inspecting or understanding the data available at a certain point during the debugging state. It can help us understand the various aspects of variables, arguments and expressions. This can be done simply typing the variable or argument name in the Immediate window with any specific method if needed along with it and pressing the Enter button.

43. What are the uses of Retry Scope activity in UiPath?

While automating a business process, the situations where we have to retry a particular failed action or a sequence of failed actions are expected to be there.

“**Retry Scope Activity**” of UiPath can be effective in handling such scenarios.

It retries the expected activities as long as the condition is not met and throws back an error if it fails to do so.



Note:

1. **Action Block** – Here we define our actions that we want to achieve.
2. **Condition Block** – It is the condition based on which we can decide to retry. Only activities which return a boolean result are supported by Condition Block. i.e. Element exists, Image Exists...
3. **NumberOfRetries** – The number of times that the sequence is has be retried.
4. **RetryInterval** – Specifies the amount of time (in seconds) between each retry.

Example

Implementation using UiPath :

Let us implement a workflow which launches an application called UiDemo, then tries to log in to it.

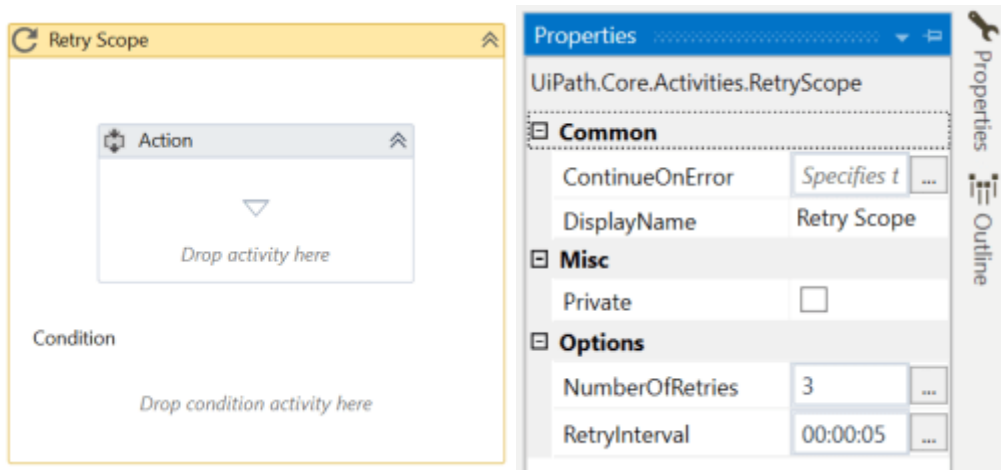
Step 1:

Drag “**Retry Scope**” activity into the design panel and supply the required parameter as shown below

Note:

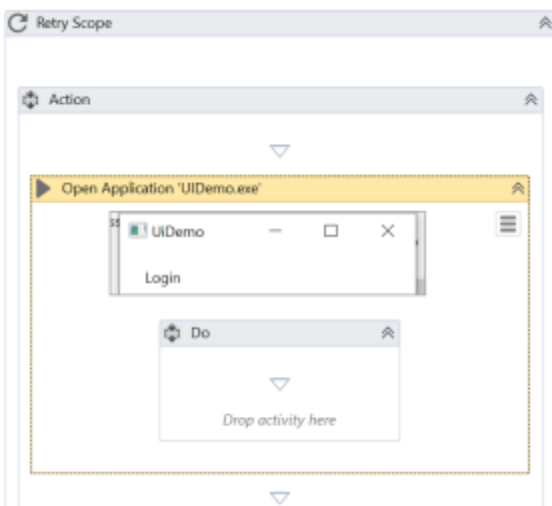
NumberOfRetries is 3, so it will retry 3 times.

RetryInterval is 5 seconds, so it will retry with a gap of 5 seconds between each failure.



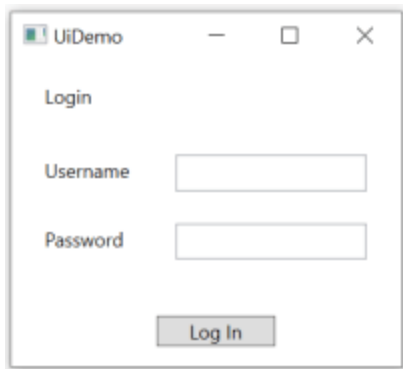
Step 2:

Drag “**Open Application**” activity into the Retry Scope Action Block and try to indicate the Application using indicate on-screen option as shown below.



Step 3:

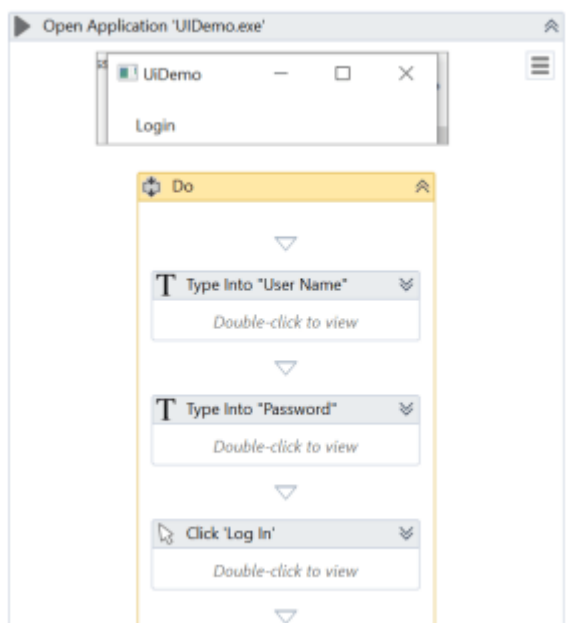
To “**Enter the login details**”, drag Required activities into the Do Block of Open Application activity and indicate the respective elements as shown below.



Note:

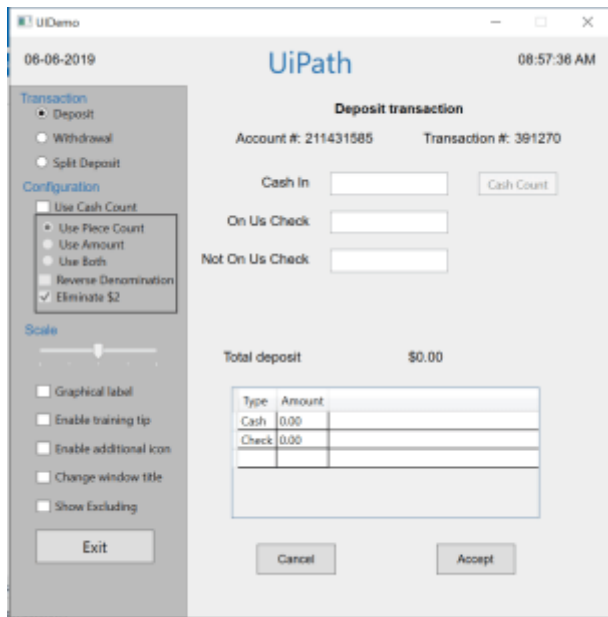
UserName: admin

Password: password

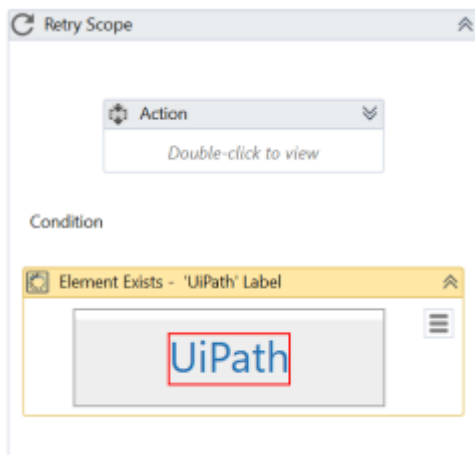


Step 4:

Drag “**Element Exists**” activity into the Retry Scope Condition Block and try to indicate some element in the next window that we expect to appear using indicate on-screen option as shown below.



For now, we will consider the UiPath(Blue colored text) element appearing at the top as our condition!!!



Step 5:

Now when we finally run the process, if we by any chance encounter any error while entering the login data, the sequence of steps will be retired as per our defined commands.

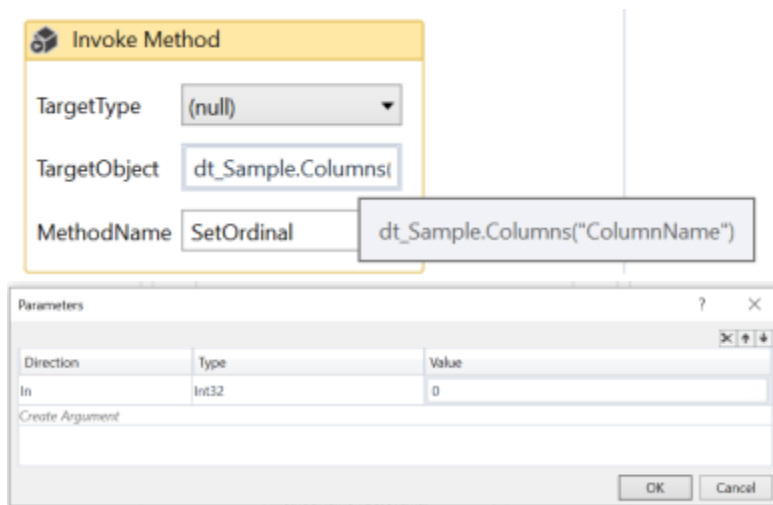
If it still fails after mentioned retries, the appropriate error will be shown!!!

44. How can we programmatically reorder columns in DataTable in UiPath?

Sometimes we might be asked to change the order of the columns in the excel and then process the data.

SetOrdinal method can be used to achieve the above.

Let's see how to use it in the UiPath!!!



Note:

1. **ColumnName** – The name of the column for which we want to change the position.
2. **Parameter** – To which position or index, we want to move the column to (Indexing starts from zero).

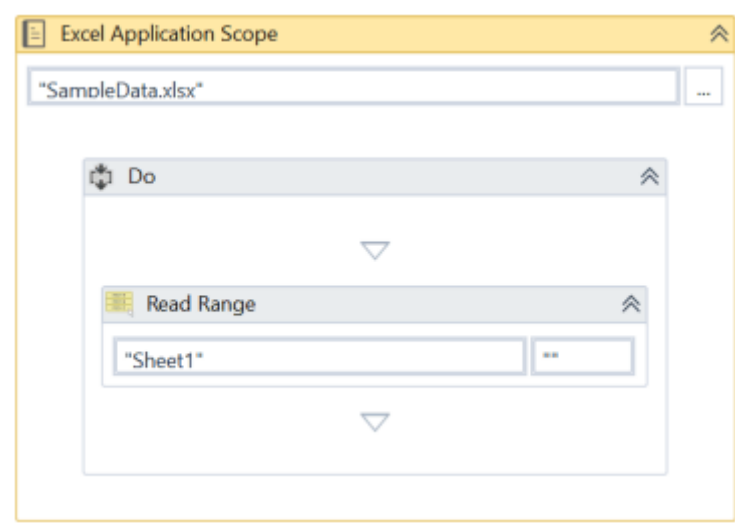
Example

Implementation using UiPath :

Let us implement a workflow which reads an excel file and then we will try to reorder the columns.

Step 1:

Drag “**Excel Application Scope**” and “**Read Range**” activities into the design panel to read the excel file and pass the required parameters.



Step 2:

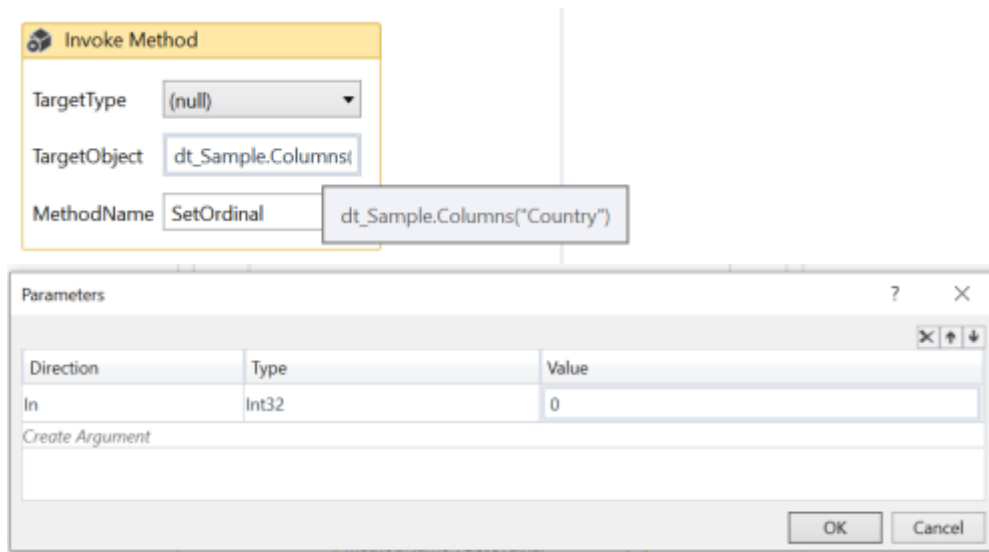
Drag “**Invoke Method**” activity into the design panel and populate it with the below-mentioned code.

Note:

TargetObject – dt_Sample.Columns("Country")

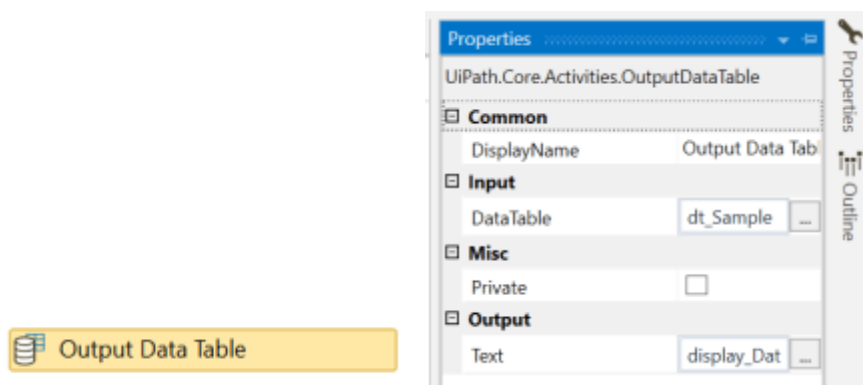
MethodName – SetOrdinal

In Parameter – 0(0 indicates first position ,for our process)



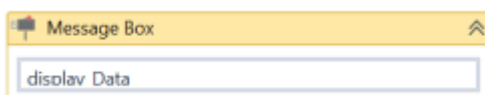
Step 3:

Drag “**Output Data Table**” activity into the design panel and convert Datatable to String type.



Step 4:

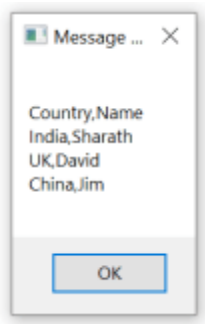
Drag “**Message Box**” activity into the design panel to display the modified data table.



Step 5:

Finally, let's run the project.

We can see the modified DataTable with reordered column names!!!



45. Can you please explain about LINQ and its advantages and disadvantages?

LINQ stands for Language Integrated Query and it can be used to programmatically access and manipulate any data from different types of data sources such as Objects(Lists, Arrays, Strings..), SQL, XML, etc. using C# or VB.Net

The LINQ functionality can be achieved by importing **System.Linq** namespace in our applications.

Advantages:

- LINQ provides full type checking at compile-time and supports IntelliSense. This powerful feature helps us to avoid run-time errors.
- LINQ also allows debugging which can be useful while troubleshooting.
- Most of the LINQ queries are reusable.
- LINQ provides powerful filtering, ordering, and grouping capabilities with minimum application code.

Disadvantages:

- If the LINQ query is not well optimized then the performance might degrade.
- Sometimes it's a tedious work to understand advanced LINQ query statements.
- LINQ fails to take the full advantage of database features when compared to SQL queries.

LINQ vs SQL

The main difference between LINQ and SQL is that LINQ is a Microsoft .NET framework component, which adds native data querying capabilities to .NET languages, while SQL is a standard language to store and manage data in RDBMS.

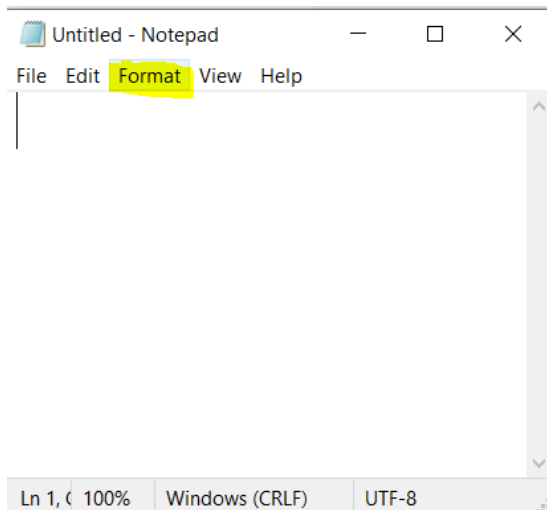
46. What is the use of UI Explorer in UiPath? Uninstalling which package will affect it's availability?

UI Explorer is an advanced tool that enables you to create a custom selector for a specific UI element. It is available as a standalone tool you can download from the

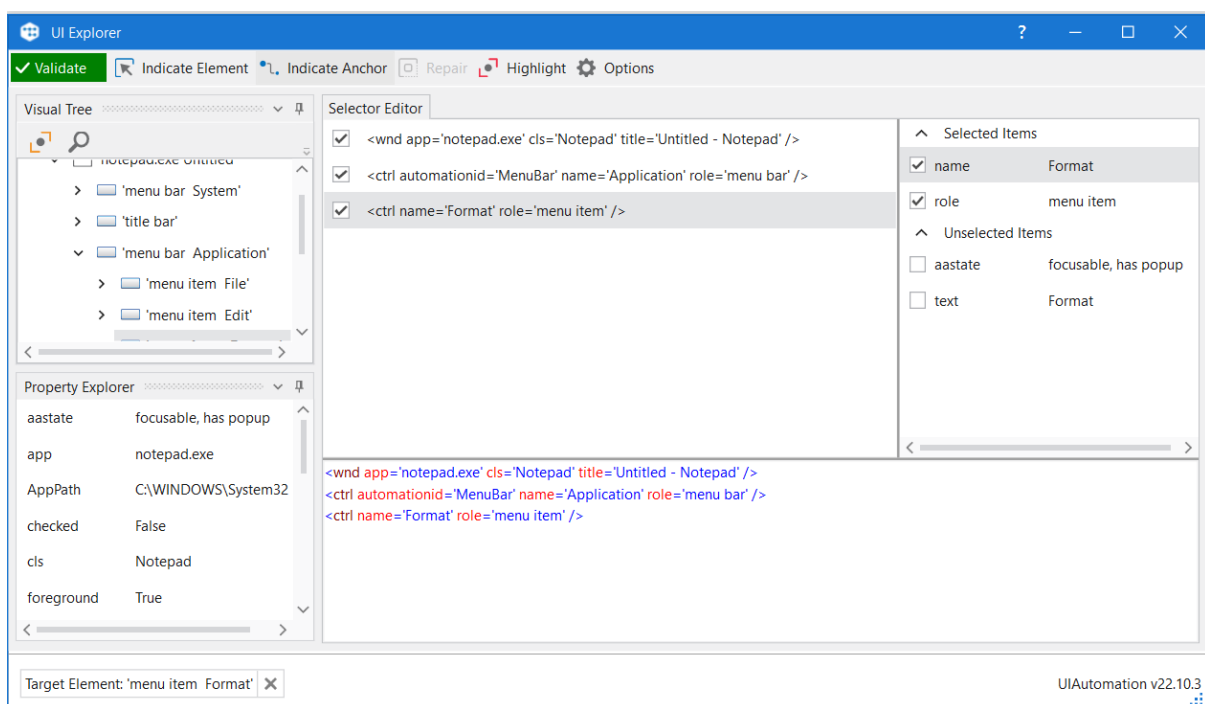
Resource Center in your Automation Cloud instance, or from Studio only if the UiPath.UIAutomation.

Example:

Let's consider we are planning to automate notepad task, and we are required to click on "Format" option



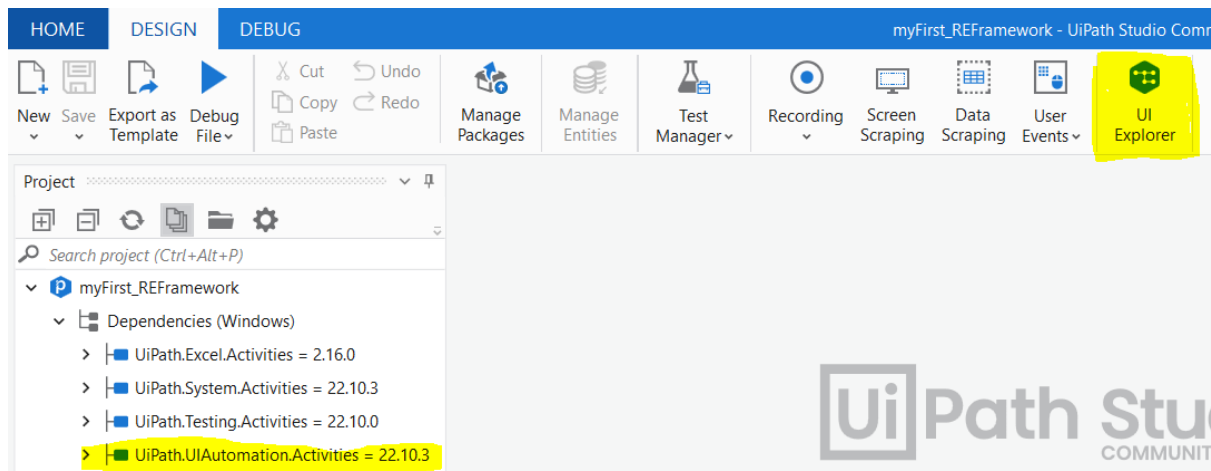
Below is the selector for Notepad.exe app' format button, as per the requirement we can add/remove the attributes.



It basically helps us with fine tuning the selectors while automating a process so that we get more stable selectors which are immune to minor changes at UI level.

UI Explorer deals with UI Activities, so the presence of **UiPath.UIAutomation.Activities** package as a dependency to the project actually

defines the availability or the non-availability of this tool in the UiPath Studio. Once you uninstall **UiPath.UIAutomation.Activities** package, the UI Explorer will not be available to us.



47. Suppose I have a folder full of files, with different formats .i.e .jpeg, .Mp4, .zip and so on... How can I get only .zip files from that folder ?

File management is inevitable in business processes automations.

We might want to copy, move or delete files based on few conditions...!!!

Let's see how to get the specific type of files from a folder

_myList =
Directory.GetFiles(_folderPath,"*.zip",System.IO.SearchOption.AllDirectories)

Note:

1. **_folderPath** is the folder path where you have your files
2. **_myList** will be the variable containing your required files with all the .zip format
3. You can replace **"*.zip"** with your desired extension if wanted.

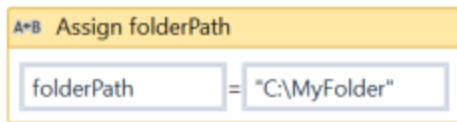
Example

Implementation using UiPath :

Let us implement a workflow which displays the names of particular files(.i.e .zip extension files) from a folder.

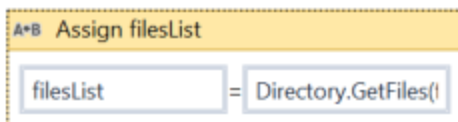
Step 1:

Drag **"Assign"** activity into the design panel and populate it with your folder path
example: "C:\MyFolder"



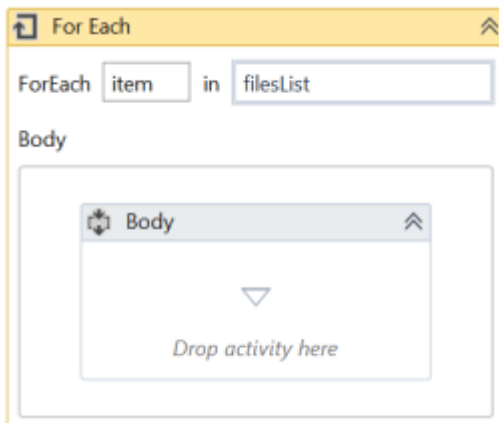
Step 2:

Drag “**Assign**” activity into the design panel and populate it with above-mentioned code example: “*Directory.GetFiles(folderPath, “*.zip”, System.IO.SearchOption.AllDirectories)*”



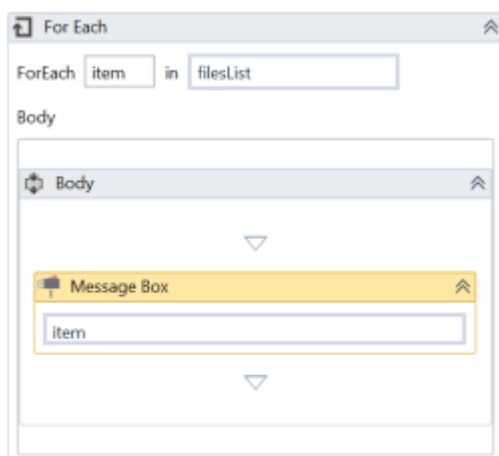
Step 3:

Drag “**For Each**” activity into the design panel and pass the above “**fileList**” variable to it.



Step 4:

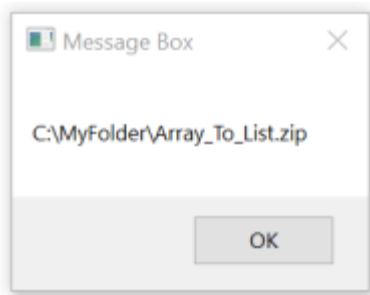
Drag “**Message Box**” activity into the For Each activity and pass the “**item**” value into it.



Step 5:

Finally!!!

when we run it, we can see the file names of .zip extension being displayed.



48. Suppose if I use the below codes:

```
Directory.GetFiles("D:\SharathRaju\user\Documents\testenviroment\","t?st*.xlsx")
```

Which of the following files which be fetched?

1. test123.xlsx
2. test.xlsx
3. ttsstest.xlsx
4. tst.xlsx

Ans:

All the above will be fetched, except tst.xlsx because question mark(?) in the code didn't match with the file name, as all of them satisfies the conditions.

- Asterisk (*) – replaces zero or more characters
- Question mark (?) – replaces a single character

49. Have you ever converted Month number i.e 1,2,3,4... to month name .i.e January, February, March... and vise versa?

>>>> To convert month in number to month in alphabets. we can use GetMonthName function:

System.Globalization.CultureInfo.InvariantCulture.DateTimeFormat.GetMonthName(12)

The above will give us "December"

>>>> To convert month in alphabets to month in number. we can use code snippet:

`DateTime.ParseExact("December", "MMMM", CultureInfo.CurrentCulture).Month`

The above will give us "12"

Note:

Try to understand the functions being used it, we don't have to remember the whole code but should be aware of different functions or methods that can actually help us at least.

50. How do you confirm if a given string is a numeric?

Validations are something that we have to handle, while we are dealing with particular data.

Similarly in automation too, we check for different validations before performing any task.

The below function can be used to check if a string .i.e "1001", "ey2", "sharath" or "999" is numeric or it is not numeric!!!

`_booleanResult = IsNumeric(_input)`

And the output will be a Boolean value.

Note:

1. `_input` is the argument to the `IsNumeric` Function
2. `_booleanResult` returns the true or false value based on the input

51. How can we take a screenshot using UiPath?

The "Take Screenshot" action in UiPath may be used to take a screenshot.

What to do is as follows:

1. The "Take Screenshot" activity may be dropped into the designer panel by dragging it from the "Screen" category of the activities panel.

2. Set the place for the screenshot to be saved in the "Take Screenshot" activity's settings. You may also choose the picture quality and the image file type (such as JPG or PNG).

3. Use the "Selector" attribute to identify the element or window you wish to capture on the screen while taking a screenshot.

Run the automation to complete the task and snap the screenshot. The desired location will be used to store the screenshot.

Note: In UiPath, you can also capture a snapshot using the "Screen Capture" activity. Instead of taking a screenshot of the full screen or just a certain element or window, this activity lets you define the region of the screen that you wish to record.

52. What is the minimum time required for project implementation in RPA?

I have personally worked on projects ranging from a week to 2 months depending on various factors.

Based on the complexity and scale of the project, the minimal amount of time needed for an RPA (Robotic Process Automation) project might vary significantly. While larger, more complex projects may take many months or longer to complete, smaller, simpler tasks could just take a few weeks like one or two including the post live support.

The following variables may affect the minimal amount of time needed for an RPA project:

Project size: A bigger project that has to automate more actions and procedures will often take longer to finish than a smaller project and even the number of approval needed would add up the time.

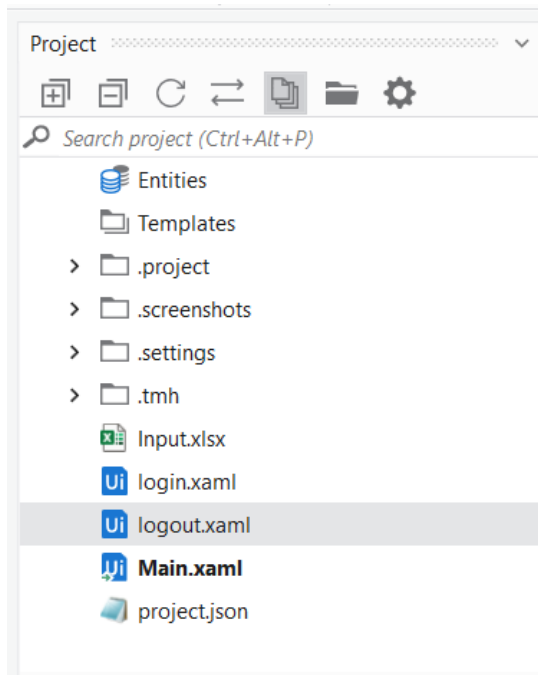
Complexity of the processes and tasks being automated: If the processes and operations being automated are complicated or and doesn't have the application stability would require more efforts, the project may take longer to complete.

Resource accessibility: The project's completion time may be prolonged if the project team is overworked or if securing resources or permissions takes longer than expected. So communication between the groups or teams plays a major role.

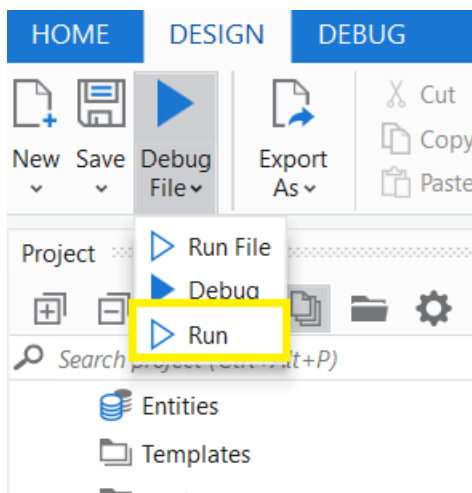
The quality of the automation solution: A poorly planned, designed or implemented automation system fail so it's very important to build stable solutions and this may need more time to create and build automations, which might cause the project's schedule to be extended sometimes.

In order to guarantee that an RPA project is finished within an acceptable amount of time, it is crucial to thoroughly plan and scope it with proper communication.

53. Suppose if I have three XAML files in my project as shown below .i.e. Main.xaml, login.xaml and logout.xaml



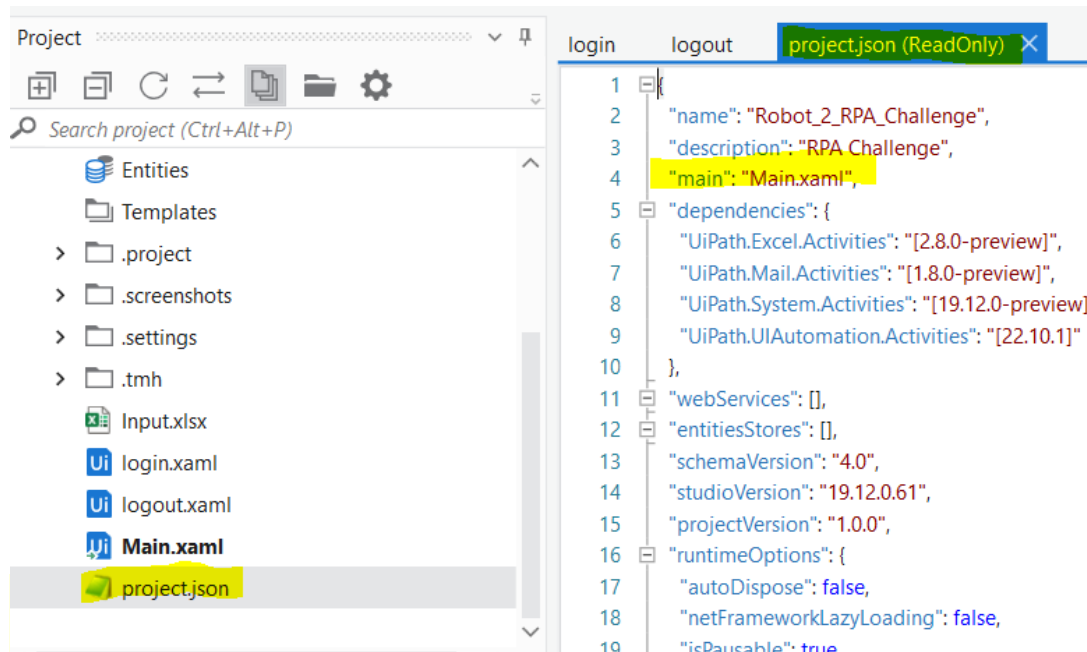
If i want to run logout.xaml to be executed first rather than main.xaml, when I click on RUN option



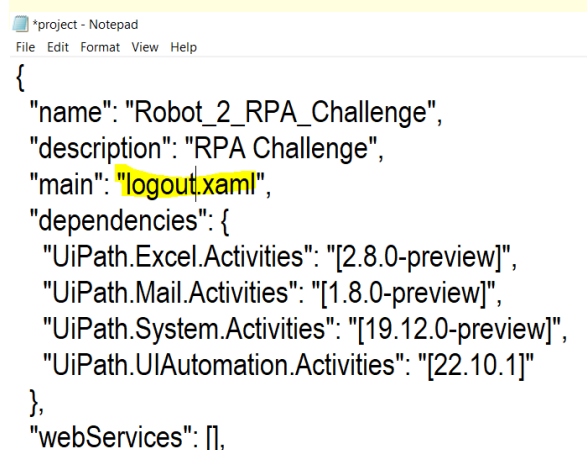
What changes should I make?

By default, all the UiPath projects are configured to execute main.xaml first whenever we try to run the automation.

But it can be changed by modifying the project.json file that is available to us for every project.



As we can see, the main field's value is set to main.xaml and replacing it with logout.xaml and then saving the project.json file will allow us to achieve our expected output which is to launch logout.xaml instead of the default main.xaml whenever the project runs. **(Note: Please use notepad to edit it and relaunch the UiPath studio if needed)**



54. Can you please explain something about version control?

Version control is a system that records changes to a file or set of files over time so that you can recall specific versions later. It allows multiple people to work on the same files simultaneously and tracks the changes made by each person.

Version control systems typically have a central repository where all the versions of the files are stored, along with metadata about each version, such as the date it was created, the person who created it, and a description of the changes made.

There are several types of version control systems, including centralized version control systems and distributed version control systems.

In a centralized version control system, all the versions of the files are stored in a central repository, and users check out a copy of the files they want to work on, make their changes, and then check the files back in to the repository.

In a distributed version control system, each user has a local copy of the entire repository, including all the versions of the files. When a user makes changes to a file, they commit the changes to their local repository, and then push the changes to the central repository. This allows users to work offline and to have a complete history of the project on their own computer.

Some of the version controls that the UiPath supports are GIT, TFS and SVN.

55. Can't we use just Python instead of RPA for automations?

Python and RPA (Robotic Process Automation) are two different technologies that are often used for automation tasks.

Python is a general-purpose programming language that can be used to build almost any type of software, including web applications, desktop applications, data analysis tools, and more, and can also be used for automation purposes. It is known for its simplicity, readability, and flexibility, making it a popular choice for beginners and experienced programmers alike.

RPA, on the other hand, is a type of software that is designed specifically for automating repetitive, rule-based tasks. RPA tools typically allow you to automate tasks by "watching" what a user does and then replicating those actions in the background. They do not require any programming knowledge, as the automation is typically created by recording and replaying actions through a user interface, which can help use automate different applications like SAP, Web apps, Windows apps and so on.

In general, Python is a more powerful and flexible tool than RPA, as it allows you to create custom software solutions from scratch. RPA is more focused on automating

specific tasks and is best suited for scenarios where you need to automate a series of predefined actions and build rapid solutions by using low code tools thus cutting down the development time.

Both Python and RPA can be useful for automating tasks, but they are best suited for different types of automation needs. If you need to automate complex processes or build custom software solutions, Python may be the better choice. If you are looking to automate simple, repetitive tasks, RPA may be the more appropriate option as it provides drag and drop functionalities.

*******More Questions Will Be Added Soon... All the best!!!!*******

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