Lab 11. Help Desk Ticket Generation

Let's get started with our first project -- a simple help desk automation with UiPath.

Help desk agents get inputs from a variety of channels, including phone, email, and spreadsheets, to create and update support tickets. Support tickets are the requests that you raise by calling help desk agents to get your issues resolved; for example, your laptop is not working, or you have internet issues.

For this project, we will only be covering the automation of inputting tickets from spreadsheets that a requester places in a certain folder. We are assuming a very simple use case of ticket creation for this first project. All you have to do in this project is to input support ticket data in a spreadsheet and place it in a folder. The bot, once invoked, automatically creates a support ticket within the help desk system for you.

If you noticed, we are invoking this bot. This means that we will be building an attended automation that behaves like an assistant -- an assistant that raises tickets automatically!

This project will help you understand the following topics:

- Attended RPA concepts
- UiPath Excel automation
- UiPath automation for web-based apps
- Creating automation workflows and invoking them
- Using Try and Catch for exceptions

Technical requirements

The hardware and software that will be required for this project are as follows:

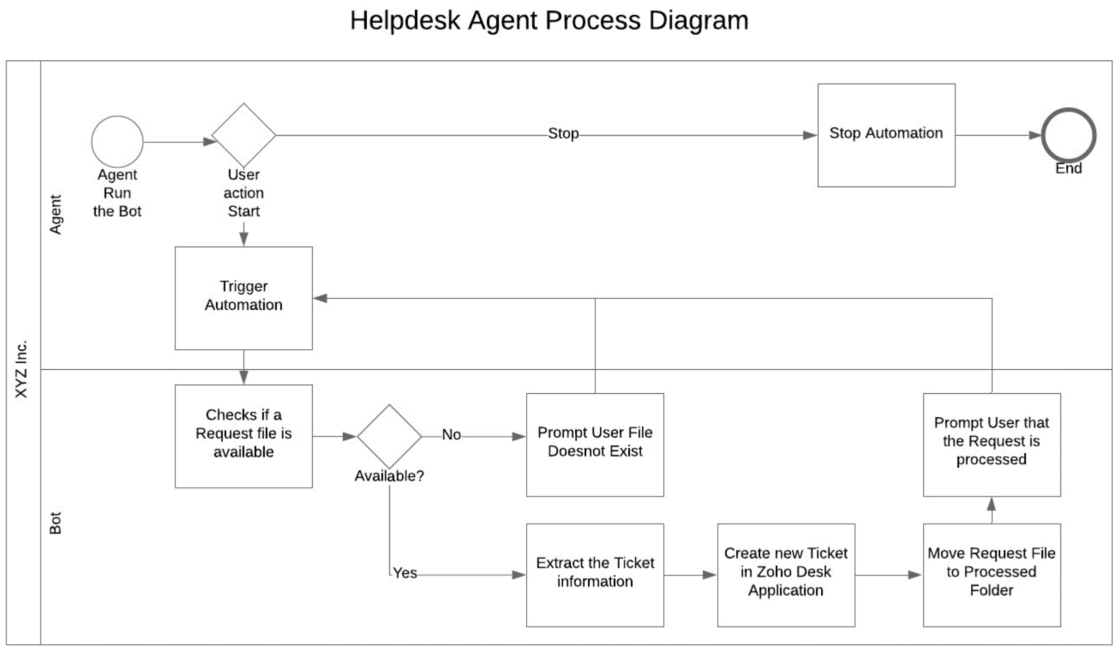
- A PC with UiPath Community edition version 19+ installed.
- A Chrome browser with a UiPath add-on.
- A Zoho Desk SaaS application. You can sign up for free at https://desk.zoho.com.
- Microsoft Excel 2007 and later.

Project overview

We will automate the creation of help desk tickets using data from an Excel sheet.

In this project, once the bot is invoked, it will check whether there are new request files available to process. If available, the bot will read the ticket data from this spreadsheet. The data is then used to create support tickets in the Zoho Desk application.

Here is the high-level workflow for the project:


Helpdesk Agent Process Diagram
XYZ Inc.
Agent
Bot
Agent Run the Bot
User action Start
Stop
Stop Automation
End
Trigger Automation
Checks if a Request file is available
Available?
No
Prompt User File Doesnot Exist
Yes
Extract the Ticket information
Create new Ticket in Zoho Desk Application
Move Request File to Processed Folder
Prompt User that the Request is processed

We believe it should take you around **1 hour** to build and run this first project. Obviously, the amount of time it will take will vary depending on your background.

Now, let's dive into the details and step through the creation of the automation.

Project detail

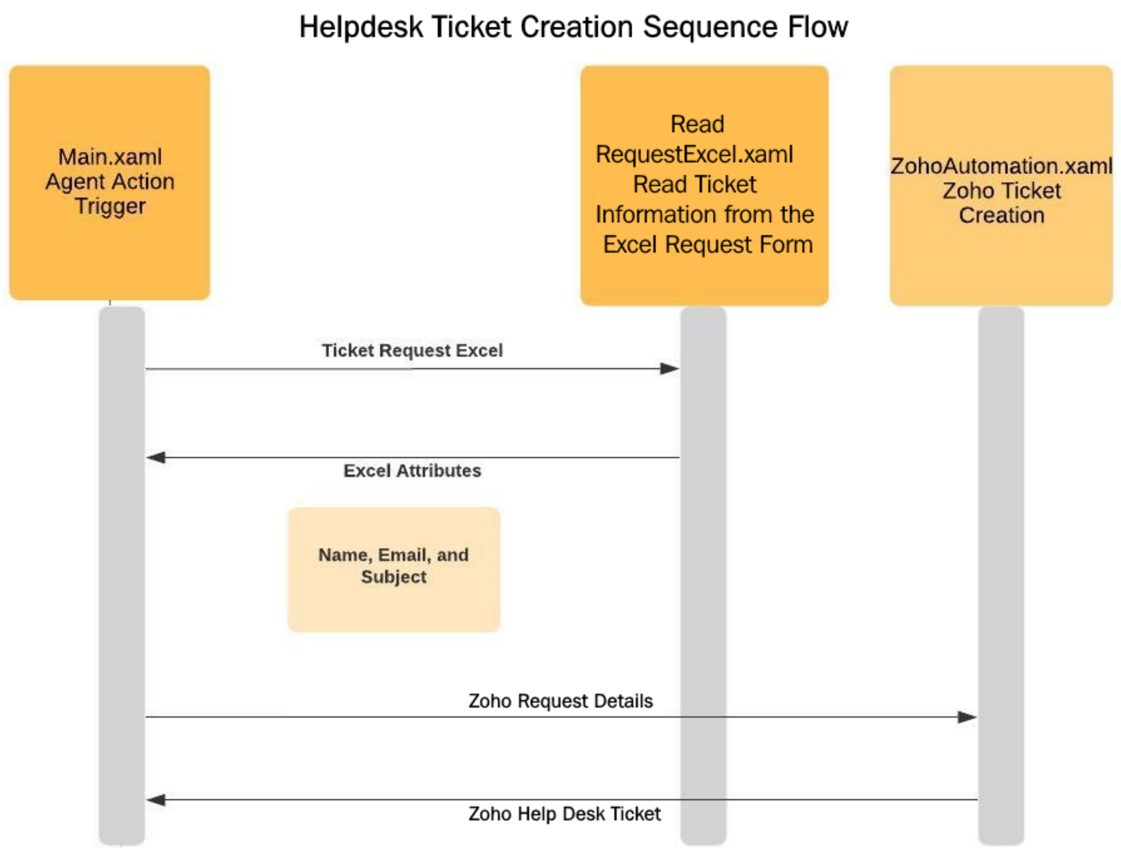
Let's now look at the overall flow for this project in terms of the components we will be building and their interaction.

We will have a main workflow called Main.xaml, which will invoke other workflows and orchestrate the automation. Within this workflow, we will keep checking for the trigger *Alt *+ *S*. Once triggered, we will check whether the Request.xlsx file is available. If the file is available, then we will invoke ReadRequestExcel.xaml from Main.xaml.

Within ReadRequestExcel.xaml, we will use the file path as an input argument to open the Excel file, read the content, and store it in three output arguments -- Name, Email, and Subject.

Next, Main.xaml invokes ZohoAutomation.xaml with these three arguments (Name, Email, and Subject) to create the ticket in the Zoho desk. If all goes well, a Successful message is returned.

Finally, once the Successful message is received, request.xlsx is moved to the Processed folder and the bot is ready to process new requests:


Helpdesk Ticket Creation Sequence Flow
Main.xaml Agent Action Trigger
Read RequestExcel.xaml Read Ticket Information from the Excel Request Form
ZohoAutomation.xaml Zoho Ticket Creation
Ticket Request Excel
Excel Attributes
Name, Email, and Subject
Zoho Request Details
Zoho Help Desk Ticket

This was an overall flow to give you a high-level view of what we will be doing to create this automation.

Before we configure our main workflow, let's undertake some groundwork that is required for the project.

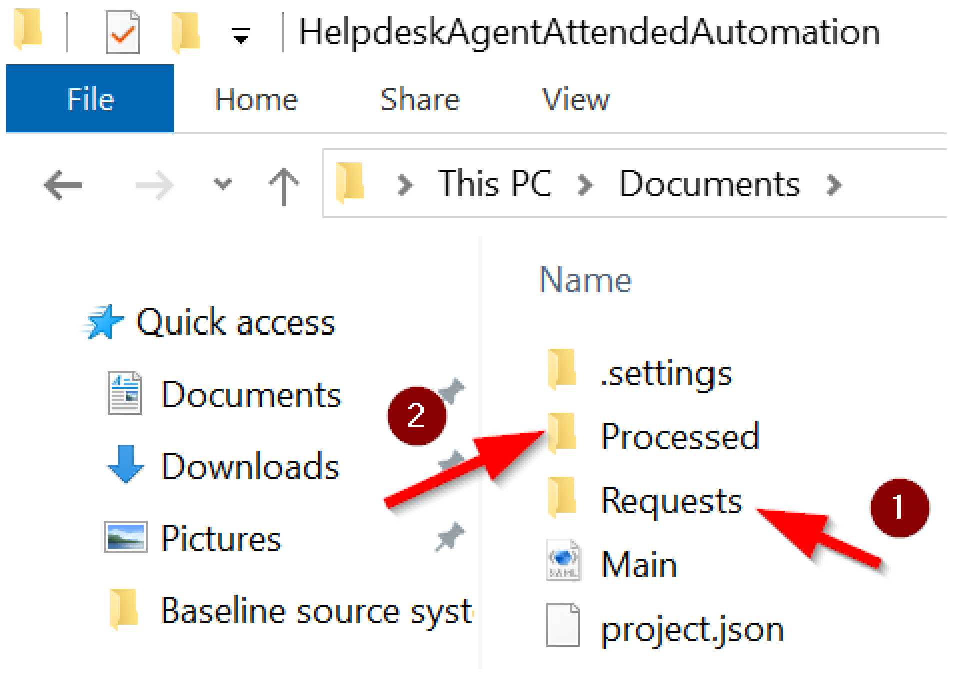
Project groundwork

As part of the project groundwork, we will create the project folders, along with a spreadsheet for the ticket data, and also log in to the Zoho SaaS application.

Creating project folders

Let's create two folders, one to accommodate the spreadsheet containing the data to process, and the other to accommodate the processed spreadsheets:

1. Open Windows Explorer on your machine and create a folder for the project.
2. Within this project folder, create two folders, called Requests and Processed, as shown in the following screenshot:



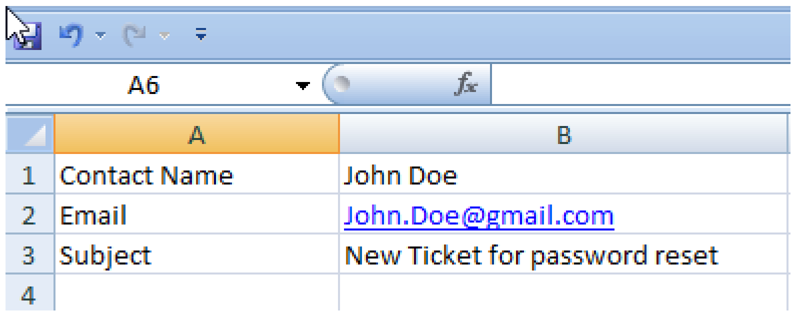
We will place the spreadsheet in Requests, and then the bot will move the processed sheets to the Processed folder.

Next, let's create the requests spreadsheet.

Creating an Excel sheet with ticket data

Now, let's create a simple spreadsheet with ticket data:

1. Open Excel and create a sheet with three rows and two columns, as shown in the following screenshot:



A6

	A	B
1	Contact Name	John Doe
2	Email	John.Doe@gmail.com
3	Subject	New Ticket for password reset
4		

The first column contains the data labels, and the second column contains the data you like for your support ticket.

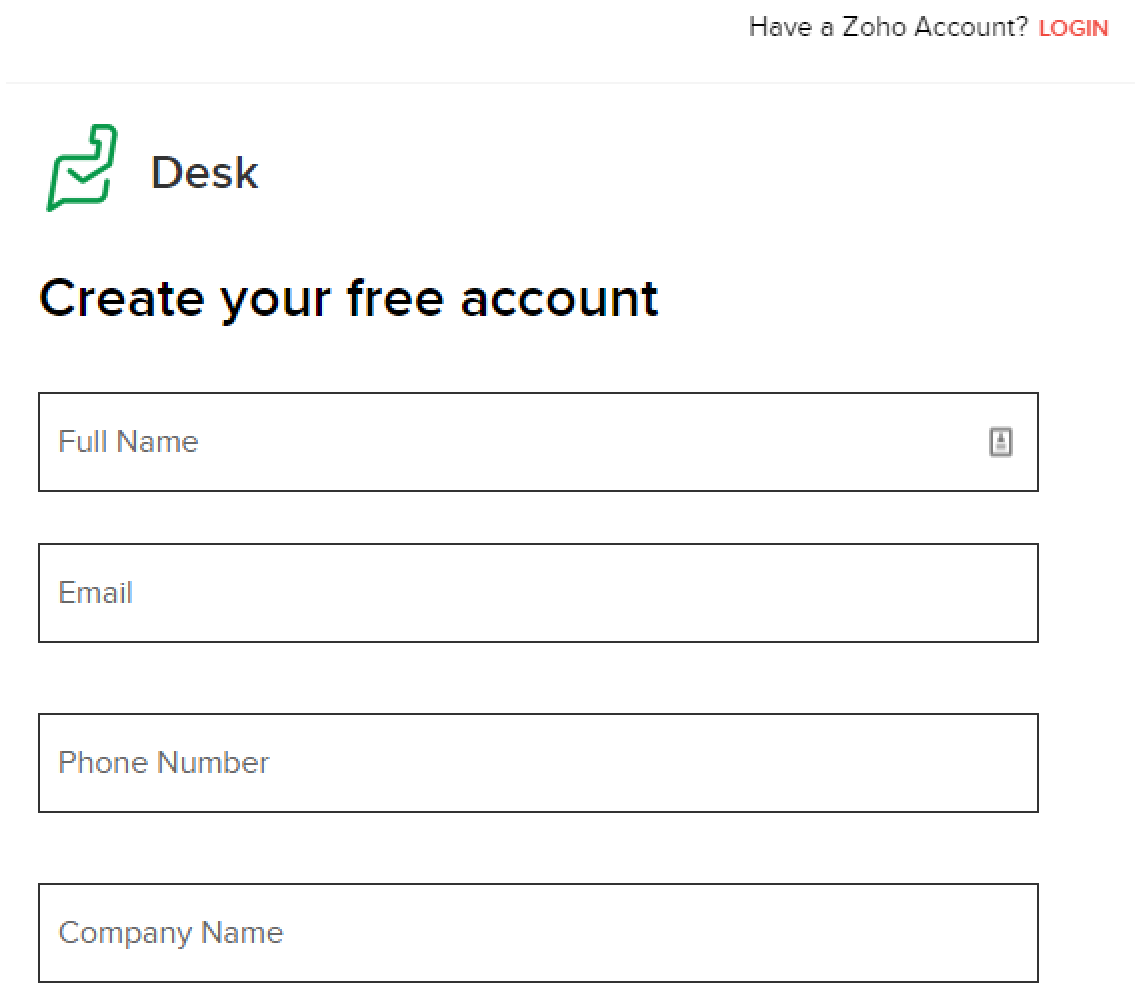
2. Save this file as Request.xlsx in the Requests folder that we created in the previous section.

Let's now log in to the Zoho application.

Registering and logging in to Zoho Desk

Perform the following steps:

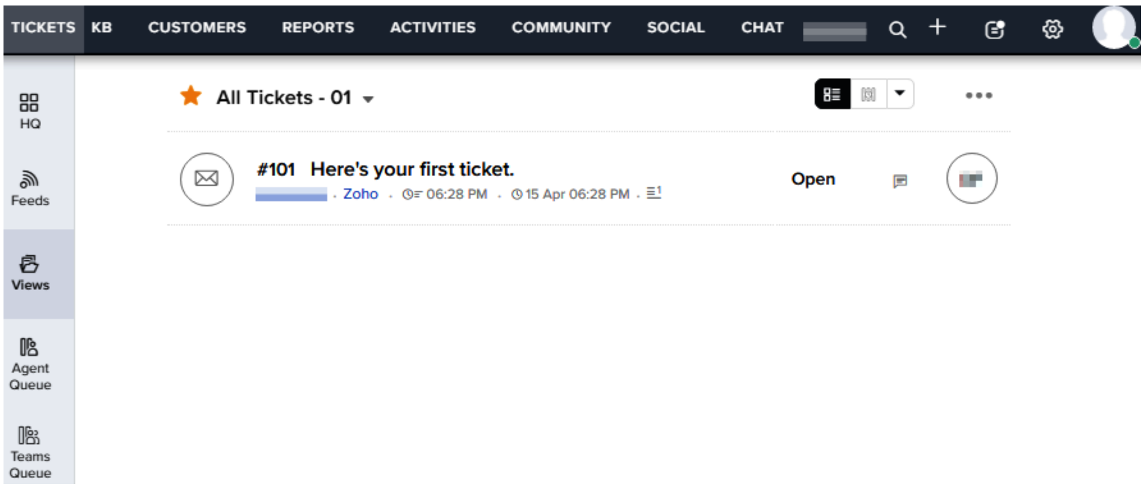
1. Go to desk.zoho.com](http://desk.zoho.com/) and choose the option to log in. You should be directed to a page to log in or sign up if you do not have an ID. Create a free desk account by filling in the details if you do not have one:



Create your free account

Full Name
Email
Phone Number
Company Name

2. Once you register with your details and company name, you will be walked through the steps to get started. You should eventually end up on the Zoho Desk view with the current tickets:



Leave the tab open with the application logged in for the automation.

That was all the project groundwork we needed to implement.

Now, as mentioned in the *Project detail* section, we will create the workflows for the automation. Let's start with the main workflow.

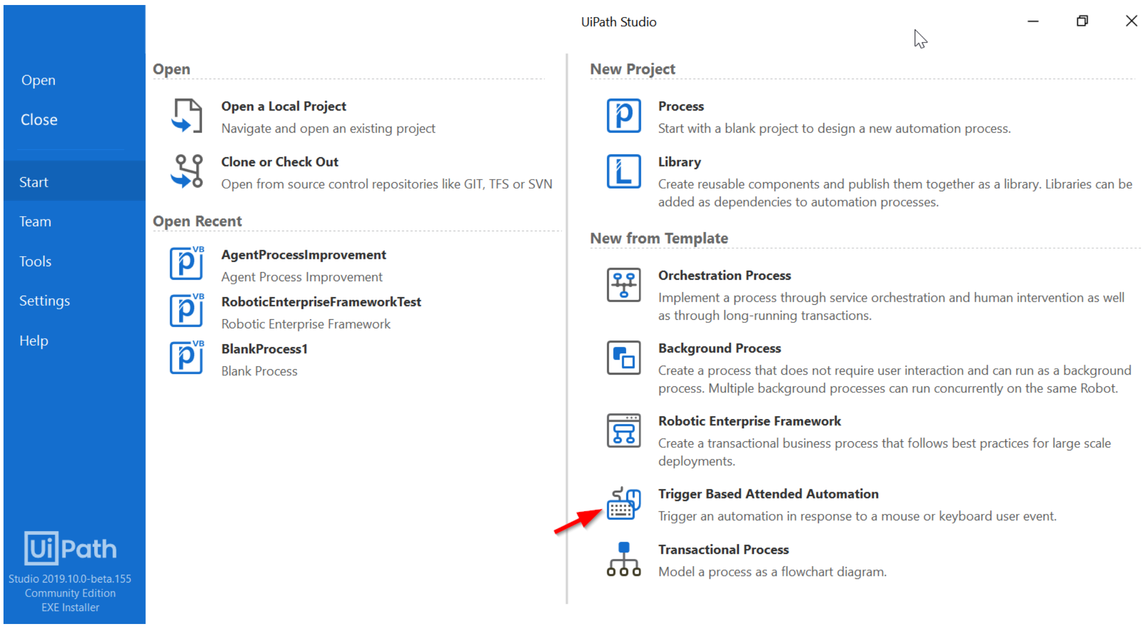
Main workflow

Let's start by opening the UiPath Studio. On your Windows machine, you can go to Start and then select UiPath Studio.

Project setup

Let's create a new project for our automation using the UiPath template:

1. On the first UiPath studio screen that pops up, select the project called Trigger Based Attended Automation. This will use a predefined UiPath template to create an attended automation project:



UiPath Studio

Open
Close
Start
Team
Tools
Settings
Help

UiPath
Studio 2019.10.0-beta.155
Community Edition
EXE Installer

Open

Open a Local Project
Navigate and open an existing project

Clone or Check Out
Open from source control repositories like GIT, TFS or SVN

Open Recent

AgentProcessImprovement
Agent Process Improvement

RoboticEnterpriseFrameworkTest
Robotic Enterprise Framework

BlankProcess1
Blank Process

New Project

Process
Start with a blank project to design a new automation process.

Library
Create reusable components and publish them together as a library. Libraries can be added as dependencies to automation processes.

New from Template

Orchestration Process
Implement a process through service orchestration and human intervention as well as through long-running transactions.

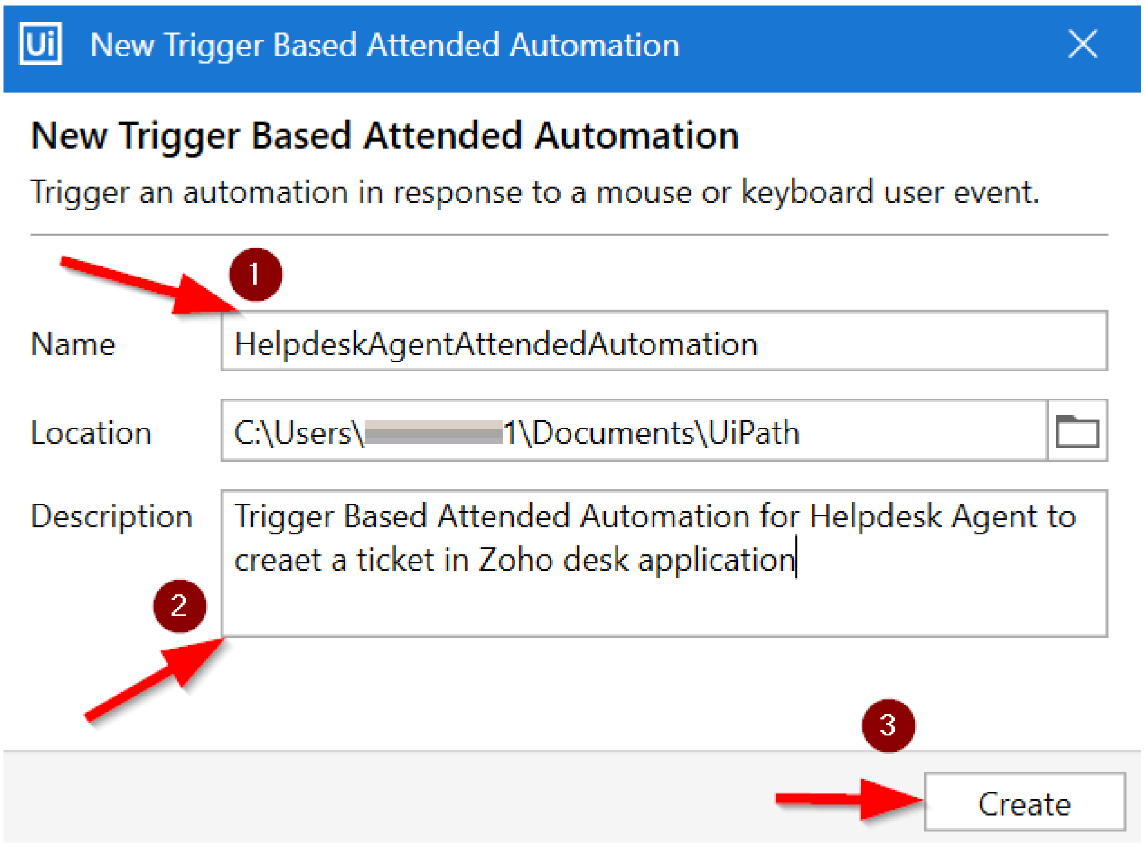
Background Process
Create a process that does not require user interaction and can run as a background process. Multiple background processes can run concurrently on the same Robot.

Robotic Enterprise Framework
Create a transactional business process that follows best practices for large scale deployments.

Trigger Based Attended Automation
Trigger an automation in response to a mouse or keyboard user event.

Transactional Process
Model a process as a flowchart diagram.

2. Next up, provide a name for your project and an optional description and click on Create:



New Trigger Based Attended Automation

New Trigger Based Attended Automation

Trigger an automation in response to a mouse or keyboard user event.

1

Name: HelpdeskAgentAttendedAutomation

Location: C:\Users\[redacted]1\Documents\UiPath

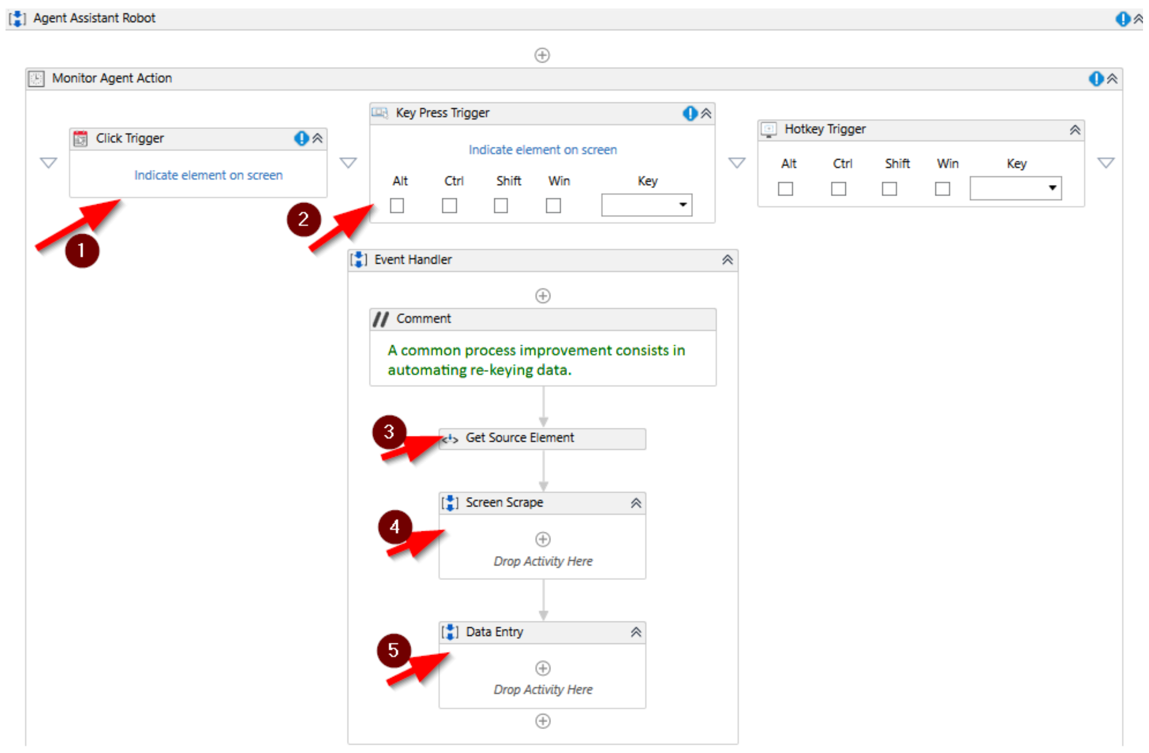
Description: Trigger Based Attended Automation for Helpdesk Agent to creaet a ticket in Zoho desk application

2

3

Create

3. On the Studio main screen, click Open Main Workflow to get to the main workflow.
4. Your initial workflow should look like the following. Go ahead and remove the five unwanted activities highlighted in the following screenshot by right-clicking and selecting Delete:



A common process improvement consists in automating re-keying data.

5. Once done, ensure that you save the project and keep doing so periodically.

The project is now set up. We are now ready to configure the initial part of the automation.

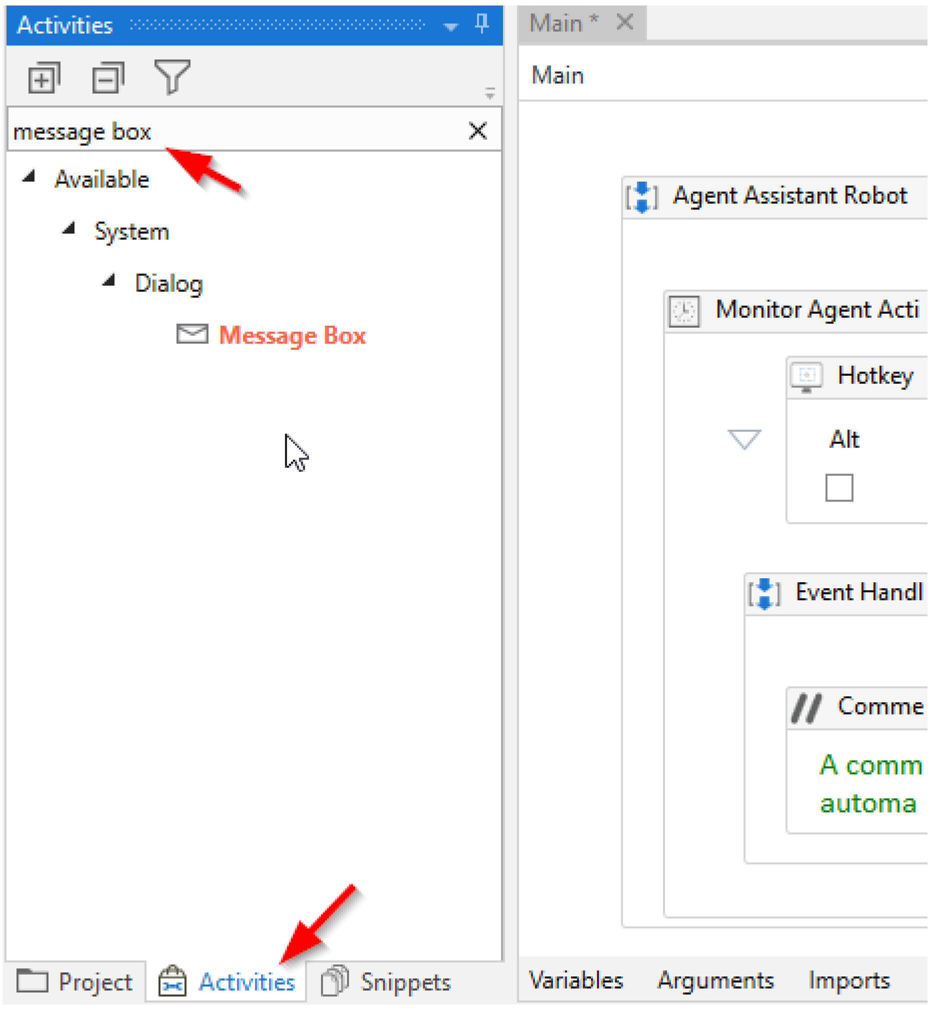
Configuring the initial part of the main workflow

We will add a few UiPath activities to initiate the attended automation.

UiPath activities are puzzle pieces that we use to create any UiPath automation. The activities are automation actions, such as clicking, typing, and message box. We can use these activities to create with Excel, email, and the web.

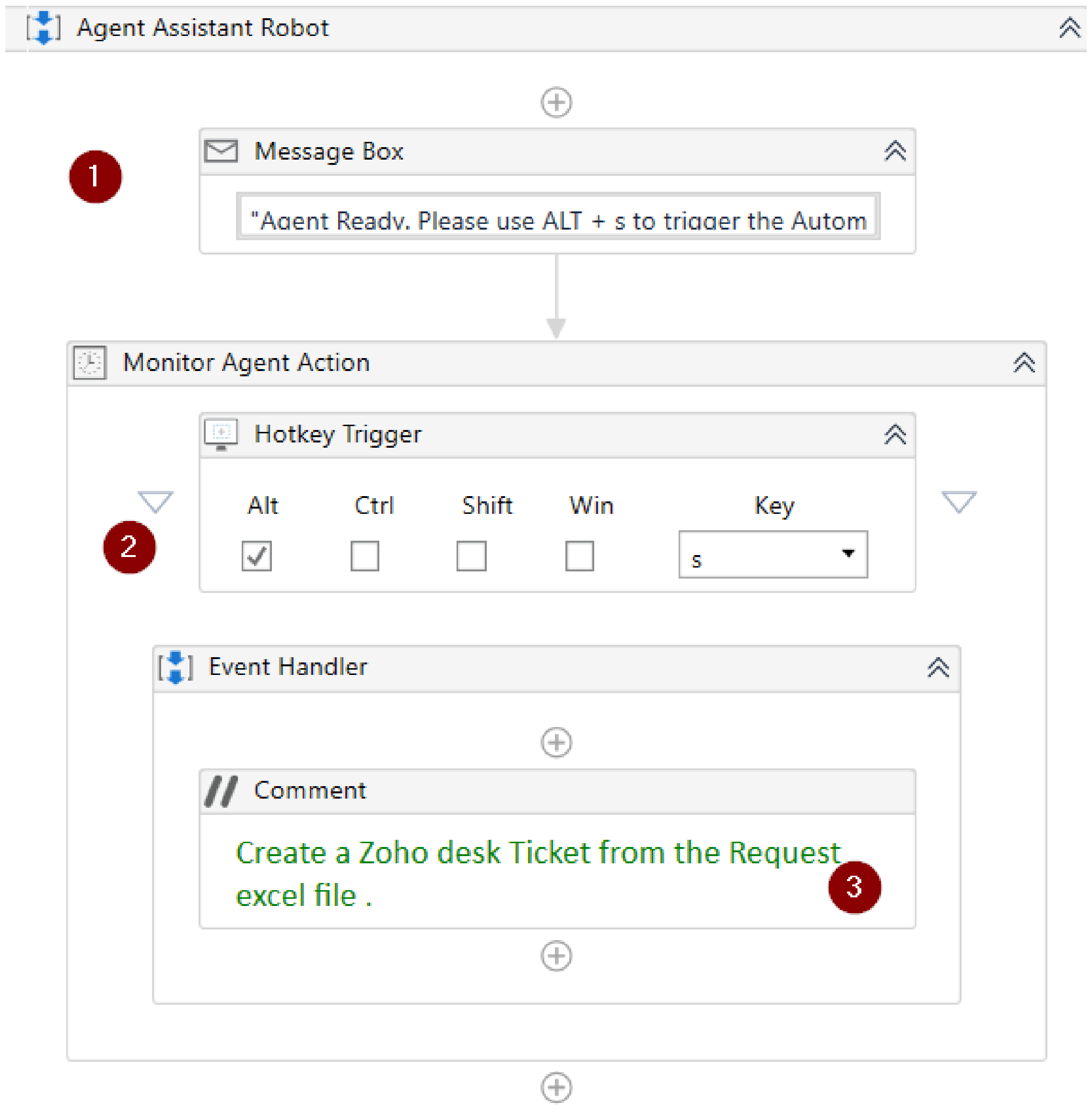
Let's now look at the steps to add the activities:

1. We'll start by adding a message box. To do this, go to the Activities panel and search for message box:



You can then drag and drop the activity to where you want it in the workflow.

2. Once added, click on the box for the message and type "Agent Ready. Please use *ALT + s* to trigger the Automation". Note that you must keep the quotes as you input the message. Please refer to the image in step 4.
3. Next, let's tell UiPath which hotkey we will use to trigger the automation. Luckily, UiPath has provided the activity within the template to do just that. In the Hotkey Trigger activity, choose Alt and type in *s* for the key, as shown in the screenshot in *Step 4*.
4. It is always a good idea to add adequate comments for people to facilitate understanding of your workflow "code". Within Event Handler, let's start by adding a Comment to say Create a Zoho desk Ticket from the Request excel file.:


Agent Assistant Robot

Message Box

"Agent Ready. Please use ALT + s to trigger the Autom

Monitor Agent Action

Hotkey Trigger

Alt ✓ Ctrl Shift Win Key s

Event Handler

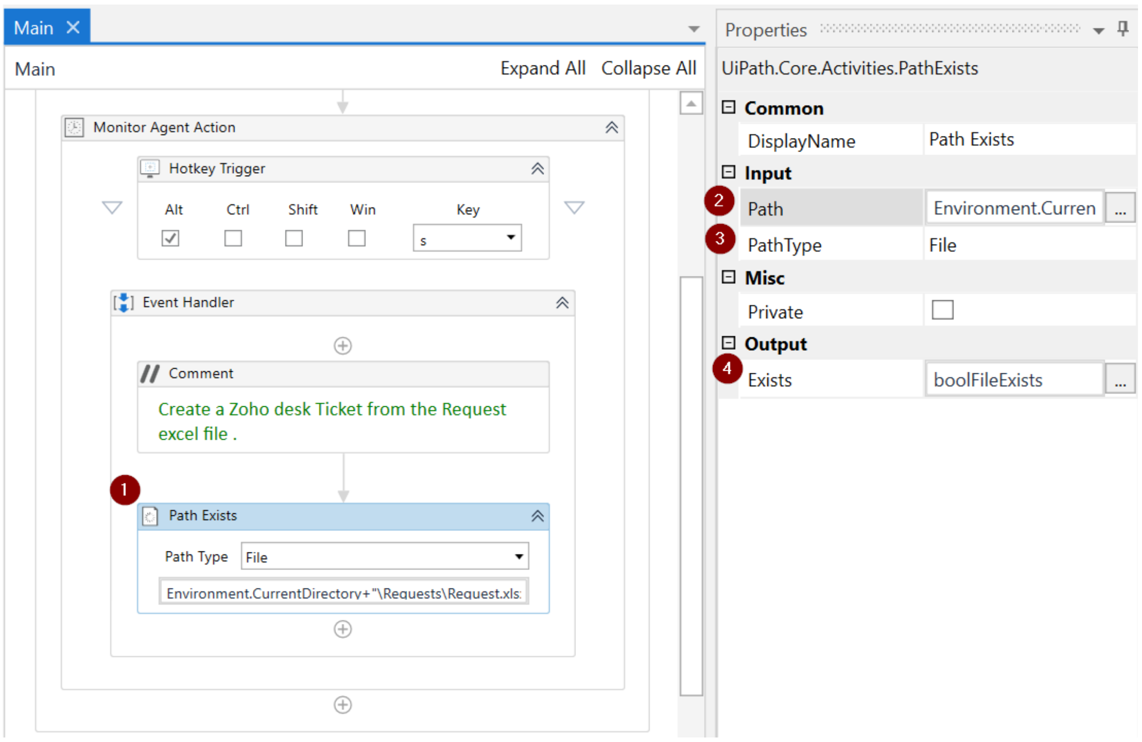
Comment

Create a Zoho desk Ticket from the Request excel file .

5. As the first activity in Event Handler, we will be checking the Requests folder to see whether there are any new requests. For that, we will use the Path Exists activity. Follow the same steps as before to find the activity in the left-hand panel and drag and drop to the main workflow.
6. Now, for this and all activities, there are UiPath properties that are displayed on the right pane. Let's use the following Properties for the Path Exists activity we added:
   - Path: Environment.CurrentDirectory+"\Requests\Request.xlsx"
   - PathType: File
   - Exists: Create a boolean variable (use *Ctrl *+ *K* or right-click) and create a new variable called boolFileExists.

UiPath properties are the parameters and settings for the selected activity. The properties pop up on the right panel of your Studio interface. You can go to the panel and add or update properties for the selected activity.

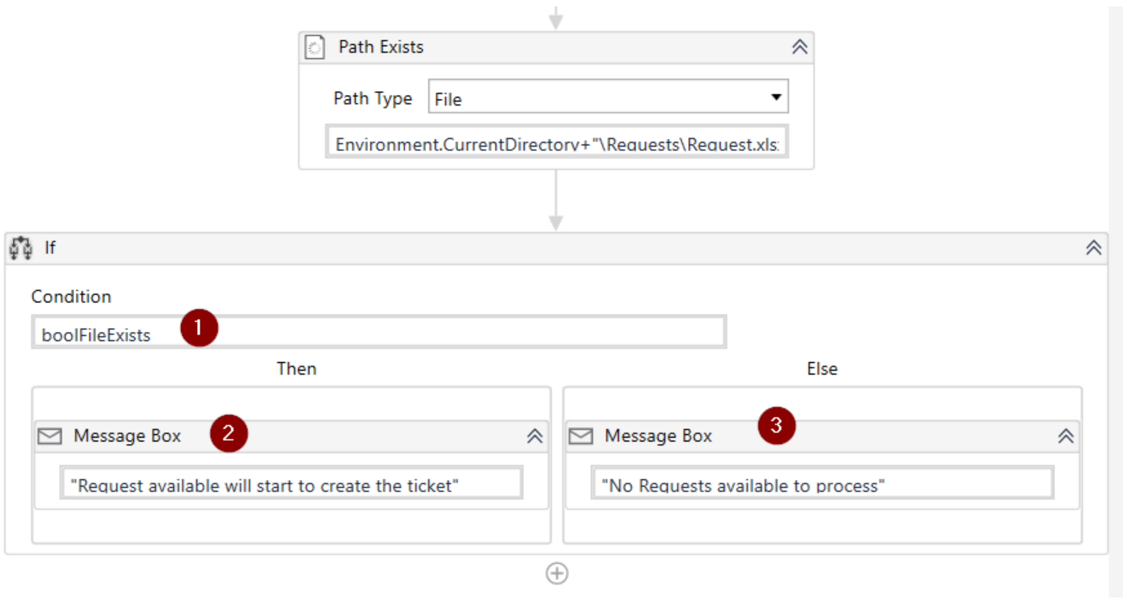
Your sequence and properties should look like this:


Main
Expand All Collapse All
Monitor Agent Action
Hotkey Trigger
Alt ✓ Ctrl Shift Win Key s
Event Handler
Comment
Create a Zoho desk Ticket from the Request excel file .
1
Path Exists
Path Type File
Environment.CurrentDirectory+"\Requests\Request.xls

Properties
UiPath.Core.Activities.PathExists

Common	
DisplayName	Path Exists
Input	
2 Path	Environment.Curren
3 PathType	File
Misc	
Private	☐
Output	
4 Exists	boolFileExists

7. Next, let's display a message to let the user know whether the bot found a request and whether it will process this request. We will use an If activity from the activities panel to do that. Add the If activity below the Path Exists activity.
8. Let's use boolFileExists, which we created in the earlier step as the condition to check. Within this If control, add two messages boxes with messages as per the following screenshot to display an appropriate message to the agent:

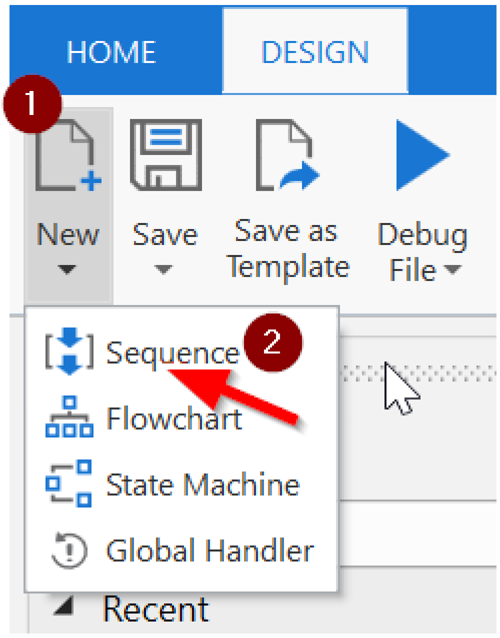

Path Exists
Path Type File
Environment.CurrentDirectory+"\Requests\Request.xls
If
Condition
boolFileExists 1
Then
Message Box 2
"Request available will start to create the ticket"
Else
Message Box 3
"No Requests available to process"

This is all for the main workflow for now. We will revisit the workflow later to call the ReadExcelRequest and ZOHOAutomation workflows, which we will create in the next two sections.

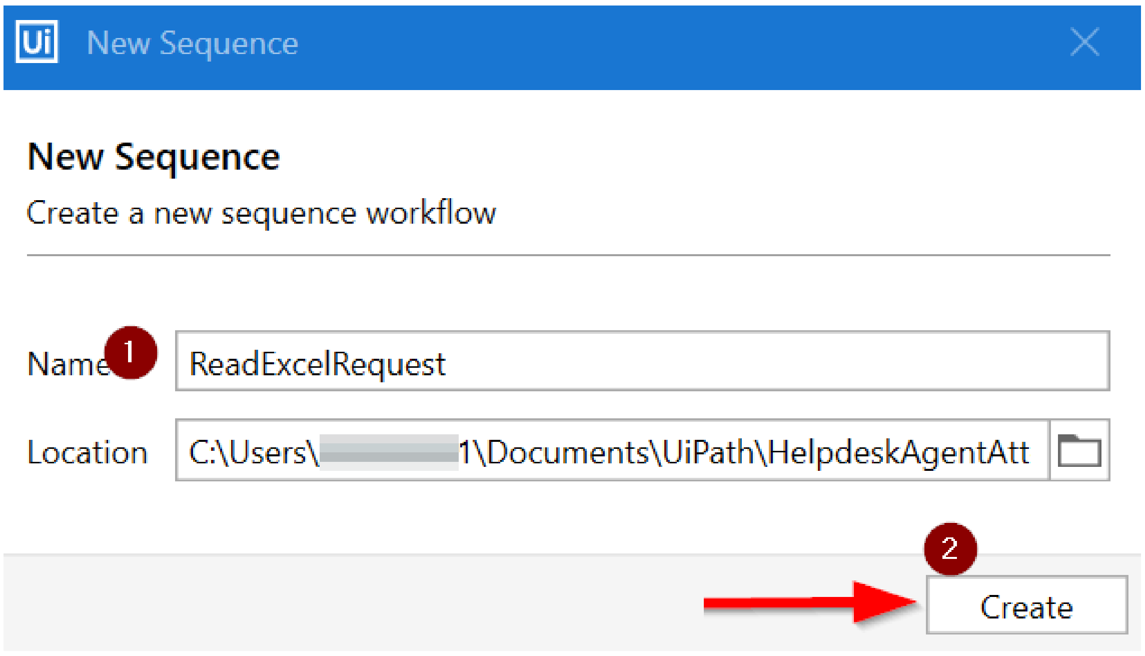
Reading from Excel

In this next workflow, we will pick up the Request Excel file from the folder we created, read the ticket data, and incorporate them in variables for the next workflow to process. This will help you get your feet wet with Excel-based automation:

1. Let's start by creating a new Sequence in the project. This will create a new workflow for us to work on:



2. Let's name it ReadExcelRequest and click Create. The studio will create a default sequence for you:



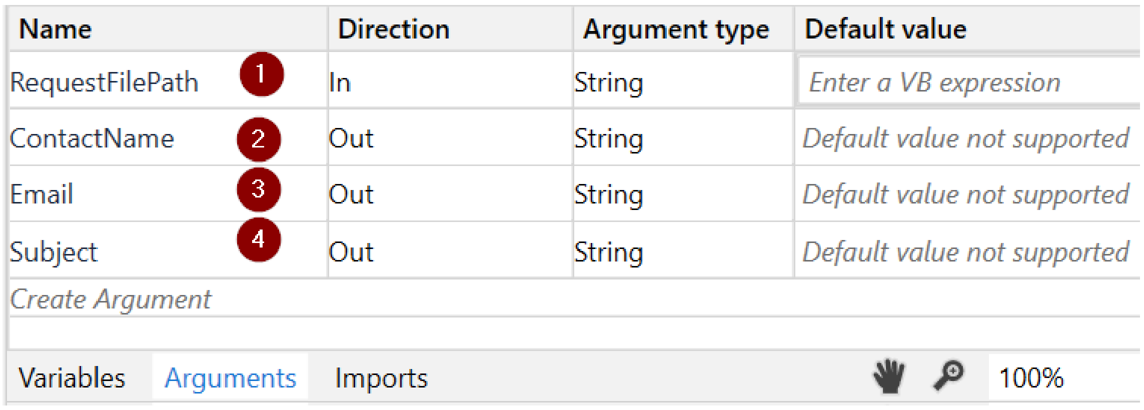
New Sequence

Create a new sequence workflow

Name: ReadExcelRequest

Location: C:\Users\ 1\Documents\UiPath\HelpdeskAgentAtt

3. Within the workflow, let's first add the arguments using the Arguments tab at the bottom of Studio (refer to the following information box). Arguments will enable us to input and output data from this workflow to the main workflow. Proceed and create four arguments, as shown in the following screenshot:



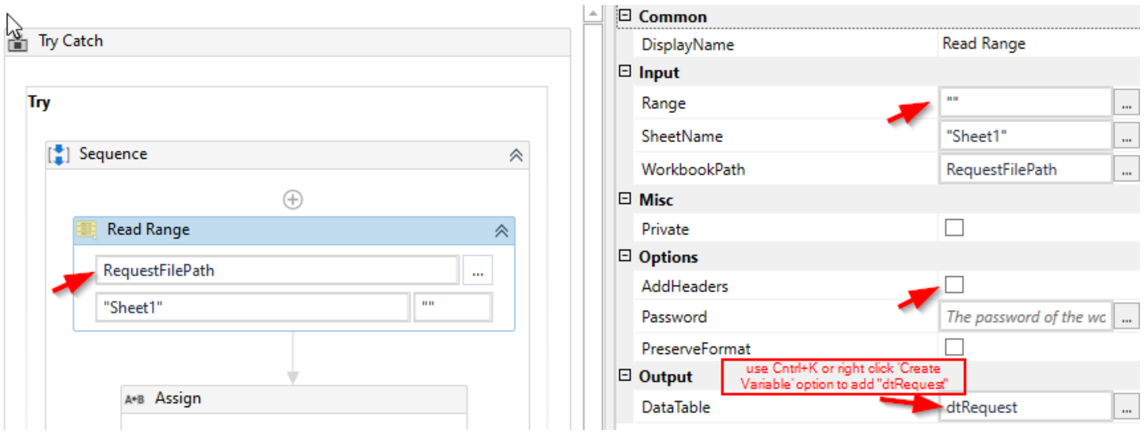
Name	Direction	Argument type	Default value
RequestFilePath 1	In	String	*Enter a VB expression*
ContactName 2	Out	String	*Default value not supported*
Email 3	Out	String	*Default value not supported*
Subject 4	Out	String	*Default value not supported*

Create Argument

Note Direction and Argument type.

The difference between a variable and an argument is that variables pass data to other activities, while arguments pass data to other workflows. The Arguments tab is next to the Variables tab at the bottom of the Studio screen.

4. We will always use a Try-Catch block to handle any exceptions gracefully. So, let's add the Try Catch activity to this sequence. Then, within the Try block, add the Read Range activity under Workbook to read the specified Excel file. The Read Range activity reads the value of a specified Excel range and stores it in a DataTable variable.
5. For the WorkbookPath, specify the RequestFilePath argument that we added in step 2. This argument should be populated with the path to Requests.xlsx when we invoke this workflow from Main. Your sequence and properties should look like this:



RequestFilePath
"Sheet1" ""

Common	
DisplayName	Read Range
Input	
Range	""
SheetName	"Sheet1"
WorkbookPath	RequestFilePath
Misc	
Private	☐
Options	
AddHeaders	☐
Password	The password of the wc
PreserveFormat	☐
Output	
DataTable	dtRequest

use Cntrl+K or right click 'Create Variable' option to add "dtRequest"

In the properties for the Read Range activities, perform the following steps:

- ◦ Remove the range to cover the entire sheet. To do that, add

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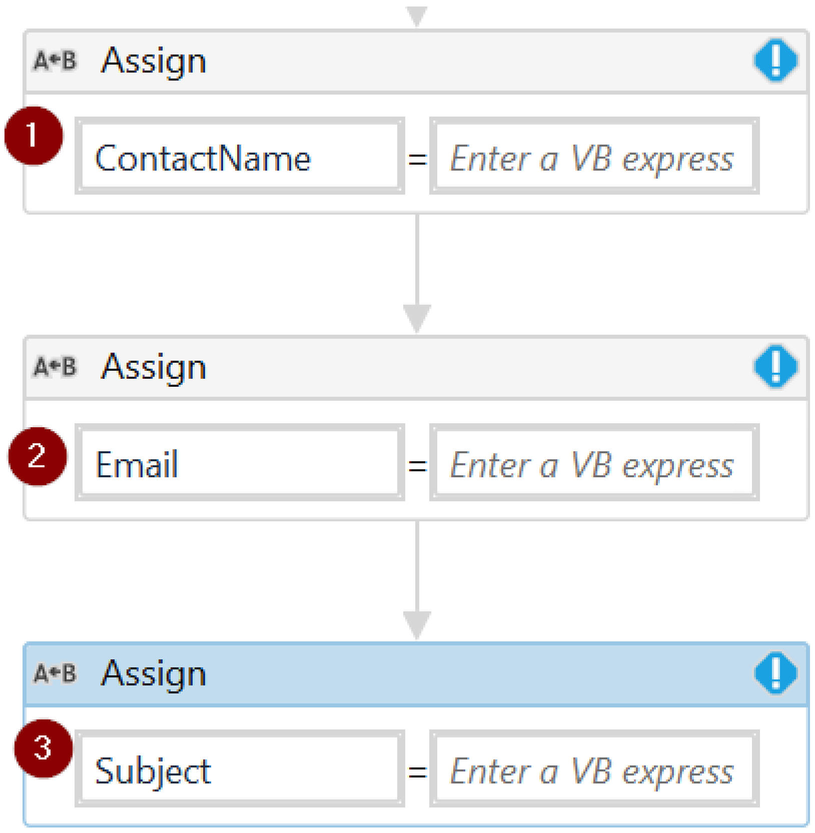
"" to the Range property on the right
pane.
```

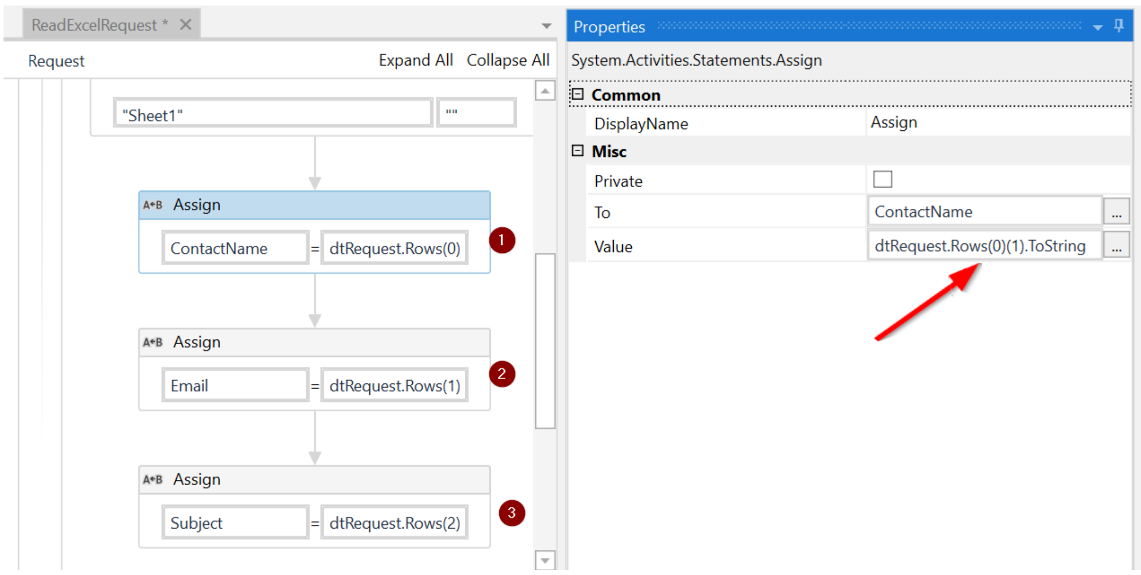
  - ▪ While there, uncheck the AddHeaders property as we don't have header in our input file.

- Add an Output variable to store the data table. Use *Ctrl *+ *K* to add the dtRequest variable within the DataTable property.

6. Next, we will use three Assign activities in the workflow to read from Excel and store the data for ContactName, Email, and Subject in respective arguments.
7. Use the arguments we just created on the left-hand side of the activity. You can start typing the argument names and the argument names should pop up for you to select:



8. We will use the dtRequest.Rows(row)(column) data table to read Excel values and map them to the arguments. For example, dtRequest.Rows(0)(1) means the first row and second column value in Excel. Since the output variable only accepts the values of the String type, we have to add .tostring at the end of this formula; for example, dtRequest.Rows(0)(1).ToString:


ReadExcelRequest *

Request Expand All Collapse All

"Sheet1" ""

Assign: ContactName = dtRequest.Rows(0) 1

Assign: Email = dtRequest.Rows(1) 2

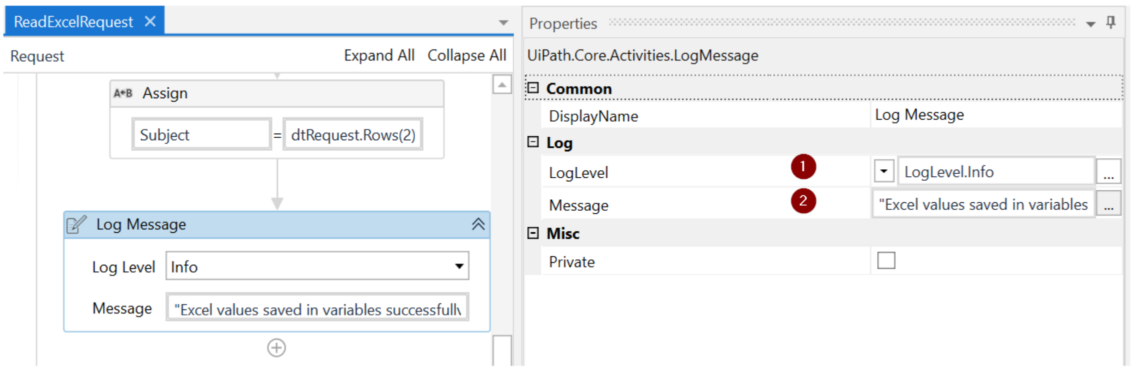
Assign: Subject = dtRequest.Rows(2) 3

Properties

System.Activities.Statements.Assign

Common	
DisplayName	Assign
Misc	
Private	☐
To	ContactName
Value	dtRequest.Rows(0)(1).ToString

9. After the Assign activities, add a Log Message activity to update the Excel read options in the system logs. This will help us to debug the workflow if needed:


ReadExcelRequest

Request Expand All Collapse All

Assign: Subject = dtRequest.Rows(2)

Log Message
Log Level: Info
Message: "Excel values saved in variables successfull\

Properties

UiPath.Core.Activities.LogMessage

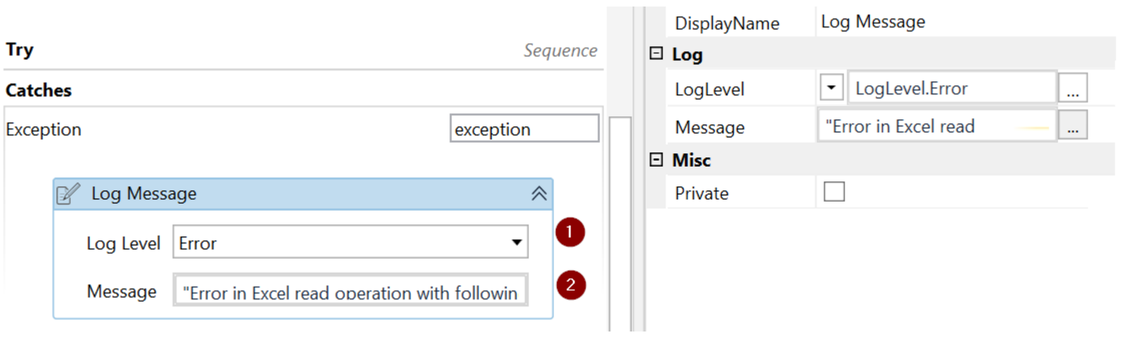
Common	
DisplayName	Log Message
Log	
LogLevel 1	LogLevel.Info
Message 2	"Excel values saved in variables
Misc	
Private	☐

That completes our Try block sequence. We will now add exception handling to the Catches block.

Exception handling

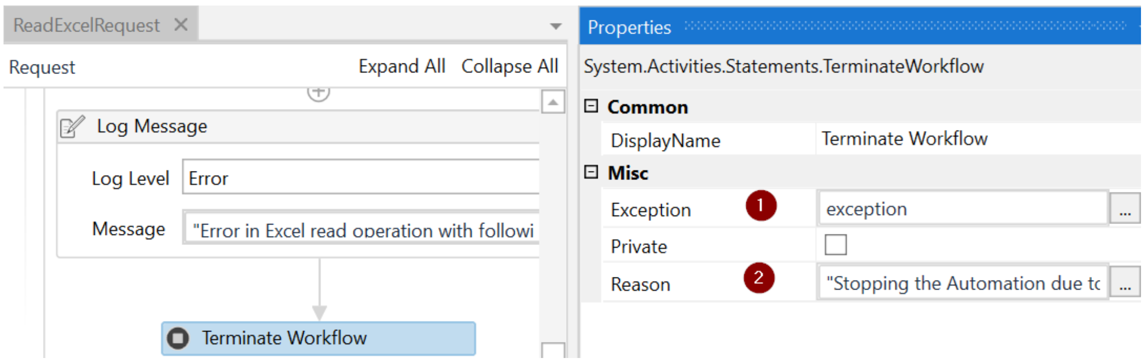
Let's handle any exceptions for this Excel automation:

1. For this, click on Add a new Catch in the Catches block beneath the Try block.
2. Choose exception as System.Exception and click the box next to it.
3. Also, add a Log Message activity to the catch block and add the following:
    - Error as the Log Level
    - "Error in Excel read operation with following exception: "+exception.Message" as the Message:


Try
Sequence
Catches
Exception: exception
Log Message
Log Level: Error
Message: "Error in Excel read operation with followin

DisplayName	Log Message
Log	
LogLevel	LogLevel.Error
Message	"Error in Excel read
Misc	
Private	☐

4. Finally, within the Catches block, add a Terminate Workflow activity to stop the automation if there are any exceptions:



Log Message
Log Level: Error
Message: "Error in Excel read operation with followi
Terminate Workflow

System.Activities.Statements.TerminateWorkflow

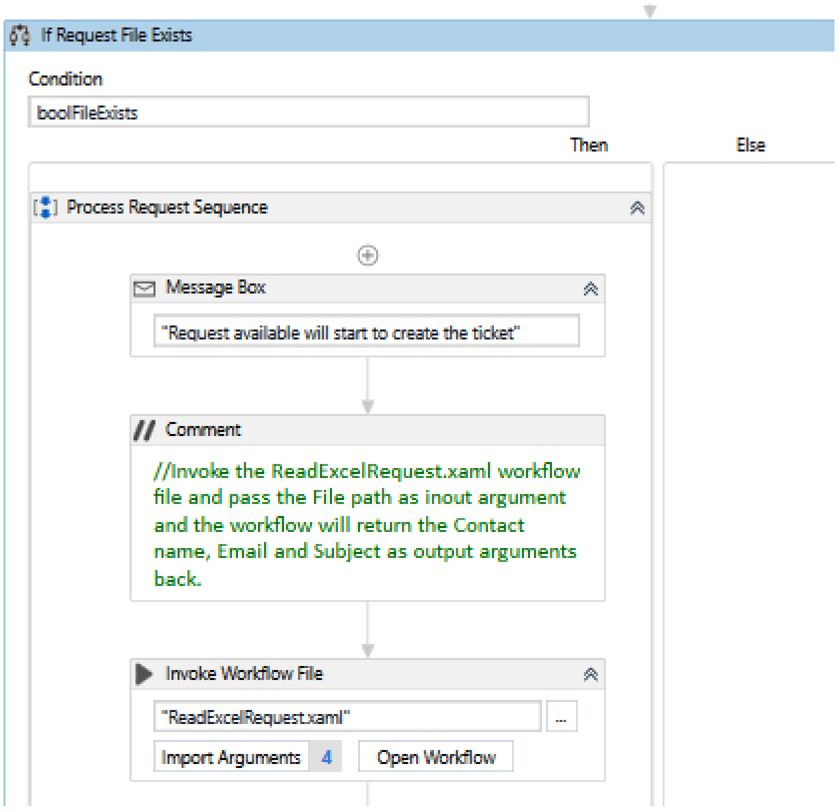
Common	
DisplayName	Terminate Workflow
Misc	
Exception	exception
Private	☐
Reason	"Stopping the Automation due tc

Great! This completes the ReadExcelRequest workflow where we read the Excel and stored the request data as arguments. Now, we will invoke this from the main workflow.

Invoking the Excel workflow from Main

Let's now go back to the Main sequence to invoke this newly created ReadExcelRequest workflow. If you recall, we added a message within the main workflow if there are requests available to process. Let's invoke the read Excel workflow right after that:

1. Let's add the Invoke Workflow File UiPath activity in the Then block of the If control:



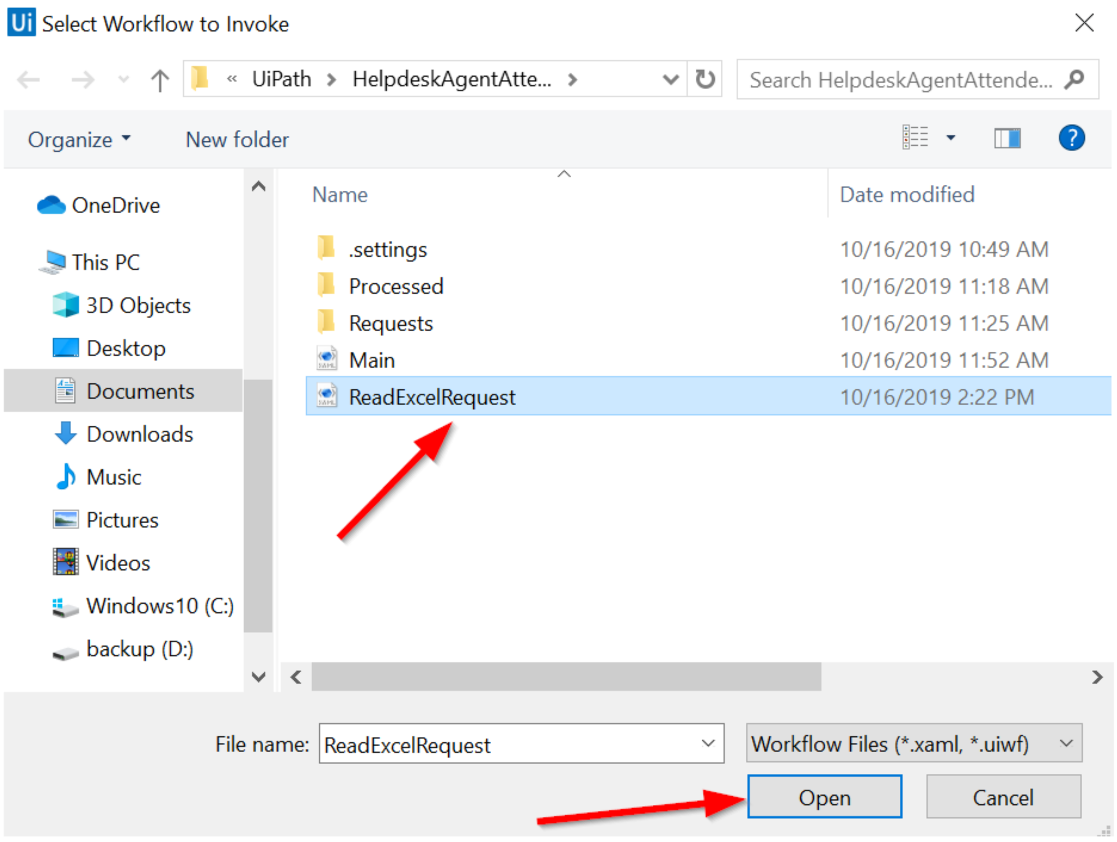
boolFileExists

"Request available will start to create the ticket"

//Invoke the ReadExcelRequest.xaml workflow file and pass the File path as inout argument and the workflow will return the Contact name, Email and Subject as output arguments back.

"ReadExcelRequest.xaml"

2. Let's populate this new activity with the ReadExcelRequest workflow path. To do that, click on the three dots on the right of the first parameter. Select the ReadExcelRequest.xaml file in your project folder:

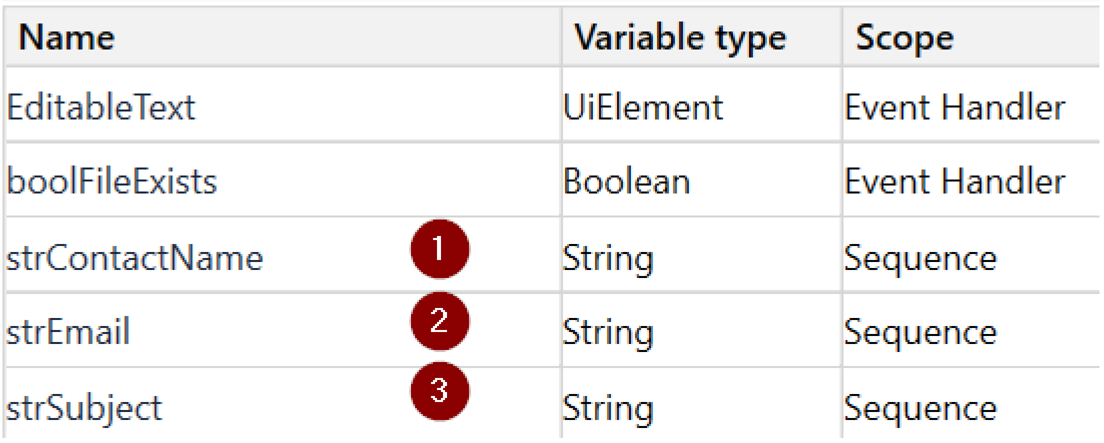


Name	Date modified
.settings	10/16/2019 10:49 AM
Processed	10/16/2019 11:18 AM
Requests	10/16/2019 11:25 AM
Main	10/16/2019 11:52 AM
ReadExcelRequest	10/16/2019 2:22 PM

File name: ReadExcelRequest

Workflow Files (*.xaml, *.uiwf)

3. Now, let's create three new variables to store the data that we would get from the ReadExcelRequest workflow. Go to the Variables pane at the bottom of Studio and add variables for contact name, email, and subject, as shown in the following screenshot:

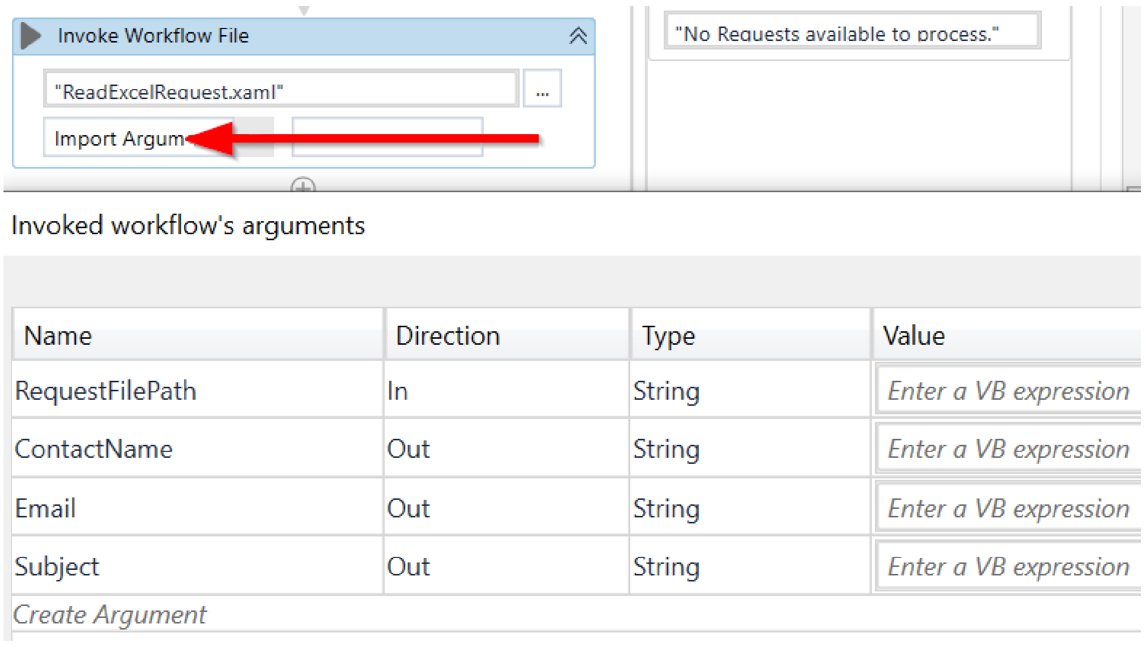


Name	Variable type	Scope
EditableText	UiElement	Event Handler
boolFileExists	Boolean	Event Handler
strContactName 1	String	Sequence
strEmail 2	String	Sequence
strSubject 3	String	Sequence

Note Variable type and Scope and ensure that you match what is shown.

Naming convention: Please use descriptive names for variables and arguments to enable easy understanding. We recommend that variables follow camel case, with the standard prefixed with the type of variable, for example, boolFileExists. Arguments can follow Pascal case; for example, ContactName.

4. If you recall, we had a few arguments in the ReadExcelRequest workflow to pass data back to Main. Let's now pass data by clicking on Import Arguments and mapping the data. For that, within the Invoked workflow's arguments window, let's perform the following steps:
   - Populate RequestFilePath with the path to the file: Environment.CurrentDirectory+"\Requests\Request.xlsx":

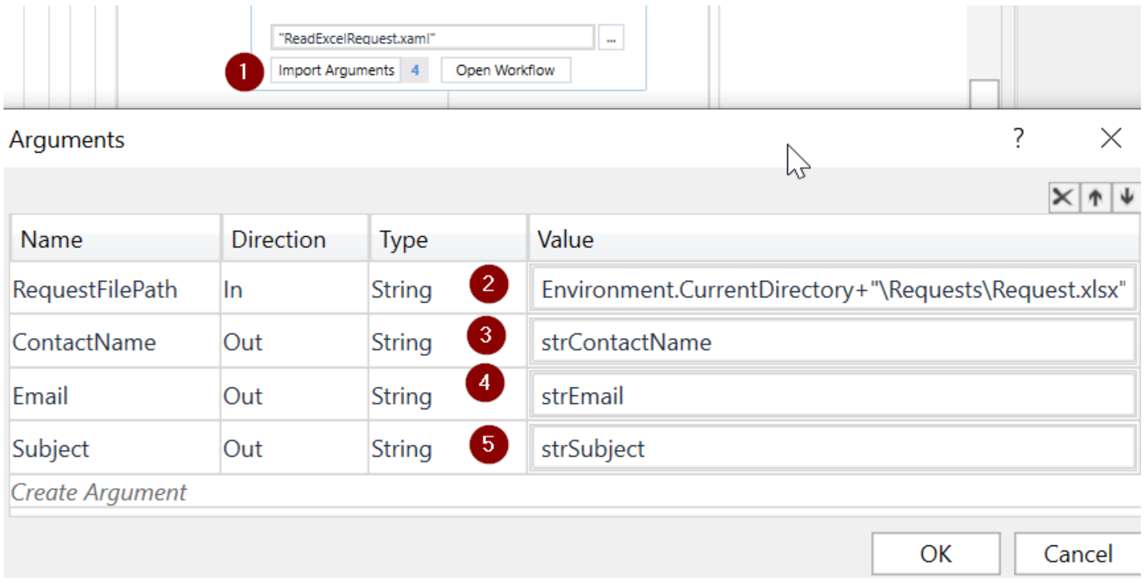


Invoked workflow's arguments

Name	Direction	Type	Value
RequestFilePath	In	String	*Enter a VB expression*
ContactName	Out	String	*Enter a VB expression*
Email	Out	String	*Enter a VB expression*
Subject	Out	String	*Enter a VB expression*
Create Argument			

- - Map the new variables we added previously to the respective

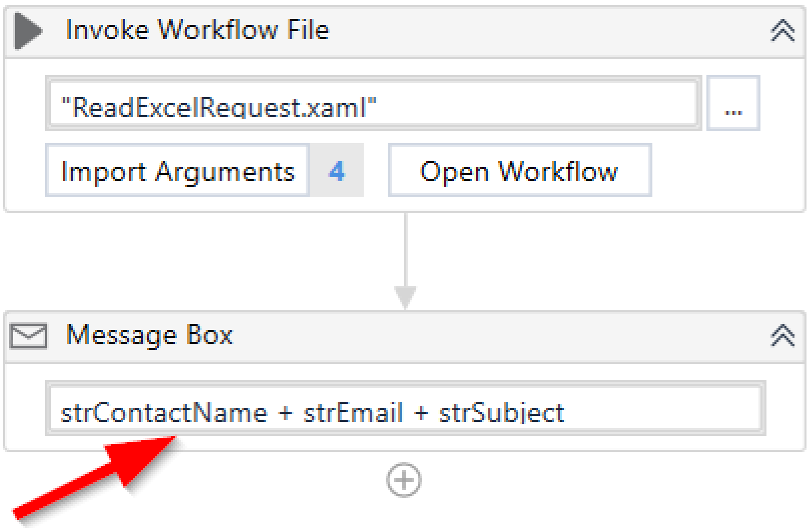
```
argument value:
```



Arguments

Name	Direction	Type		Value
RequestFilePath	In	String	2	Environment.CurrentDirectory+"\Requests\Request.xlsx"
ContactName	Out	String	3	strContactName
Email	Out	String	4	strEmail
Subject	Out	String	5	strSubject
Create Argument				

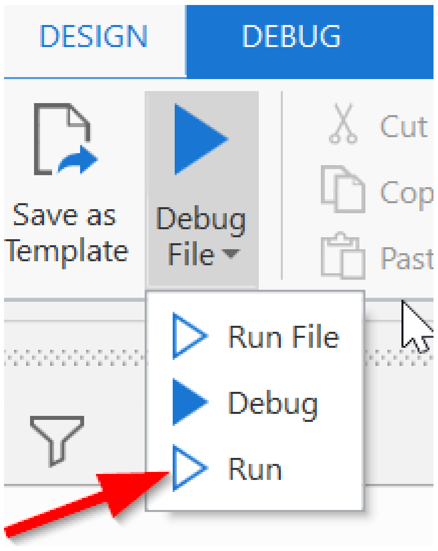
5. Since this is a learning exercise, let's add a message box to display ContactName, Email, and Subject for us to establish whether the bot got it right:



"ReadExcelRequest.xaml"

strContactName + strEmail + strSubject

6. Let's now perform a quick test of the workflow so far. Click on Run to run this main workflow. Please ensure that your Excel file is closed before you run the workflow:



You should get the initial message that we added: Agent Ready. Press *Alt* + *s* to trigger Automation. Click OK on this message box to acknowledge and press *Alt* + *S* to start the bot. Next, you should get the second message that there is a Request file to process and so to proceed with ticket creation. Finally, when it runs successfully, we can expect the message box with the name, email, and subject content that we added in the steps we just completed.

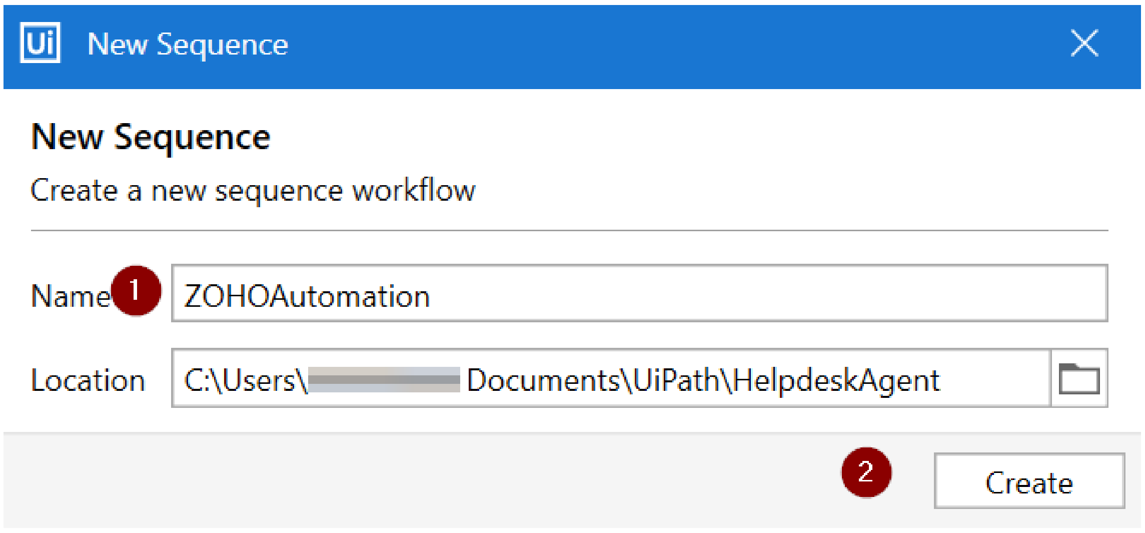
Automation will always continue to run by default. Therefore, please click on the Studio Stop button to stop the bot.

We have now completed the part where we read the data from the Request spreadsheet and are now ready to take this data and create our support ticket. Let's go!

Creating a support ticket in the Zoho Desk ticketing system

In this final workflow that we will create for this project, we will use the data read from the Requests file to create the support ticket within Zoho Desk. This will help us understand how we can automatically input data into web applications through web application screens. Let's perform the following steps:

1. We'll start by creating another sequence for Zoho web app automation. You can call it ZOHOAutomation:



New Sequence

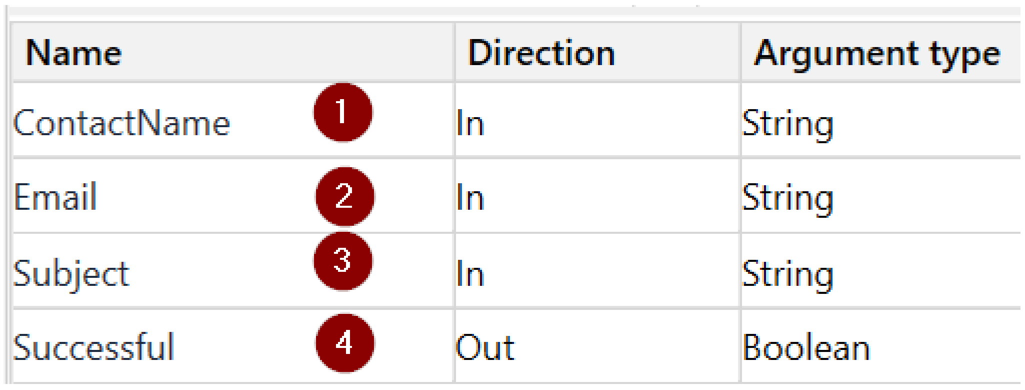
New Sequence

Create a new sequence workflow

Name: ZOHOAutomation

Location: C:\Users\[redacted]Documents\UiPath\HelpdeskAgent

2. Within the UiPath default workflow, let's add a Try Catch activity. Let's also add four arguments, as shown in the following screenshot, to pass the data around:



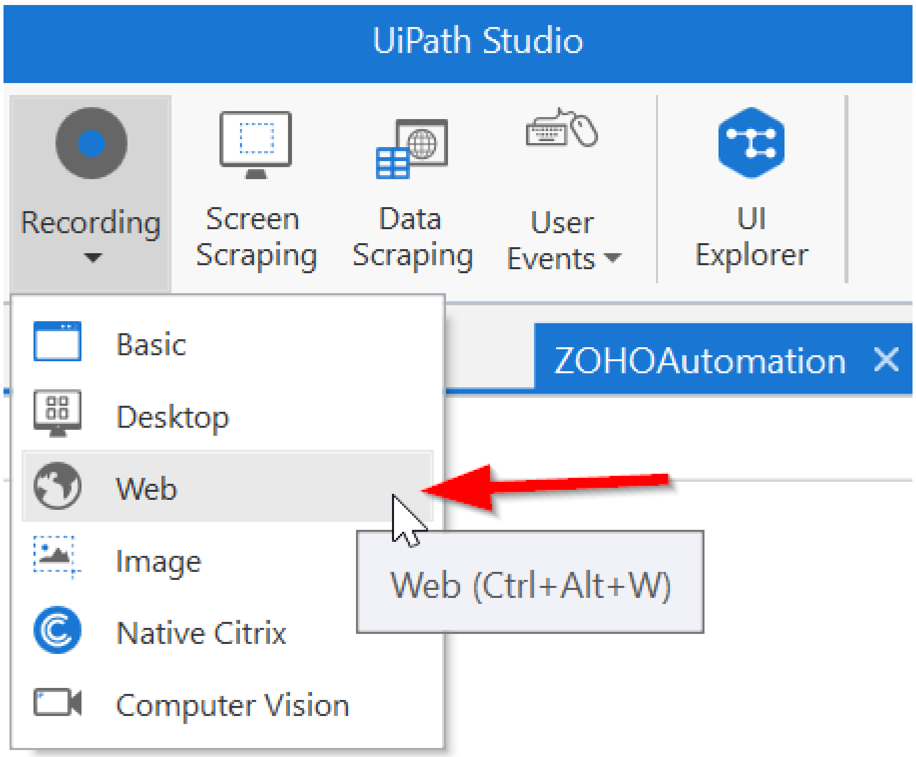
Name	Direction	Argument type
ContactName	In	String
Email	In	String
Subject	In	String
Successful	Out	Boolean

Ensure that you match Direction and Argument type.

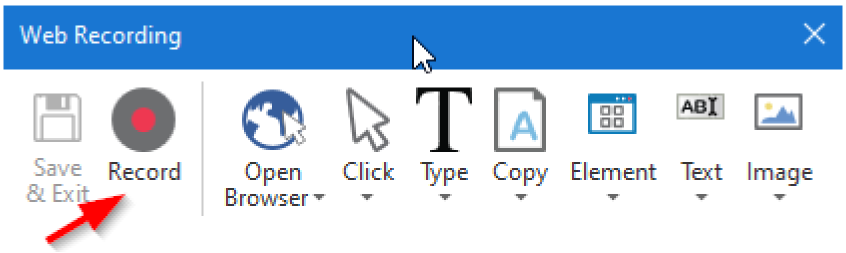
3. Next, we will use the UiPath web recorder to record the steps to enter the Ticket data in Zoho and create a new ticket. First, go to your Chrome browser and ensure that the Zoho Desk home page is open in one of the tabs. Also, ensure that you have installed the UiPath add-on for Chrome in your Chrome browser. It is available on the Chrome App store.

UiPath has a recorder that allows you to record mouse clicks and keyboard sequences to automatically generate UiPath scripts. You can also add these activities by yourself, but the recorder is a much faster way to create these sequences. Hence, we like to show you how you can do it.

4. Click within the Try block and activate the web recorder by clicking on the Web recorder option within Recording:



5. UiPath opens a web recording panel to control the recording. Click on the Record button with the Zoho Desk browser tab open:

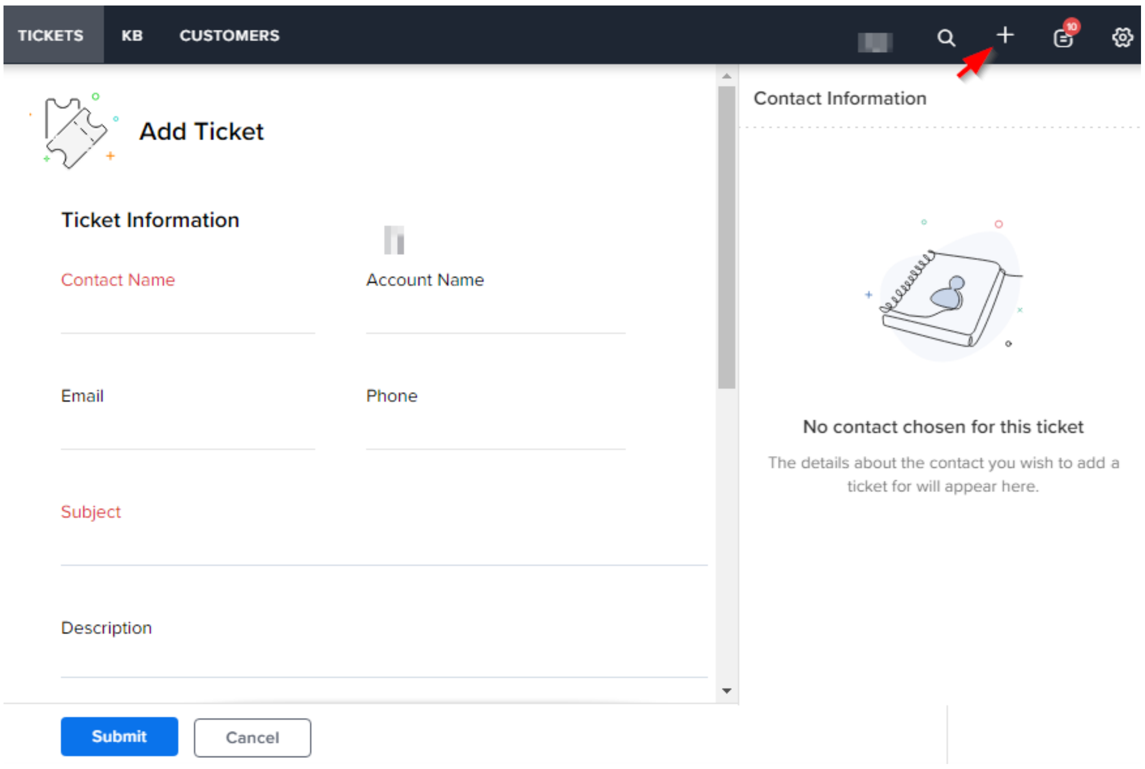


Now that we have the recording set up and ready, let's record the actions to create a ticket in Zoho.

Recording ticket creation activities

On the Zoho desk browser tab, perform the following actions to enable the UiPath recorder to record:

1. Click on the + symbol to create a new ticket (at the top right of the Zoho desk screen):


TICKETS KB CUSTOMERS

Add Ticket

Ticket Information

Contact Name

Account Name

Email

Phone

Subject

Description

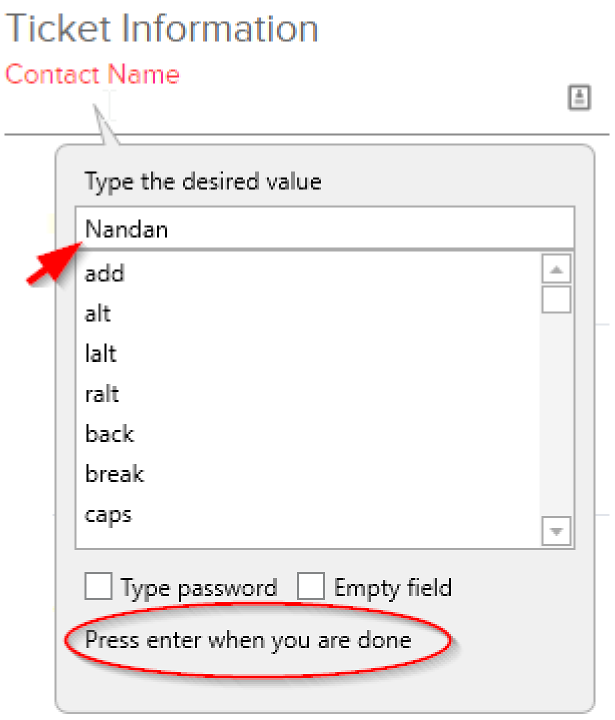
Submit Cancel

Contact Information

No contact chosen for this ticket

The details about the contact you wish to add a ticket for will appear here.

2. On the new TICKETS screen, type a contact name followed by the *Enter* key on your keyboard:


Ticket Information

Contact Name

Type the desired value

Nandan

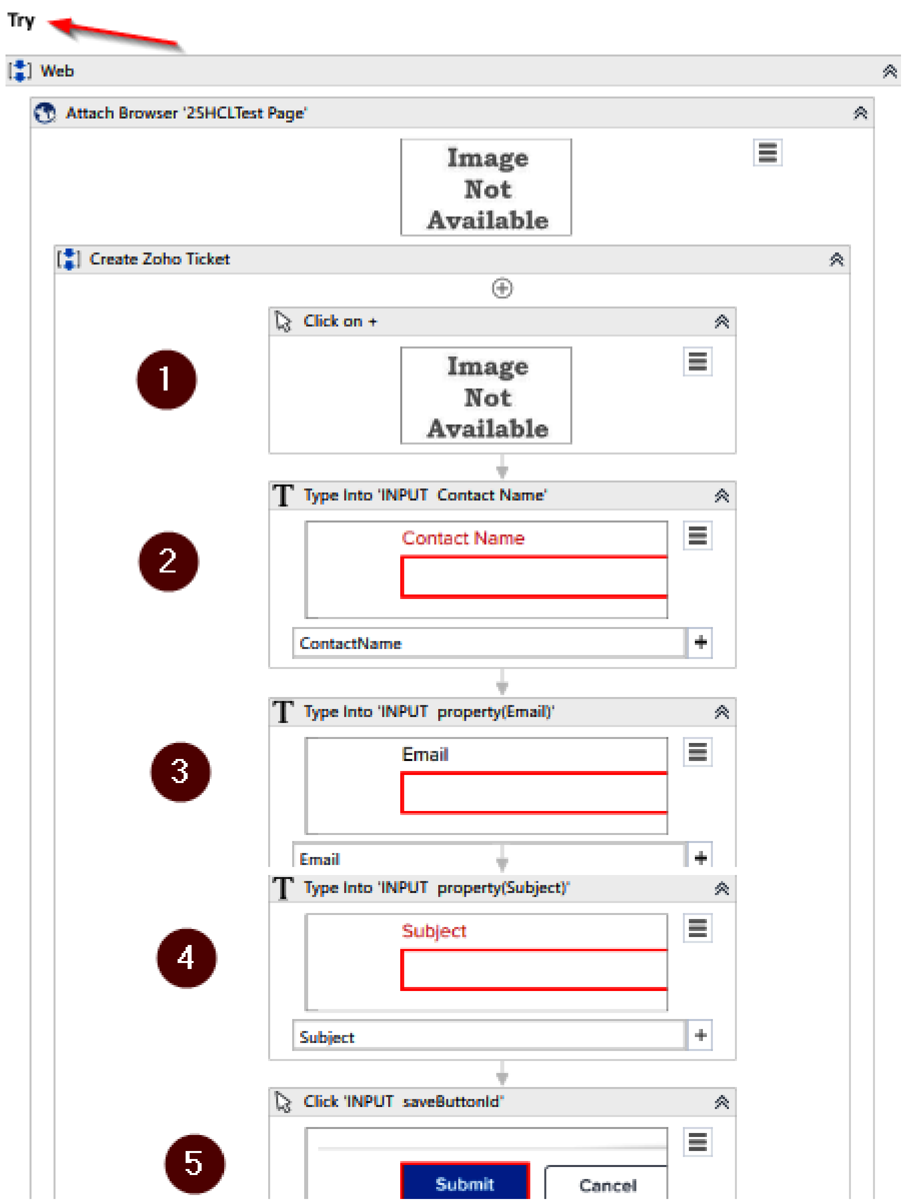
add
alt
lalt
ralt
back
break
caps

Type password Empty field

Press enter when you are done

3. Similarly, type an email followed by the *Enter* key.
4. Type a subject followed by the *Enter* key.
5. Click on the Submit button on the Zoho Add Ticket screen.

6. Once you perform all the preceding steps, use the Windows *Esc* key to stop the recording. Then, click on Save & Exit on the UiPath web recording panel.
7. You may occasionally find the recorded steps outside the Try block. Move the recorded activity into the Try block if that is the case. Your workflow should look like the following:


Try
Web
Attach Browser '25HCLTest Page'
Image Not Available
Create Zoho Ticket
1
Click on +
Image Not Available
2
Type Into 'INPUT Contact Name'
Contact Name
ContactName
3
Type Into 'INPUT property(Email)'
Email
Email
4
Type Into 'INPUT property(Subject)'
Subject
Subject
5
Click 'INPUT saveButtonId'
Submit
Cancel

Now that we have the recorded activities, let's configure them for our automation.

Configuring the recorded activities

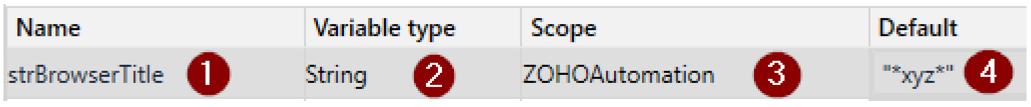
We will now update the recorded activities as required to complete the ticket data input. Let's start with the browser title name:

1. You can see that the recorder has created an Attach Browser activity. This uses the browser title to attach to the browser tab and perform the recorded actions.

In our case here, the browser title is dynamic because there is a ticket number in it. So, we will need to use wildcards to attach to the browser tab. If your browser tab for the Zoho desk is "123zyx", we will just use "*xyz*" with wildcards on both sides.

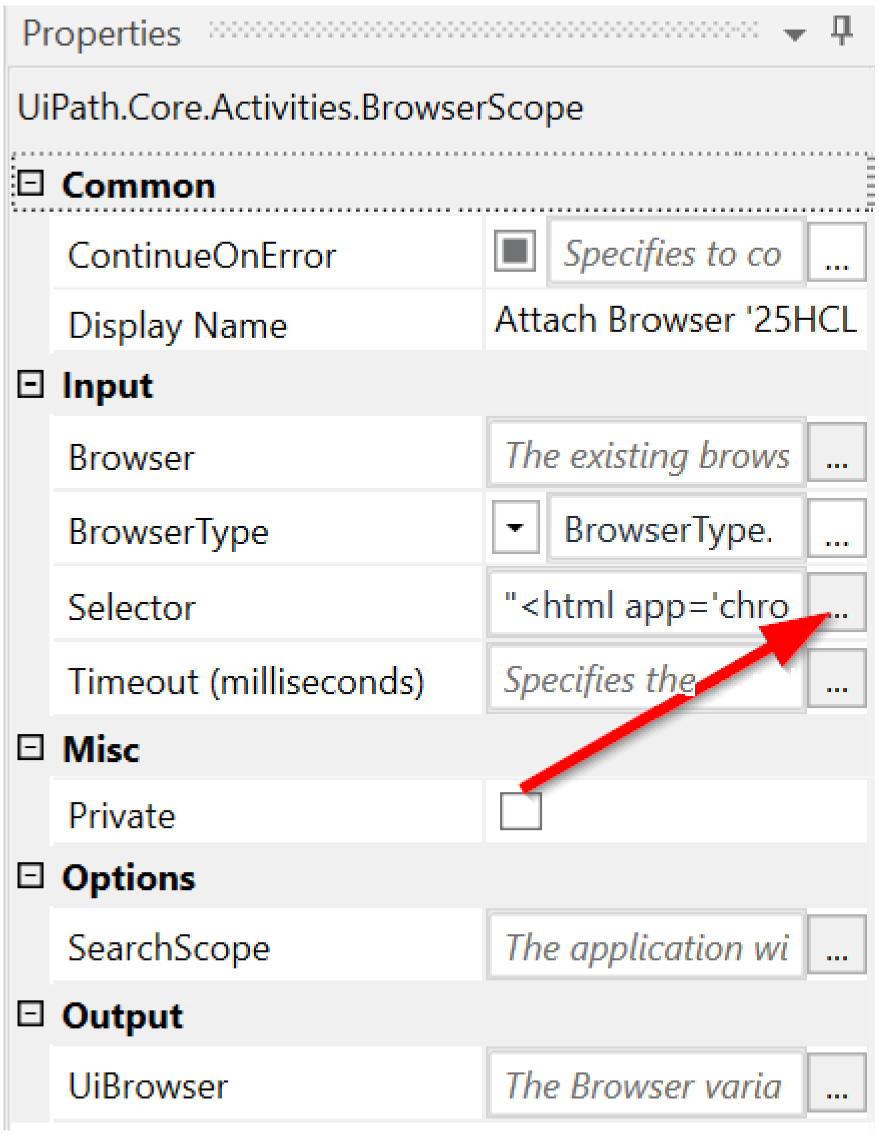
Wild characters: It is good practice to use wild characters such as * (one or more characters) or ? (any single character) in the browser selectors if we know that the index, prefix, or postfix will dynamically change during execution.

Since we may need the browser title in other activities, let's define a variable called strBrowserTitle and add this as a default value, as shown in the following screenshot:



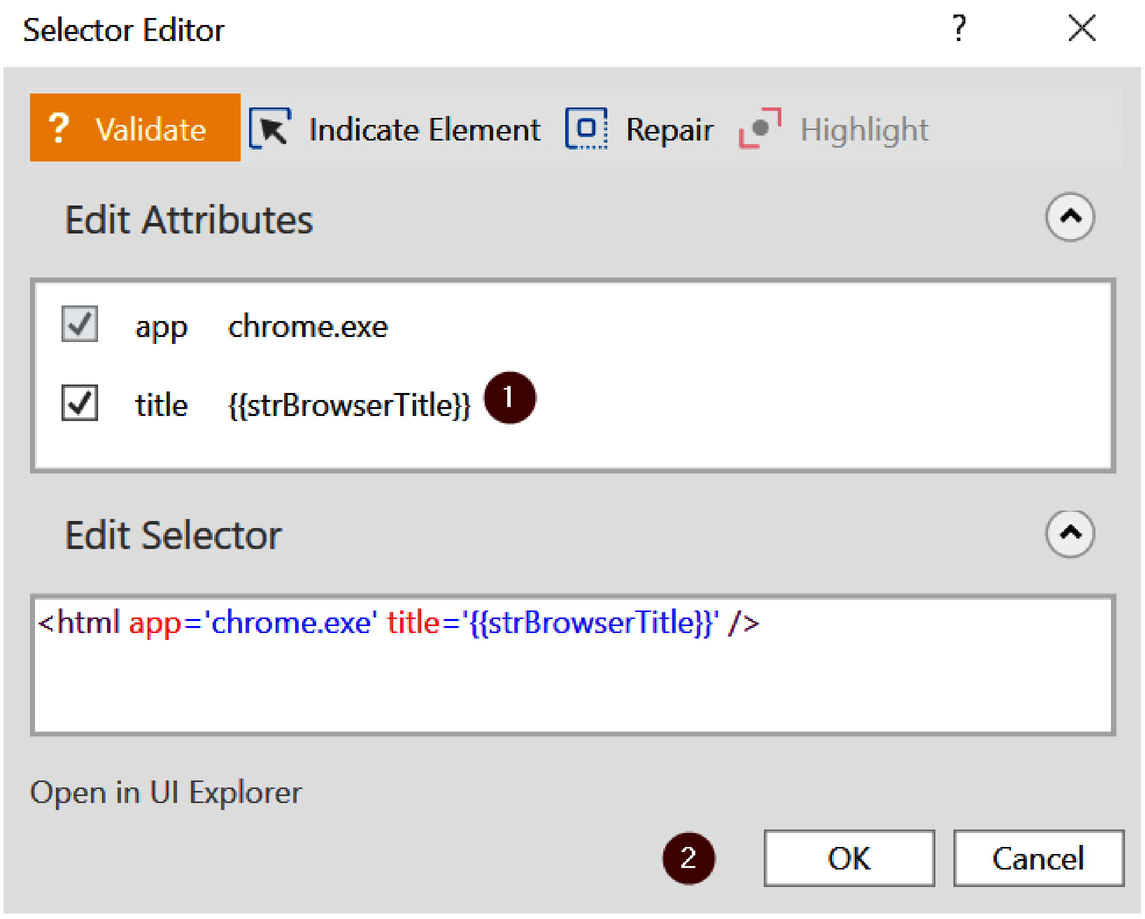
Name	Variable type	Scope	Default
strBrowserTitle 1	String 2	ZOHOAutomation 3	"*xyz*" 4

2. Now, let's update the Attach Browser activity that the recorder added for us with the browser title variable. Click on the Attach Browser activity within the Try block. In the properties panel on the right, click on the option to update the Selector:



Properties	
UiPath.Core.Activities.BrowserScope	
Common	
ContinueOnError	*Specifies to co*
Display Name	Attach Browser '25HCL
Input	
Browser	*The existing brows*
BrowserType	BrowserType.
Selector	"<html app='chro
Timeout (milliseconds)	*Specifies the*
Misc	
Private	☐
Options	
SearchScope	*The application wi*
Output	
UiBrowser	*The Browser varia*

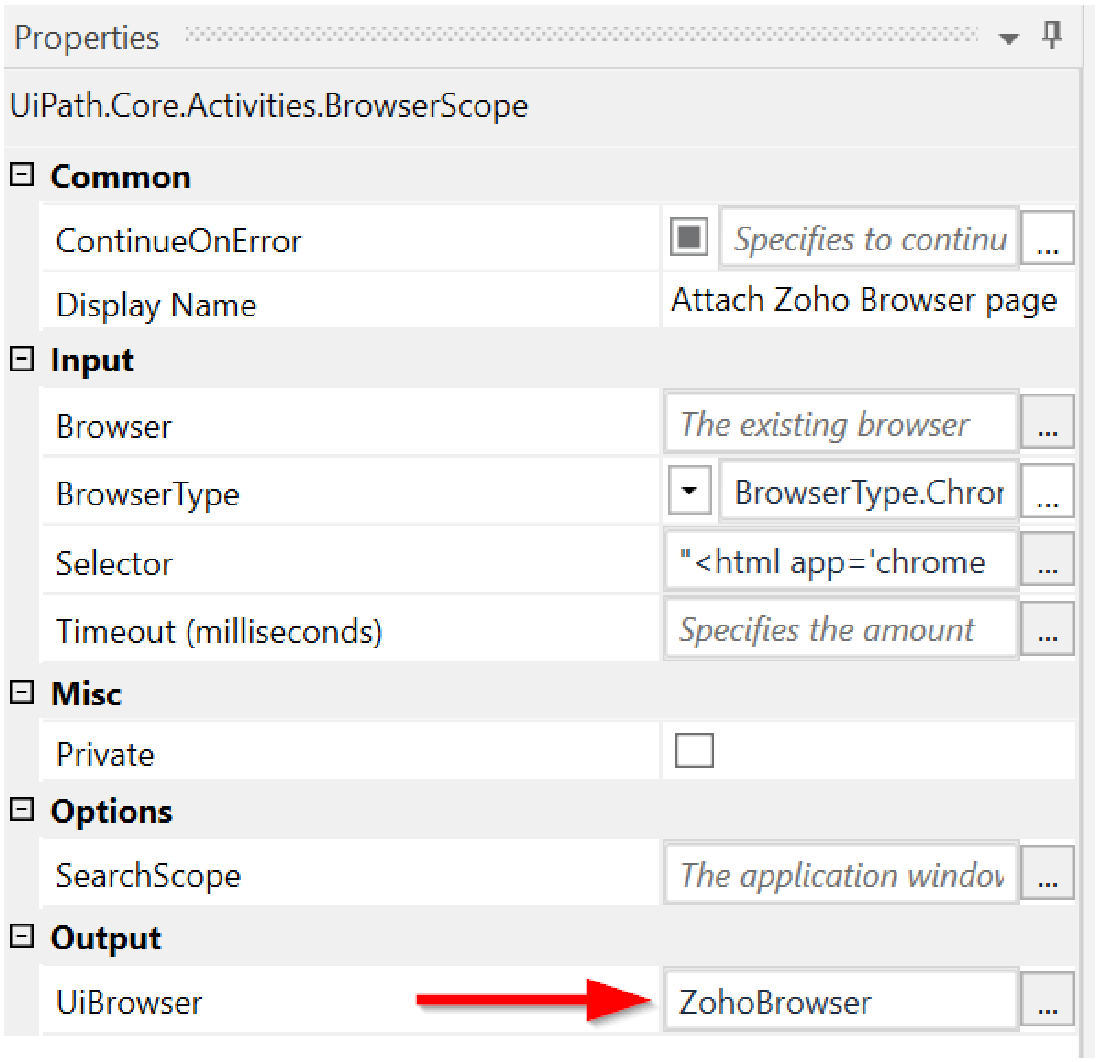
3. In the Selector Editor window that pops up, click on title to update with the newly created strBrowserTitle variable, as shown in the following screenshot:



app	chrome.exe
title	{{strBrowserTitle}}

```
<html app='chrome.exe' title='{{strBrowserTitle}}' />
```

4. Let's also add a new variable within the UiBrowser output property for the Attach Browser activity. We will call it ZohoBrowser and set its scope to ZOHOAutomation. We will use this variable to handle exceptions later in the workflow. You can use *Ctrl* + *K* to add the variable and set the scope, or you can add it directly to the variables pane in Studio:

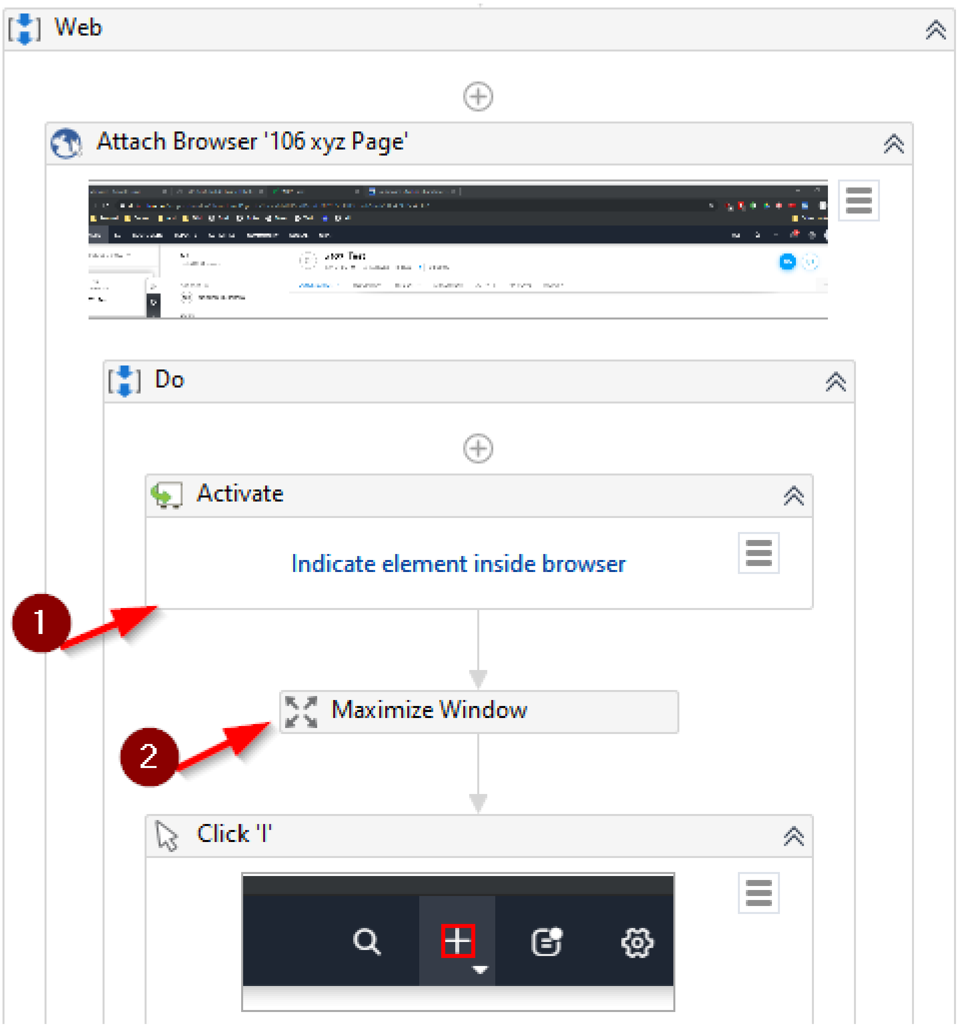

Properties

UiPath.Core.Activities.BrowserScope

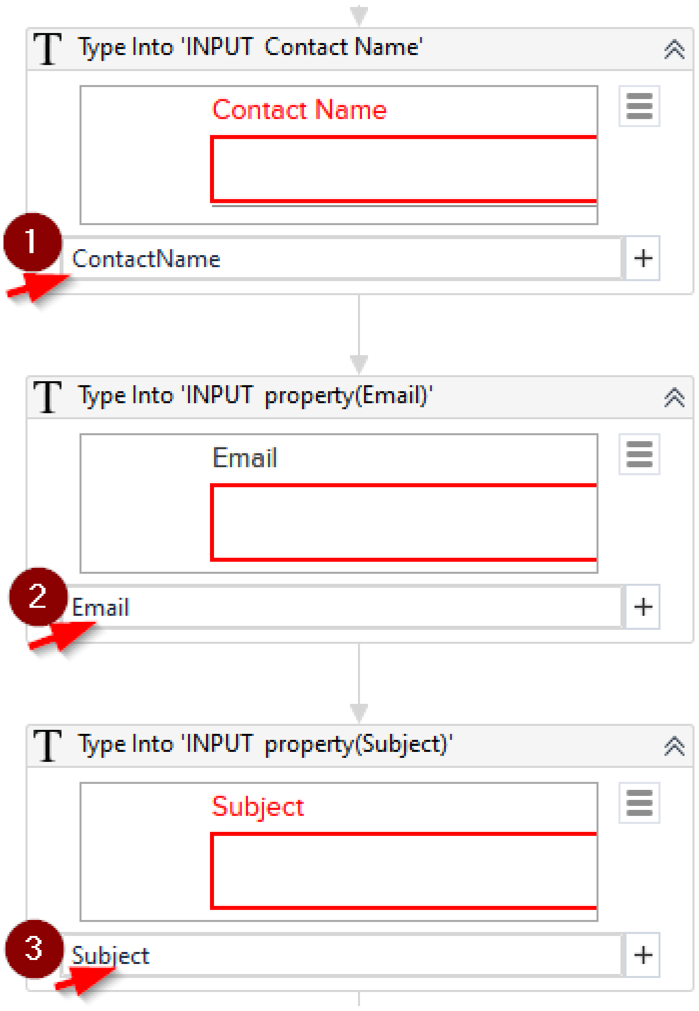
Common	
ContinueOnError	Specifies to continu
Display Name	Attach Zoho Browser page
Input	
Browser	The existing browser
BrowserType	BrowserType.Chror
Selector	"<html app='chrome
Timeout (milliseconds)	Specifies the amount
Misc	
Private	☐
Options	
SearchScope	The application windov
Output	
UiBrowser	ZohoBrowser

It is best practice to use a Browser variable when you attach the browser, so as to pass the control around during web automation. In our case, we will use this variable in the error handling sequence, as we will use the same browser session to perform error handling.

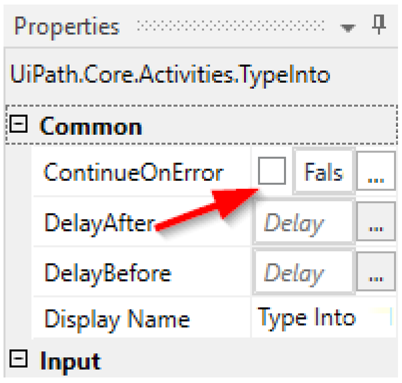
5. Next, let's activate the specific browser window by using the Activate UiPath activity. Add the Activate activity, click on Indicate element inside browser, and then click on the Chrome browser title. Let's also maximize the browser window if it's not already maximized. For that, let's use the Maximize Window UiPath activity:


Web
Attach Browser '106 xyz Page'
Do
Activate
Indicate element inside browser
1
Maximize Window
2
Click 'I'

6. To pass the ticket data to the Zoho desk fields that we recorded, let's replace the recorded text here with argument variables for Contact Name, Email, and Subject:


Type Into 'INPUT Contact Name'
Contact Name
1
ContactName
Type Into 'INPUT property(Email)'
Email
2
Email
Type Into 'INPUT property(Subject)'
Subject
3
Subject

7. Let's also set the ContinueOnError flag to False in the Properties panel for these three activities so that we can stop execution and handle them if there are errors:


Properties

UiPath.Core.Activities.TypeInto

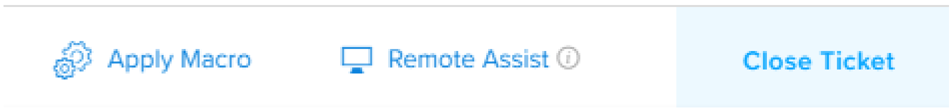
Common	
ContinueOnError	Fals
DelayAfter	Delay
DelayBefore	Delay
Display Name	Type Into
Input	

That is all the updates we require in order to make to the recording. Let's now check whether the ticket was created successfully.

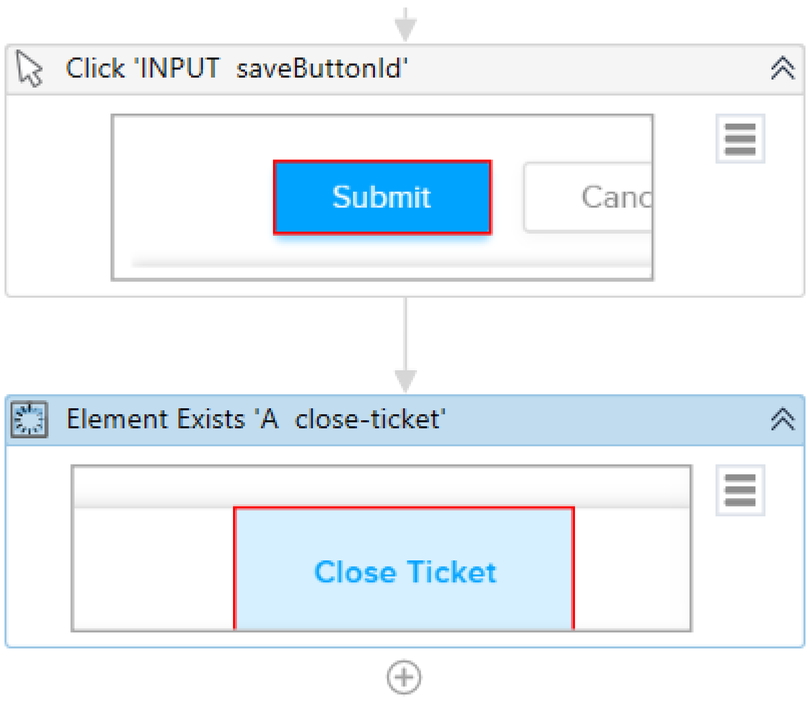
Validating successful ticket creation

By way of a final step in this ticket creation automation, let's ensure that the ticket was added successfully:

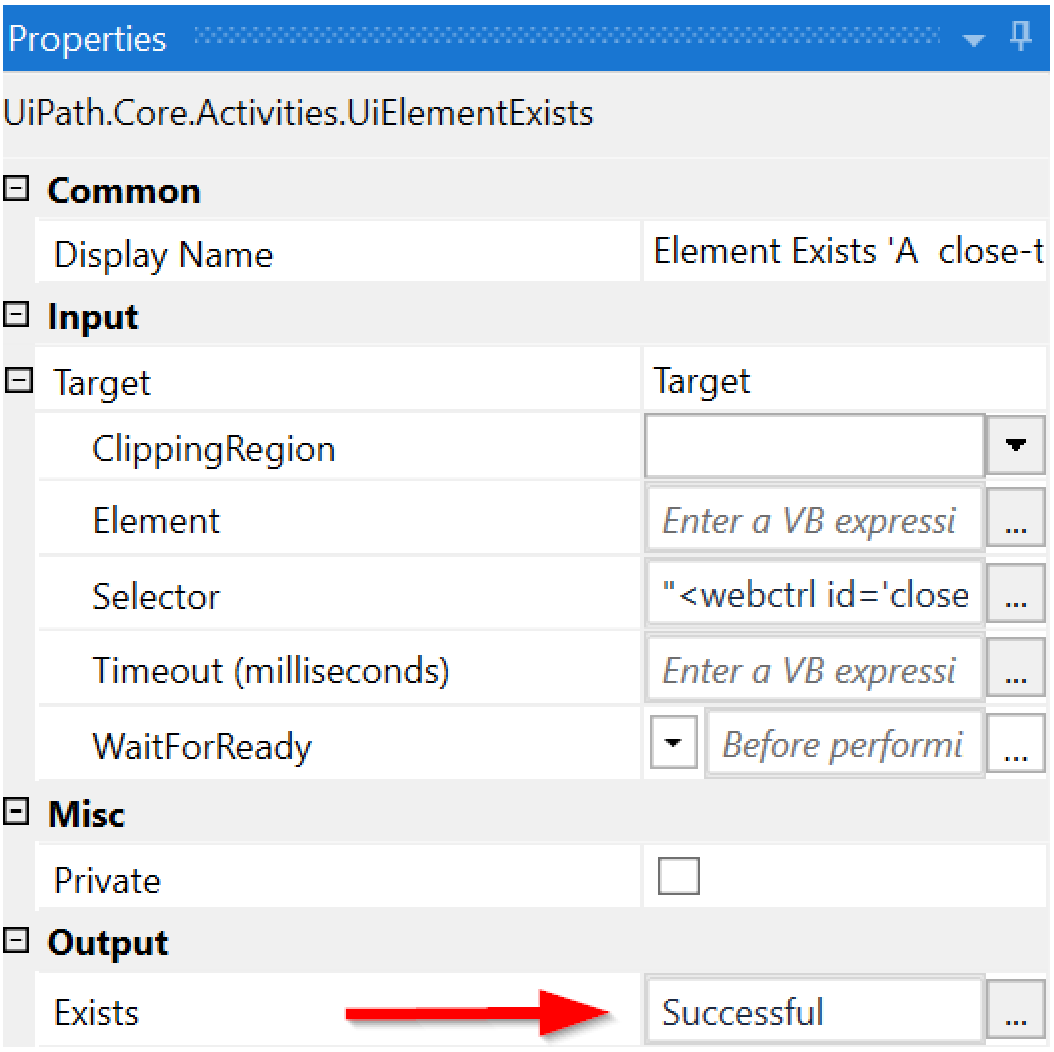
1. To do this, let's check whether Zoho Desk moved to the next page by checking whether the Close Ticket option is on screen.
2. Since our ticket is already created (during our record sequence), go back to the Zoho ticket application in Chrome and click on the newly created ticket. You should now see the Close Ticket option at the bottom of the screen:



3. To check for the element, let's add an Element Exists activity within the ZohoAutomation workflow. Within the added activity, click on Indicate element in the browser and choose Close Ticket in the bottom-right corner of the Zoho ticket details screen:



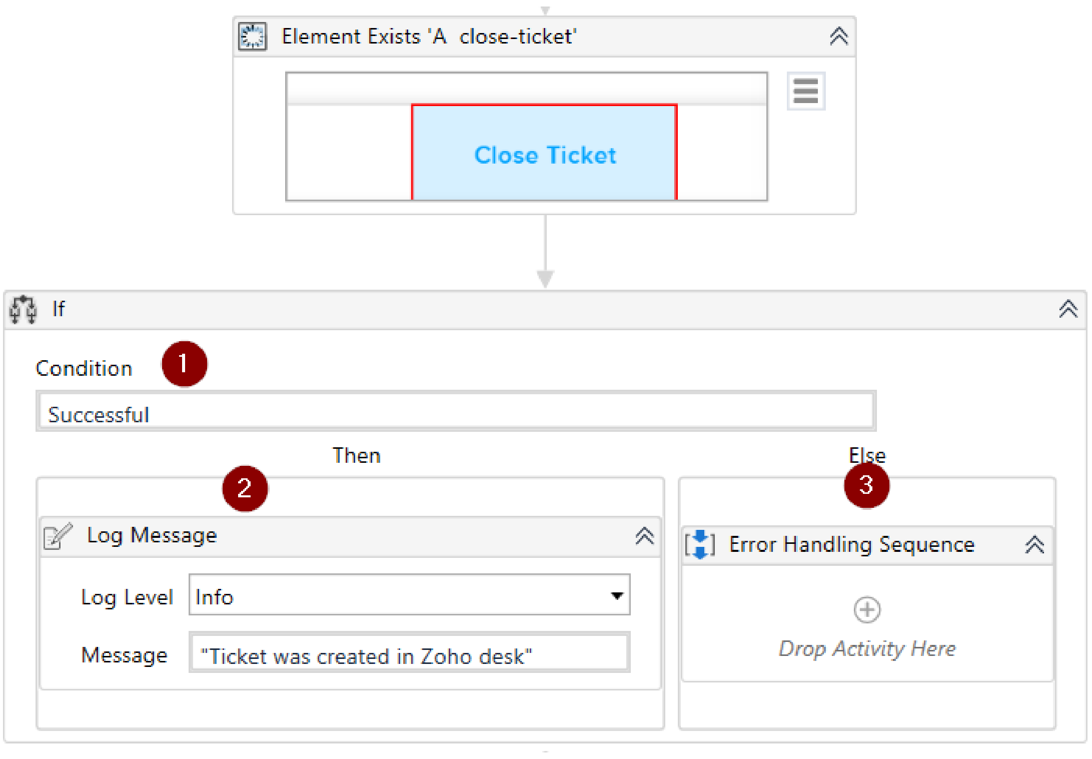
4. Also, go to the Properties window (on the right pane) of this Element Exists activity and add the Successful argument as output:


Properties

UiPath.Core.Activities.UiElementExists

Common	
Display Name	Element Exists 'A close-t
Input	
Target	Target
ClippingRegion	
Element	*Enter a VB expressi*
Selector	"<webctrl id='close
Timeout (milliseconds)	*Enter a VB expressi*
WaitForReady	*Before performi*
Misc	
Private	☐
Output	
Exists	Successful

5. Let's now check whether the ticket was added successfully. Let's add an If activity to check for the Close Ticket element.
6. If the element exists, we will log a message to say Ticket was created in Zoho desk. Use the Log Message activity for that.
7. If the element does not exist, this means that we have a functional error (for example, there was no data in the sheet) and the ticket could not be created. In this scenario, let's log an error message indicating that the ticket could not be created. For that, add a new Sequence activity within the Else part. Within Sequence, add a Log Message activity with the Log Level Error and a Message box with a "Ticket Not created in Zoho desk" message:



Condition: Successful

Log Level: Info

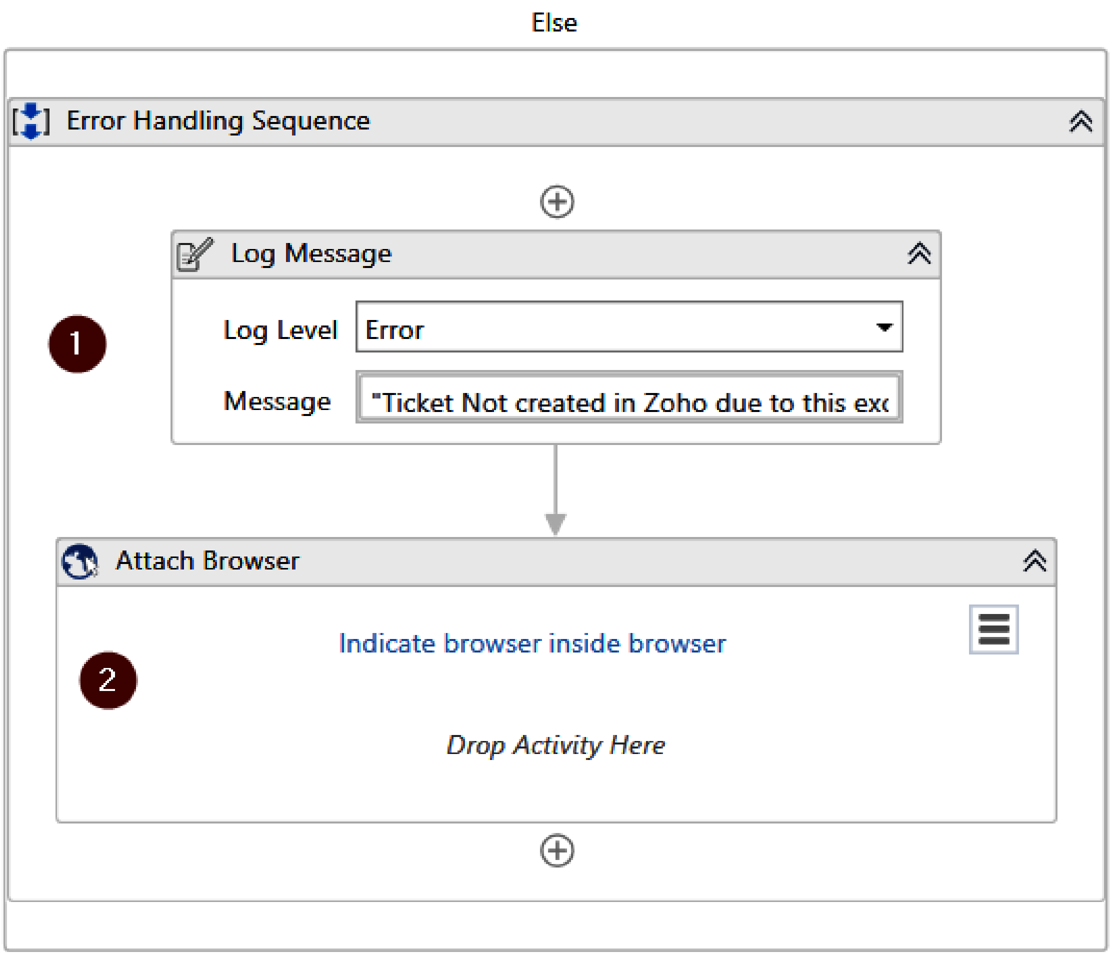
Message: "Ticket was created in Zoho desk"

We checked for the successful creation of the ticket. Let's now handle any exception scenarios.

Handling exceptions

If there is an unexpected exception or error, then the bot should ensure that we bring the target application to a stable state where it can proceed with the next transactions. The following few steps guarantee this:

1. Within the Else block, to ensure that the target application is in a stable state, we will attach an element on the screen to the browser. Let's add a new Attach Browser activity to handle the error handling activity in the already opened Chrome browser:


Else

Error Handling Sequence

Log Message

Log Level: Error

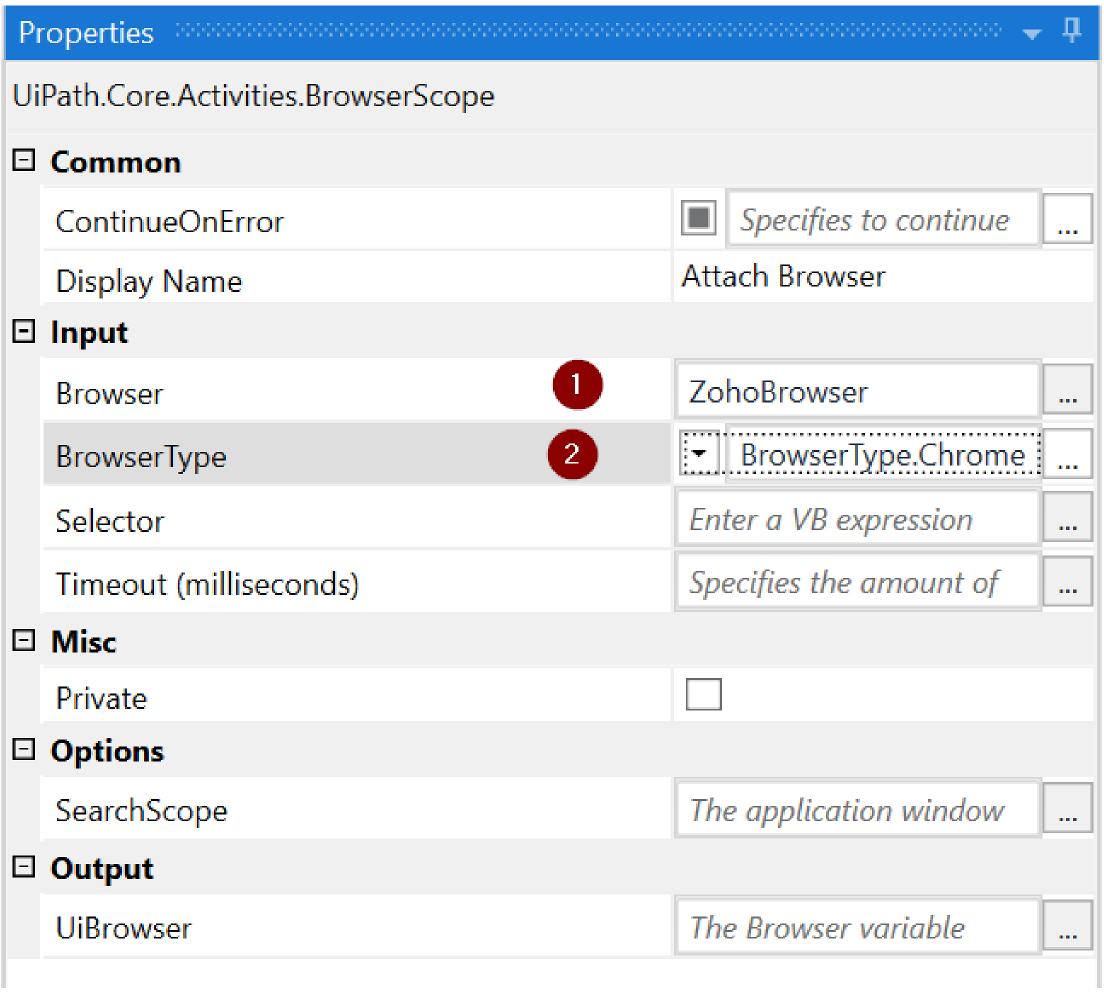
Message: "Ticket Not created in Zoho due to this exc

Attach Browser

Indicate browser inside browser

Drop Activity Here

2. On the properties side of Attach Browser, update Browser with the ZohoBrowser variable and set the BrowserType as Chrome to continue to use the same browser session:

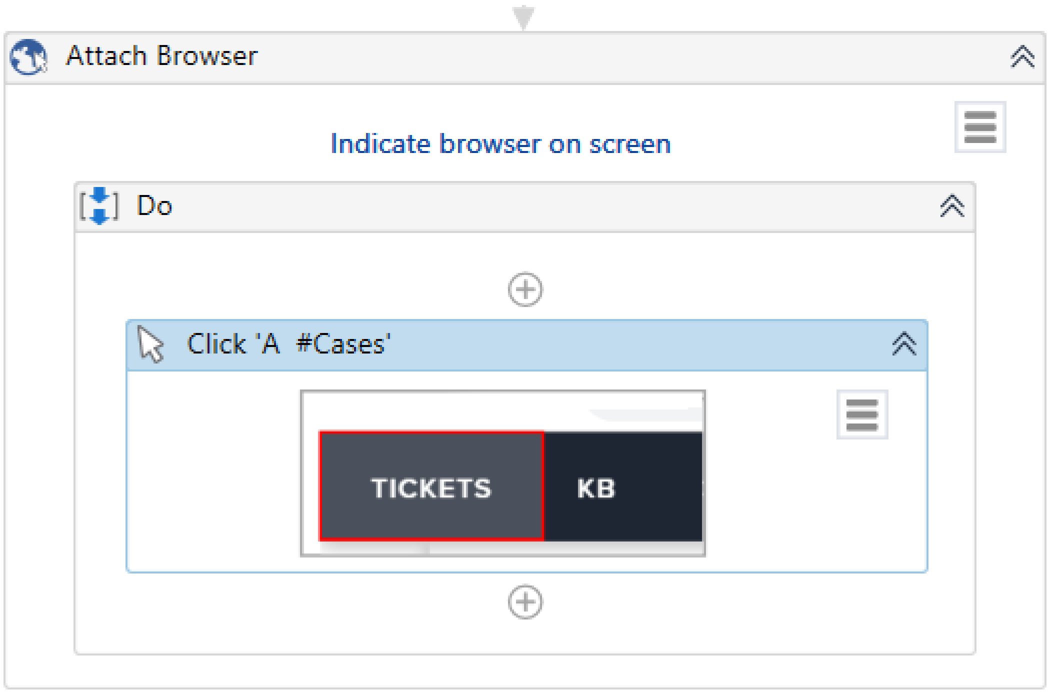


Properties

UiPath.Core.Activities.BrowserScope

Common	
ContinueOnError	Specifies to continue
Display Name	Attach Browser
Input	
Browser 1	ZohoBrowser
BrowserType 2	BrowserType.Chrome
Selector	Enter a VB expression
Timeout (milliseconds)	Specifies the amount of
Misc	
Private	☐
Options	
SearchScope	The application window
Output	
UiBrowser	The Browser variable

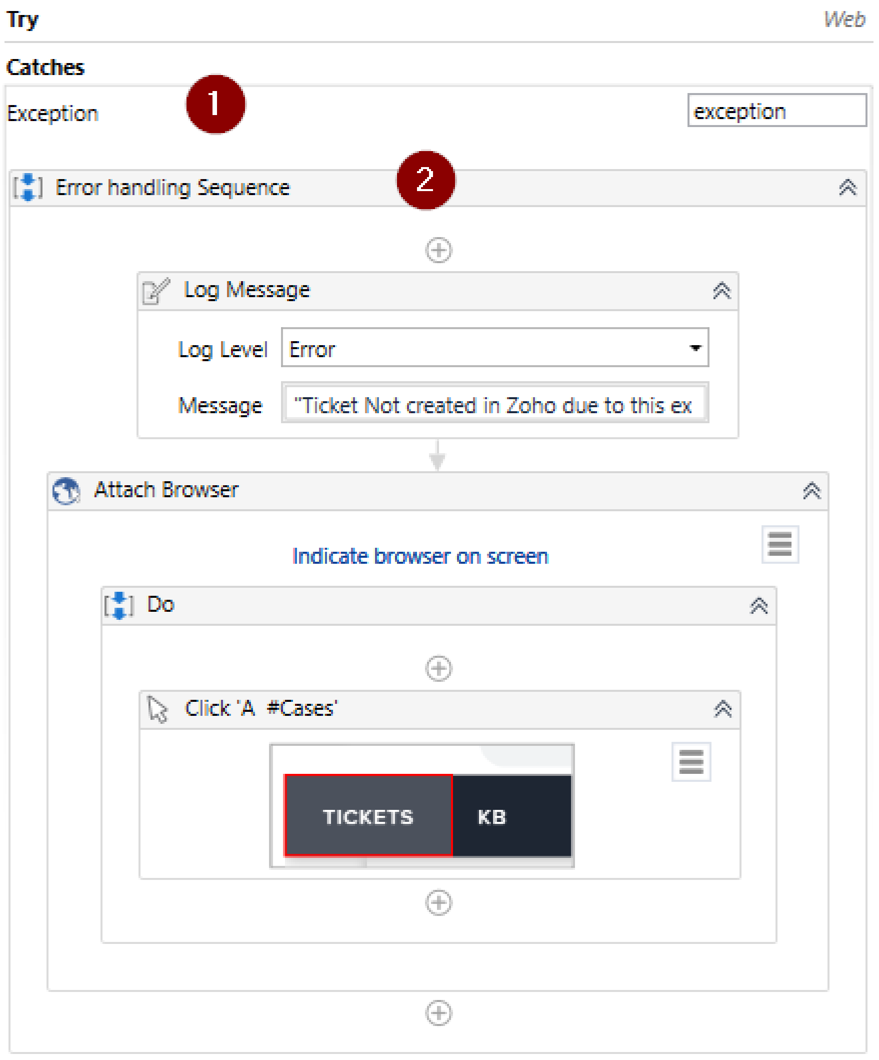
3. Add a Mouse Click activity to the newly created sequence and click on Indicate element inside the browser. Then, go to the browser, and click on the TICKETS menu option in the top left-hand corner of the Zoho desk screen:



This step will enable automation to get control of the home page of the web application if a ticket has not been created.

This completes the Try block. Now, let's handle any system exceptions.

4. Moving out of the overall Try block, let's update the Catches block. Add a new catch of the System.exception type to the Catches block. Copy the error handling sequence that we added in the Else block and paste it into this Catches block:

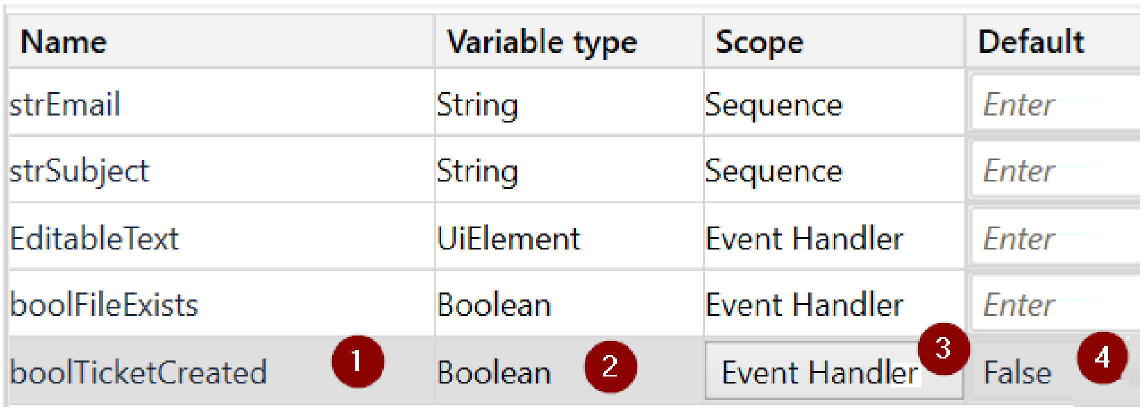

Try
Web
Catches
Exception
exception
Error handling Sequence
Log Message
Log Level Error
Message "Ticket Not created in Zoho due to this ex
Attach Browser
Indicate browser on screen
Do
Click 'A #Cases'

So we have now completed the web (Zoho Desk) automation as well. Here, we took the request data and incorporated it into Zoho Desk. Finally, we will go to the main workflow, invoke this workflow, and finalize the automation.

Putting it all together

It is time to finish up the main workflow so that it reads the requests, creates the tickets, and then moves the Request spreadsheet out once processed. In order to do this, perform the following steps:

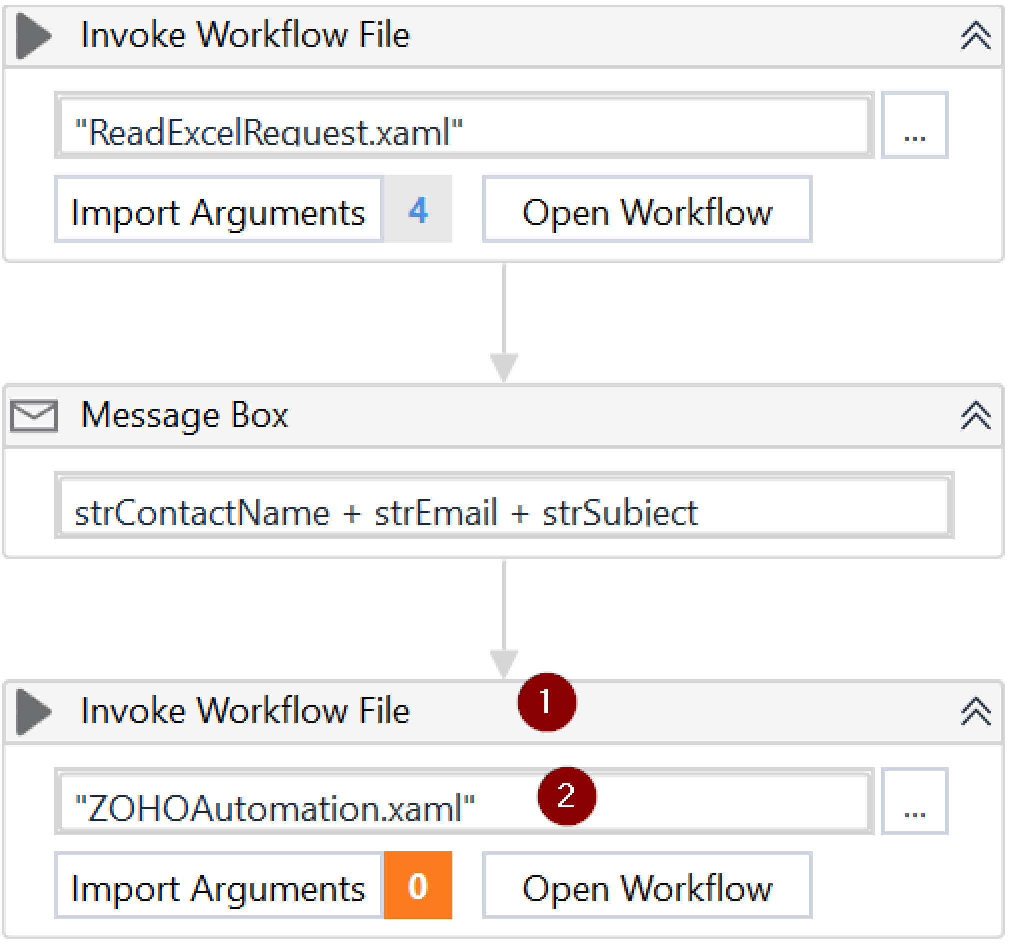
1. Go back to Main.xaml, create a new variable called boolTicketCreated of the Boolean type, set the scope to Event Handler sequence, and set the default value as False:



Name	Variable type	Scope	Default
strEmail	String	Sequence	Enter
strSubject	String	Sequence	Enter
EditableText	UiElement	Event Handler	Enter
boolFileExists	Boolean	Event Handler	Enter
boolTicketCreated 1	Boolean 2	Event Handler 3	False 4

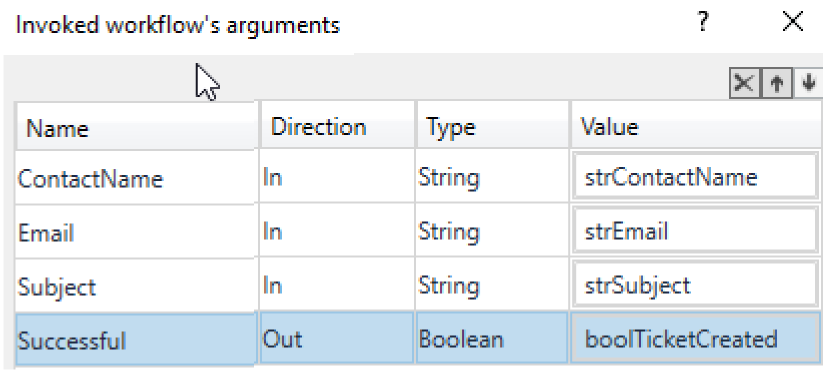
We will use this to check whether the ticket was created successfully.

2. To invoke the Zoho Desk workflow that we just added, let's add a new Invoke Workflow File activity and browse to the ZOHOAtuomation.xaml file:



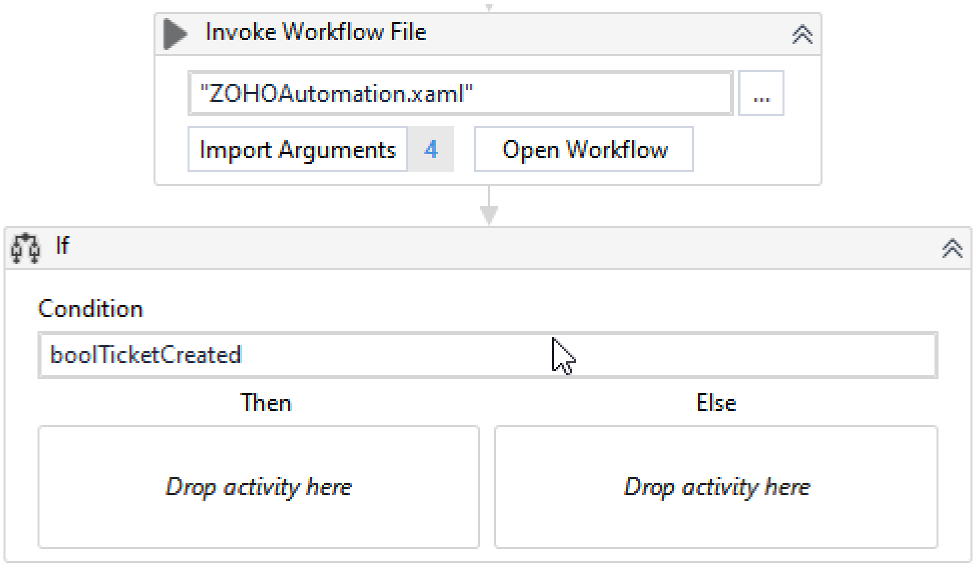
Note that we are adding this to the Then part of the If control we last added in Main.

3. Let's import the arguments by clicking on Import Arguments within the Invoke activity. On the popup, map the arguments to the strContactName, strEmail, strSubject, and boolTicketCreated variables:

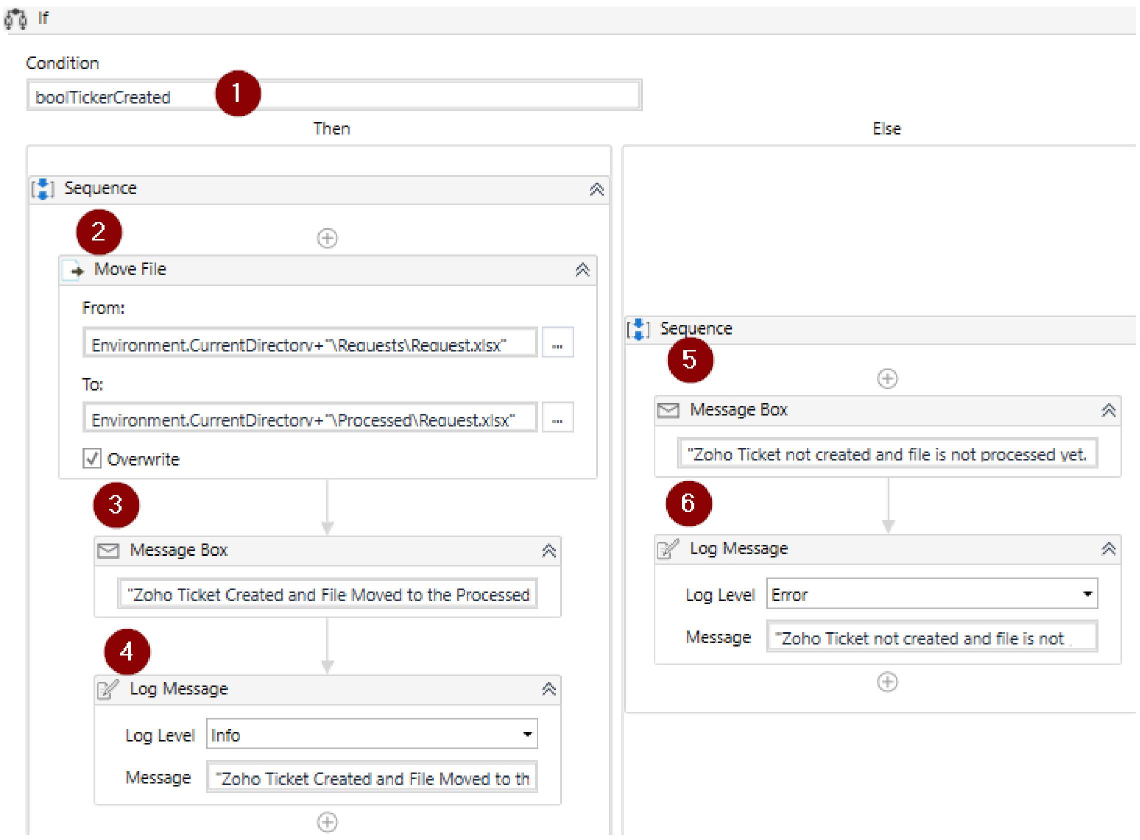

Invoked workflow's arguments

Name	Direction	Type	Value
ContactName	In	String	strContactName
Email	In	String	strEmail
Subject	In	String	strSubject
Successful	Out	Boolean	boolTicketCreated

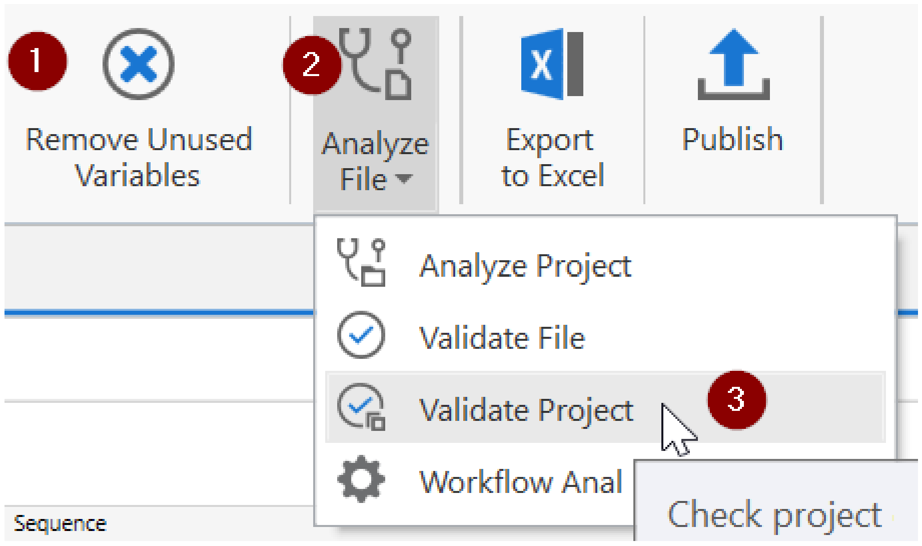
4. Next, let's use this last variable, boolTicketCreated, and add an If control:



5. If the ticket was created, then we will move Request.xlsx from the Requests folder to the Processed folder. For that, let's add a Move File activity within the Then block with the following inputs:
   - From: Environment.CurrentDirectory+"\Requests\Request.xlsx".
   - To: Environment.CurrentDirectory+"\Processed\Request.xlsx".
   - Check the Overwrite checkbox.
6. Finally, add a Message Box with the message "Zoho Ticket Created and File Moved to the Processed Folder. Use *ALT+S* to check for new requests to process.". Also, add a Log Message activity with the same message and a Log Level of Info.
7. Next, in the Else branch, let's add a Message Box saying "Zoho Ticket not created and file is not processed yet. Please check the input request file and Use ALT+s to reprocess the same request". Also, add a Log Message activity with the same message and a Log Level of Error:


If
Condition
boolTickerCreated
1
Then
Else
Sequence
2
Move File
From:
Environment.CurrentDirectory+"\Requests\Request.xlsx"
To:
Environment.CurrentDirectory+"\Processed\Request.xlsx"
Overwrite
3
Message Box
"Zoho Ticket Created and File Moved to the Processed
4
Log Message
Log Level
Info
Message
"Zoho Ticket Created and File Moved to th
Sequence
5
Message Box
"Zoho Ticket not created and file is not processed yet.
6
Log Message
Log Level
Error
Message
"Zoho Ticket not created and file is not

8. Let's save the project. Go to Remove Unused Variables in Studio and click on Validate Project:

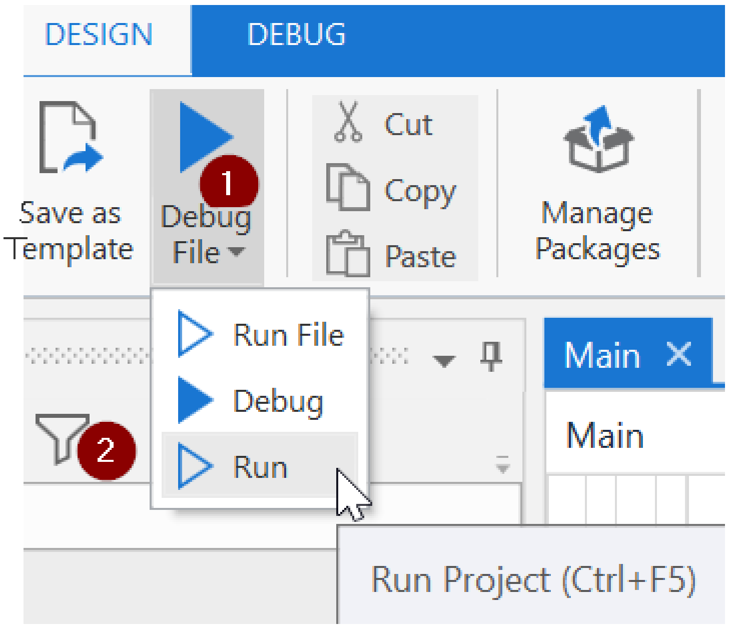


You should get a message from Studio saying No errors found. Now, we are ready to test the project.

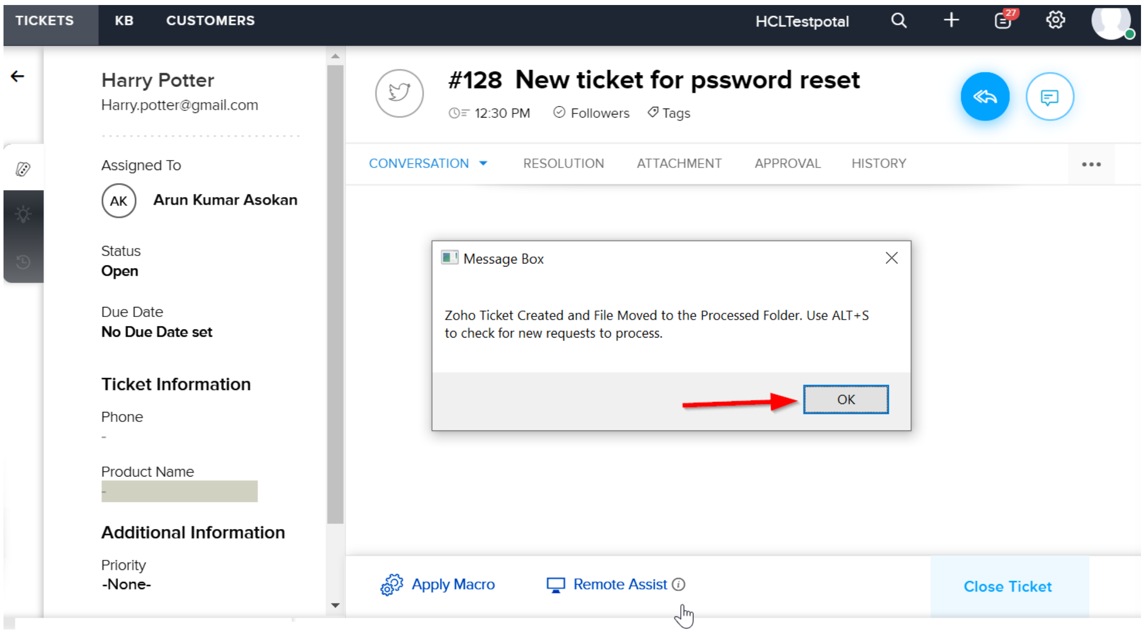
Testing the automation

Let's now test the automation with all the workflows end to end:

1. Go to the main workflow and click on Run, as shown in the following screenshot:

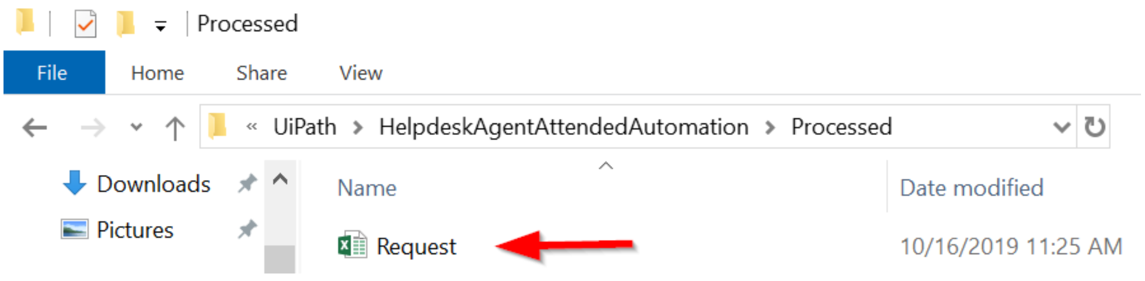


2. Once you get the first message box, click OK and then use *ALT + S* to trigger the automation. Click OK on the next few message box prompts. Remember that we added these message boxes to bring visibility to the workflow execution:



Zoho Ticket Created and File Moved to the Processed Folder. Use ALT+S to check for new requests to process.

3. Go to the Processed folder and check whether the Request.xlsx file has been moved there:



If you encounter issues, you can use the Debug option to run through the steps and ascertain where the issues are.

4. Before you go, do not forget to stop the automation by clicking on the STOP button on UiPath Studio.

That's it! We have completed our first project in UiPath that automated the process of creating a support ticket.

We can implement a few enhancements and make things a little more interesting by trying out the following suggested enhancements.

Project enhancements

Here are a few simple, but interesting, things you can try out to enhance the project and learn more:

1. After processing, try to rename the Request file as Request + Date Timestamp before moving it to the Requests folders.
2. Try to capture all the fields (not just the mandatory three) to create the ticket in Zoho.
3. Enhance attended automation to include the option to Stop Automation by using a hotkey.

Summary

We have completed an attended automation project with UiPath! We explored Excel and web app (Zoho Desk) automation. We broke the automation down into logical parts, including Excel, Zoho, and the main workflow, to keep it clean and separate.

We used arguments to pass data around and variables to store them within a workflow. You also got a sense of how you can use Try-Catch blocks to handle exceptions and the If control to handle true-false conditions.