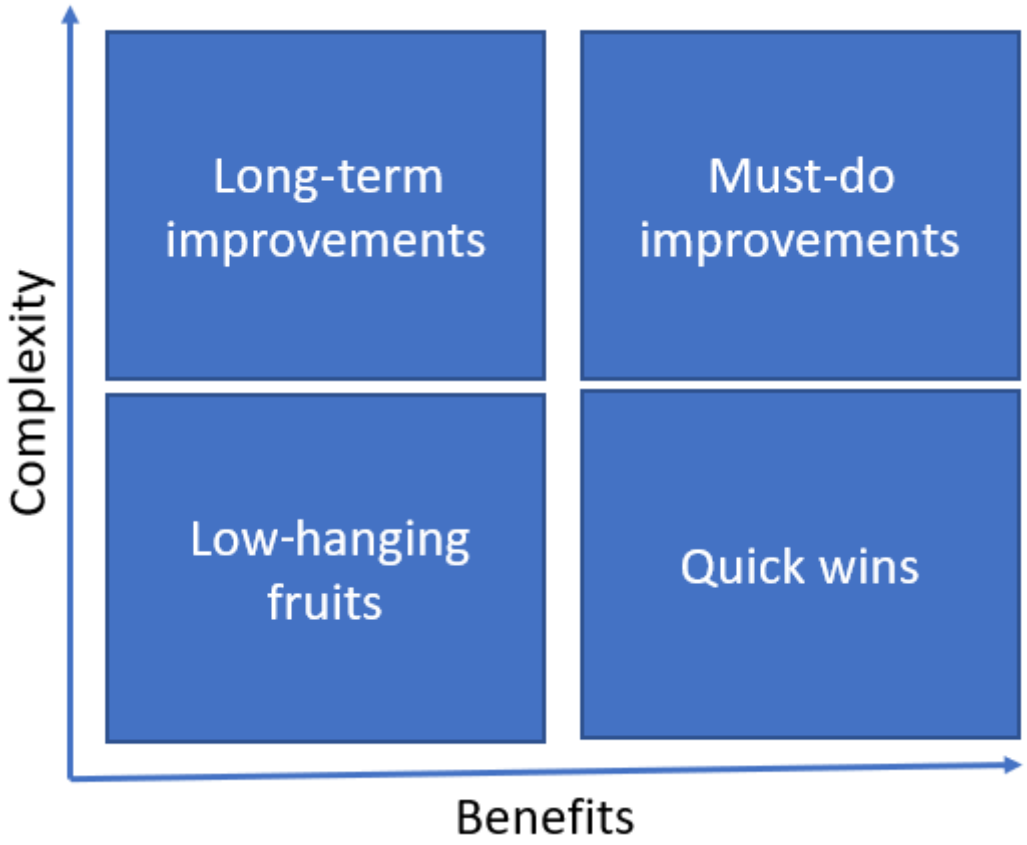
# Chapter 1: The Automation Journey and Identifying Suitable Business Processes

| Industry | Automated Processes |
|---|---|
| **Services** | • Customer invoicing<br>• Claim processing<br>• Call center processes |
| **Financial** | • Fraud detection and prevention<br>• Data integration (internal and external sources)<br>• Account settlement<br>• Automatic account opening<br>• Automatic account closure<br>• Loan processing<br>• Credit card requisition<br>• Enabling/disabling credit cards<br>• Customer onboarding |
| **Healthcare** | • Digitizing and updating patient records<br>• Inventory management<br>• Invoice settlement<br>• Automated report generation |
| **Education** | • Course registration<br>• Attendance management<br>• Course schedule management<br>• Processing grades and report cards |
| **Technology** | • Complaint management<br>• Client management by updating data<br>• Enable/disable client services |
| **Manufacturing** | • Inventory management<br>• Procurement management<br>• Payment processing<br>• Customer communication<br>• Invoice processing<br>• Purchase order management |
| **Retail** | • Employee onboarding<br>• Employee offboarding<br>• Employee payroll processing<br>• Invoice processing<br>• Return processing<br>• Sales analytics |
| **Government** | • Benefit claims<br>• Fraud prevention<br>• Payer data updating |

| **Process fitness** | |
|---|---|
| **The process should be rule-based** | The decisions taken on the data processed are required to be backed by a predefined set of rules. |
| **Low exception rates** | The process should not have many scenarios where we cannot complete the process due to unknown conditions. |
| **Repetitive actions** | Considering the repetitive nature of the processes, they require further categorization:<br>• *Manual and non-repetitive*: Processes that require manual executions, but the steps executed in each run are different and nonrepetitive. The functions of such nature are not suitable for automation because automation requires a standard set of steps.<br>• *Manual and repetitive*: The processes that require manual execution and the steps executed in each run are the same and repetitive. The functions of such nature are highly suitable for automation. However, the repeated actions require proper standards to ensure high efficiency.<br>• *Semi-automated and repetitive*: The steps performed in the process are repetitive, but some of the steps are already automated using macros or other automation methods. With proper analysis of the process, possible automation opportunities can be identified.<br>• *Automated*: If the process is already automated, introducing RPA is not required. |
| **Standard input** | Inputs provided to the process should either be electronic and easily readable, or readable using the technology that RPA is associated with (such as OCR). |
| **Stable process** | The process should not undergo frequent changes in the steps performed. |

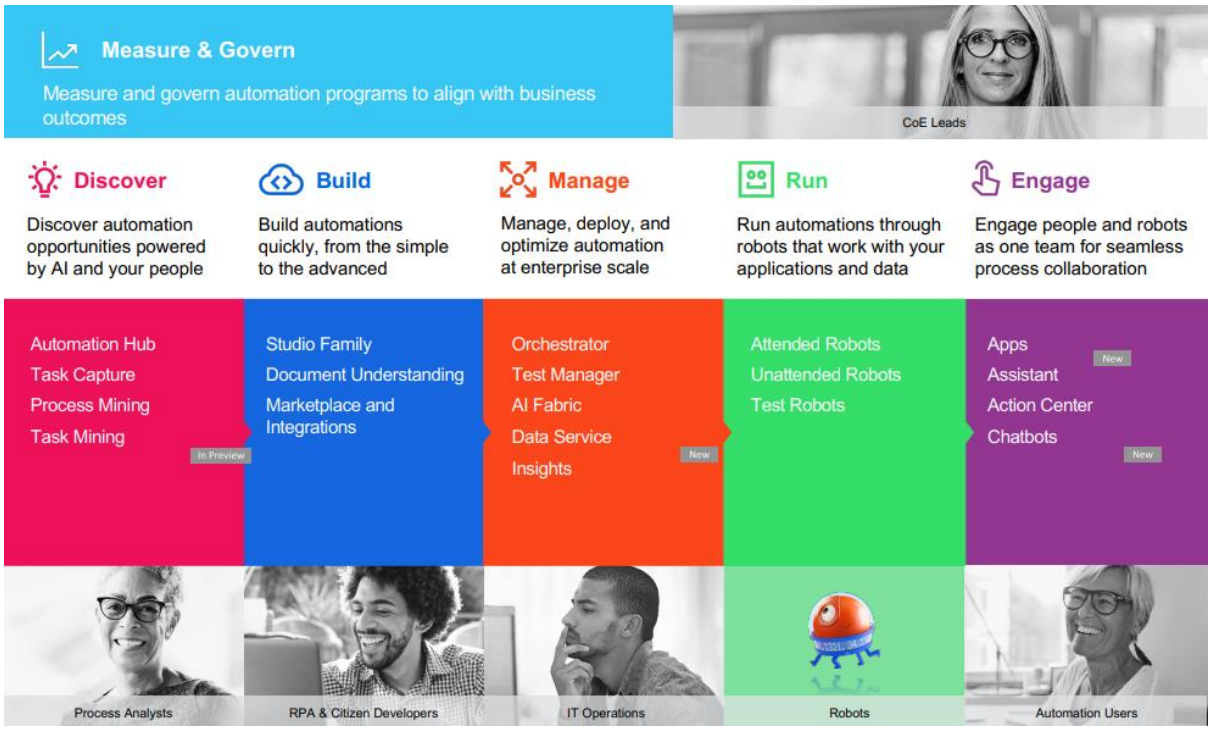
| Automation Complexity | |
|---|---|
| **Types of applications** | Some of the applications we use today, such as the Office suite, are easy to automate. However, we do come across very complex applications such as mainframe applications that increase the automation effort. A complete process may require the interaction of multiple applications of such nature. This point plays a significant role when identifying the automation suitability of a process. |
| **Number of screens that require interaction in the application** | Similar to a human worker, RPA robots interact with the elements shown on a specific screen of an application. The actions performed might require navigation to multiple screens of an application. The robot is programmed to perform different actions based on the elements shown on the application screen. The higher the number of screens that require interaction, the more effort needed to program the robot. |
| **Types of input** | As stated already, the more standard the input is, the less effort is needed to manipulate and prepare the data. However, there are cases where the information is not standardized, and it requires conversion to a standard format, which requires additional effort. The complexity depends on how standard the input is. For example, if the RPA robot requires data extraction from a paragraph of text, it is one of the most complex inputs. On the other hand, if the RPA robot requires data extraction from a structured Excel file, it is one of the least complex inputs. |
| **Number of input** | The higher the number of inputs, the higher the complexity is. |
| **Business decisions** | The higher the number of decisions taken within the process flow, the higher the complexity is. |


Long-term improvements
Must-do improvements
Low-hanging fruits
Quick wins
Complexity
Benefits

Discovery
Build
Manage
Run
Engage
Measure

# Chapter 02: UiPath Ecosystem

| Particulars | Minimum | Recommended |
|---|---|---|
| CPU Cores | 2 x 1.8 GHz 32-bit (x86) | 4 x 2.4 GHz 64-bit (x64) |
| RAM | 4 GB | 8 GB |
| Operating Systems | Windows 8.1 | Windows 10 |
| .NET Framework | Version 4.6.1 | Version 4.6.1 or greater |



# Enter the following information

**to continue to Automation Cloud**

**Organization Name**

Enter your company's name if you are its administrator, or your team's name if you are evaluating our products.

**First Name** **Last Name**

**Country/Region**

I confirm that I agree to **License Terms** and **Acceptable Use** policies.

Keep me informed about UiPath products, services, events, and promotions. Read our **Privacy Policy** for details.

Continue

Already have an account? Sign In

## Design your workflows in UiPath Studio

Build your automation project in UiPath Studio, our complete solution for application integration.
Learn more

Download Studio

## Connect your first Robot

The robot is UiPath's execution agent that enables you to run workflows built in Studio.
Learn more

Watch Video

Head over to the resource center for more useful links to get you started.

## Total Runs

Last 24 hours Last week Last mon >

UiPath Automation Cloud™ | Resource Center

## Enterprise Edition

- Designed for large businesses and enterprises.
- Multiple support options.

Version 21.4.5

Download Enterprise | Copy Link

Show other versions

## Community Edition

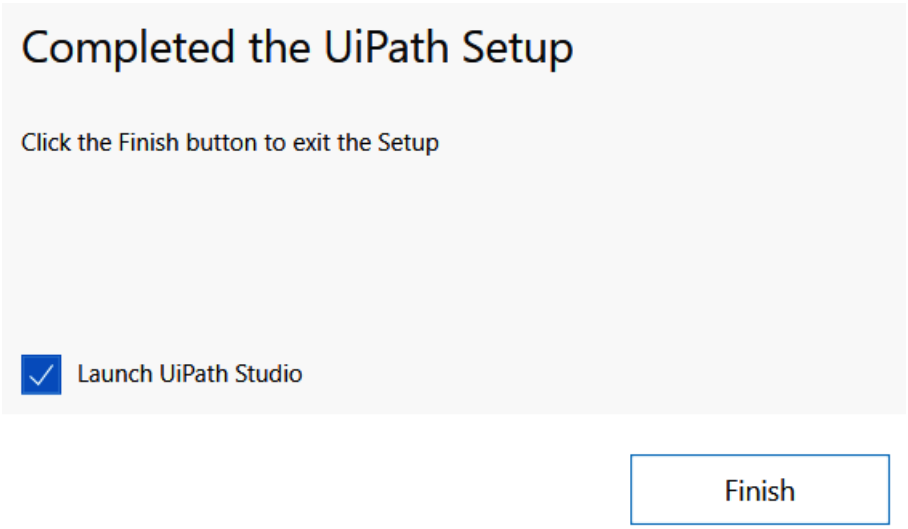
Preview | Stable

- Get the Preview version of UiPath Studio with new capabilities available in the monthly updates.
- Support from UiPath Community.

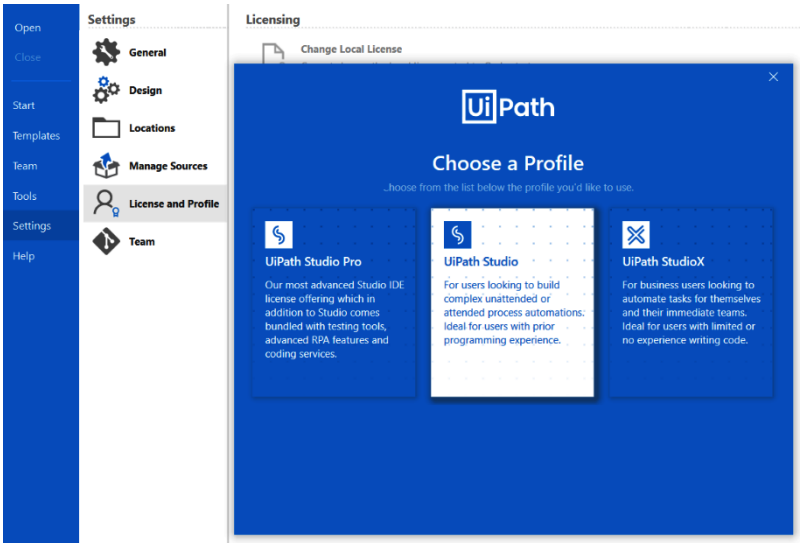
Version 21.10.0-beta.5978

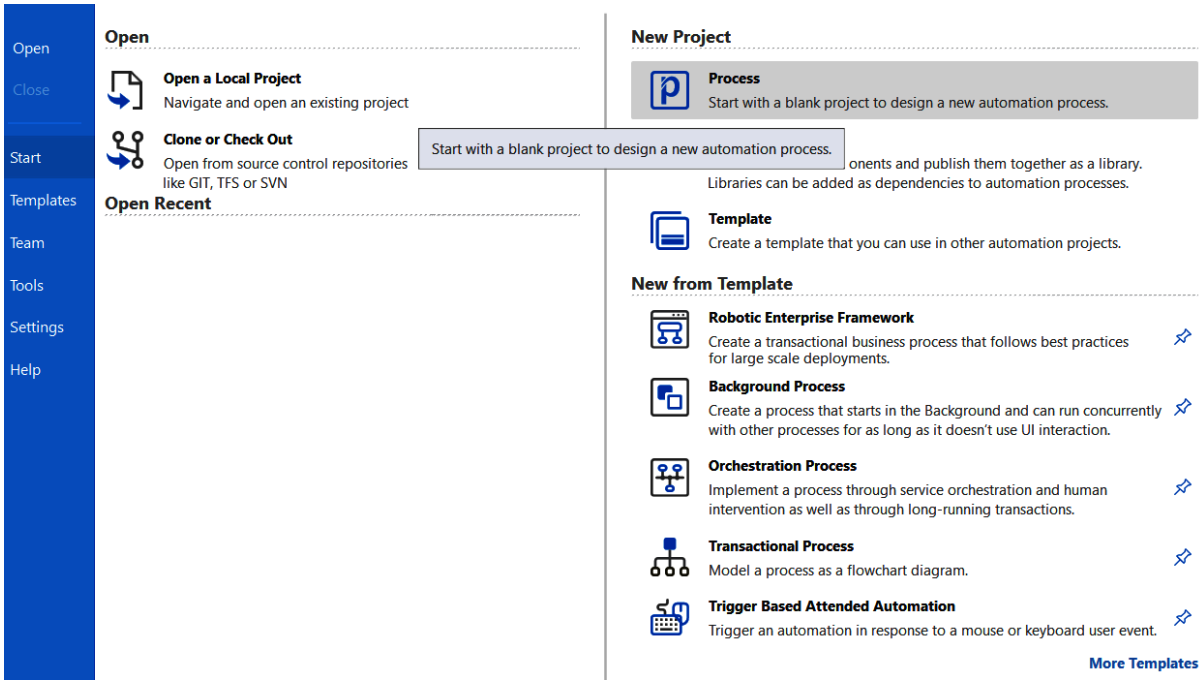
Download (Preview) | Copy Link

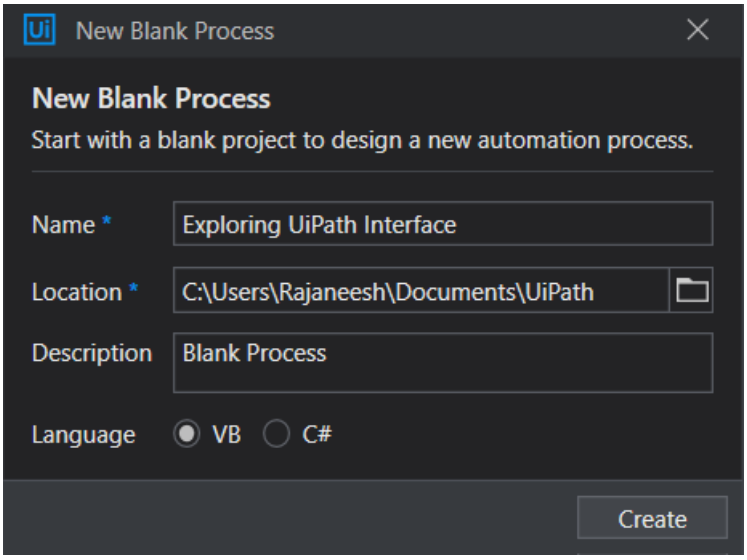
Windows 64-bit Version

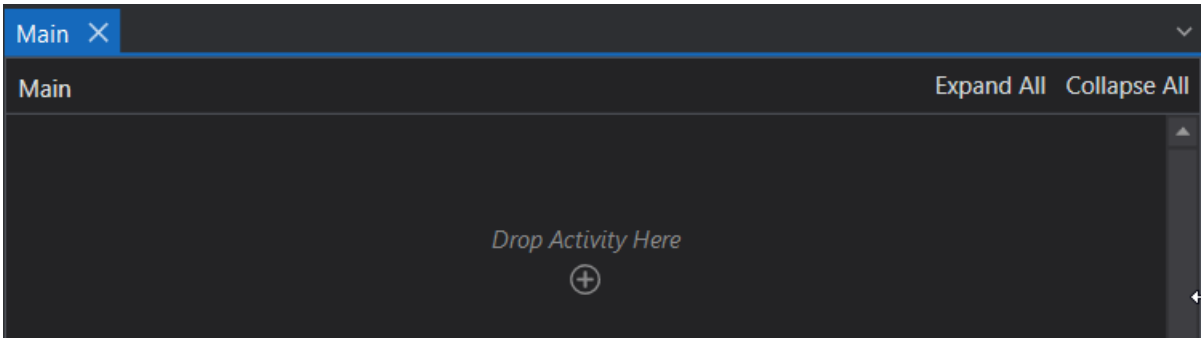


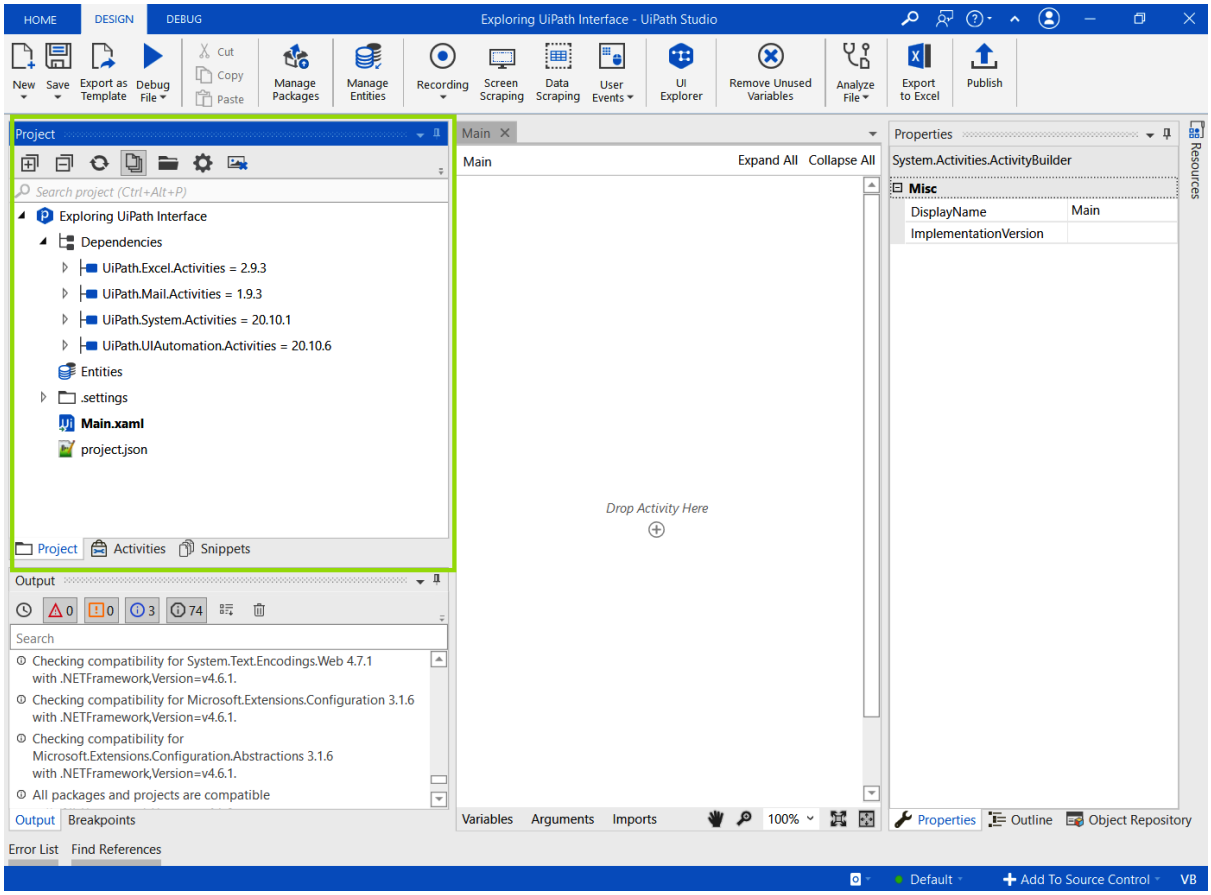
UiPath Studio Pro
AD
Open
Close
Start
Templates
Team
Tools
Settings
Help
Open
Open a Local Project
Navigate and open an existing project
Clone or Check Out
Open from source control repositories like GIT, TFS or SVN
Open Recent
Exploring_UiPath_Interface
Blank Process
ProcessVendorInvoice
ProcessVendorInvoice
DispatcherProcess
Demo dispatcher
RoboticEnterpriseFramework
Robotic Enterprise Framework
GenerateYearlyReportForVendor
Yearly Report for Vendor
REFramework-ACME
Certification exam (Dispatcher)
YearlyReport
Certification exam (Dispatcher)
Rar$DIa0.142
Blank Process
RoboticEnterpriseFramework_Exploring
Robotic Enterprise Framework
P001_ServiceBooking
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.
Test Automation
Start with a blank project to create a new test project
Template
Create a template that you can use in other automation projects.
New from Template
Robotic Enterprise Framework
Create a transactional business process that follows best practices for large scale deployments.
Background Process
Create a process that starts in the Background and can run concurrently with other processes for as long as it doesn't use UI interaction.
Mobile Testing Project
Create a project for your mobile app automated test cases
Orchestration Process
Implement a process through service orchestration and human intervention as well as through long-running transactions.
Transactional Process
Model a process as a flowchart diagram.
Trigger Based Attended Automation
Trigger an automation in response to a mouse or keyboard user event.
More Templates

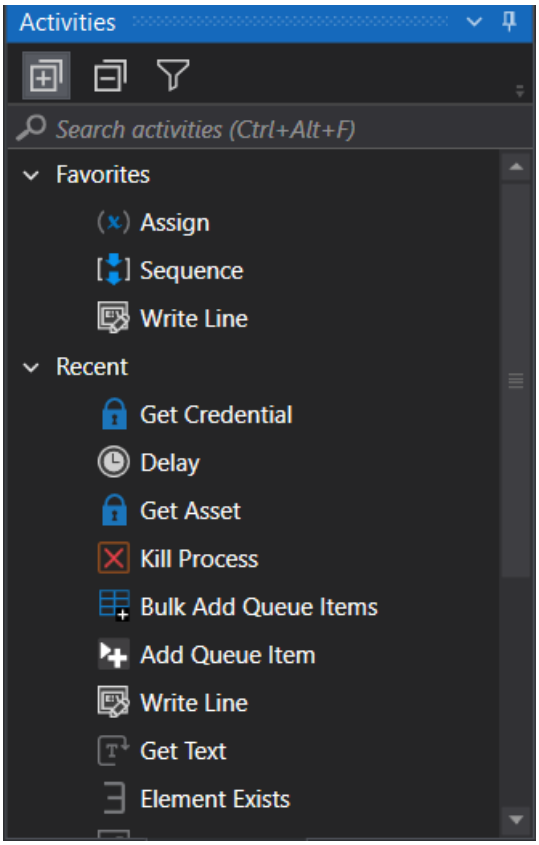

Open
Close
Start
Templates
Team
Tools
Settings
Help
Settings
General
Design
Locations
Manage Sources
License and Profile
Team
Licensing
Change Local License
UiPath
Choose a Profile
Choose from the list below the profile you'd like to use.
UiPath Studio Pro
Our most advanced Studio IDE license offering which in addition to Studio comes bundled with testing tools, advanced RPA features and coding services.
UiPath Studio
For users looking to build complex unattended or attended process automations. Ideal for users with prior programming experience.
UiPath StudioX
For business users looking to automate tasks for themselves and their immediate teams. Ideal for users with limited or no experience writing code.

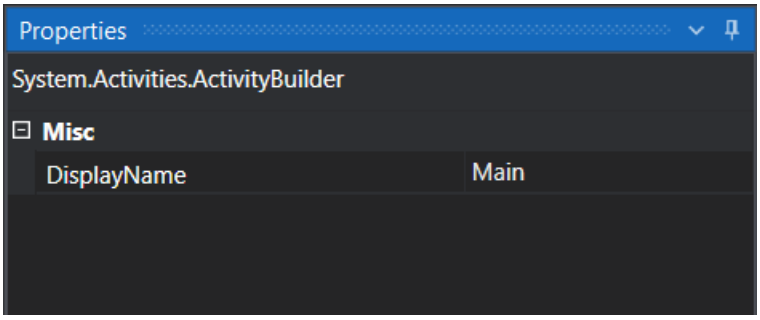

Open
Close
Start
Templates
Team
Tools
Settings
Help
Open
Open a Local Project
Navigate and open an existing project
Clone or Check Out
Open from source control repositories like GIT, TFS or SVN
Open Recent
Start with a blank project to design a new automation process.
New Project
Process
Start with a blank project to design a new automation process.
onents and publish them together as a library.
Libraries can be added as dependencies to automation processes.
Template
Create a template that you can use in other automation projects.
New from Template
Robotic Enterprise Framework
Create a transactional business process that follows best practices for large scale deployments.
Background Process
Create a process that starts in the Background and can run concurrently with other processes for as long as it doesn't use UI interaction.
Orchestration Process
Implement a process through service orchestration and human intervention as well as through long-running transactions.
Transactional Process
Model a process as a flowchart diagram.
Trigger Based Attended Automation
Trigger an automation in response to a mouse or keyboard user event.
More Templates

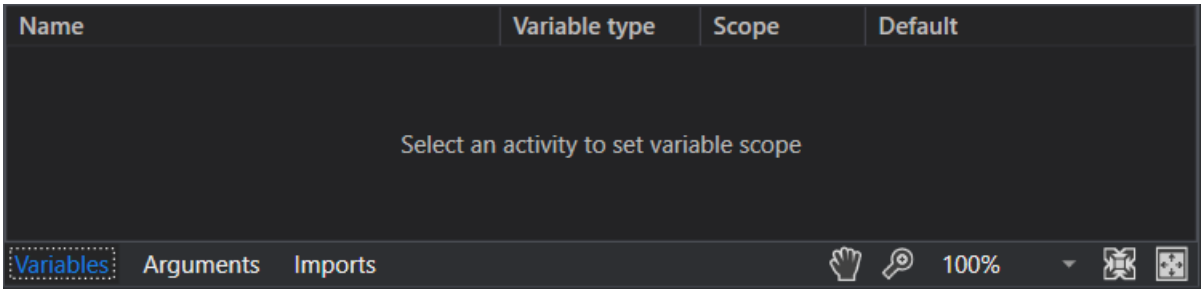

New Blank Process
New Blank Process
Start with a blank project to design a new automation process.
Name *
Exploring UiPath Interface
Location *
C:\Users\Rajaneesh\Documents\UiPath
Description
Blank Process
Language
VB
C#
Create

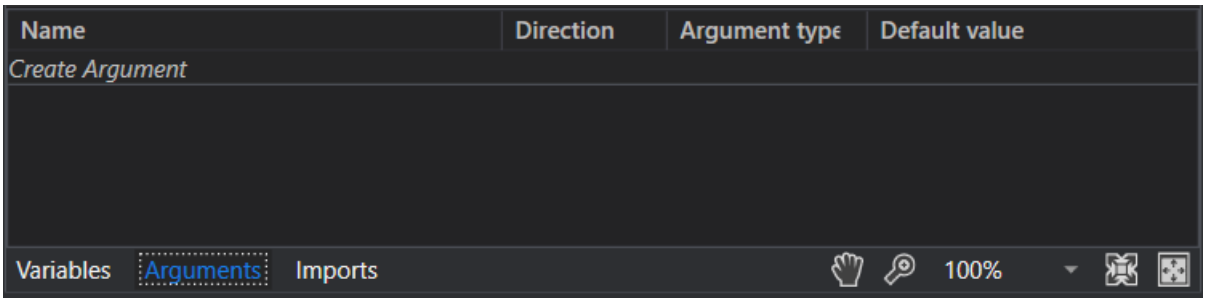

Main
Main
Expand All
Collapse All
Drop Activity Here

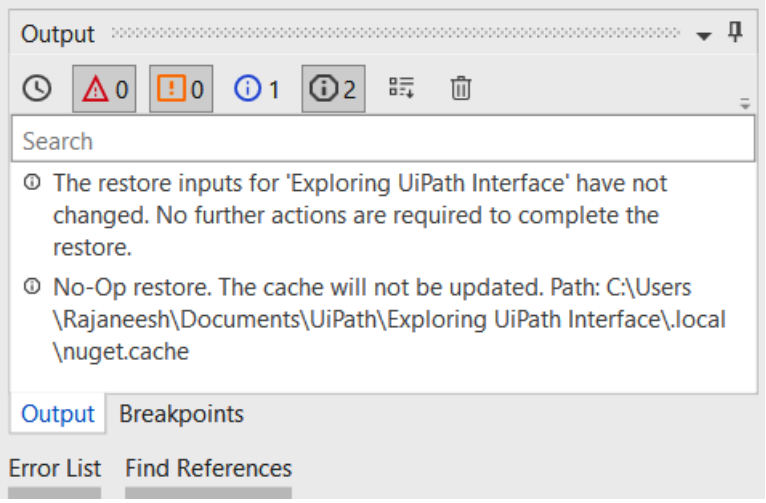

HOME
DESIGN
DEBUG
Exploring UiPath Interface - UiPath Studio
New
Save
Export as Template
Debug File
Cut
Copy
Paste
Manage Packages
Manage Entities
Recording
Screen Scraping
Data Scraping
User Events
UI Explorer
Remove Unused Variables
Analyze File
Export to Excel
Publish
Project
Search project (Ctrl+Alt+P)
Exploring UiPath Interface
Dependencies
UiPath.Excel.Activities = 2.9.3
UiPath.Mail.Activities = 1.9.3
UiPath.System.Activities = 20.10.1
UiPath.UIAutomation.Activities = 20.10.6
Entities
.settings
Main.xaml
project.json
Project
Activities
Snippets
Output
Search
Checking compatibility for System.Text.Encodings.Web 4.7.1 with .NETFramework,Version=v4.6.1.
Checking compatibility for Microsoft.Extensions.Configuration 3.1.6 with .NETFramework,Version=v4.6.1.
Checking compatibility for Microsoft.Extensions.Configuration.Abstractions 3.1.6 with .NETFramework,Version=v4.6.1.
All packages and projects are compatible
Output
Breakpoints
Error List
Find References
Main
Expand All
Collapse All
Drop Activity Here
Variables
Arguments
Imports
100%
Properties
System.Activities.ActivityBuilder
Misc
DisplayName
Main
ImplementationVersion
Properties
Outline
Object Repository
Resources
Default
Add To Source Control
VB

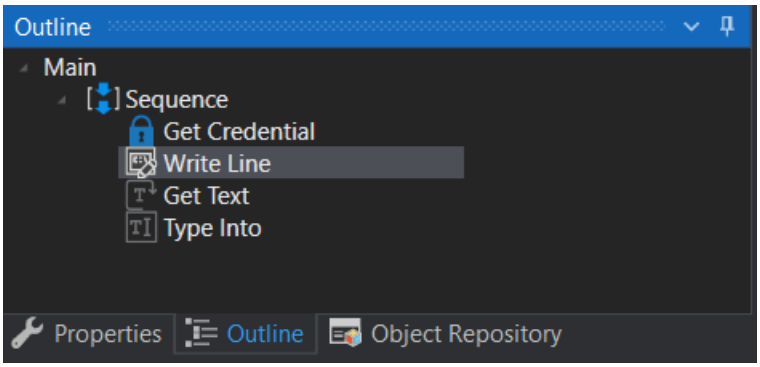

Activities
Search activities (Ctrl+Alt+F)
Favorites
Assign
Sequence
Write Line
Recent
Get Credential
Delay
Get Asset
Kill Process
Bulk Add Queue Items
Add Queue Item
Write Line
Get Text
Element Exists


Properties
System.Activities.ActivityBuilder
Misc
DisplayName
Main

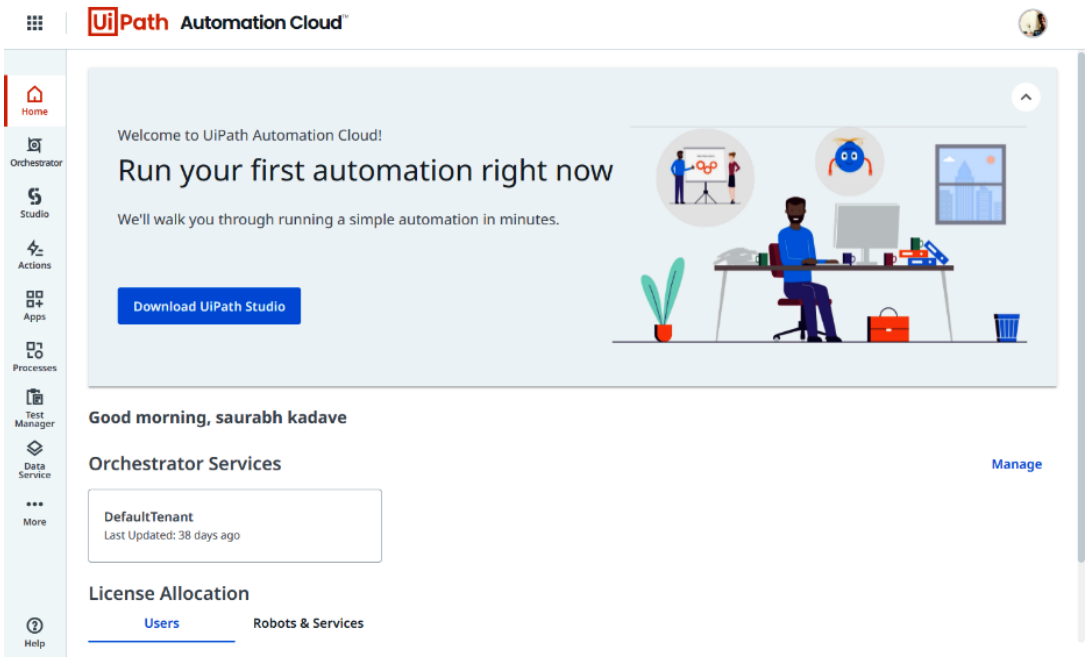

Name
Variable type
Scope
Default
Select an activity to set variable scope
Variables
Arguments
Imports
100%

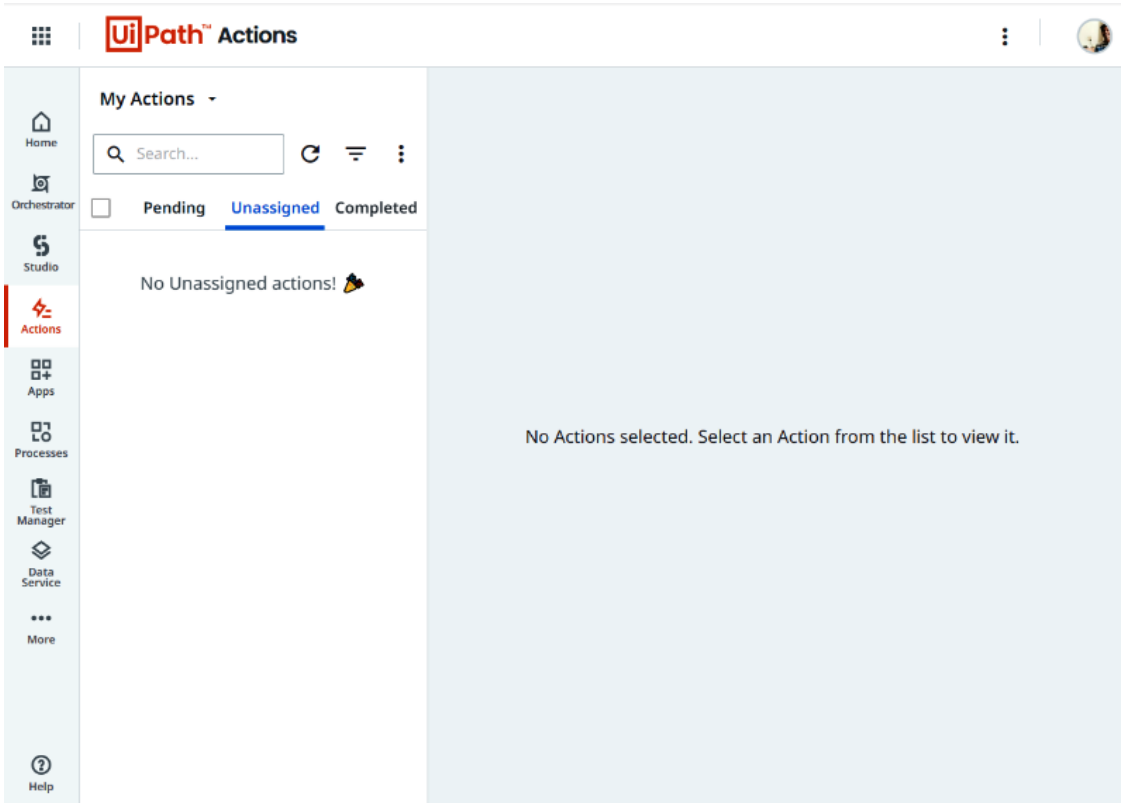

Name
Direction
Argument type
Default value
Create Argument
Variables
Arguments
Imports
100%

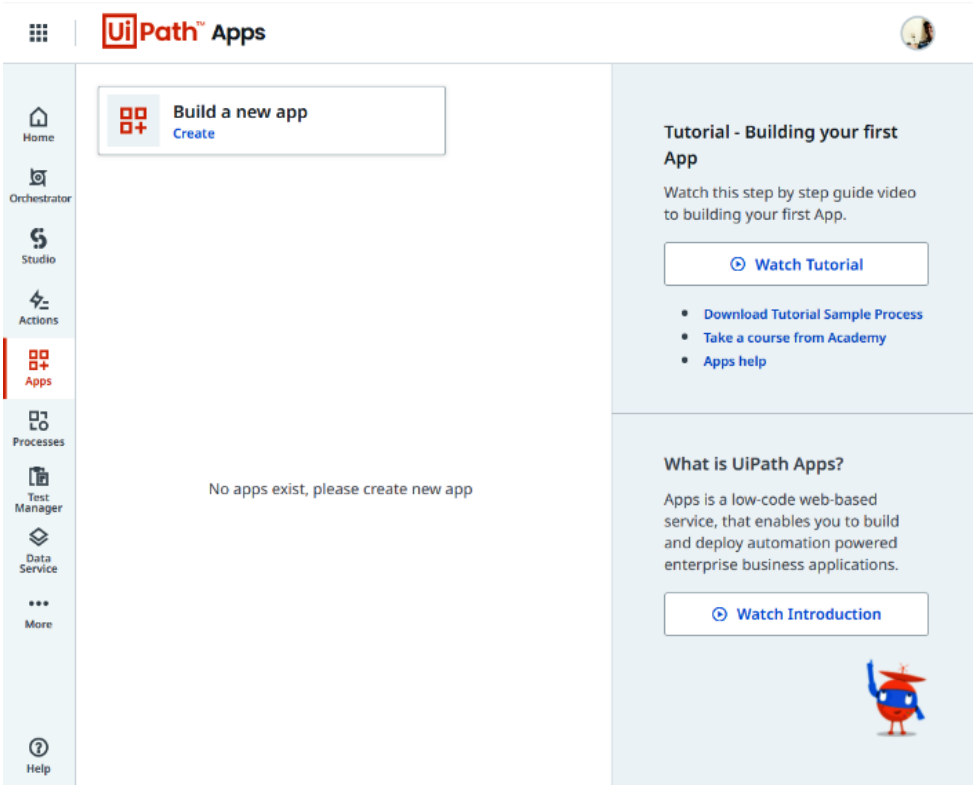

Output
0
0
1
2
Search
The restore inputs for 'Exploring UiPath Interface' have not changed. No further actions are required to complete the restore.
No-Op restore. The cache will not be updated. Path: C:\Users\Rajaneesh\Documents\UiPath\Exploring UiPath Interface\.local\nuget.cache
Output
Breakpoints
Error List
Find References

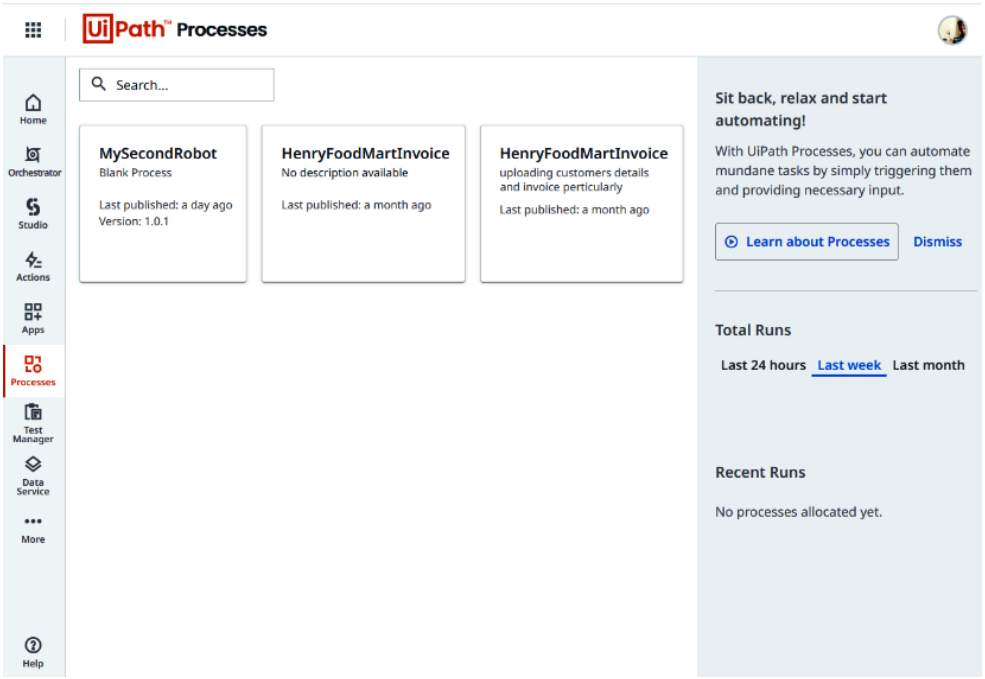

Outline
Main
Sequence
Get Credential
Write Line
Get Text
Type Into
Properties
Outline
Object Repository

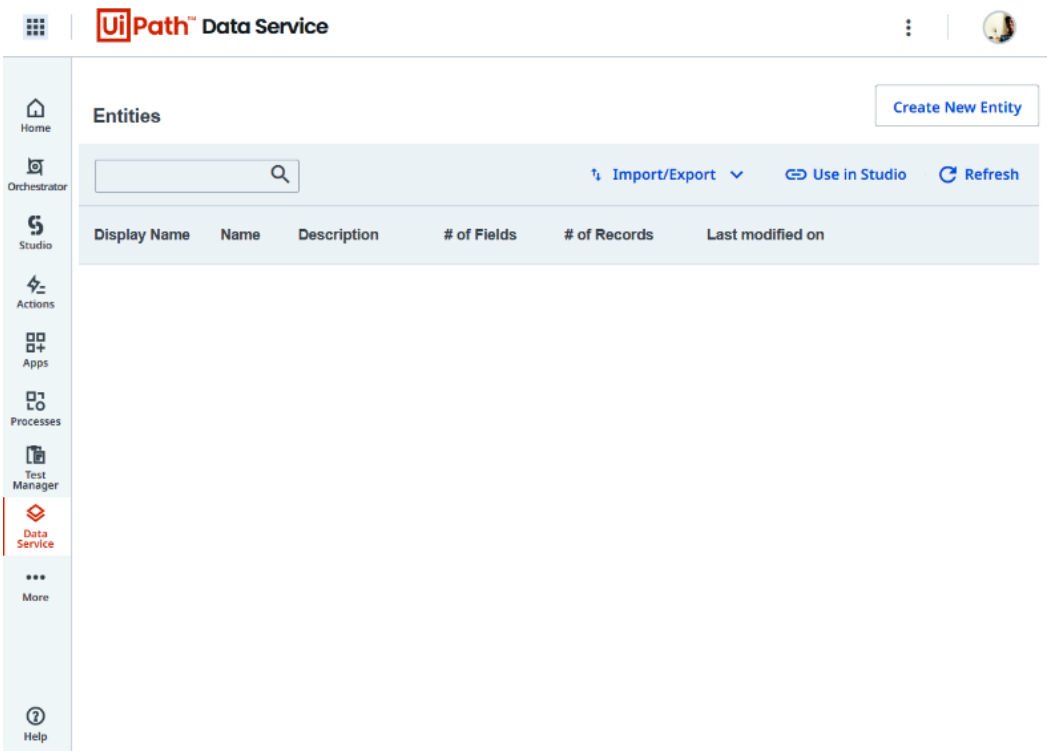
# Chapter 03: Introducing UiPath Orchestrator

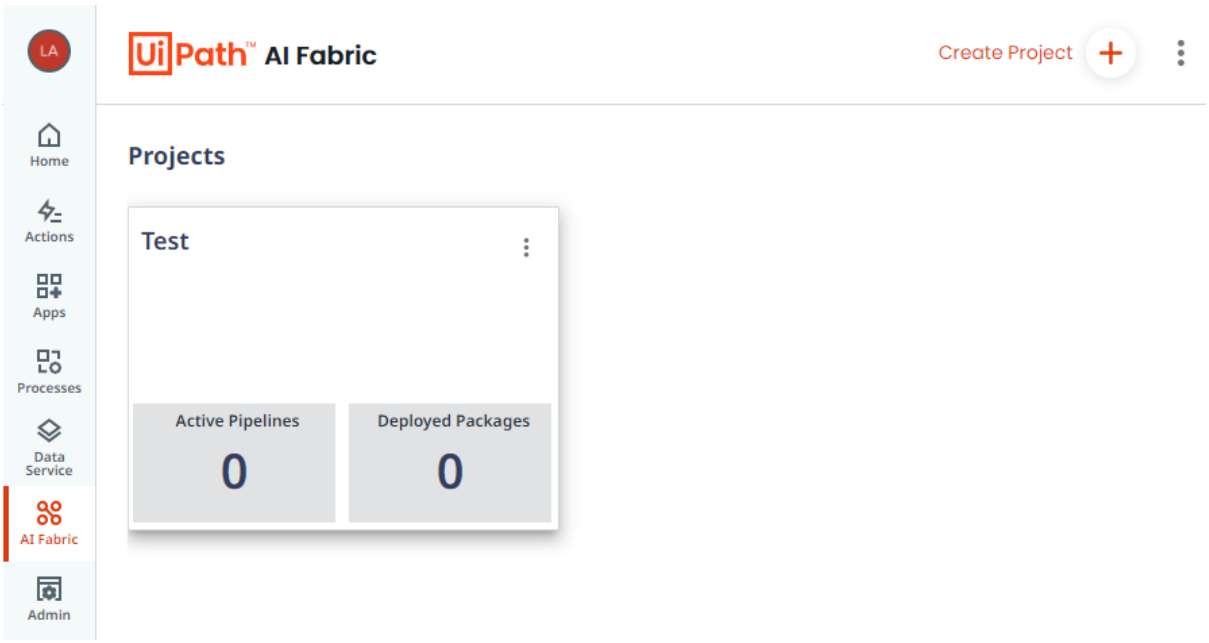


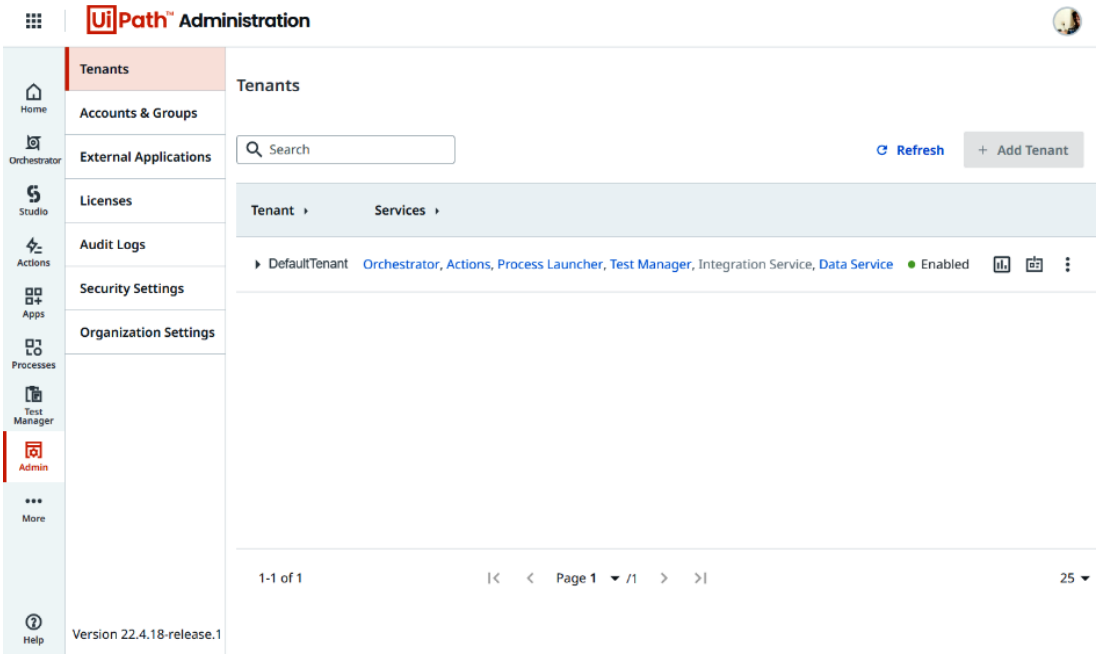



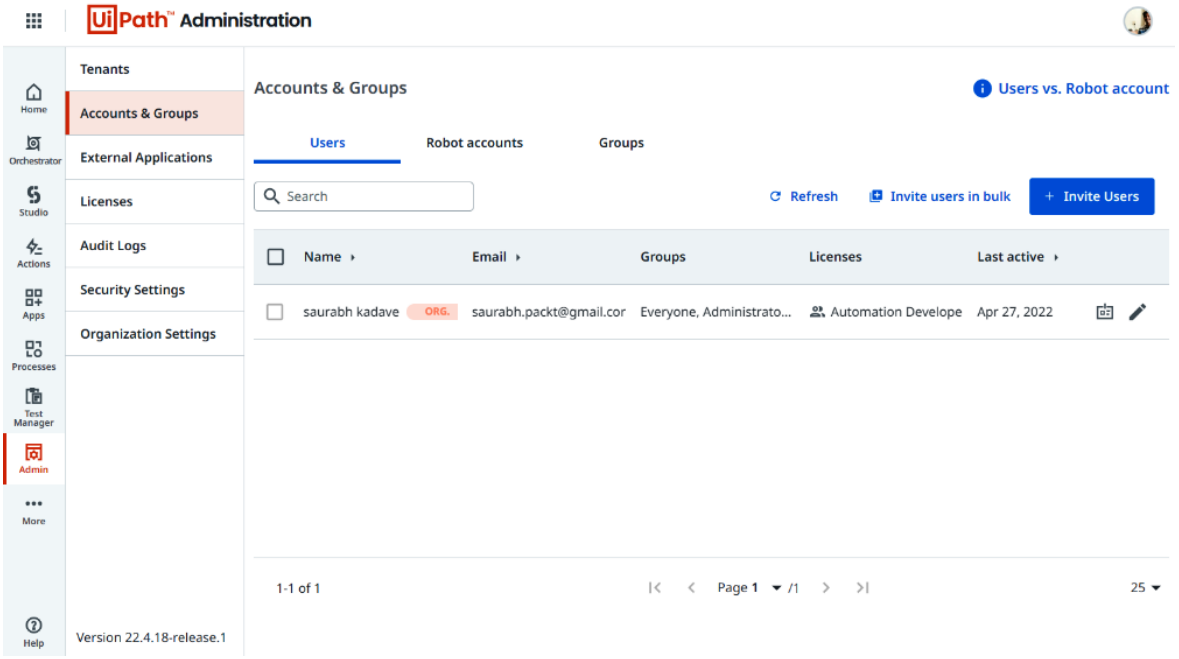

UiPath Apps
Home
Orchestrator
Studio
Actions
Apps
Processes
Test Manager
Data Service
More
Help
Build a new app
Create
No apps exist, please create new app
Tutorial - Building your first App
Watch this step by step guide video to building your first App.
Watch Tutorial
Download Tutorial Sample Process
Take a course from Academy
Apps help
What is UiPath Apps?
Apps is a low-code web-based service, that enables you to build and deploy automation powered enterprise business applications.
Watch Introduction

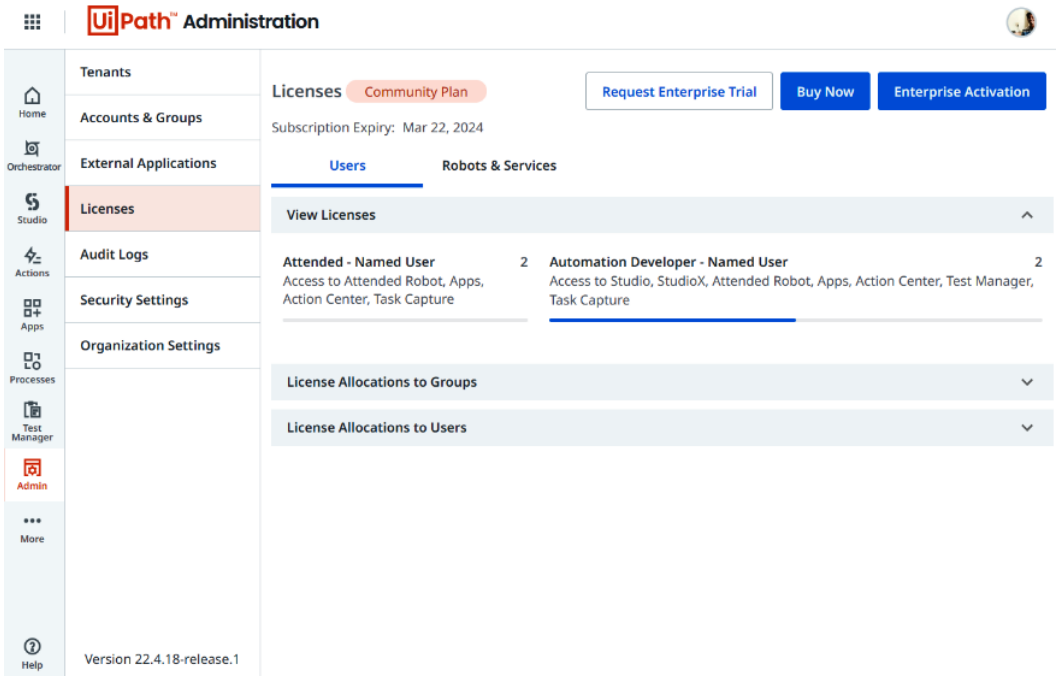

UiPath Processes
Search...
Home
Orchestrator
Studio
Actions
Apps
Processes
Test Manager
Data Service
More
Help
MySecondRobot
Blank Process
Last published: a day ago
Version: 1.0.1
HenryFoodMartInvoice
No description available
Last published: a month ago
HenryFoodMartInvoice
uploading customers details and invoice perticularly
Last published: a month ago
Sit back, relax and start automating!
With UiPath Processes, you can automate mundane tasks by simply triggering them and providing necessary input.
Learn about Processes
Dismiss
Total Runs
Last 24 hours
Last week
Last month
Recent Runs
No processes allocated yet.

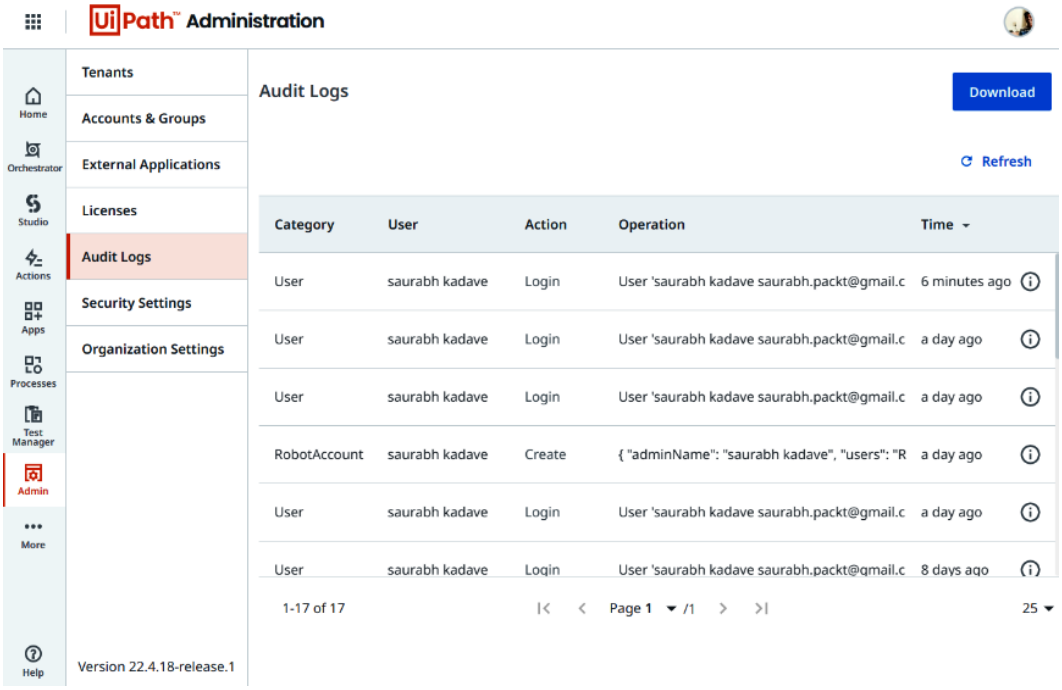

UiPath Data Service
Home
Orchestrator
Studio
Actions
Apps
Processes
Test Manager
Data Service
More
Help
Entities
Create New Entity
Import/Export
Use in Studio
Refresh
Display Name
Name
Description
# of Fields
# of Records
Last modified on


LA
UiPath AI Fabric
Create Project
Home
Actions
Apps
Processes
Data Service
AI Fabric
Admin
Projects
Test
Active Pipelines
0
Deployed Packages
0


UiPath Administration
Tenants
Accounts & Groups
External Applications
Licenses
Audit Logs
Security Settings
Organization Settings
Home
Orchestrator
Studio
Actions
Apps
Processes
Test Manager
Admin
More
Help
Version 22.4.18-release.1
Tenants
Search
Refresh
Add Tenant
Tenant
Services
DefaultTenant
Orchestrator, Actions, Process Launcher, Test Manager, Integration Service, Data Service
Enabled
1-1 of 1
Page 1 /1
25

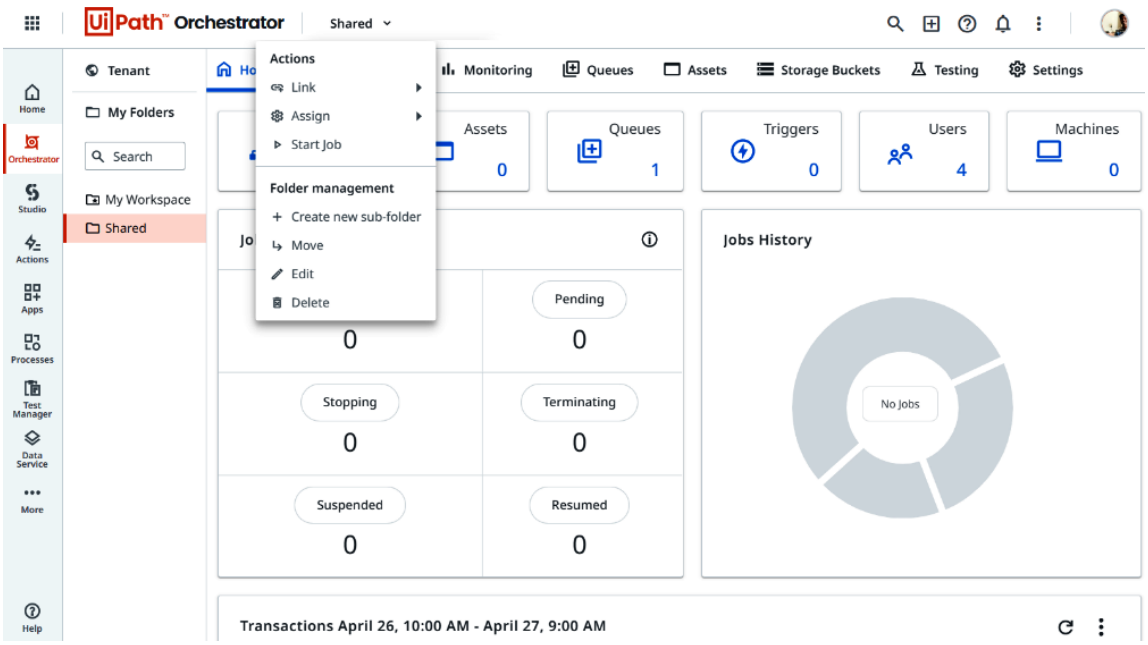

UiPath Administration
Tenants
Accounts & Groups
External Applications
Licenses
Audit Logs
Security Settings
Organization Settings
Home
Orchestrator
Studio
Actions
Apps
Processes
Test Manager
Admin
More
Help
Version 22.4.18-release.1
Accounts & Groups
Users vs. Robot account
Users
Robot accounts
Groups
Search
Refresh
Invite users in bulk
Invite Users
Name
Email
Groups
Licenses
Last active
saurabh kadave
ORG.
saurabh.packt@gmail.cor
Everyone, Administrato...
Automation Develope
Apr 27, 2022
1-1 of 1
Page 1 /1
25

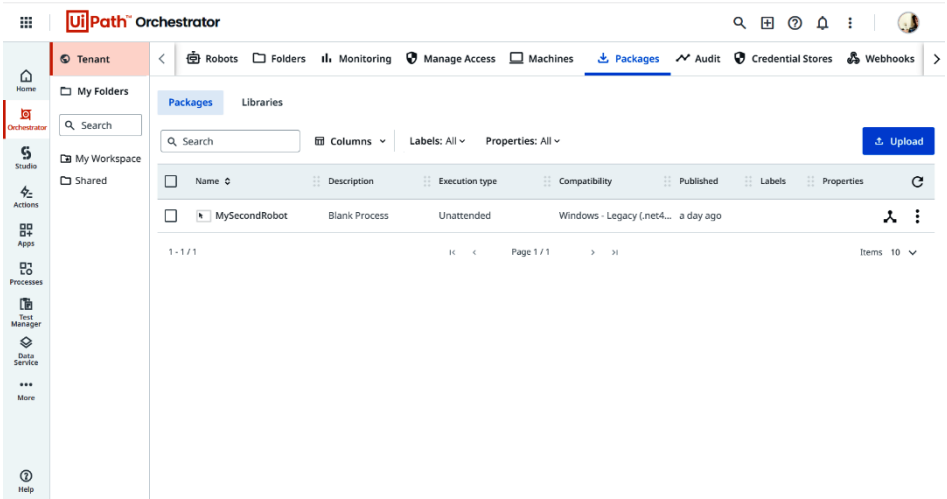


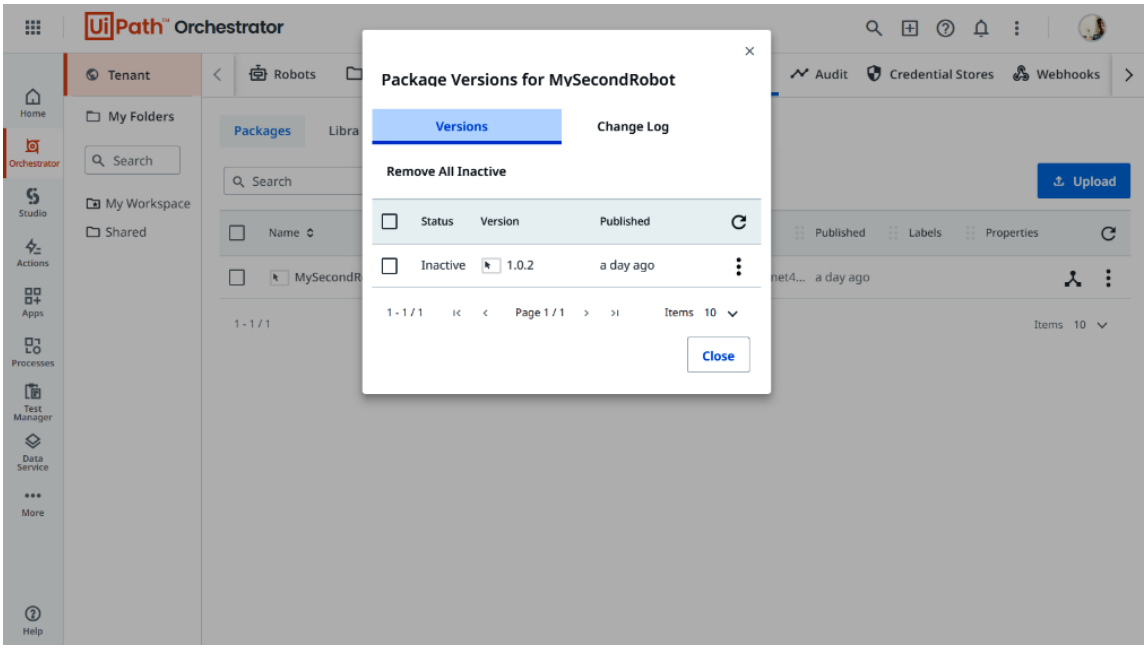



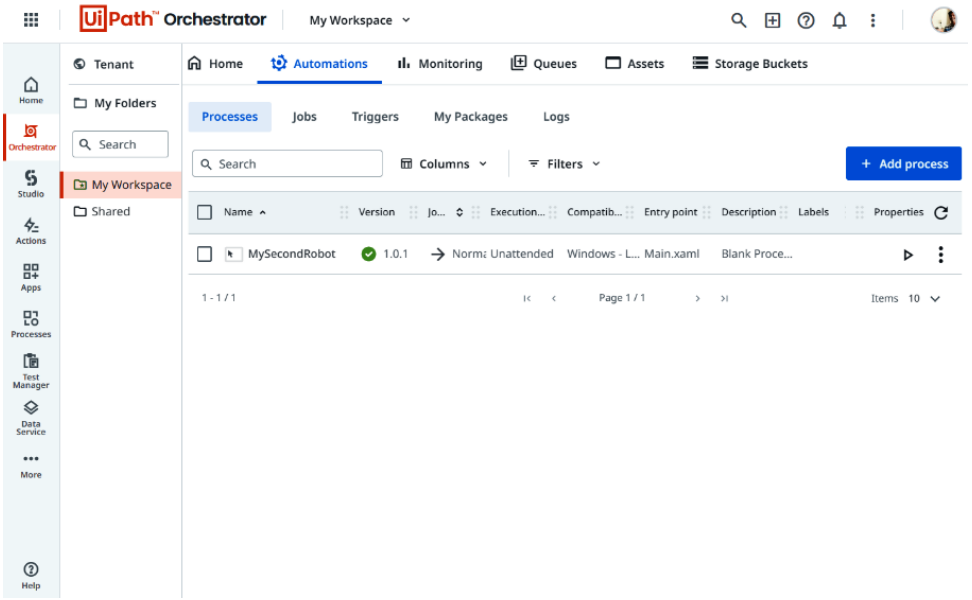

| Robot Type | Description |
| --- | --- |
| **Standard** | Configured when the machine that the robot works on does not change |
| **Floating** | Configured when the machine that the robot works on changes frequently or when the same user works on multiple devices |

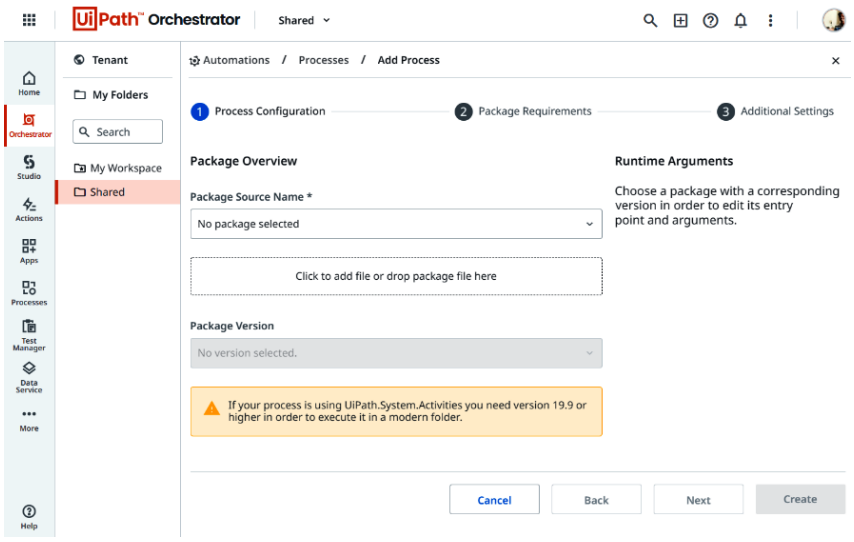
| Robot Type | Description |
| --- | --- |
| **Attended Robot** | Is it triggered manually by the user or through user events. The robot agent runs in the same machine where the human user works, assisting the user's daily activities. |
| **Unattended Robot** | Runs in virtual machines and executes processes without any human intervention. The Orchestrator manages the unattended robots by controlling the executions, monitoring, and managing the data through queues. |
| **Development Robot** | Features are the same as the unattended robot but only used to connect the UiPath Studio to Orchestrator and for development purposes. |
| **Non-Production Robot** | Used only for development and testing purposes. |

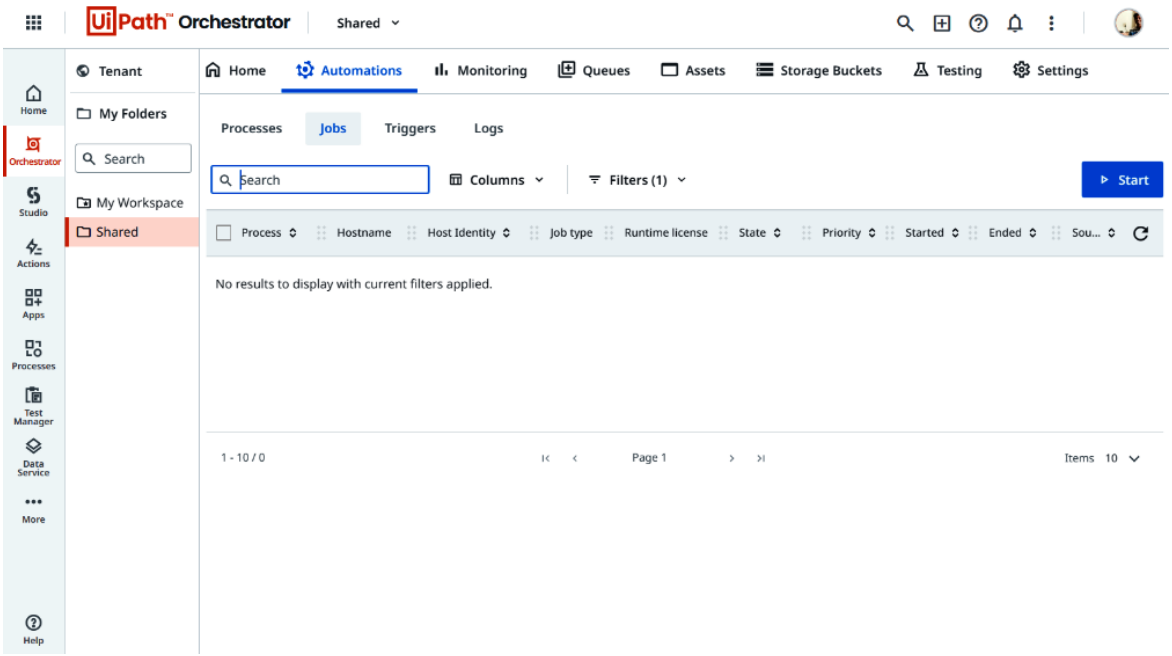


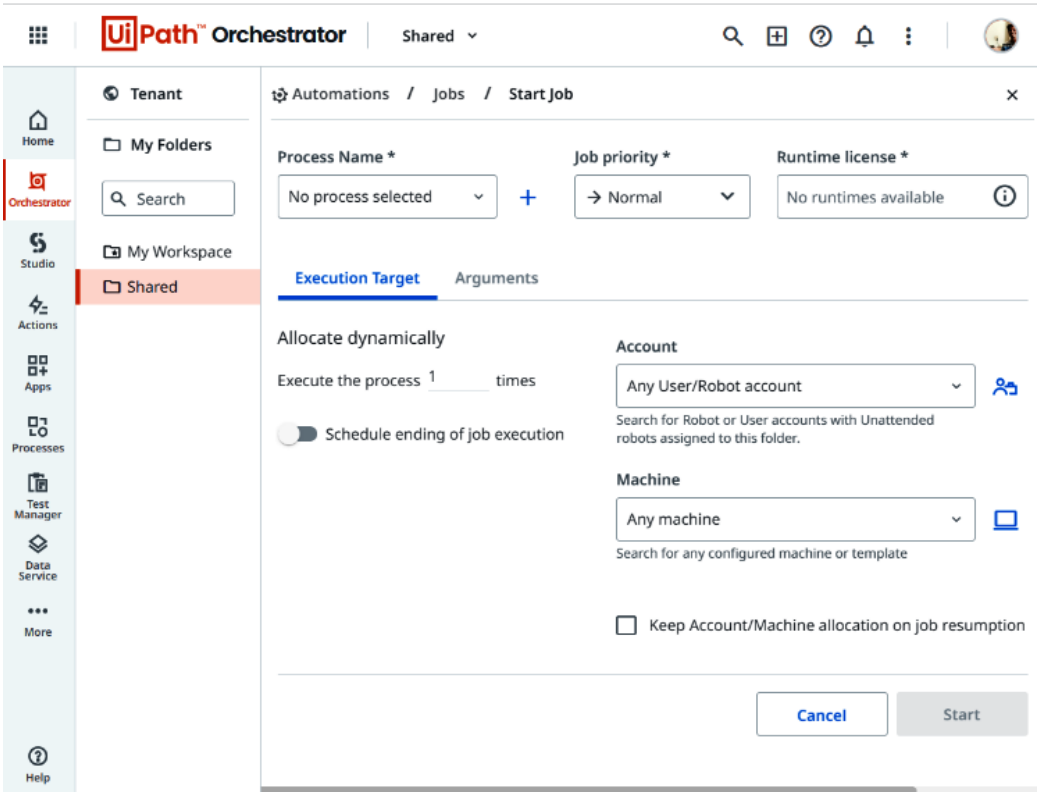



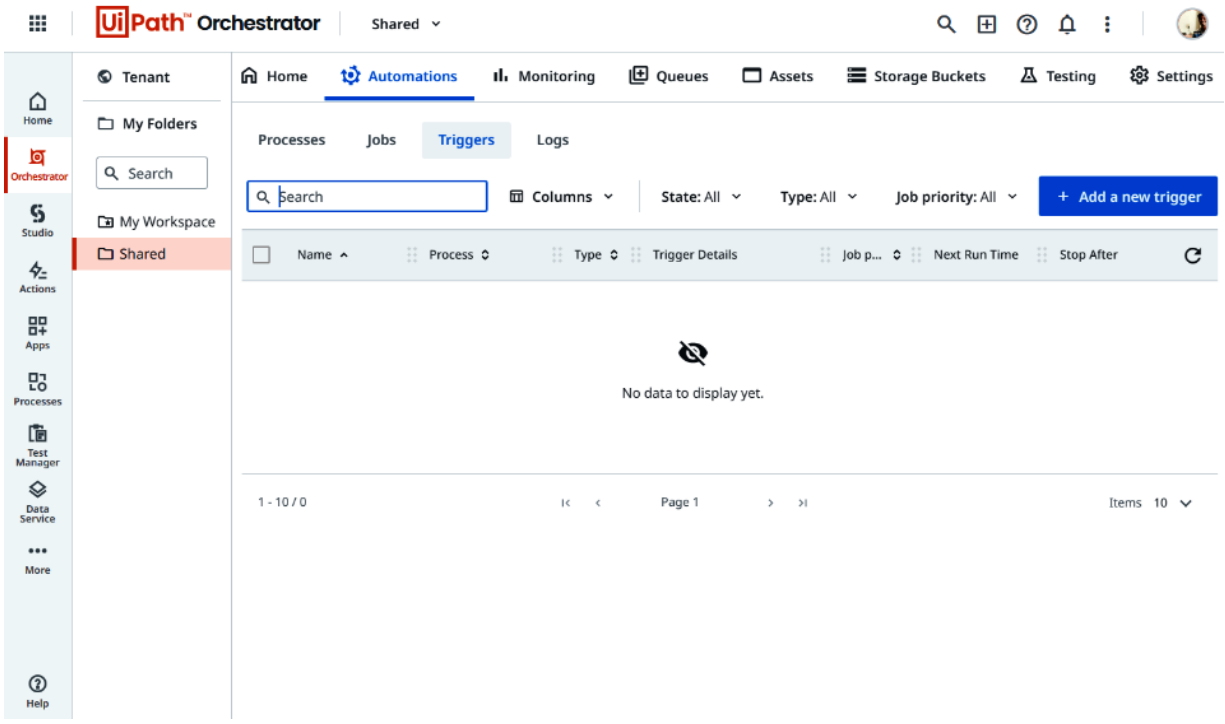

UiPath Orchestrator
Tenant
My Folders
Search
My Workspace
Shared
Robots
Audit
Credential Stores
Webhooks
Packages
Search
Upload
Name
Published
Labels
Properties
Package Versions for MySecondRobot
Versions
Change Log
Remove All Inactive
Status
Version
Published
Inactive
1.0.2
a day ago
1 - 1 / 1
Page 1 / 1
Items 10
Close
Home
Orchestrator
Studio
Actions
Apps
Processes
Test Manager
Data Service
More
Help

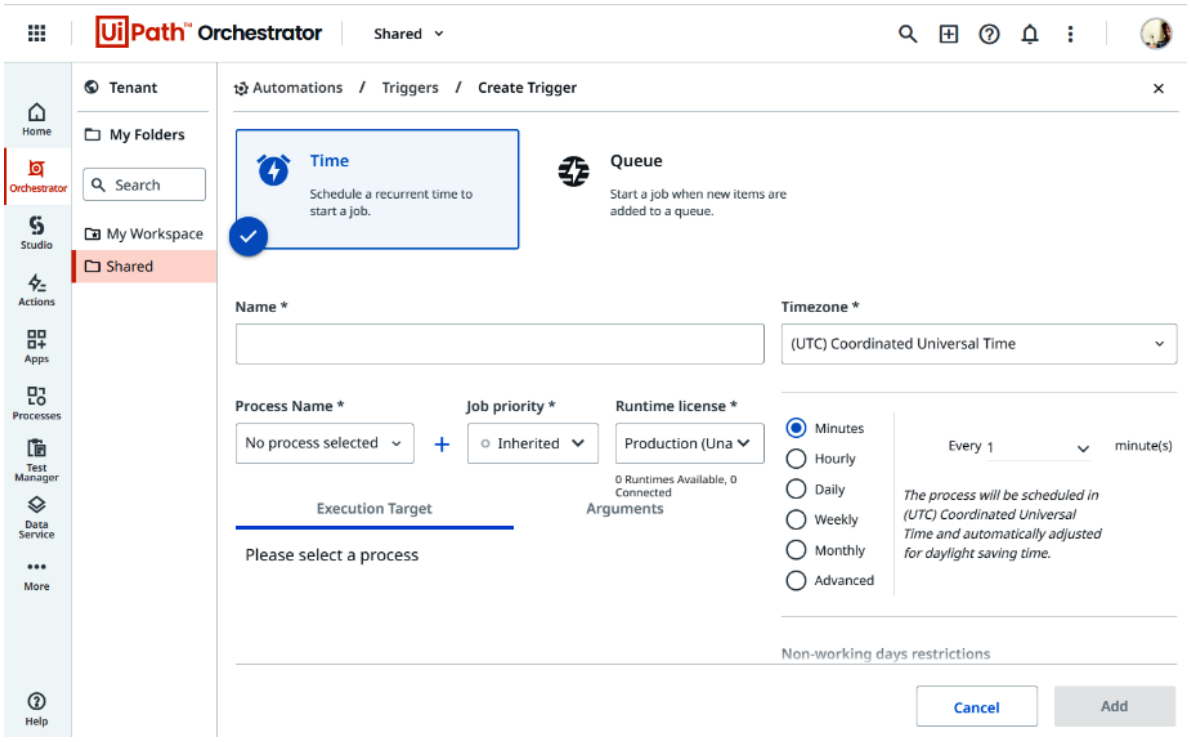

UiPath Orchestrator
My Workspace
Tenant
My Folders
Search
My Workspace
Shared
Home
Automations
Monitoring
Queues
Assets
Storage Buckets
Processes
Jobs
Triggers
My Packages
Logs
Search
Columns
Filters
Add process
Name
Version
Jo...
Execution...
Compatib...
Entry point
Description
Labels
Properties
MySecondRobot
1.0.1
Norma Unattended
Windows - L...
Main.xaml
Blank Proce...
1 - 1 / 1
Page 1 / 1
Items 10
Home
Orchestrator
Studio
Actions
Apps
Processes
Test Manager
Data Service
More
Help

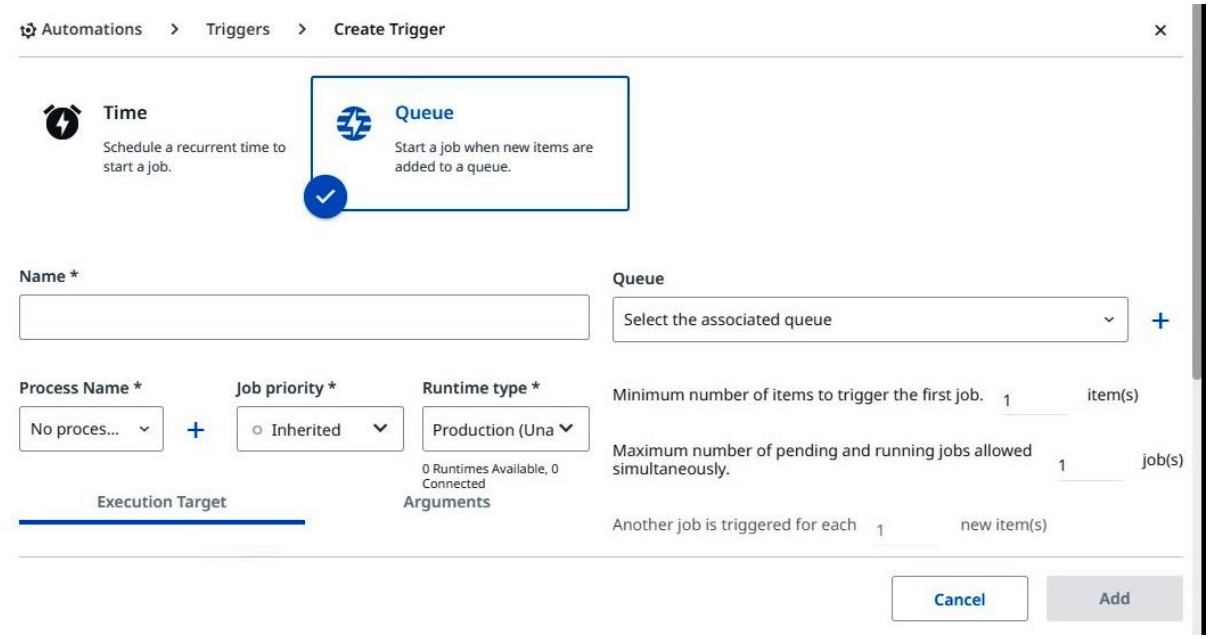

UiPath Orchestrator
Shared
Tenant
My Folders
Search
My Workspace
Shared
Automations / Processes / Add Process
1 Process Configuration
2 Package Requirements
3 Additional Settings
Package Overview
Package Source Name *
No package selected
Click to add file or drop package file here
Package Version
No version selected.
If your process is using UiPath.System.Activities you need version 19.9 or higher in order to execute it in a modern folder.
Runtime Arguments
Choose a package with a corresponding version in order to edit its entry point and arguments.
Cancel
Back
Next
Create
Home
Orchestrator
Studio
Actions
Apps
Processes
Test Manager
Data Service
More
Help

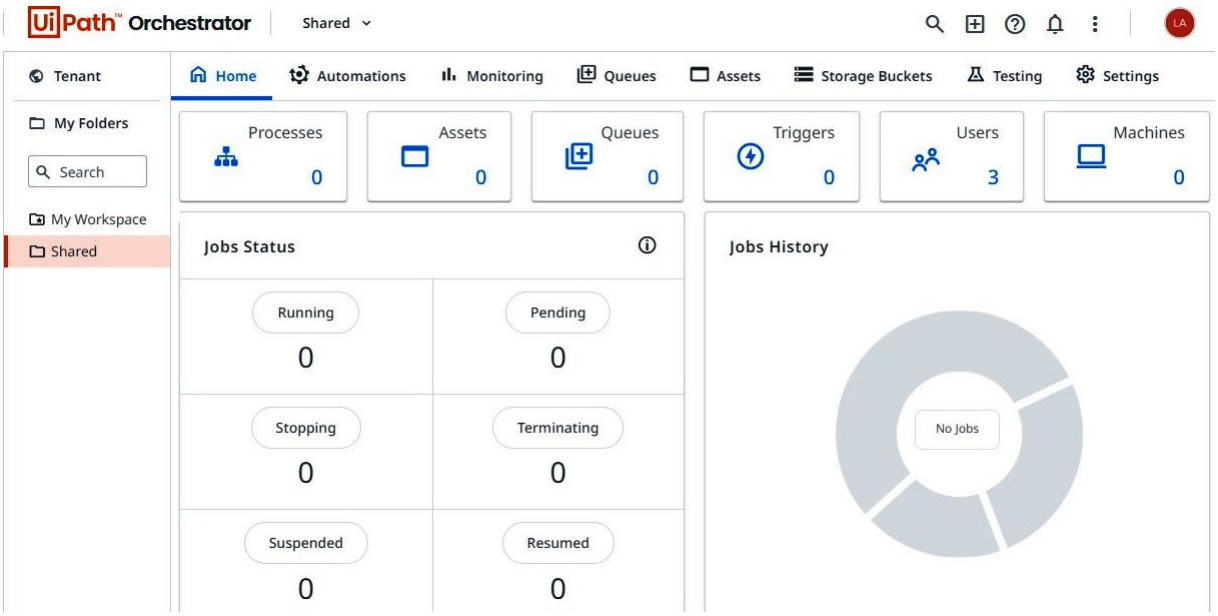

UiPath Orchestrator
Shared
Tenant
My Folders
Search
My Workspace
Shared
Home
Automations
Monitoring
Queues
Assets
Storage Buckets
Testing
Settings
Processes
Jobs
Triggers
Logs
Search
Columns
Filters (1)
Start
Process
Hostname
Host Identity
Job type
Runtime license
State
Priority
Started
Ended
Sou...
No results to display with current filters applied.
1 - 10 / 0
Page 1
Items 10
Home
Orchestrator
Studio
Actions
Apps
Processes
Test Manager
Data Service
More
Help

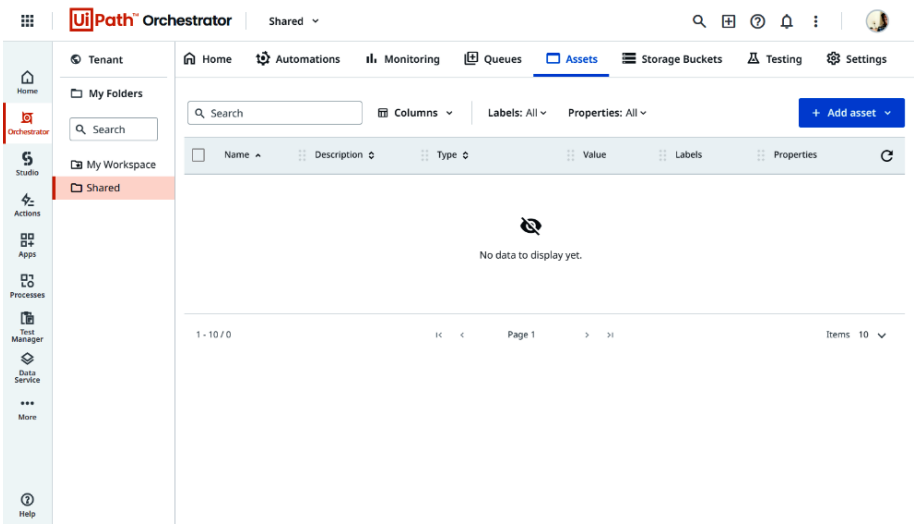

UiPath Orchestrator
Shared
Tenant
My Folders
Search
My Workspace
Shared
Automations / Jobs / Start Job
Process Name *
No process selected
Job priority *
Normal
Runtime license *
No runtimes available
Execution Target
Arguments
Allocate dynamically
Execute the process 1 times
Schedule ending of job execution
Account
Any User/Robot account
Search for Robot or User accounts with Unattended robots assigned to this folder.
Machine
Any machine
Search for any configured machine or template
Keep Account/Machine allocation on job resumption
Cancel
Start
Home
Orchestrator
Studio
Actions
Apps
Processes
Test Manager
Data Service
More
Help

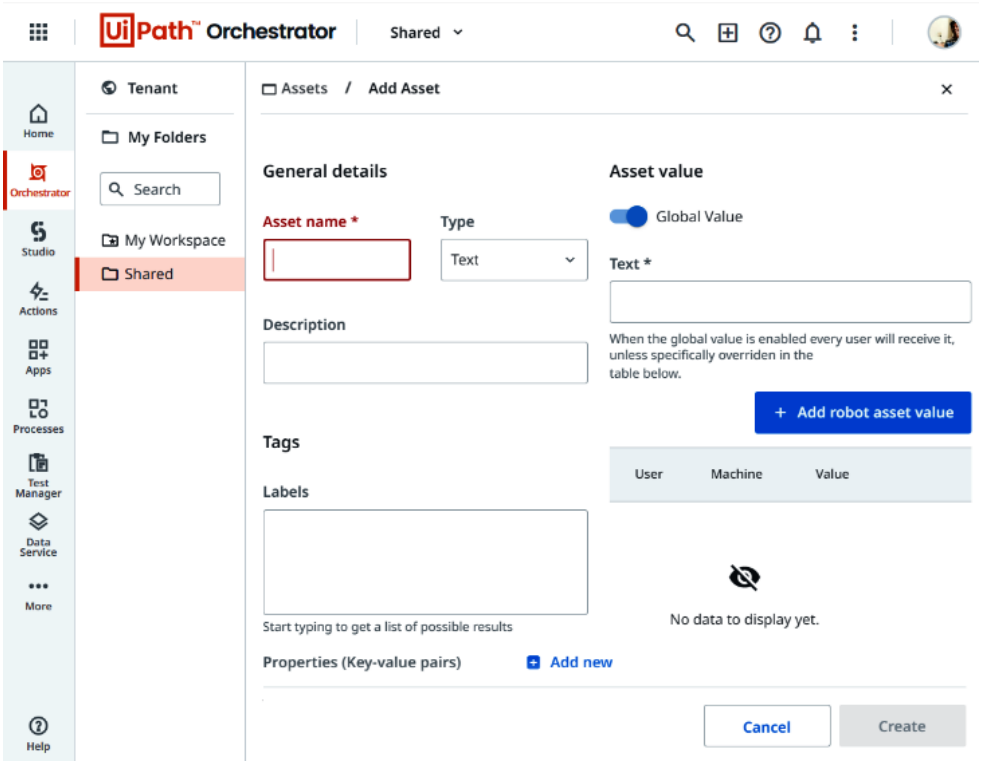

UiPath Orchestrator
Shared
Tenant
My Folders
Search
My Workspace
Shared
Home
Automations
Monitoring
Queues
Assets
Storage Buckets
Testing
Settings
Processes
Jobs
Triggers
Logs
Search
Columns
State: All
Type: All
Job priority: All
+ Add a new trigger
Name
Process
Type
Trigger Details
Job p...
Next Run Time
Stop After
No data to display yet.
1 - 10 / 0
Page 1
Items 10
Home
Orchestrator
Studio
Actions
Apps
Processes
Test Manager
Data Service
More
Help

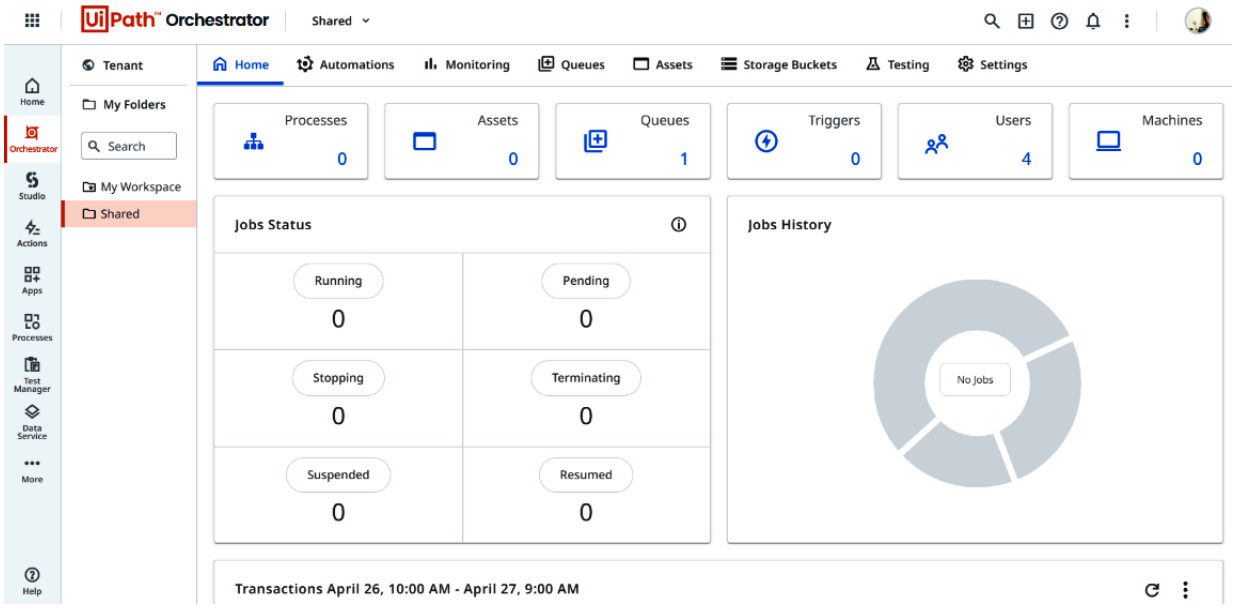

UiPath Orchestrator
Shared
Tenant
My Folders
Search
My Workspace
Shared
Automations / Triggers / Create Trigger
Time
Schedule a recurrent time to start a job.
Queue
Start a job when new items are added to a queue.
Name *
Timezone *
(UTC) Coordinated Universal Time
Process Name *
No process selected
Job priority *
Inherited
Runtime license *
Production (Una
0 Runtimes Available, 0 Connected
Execution Target
Arguments
Please select a process
Minutes
Hourly
Daily
Weekly
Monthly
Advanced
Every 1
minute(s)
The process will be scheduled in (UTC) Coordinated Universal Time and automatically adjusted for daylight saving time.
Non-working days restrictions
Cancel
Add
Home
Orchestrator
Studio
Actions
Apps
Processes
Test Manager
Data Service
More
Help

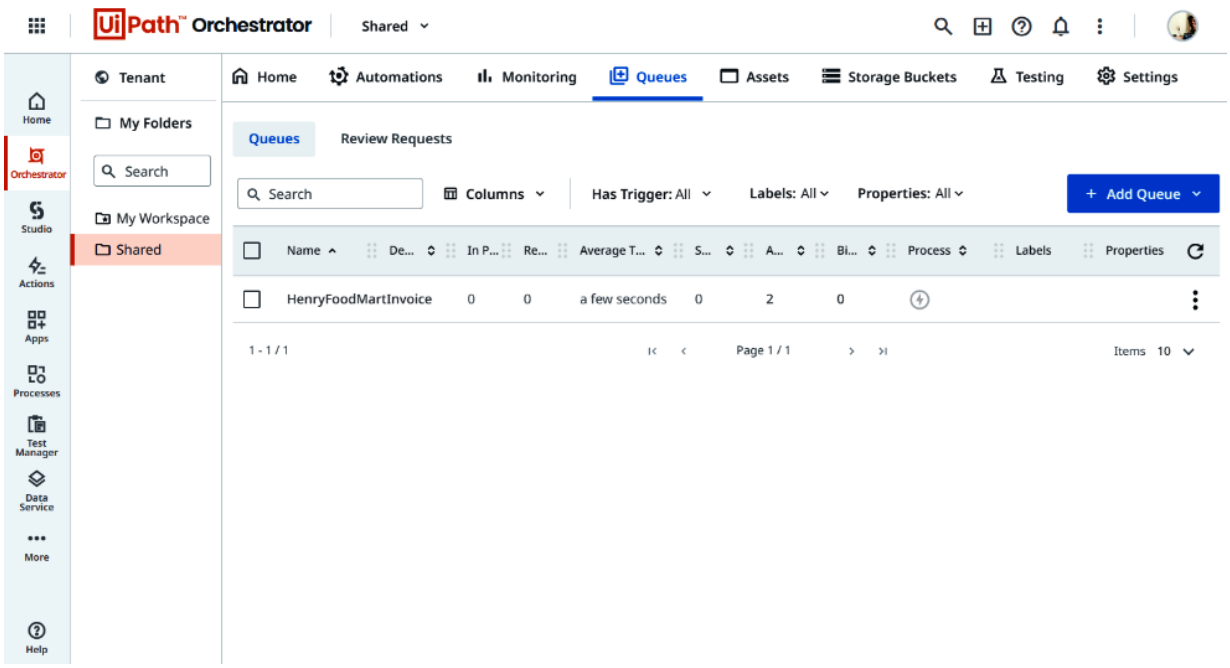

Automations
Triggers
Create Trigger
Time
Schedule a recurrent time to start a job.
Queue
Start a job when new items are added to a queue.
Name *
Queue
Select the associated queue
Process Name *
No proces...
Job priority *
Inherited
Runtime type *
Production (Una
0 Runtimes Available, 0 Connected
Minimum number of items to trigger the first job.
1
item(s)
Maximum number of pending and running jobs allowed simultaneously.
1
job(s)
Execution Target
Arguments
Another job is triggered for each
1
new item(s)
Cancel
Add

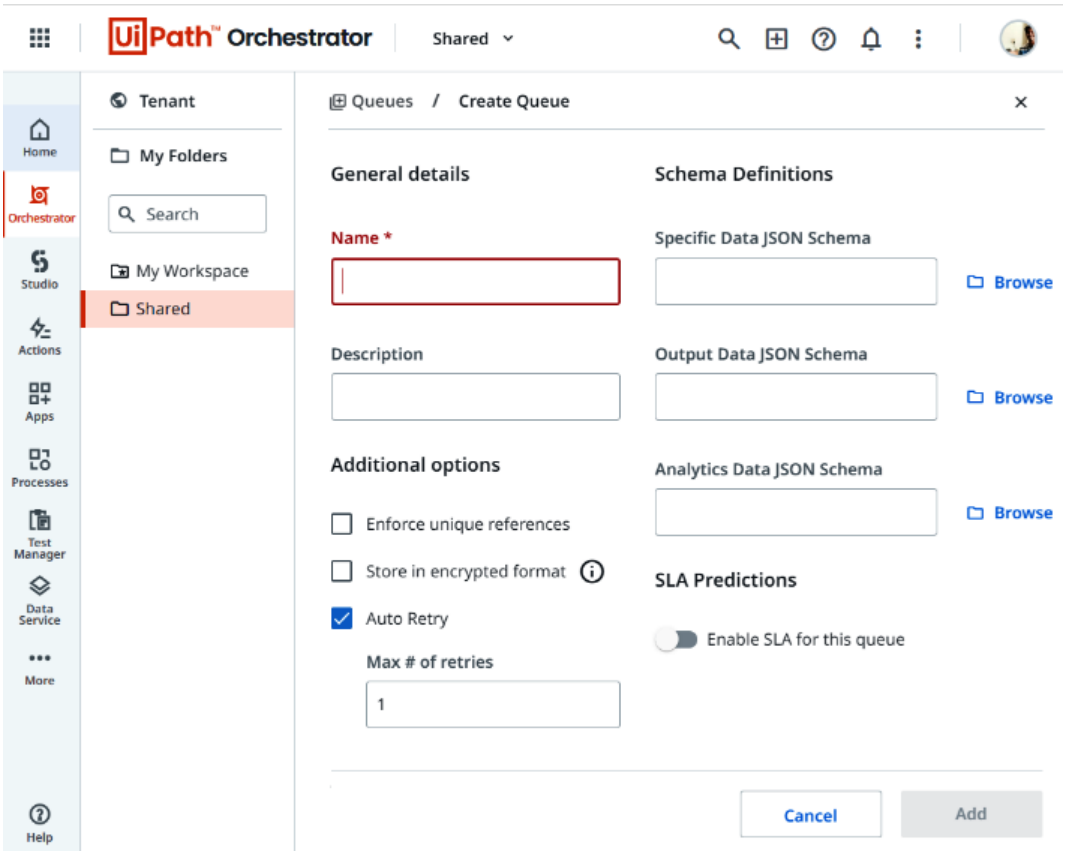

UiPath Orchestrator
Shared
Tenant
My Folders
Search
My Workspace
Shared
Home
Automations
Monitoring
Queues
Assets
Storage Buckets
Testing
Settings
Processes
0
Assets
0
Queues
0
Triggers
0
Users
3
Machines
0
Jobs Status
Running
0
Pending
0
Stopping
0
Terminating
0
Suspended
0
Resumed
0
Jobs History
No Jobs


UiPath Orchestrator
Shared
Tenant
My Folders
Search
My Workspace
Shared
Home
Automations
Monitoring
Queues
Assets
Storage Buckets
Testing
Settings
Search
Columns
Labels: All
Properties: All
Add asset
Name
Description
Type
Value
Labels
Properties
No data to display yet.
1 - 10 / 0
Page 1
Items 10

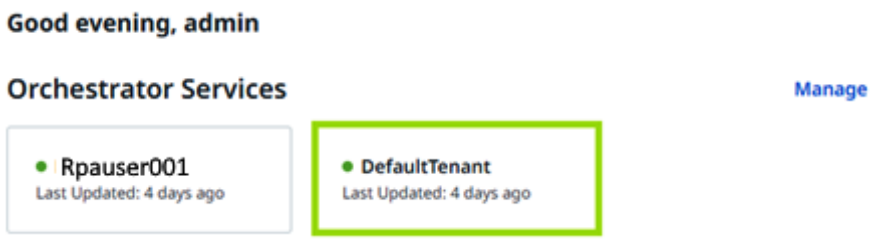

UiPath Orchestrator
Shared
Tenant
My Folders
Search
My Workspace
Shared
Assets / Add Asset
General details
Asset name *
Type
Text
Description
Tags
Labels
Start typing to get a list of possible results
Properties (Key-value pairs)
Add new
Asset value
Global Value
Text *
When the global value is enabled every user will receive it, unless specifically overriden in the table below.
+ Add robot asset value
User
Machine
Value
No data to display yet.
Cancel
Create
Home
Orchestrator
Studio
Actions
Apps
Processes
Test Manager
Data Service
More
Help

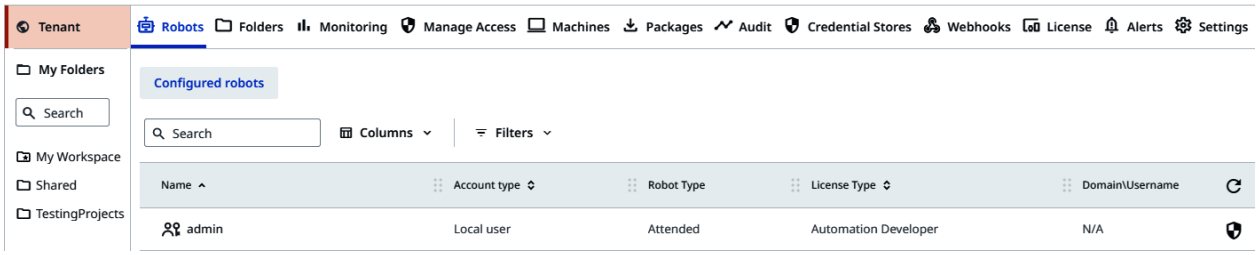

UiPath Orchestrator
Shared
Tenant
My Folders
Search
My Workspace
Shared
Home
Automations
Monitoring
Queues
Assets
Storage Buckets
Testing
Settings
Processes 0
Assets 0
Queues 1
Triggers 0
Users 4
Machines 0
Jobs Status
Running 0
Pending 0
Stopping 0
Terminating 0
Suspended 0
Resumed 0
Jobs History
No Jobs
Transactions April 26, 10:00 AM - April 27, 9:00 AM

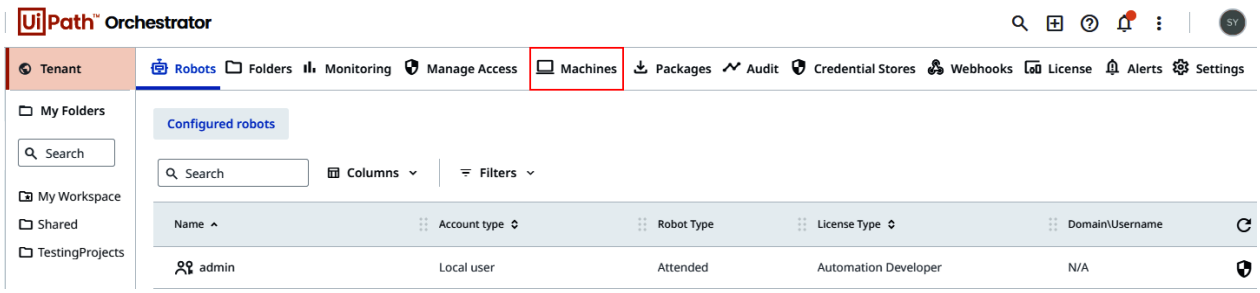

UiPath Orchestrator
Shared
Tenant
My Folders
Search
My Workspace
Shared
Home
Automations
Monitoring
Queues
Assets
Storage Buckets
Testing
Settings
Queues
Review Requests
Search
Columns
Has Trigger: All
Labels: All
Properties: All
Add Queue
Name
De...
In P...
Re...
Average T...
S...
A...
Bi...
Process
Labels
Properties
HenryFoodMartInvoice
0
0
a few seconds
0
2
0
1 - 1 / 1
Page 1 / 1
Items 10
Home
Orchestrator
Studio
Actions
Apps
Processes
Test Manager
Data Service
More
Help

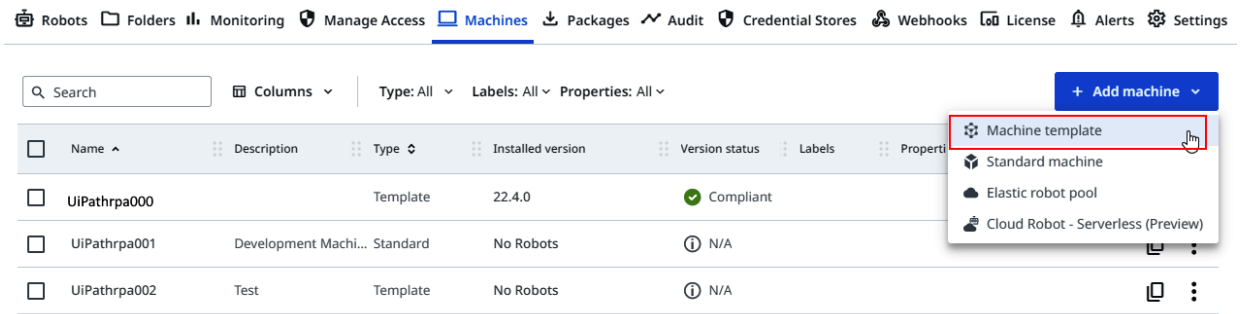

UiPath Orchestrator
Shared
Tenant
My Folders
Search
My Workspace
Shared
Queues / Create Queue
General details
Name *
Description
Additional options
Enforce unique references
Store in encrypted format
Auto Retry
Max # of retries
1
Schema Definitions
Specific Data JSON Schema
Browse
Output Data JSON Schema
Browse
Analytics Data JSON Schema
Browse
SLA Predictions
Enable SLA for this queue
Cancel
Add
Home
Orchestrator
Studio
Actions
Apps
Processes
Test Manager
Data Service
More
Help

# Chapter 04: Create, Deploy, and Execute RPA Process on the UiPath Ecosystem



Machines / Standard machine

1 Machine — 2 Maintenance Optional

Backwards compatibility configuration for classic folders setups, with limited functionality. For modern folder setups, we recommend using Machine Templates instead.

**General details**

**Name ***

UiPathrpa001

Has to be an exact match to the name of the workstation the Robot is installed on.

**Description**

Development machines for automation processes

**Runtime license (execution slots)**

**Production (Unattended) ***

1

**Testing ***

0

**Tags**

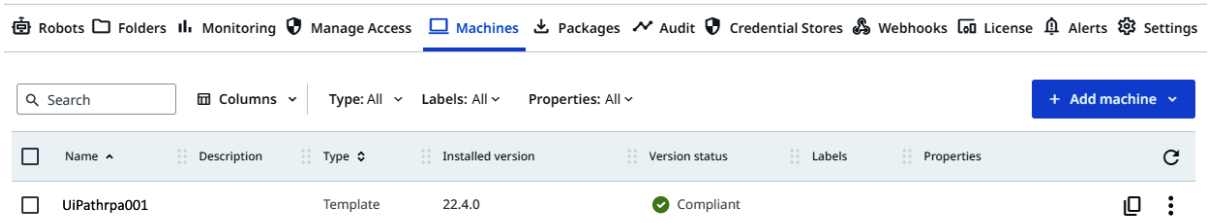
**Labels**

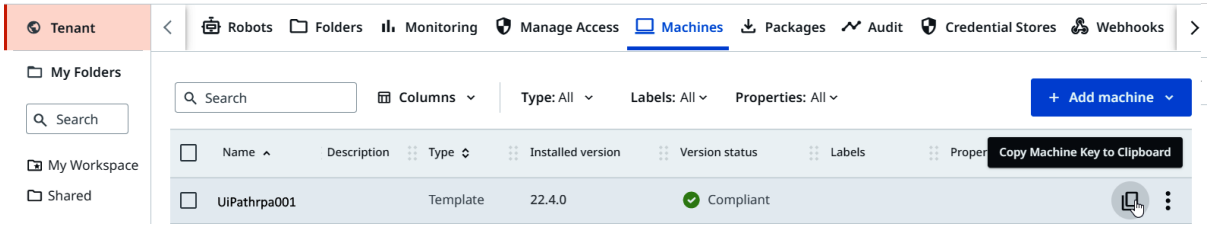
Start typing to get a list of possible results

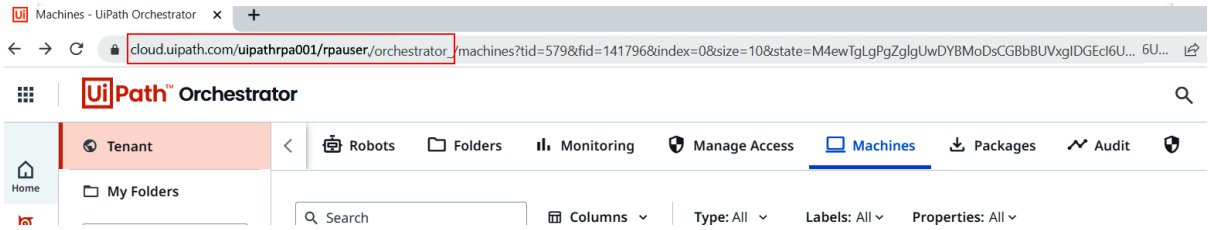
**Properties (Key-value pairs)** Add new

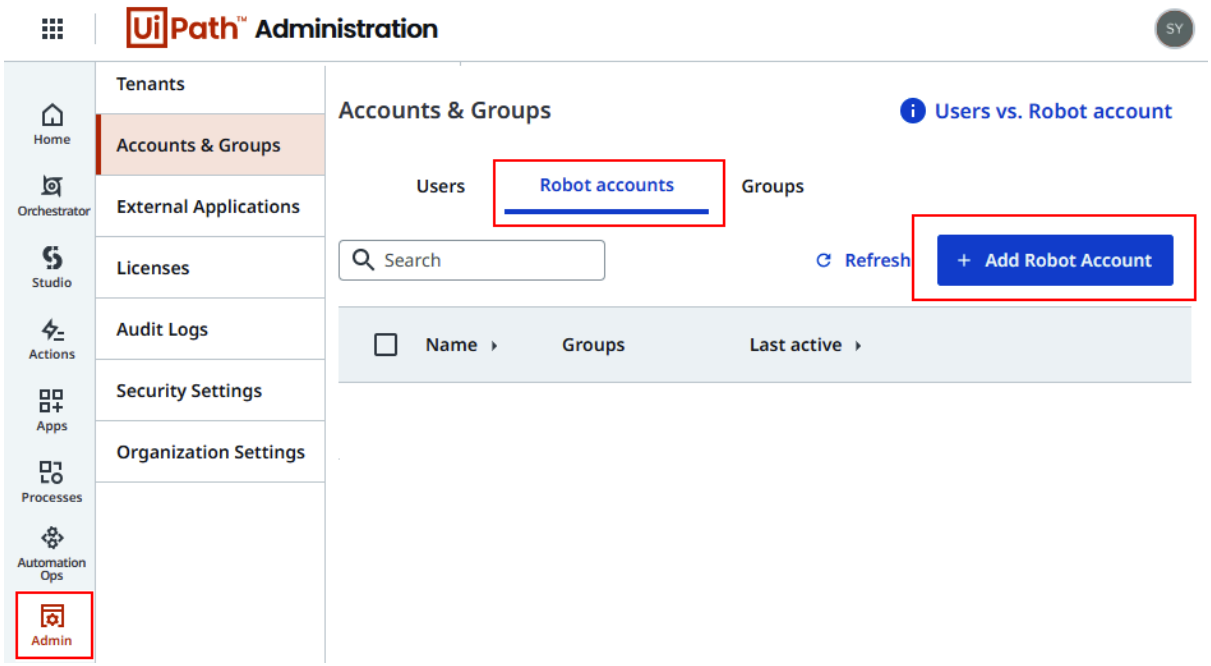
This object contains no properties.

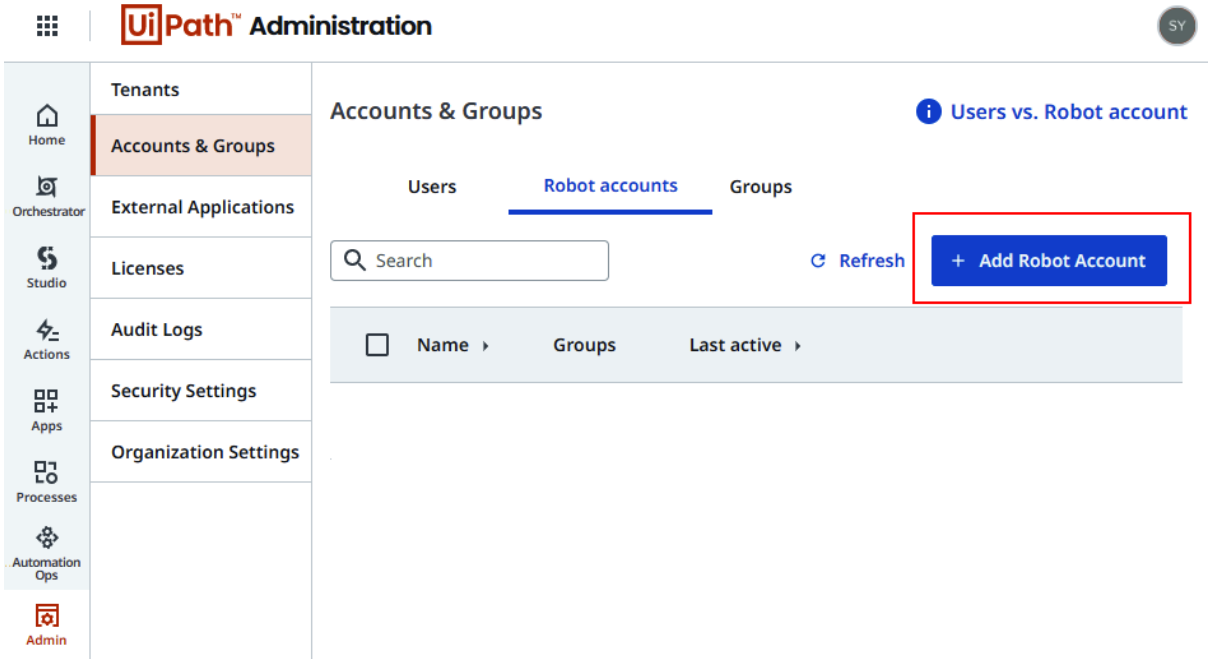
Cancel Provision

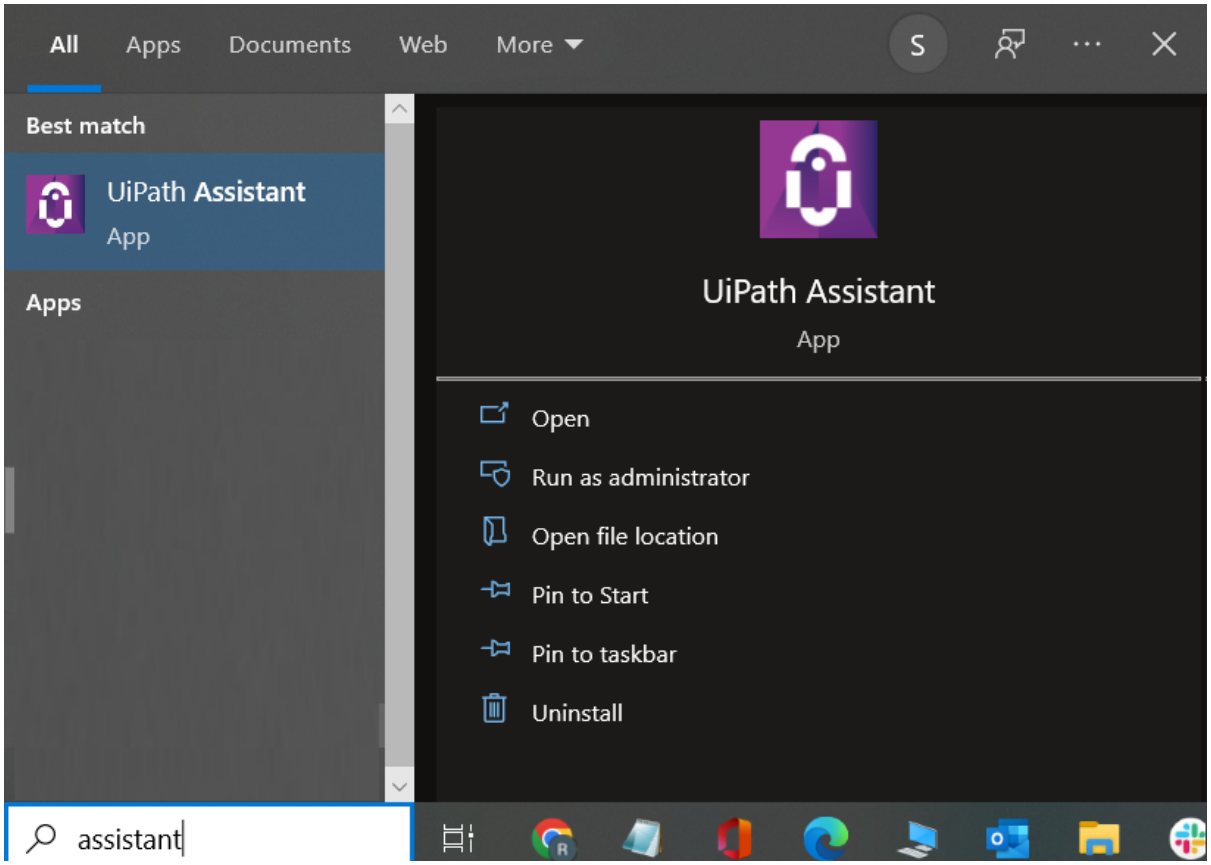


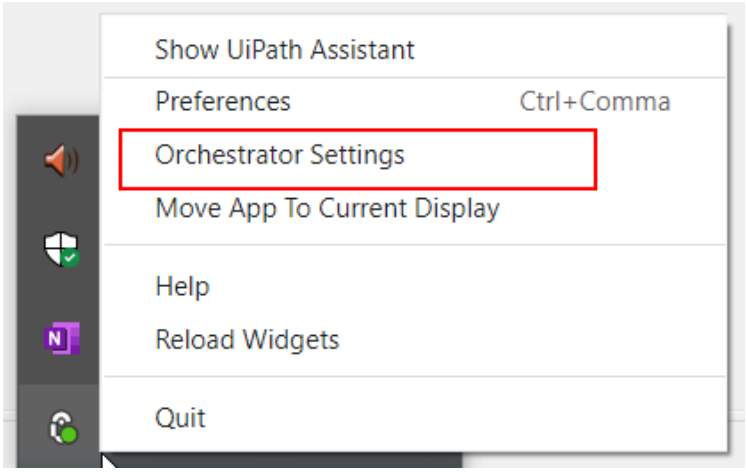



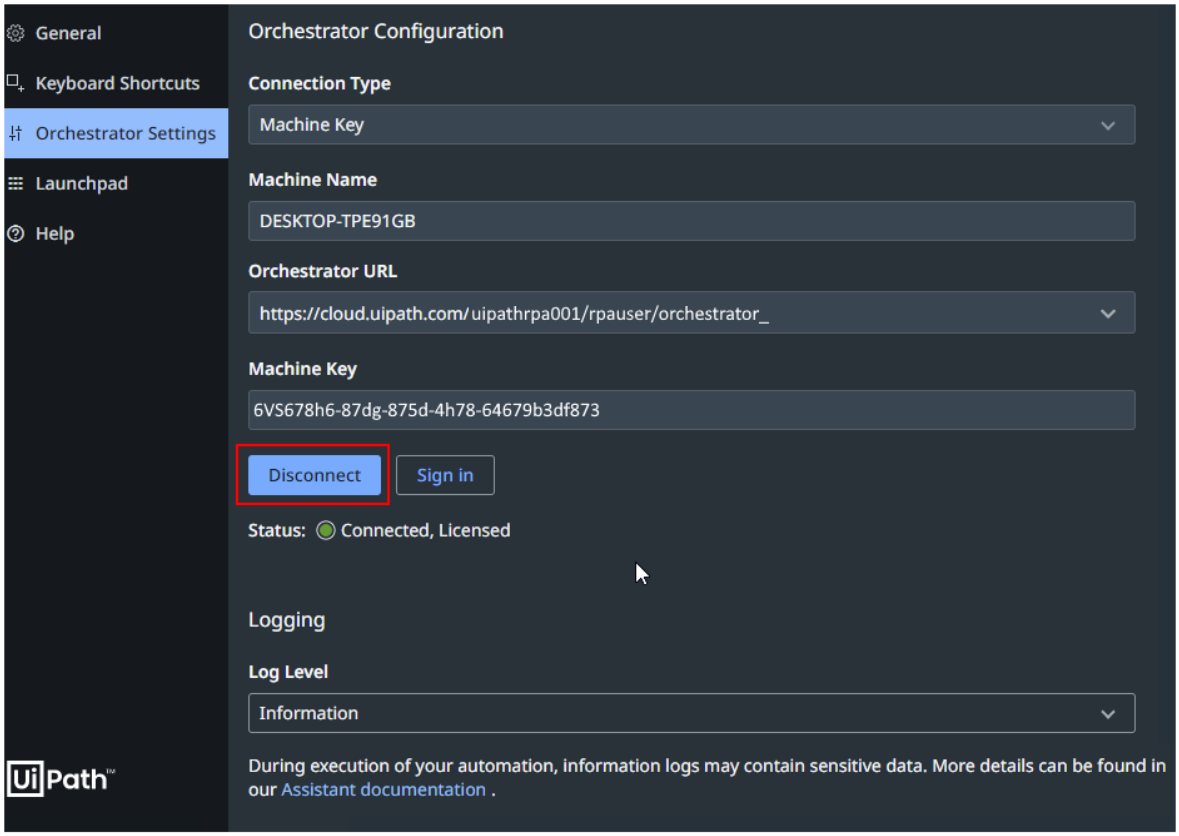



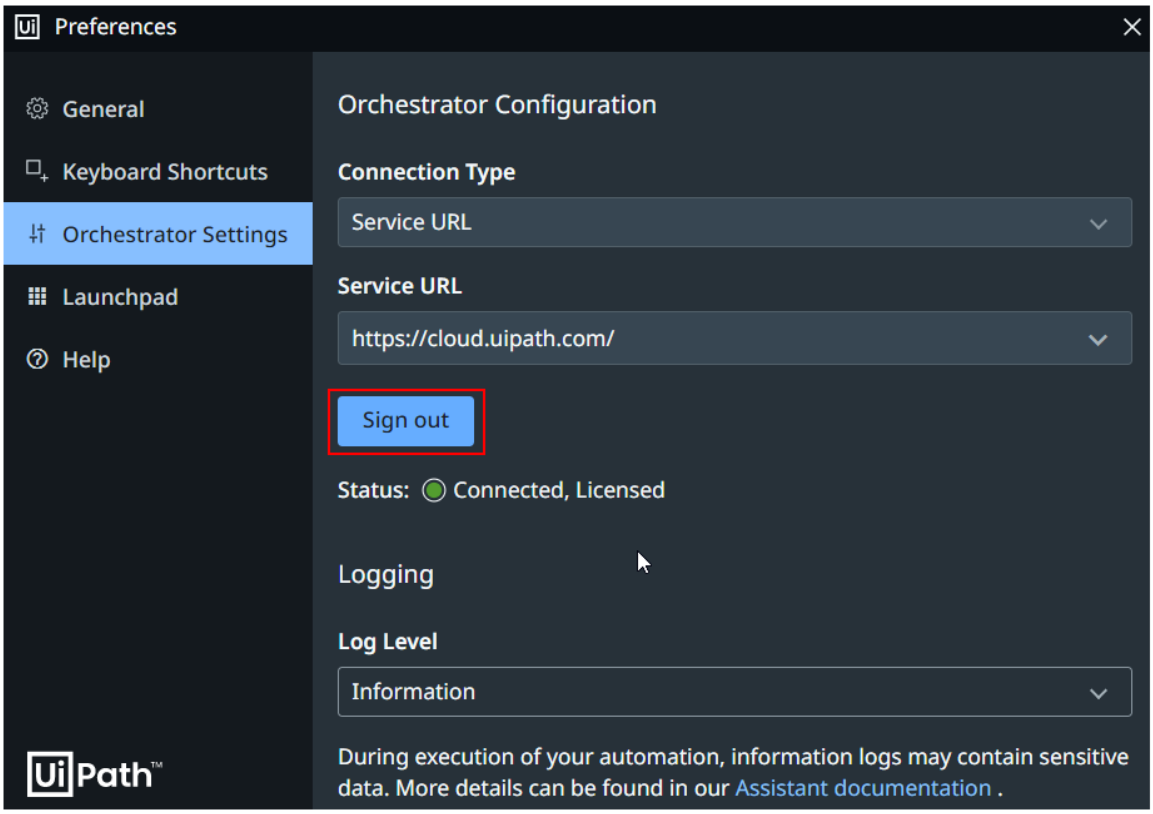

UiPath Administration
SY
Home
Orchestrator
Studio
Actions
Apps
Processes
Automation Ops
Admin
Tenants
Accounts & Groups
External Applications
Licenses
Audit Logs
Security Settings
Organization Settings
Accounts & Groups
Users vs. Robot account
Users
Robot accounts
Groups
Search
Refresh
+ Add Robot Account
Name
Groups
Last active

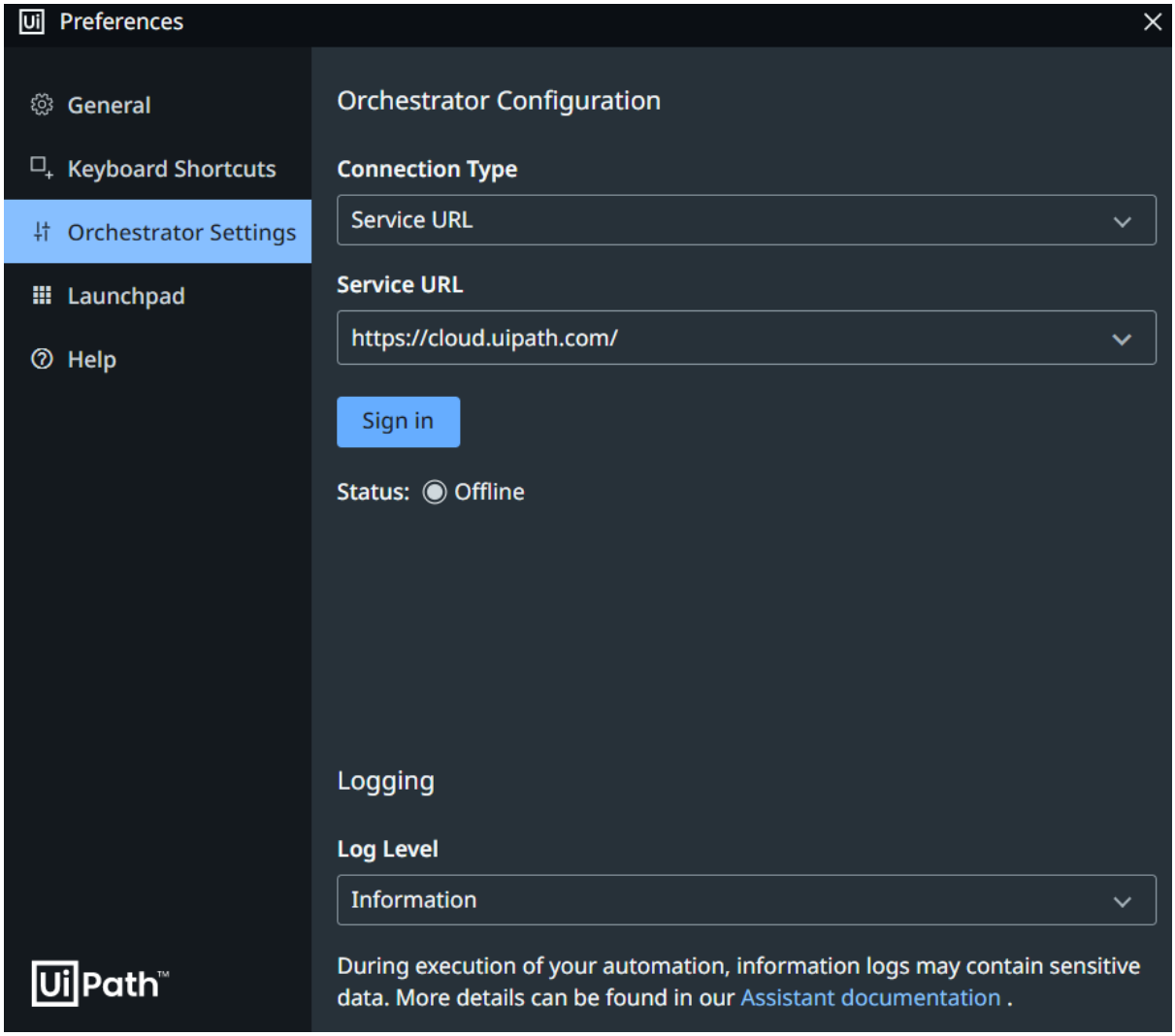

UiPath Administration
SY
Home
Orchestrator
Studio
Actions
Apps
Processes
Automation Ops
Admin
Tenants
Accounts & Groups
External Applications
Licenses
Audit Logs
Security Settings
Organization Settings
Accounts & Groups
Users vs. Robot account
Users
Robot accounts
Groups
Search
Refresh
+ Add Robot Account
Name
Groups
Last active

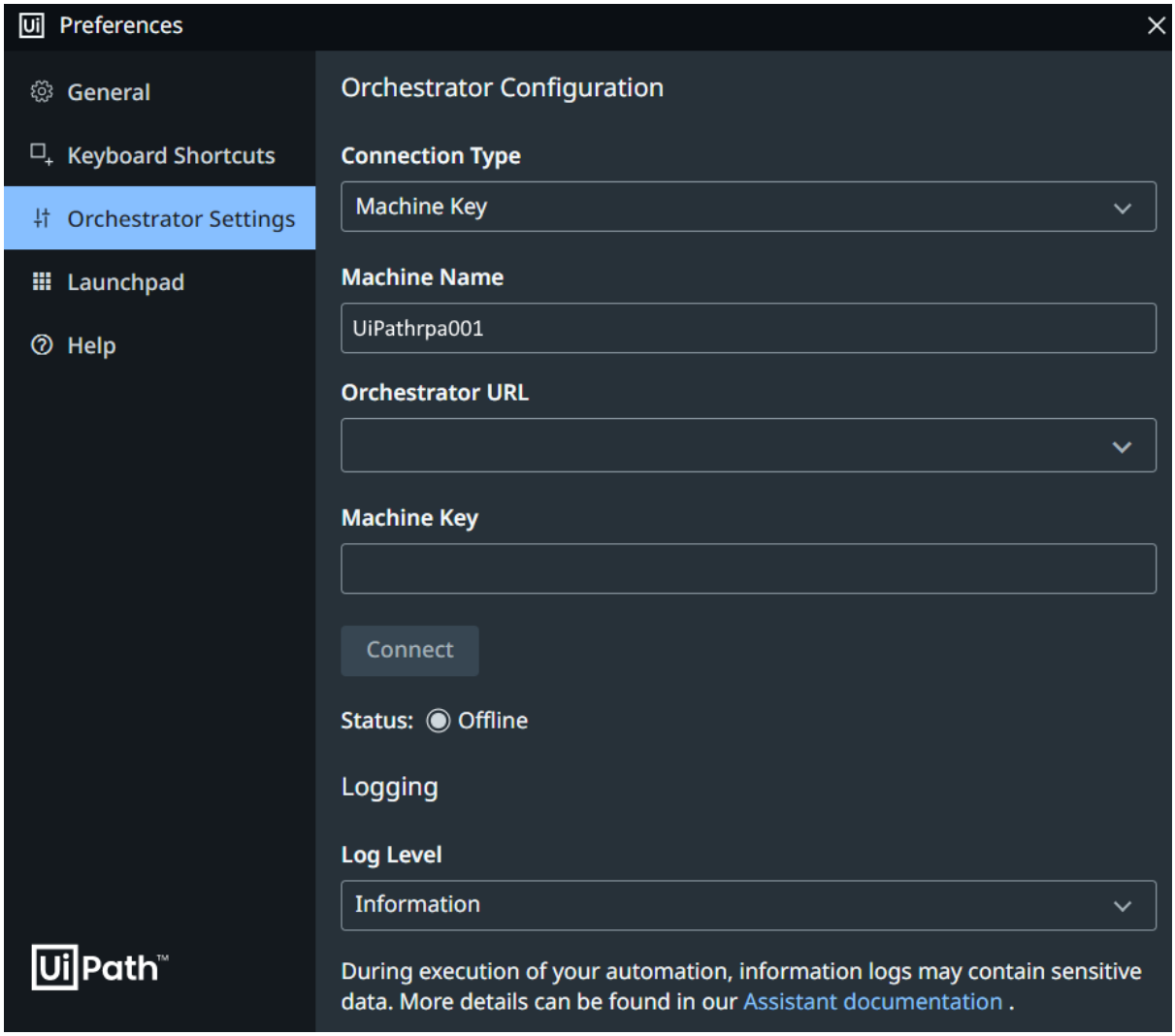

All
Apps
Documents
Web
More
S
Best match
UiPath Assistant
App
Apps
UiPath Assistant
App
Open
Run as administrator
Open file location
Pin to Start
Pin to taskbar
Uninstall
assistant

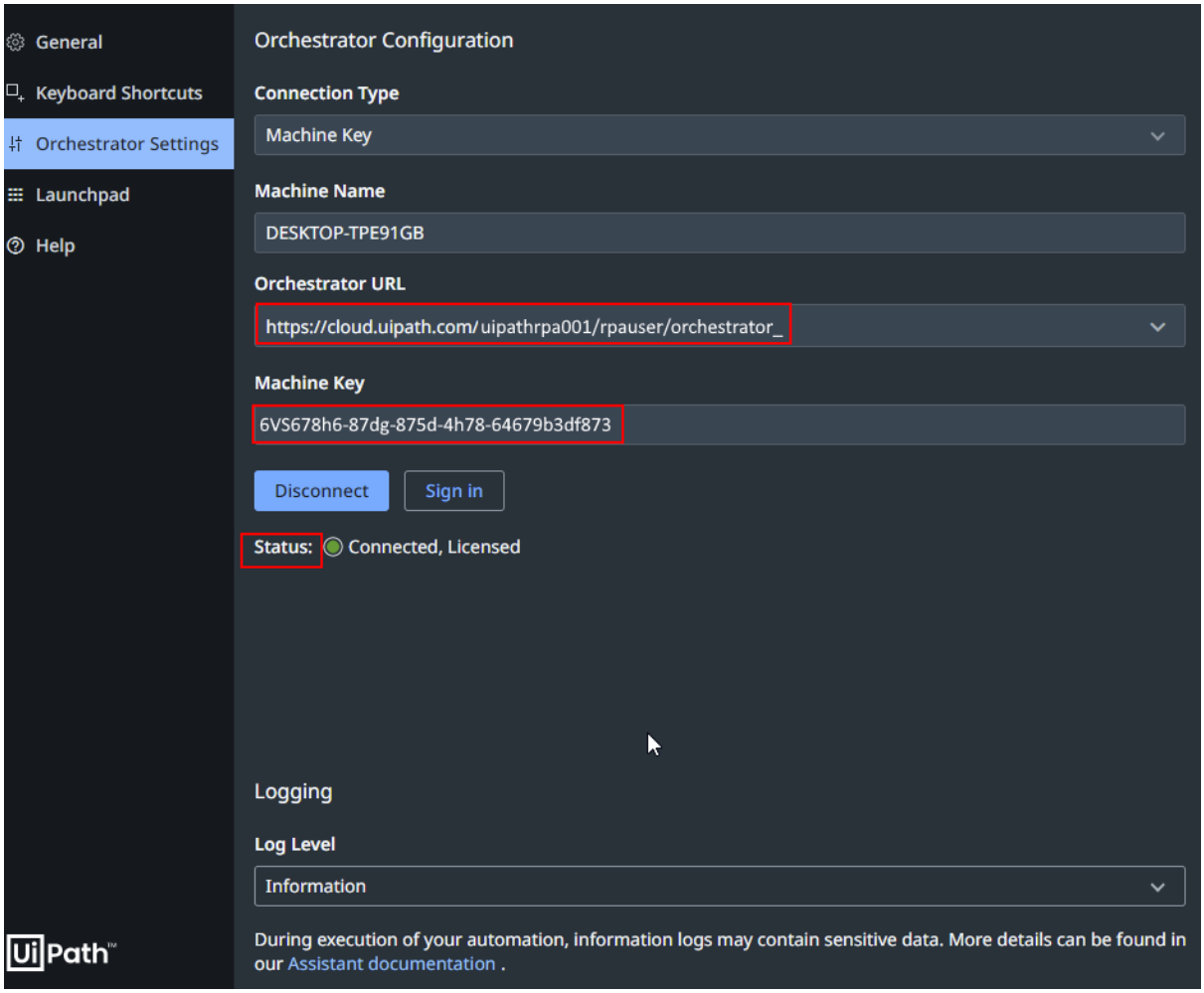

Show UiPath Assistant
Preferences
Ctrl+Comma
Orchestrator Settings
Move App To Current Display
Help
Reload Widgets
Quit

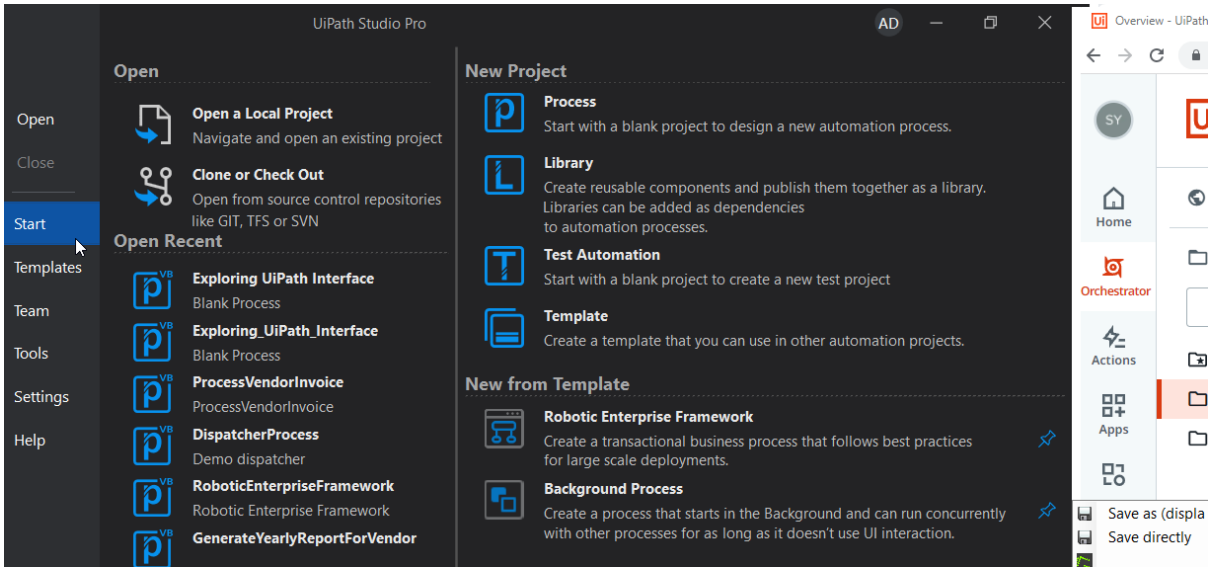

General
Keyboard Shortcuts
Orchestrator Settings
Launchpad
Help
Orchestrator Configuration
Connection Type
Machine Key
Machine Name
DESKTOP-TPE91GB
Orchestrator URL
https://cloud.uipath.com/uipathrpa001/rpauser/orchestrator_
Machine Key
6VS678h6-87dg-875d-4h78-64679b3df873
Disconnect
Sign in
Status: Connected, Licensed
Logging
Log Level
Information
During execution of your automation, information logs may contain sensitive data. More details can be found in our Assistant documentation .

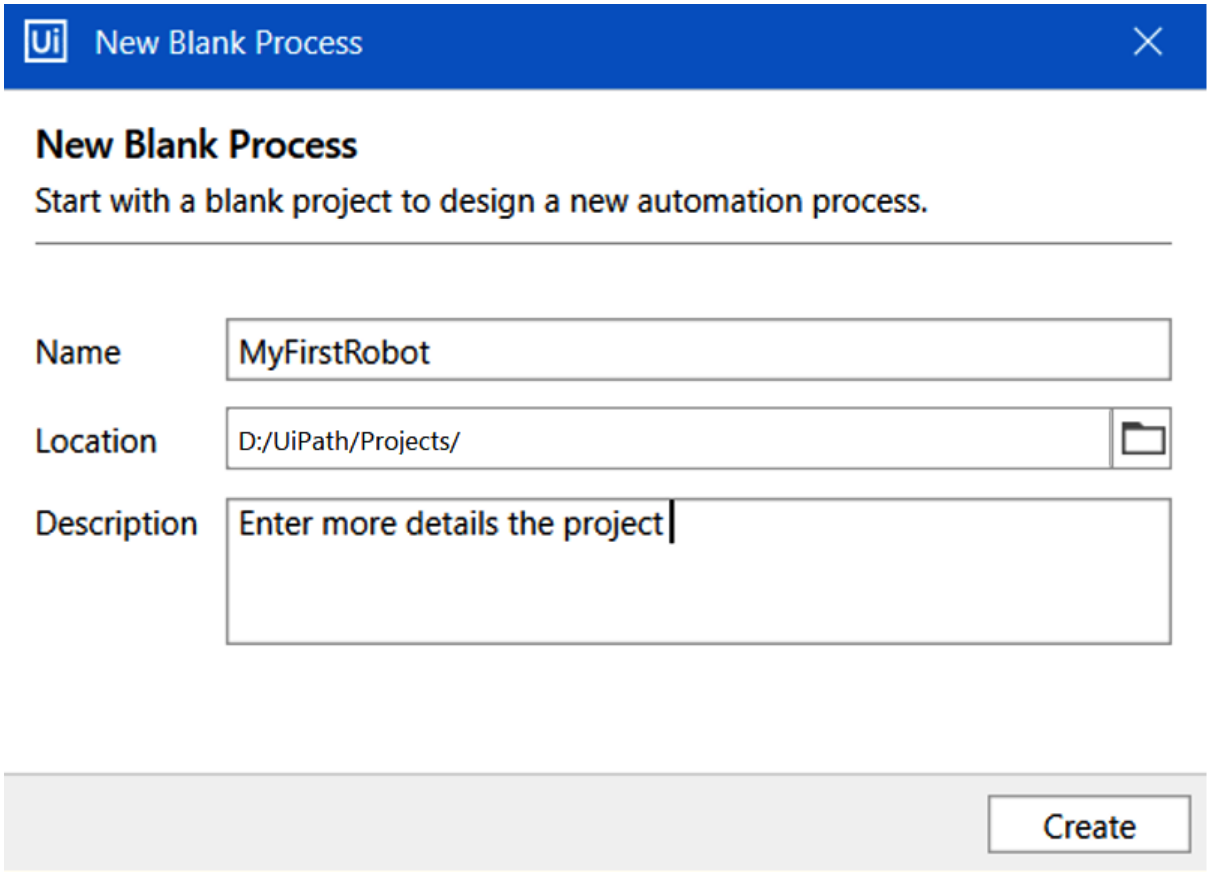

Preferences
General
Keyboard Shortcuts
Orchestrator Settings
Launchpad
Help
Orchestrator Configuration
Connection Type
Service URL
Service URL
https://cloud.uipath.com/
Sign out
Status: Connected, Licensed
Logging
Log Level
Information
During execution of your automation, information logs may contain sensitive data. More details can be found in our Assistant documentation .

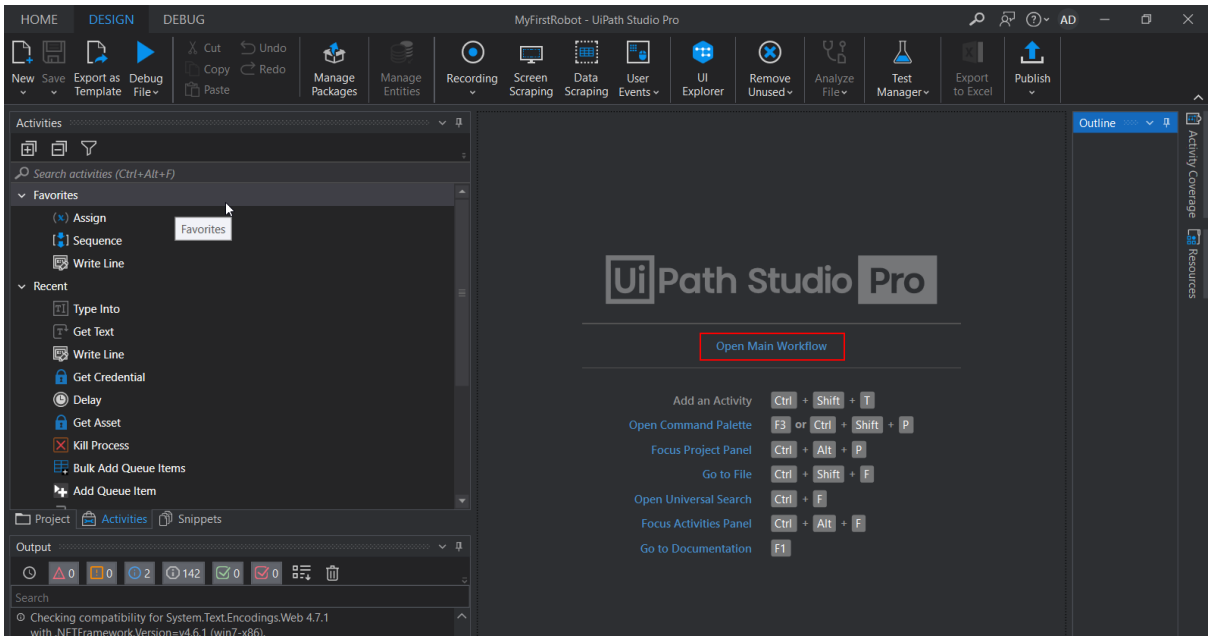

Preferences
General
Keyboard Shortcuts
Orchestrator Settings
Launchpad
Help
Orchestrator Configuration
Connection Type
Service URL
Service URL
https://cloud.uipath.com/
Sign in
Status: Offline
Logging
Log Level
Information
During execution of your automation, information logs may contain sensitive data. More details can be found in our Assistant documentation .

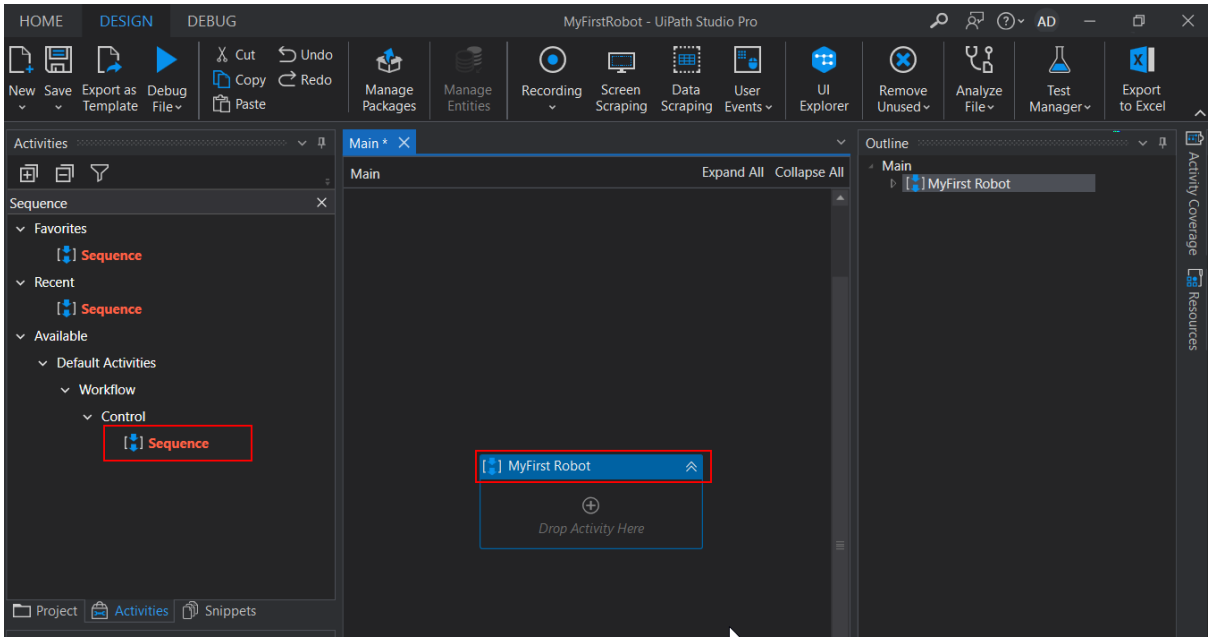

Preferences
General
Keyboard Shortcuts
Orchestrator Settings
Launchpad
Help
Orchestrator Configuration
Connection Type
Machine Key
Machine Name
UiPathrpa001
Orchestrator URL
Machine Key
Connect
Status: Offline
Logging
Log Level
Information
During execution of your automation, information logs may contain sensitive data. More details can be found in our Assistant documentation .

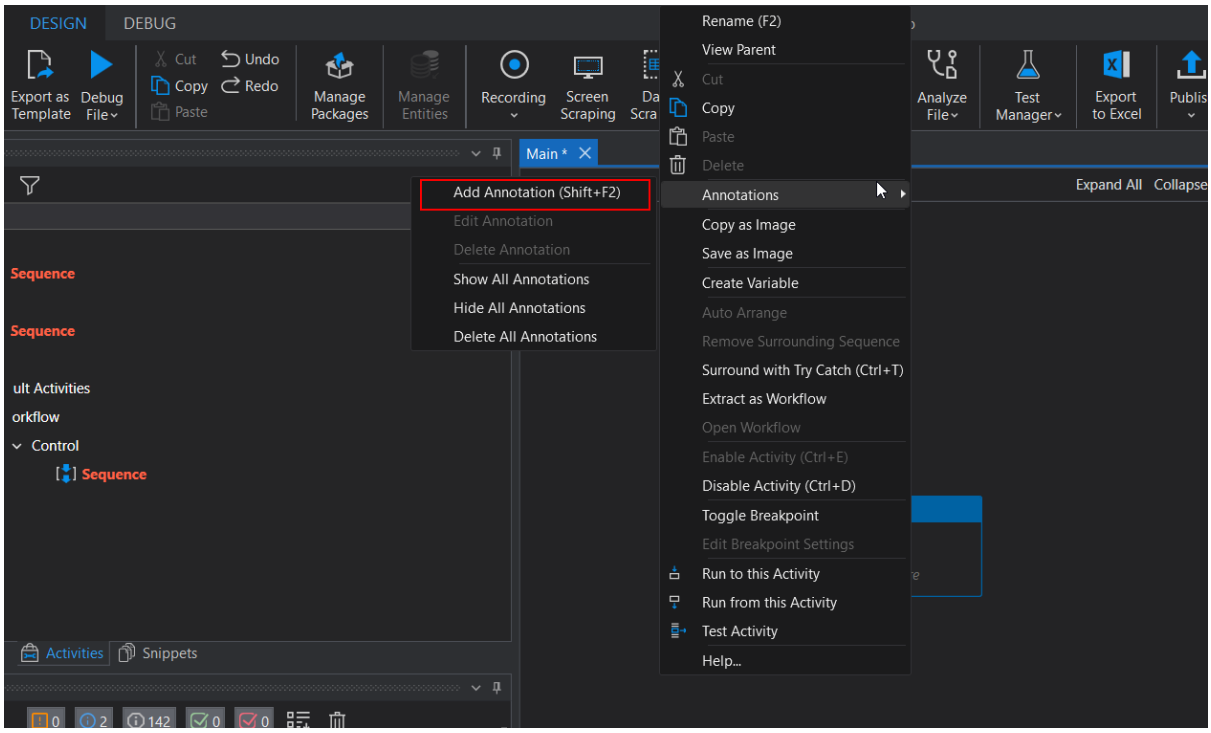

General
Keyboard Shortcuts
Orchestrator Settings
Launchpad
Help
Orchestrator Configuration
Connection Type
Machine Key
Machine Name
DESKTOP-TPE91GB
Orchestrator URL
https://cloud.uipath.com/uipathrpa001/rpauser/orchestrator_
Machine Key
6VS678h6-87dg-875d-4h78-64679b3df873
Disconnect
Sign in
Status:
Connected, Licensed
Logging
Log Level
Information
During execution of your automation, information logs may contain sensitive data. More details can be found in our Assistant documentation .

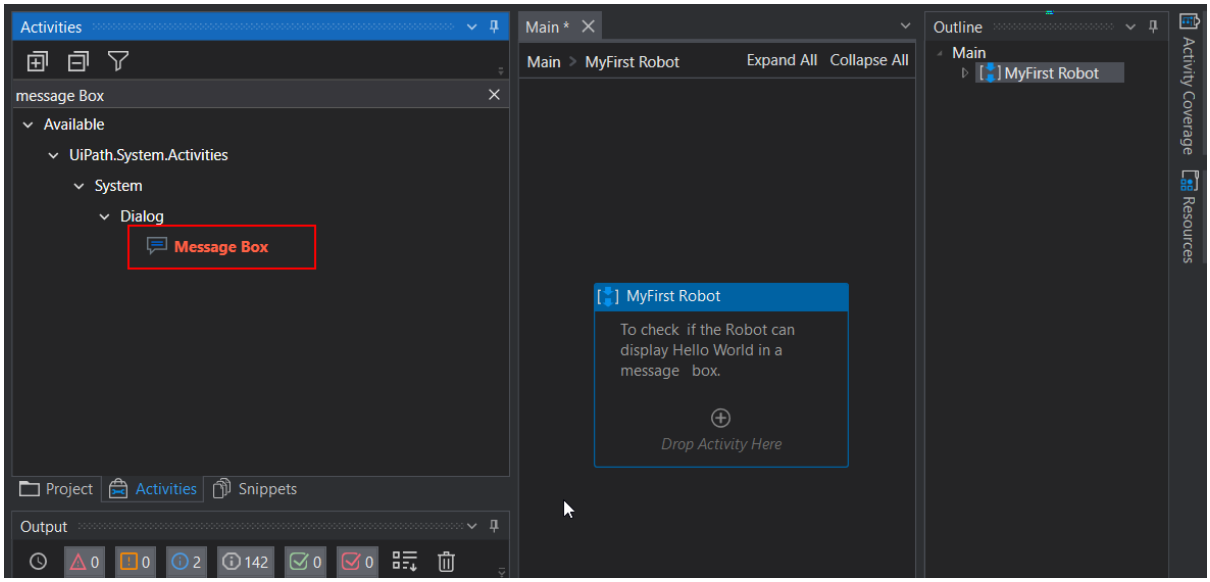

UiPath Studio Pro
Open
Close
Start
Templates
Team
Tools
Settings
Help
Open
Open a Local Project
Navigate and open an existing project
Clone or Check Out
Open from source control repositories like GIT, TFS or SVN
Open Recent
Exploring UiPath Interface
Blank Process
Exploring_UiPath_Interface
Blank Process
ProcessVendorInvoice
ProcessVendorInvoice
DispatcherProcess
Demo dispatcher
RoboticEnterpriseFramework
Robotic Enterprise Framework
GenerateYearlyReportForVendor
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.
Test Automation
Start with a blank project to create a new test project
Template
Create a template that you can use in other automation projects.
New from Template
Robotic Enterprise Framework
Create a transactional business process that follows best practices for large scale deployments.
Background Process
Create a process that starts in the Background and can run concurrently with other processes for as long as it doesn't use UI interaction.
Overview - UiPath
Home
Orchestrator
Actions
Apps
Save as (displa
Save directly

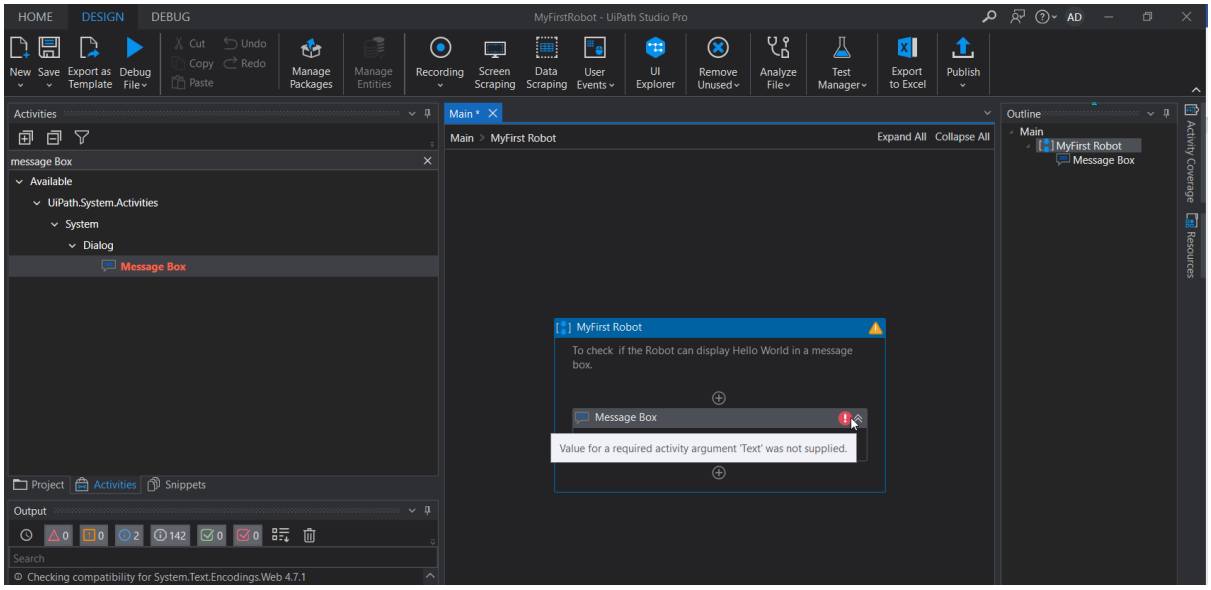

New Blank Process
New Blank Process
Start with a blank project to design a new automation process.
Name
MyFirstRobot
Location
D:/UiPath/Projects/
Description
Enter more details the project
Create

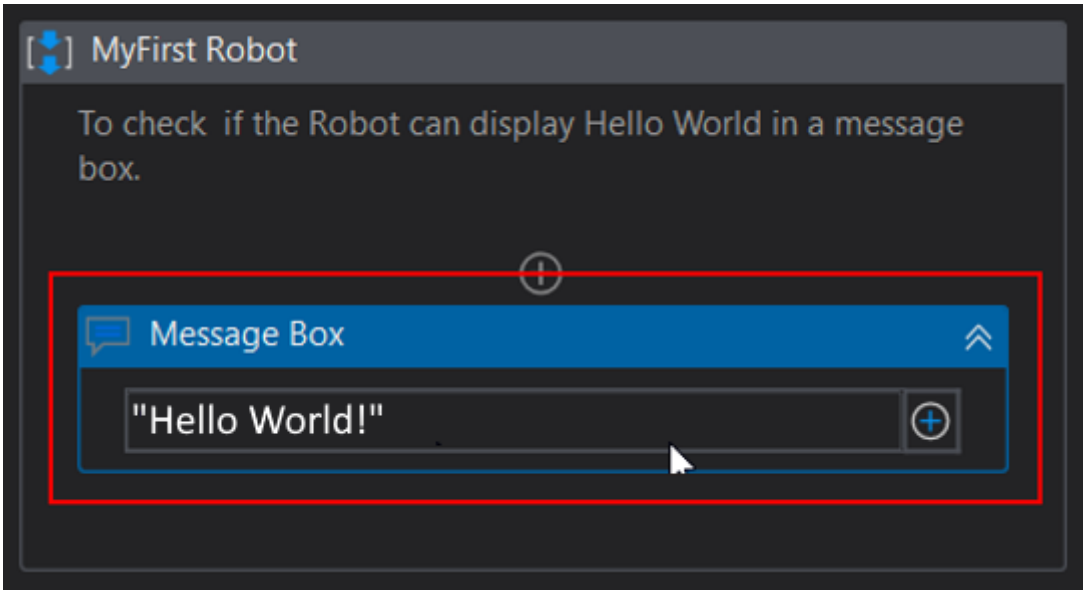

HOME
DESIGN
DEBUG
MyFirstRobot - UiPath Studio Pro
New
Save
Export as Template
Debug File
Cut
Copy
Paste
Undo
Redo
Manage Packages
Manage Entities
Recording
Screen Scraping
Data Scraping
User Events
UI Explorer
Remove Unused
Analyze File
Test Manager
Export to Excel
Publish
Activities
Search activities (Ctrl+Alt+F)
Favorites
Assign
Sequence
Write Line
Recent
Type Into
Get Text
Write Line
Get Credential
Delay
Get Asset
Kill Process
Bulk Add Queue Items
Add Queue Item
Project
Activities
Snippets
Output
Search
Checking compatibility for System.Text.Encodings.Web 4.7.1
UiPath Studio Pro
Open Main Workflow
Add an Activity Ctrl + Shift + T
Open Command Palette F3 or Ctrl + Shift + P
Focus Project Panel Ctrl + Alt + P
Go to File Ctrl + Shift + F
Open Universal Search Ctrl + F
Focus Activities Panel Ctrl + Alt + F
Go to Documentation F1
Outline
Activity Coverage
Resources

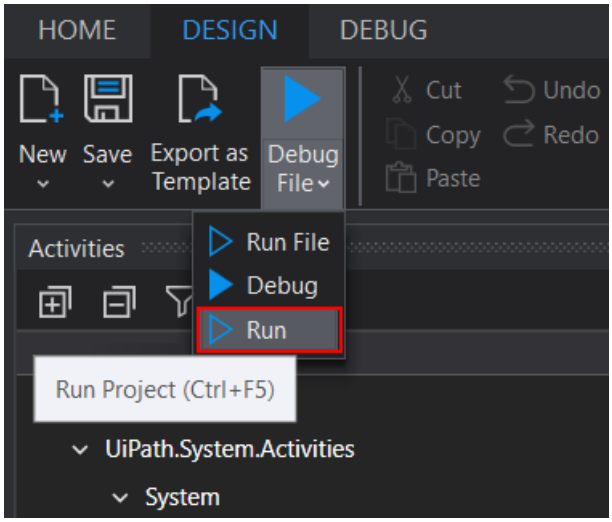

HOME
DESIGN
DEBUG
MyFirstRobot - UiPath Studio Pro
New
Save
Export as Template
Debug File
Cut
Copy
Paste
Undo
Redo
Manage Packages
Manage Entities
Recording
Screen Scraping
Data Scraping
User Events
UI Explorer
Remove Unused
Analyze File
Test Manager
Export to Excel
Activities
Sequence
Favorites
Sequence
Recent
Sequence
Available
Default Activities
Workflow
Control
Sequence
Main *
Main
Expand All
Collapse All
MyFirst Robot
Drop Activity Here
Outline
Main
MyFirst Robot
Activity Coverage
Resources
Project
Activities
Snippets

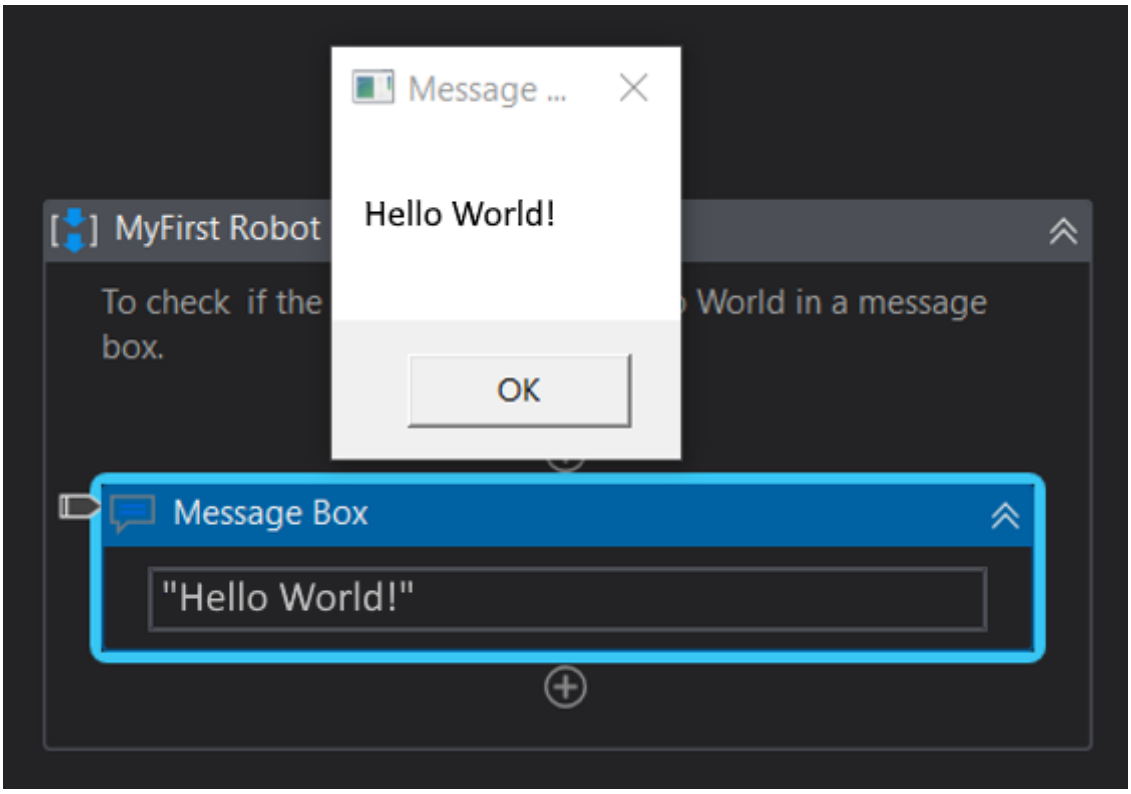

DESIGN
DEBUG
Export as Template
Debug File
Cut
Copy
Paste
Undo
Redo
Manage Packages
Manage Entities
Recording
Screen Scraping
Analyze File
Test Manager
Export to Excel
Main *
Expand All
Collapse
Add Annotation (Shift+F2)
Edit Annotation
Delete Annotation
Show All Annotations
Hide All Annotations
Delete All Annotations
Sequence
Sequence
ult Activities
orkflow
Control
Sequence
Activities
Snippets
Rename (F2)
View Parent
Cut
Copy
Paste
Delete
Annotations
Copy as Image
Save as Image
Create Variable
Auto Arrange
Remove Surrounding Sequence
Surround with Try Catch (Ctrl+T)
Extract as Workflow
Open Workflow
Enable Activity (Ctrl+E)
Disable Activity (Ctrl+D)
Toggle Breakpoint
Edit Breakpoint Settings
Run to this Activity
Run from this Activity
Test Activity
Help...

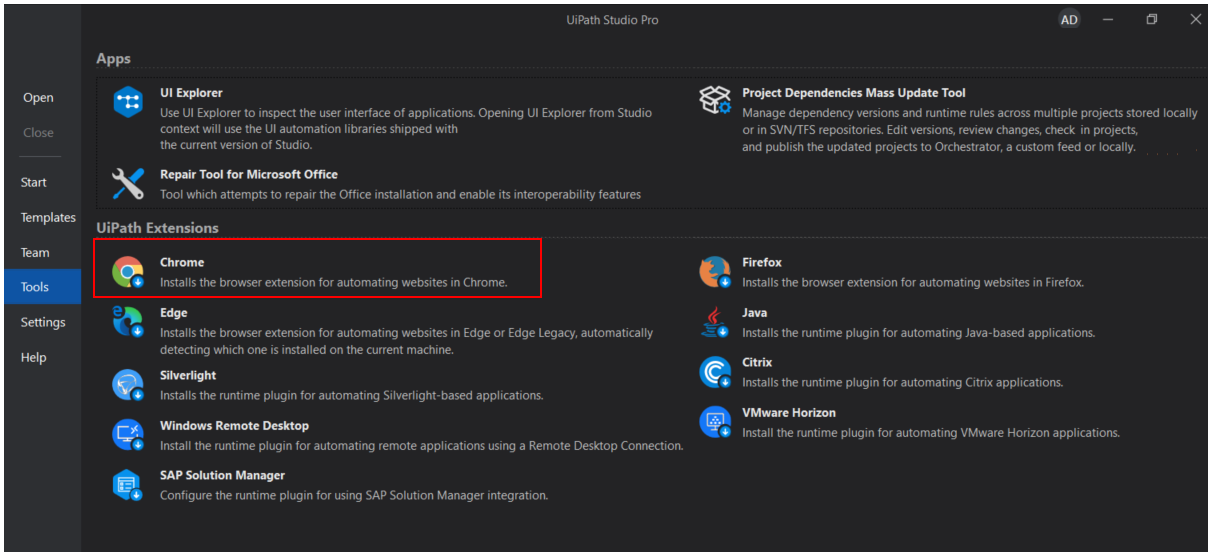

Activities
message Box
Available
UiPath.System.Activities
System
Dialog
Message Box
Project
Activities
Snippets
Output
Main *
Main > MyFirst Robot
Expand All
Collapse All
MyFirst Robot
To check if the Robot can display Hello World in a message box.
Drop Activity Here
Outline
Main
MyFirst Robot
Activity Coverage
Resources

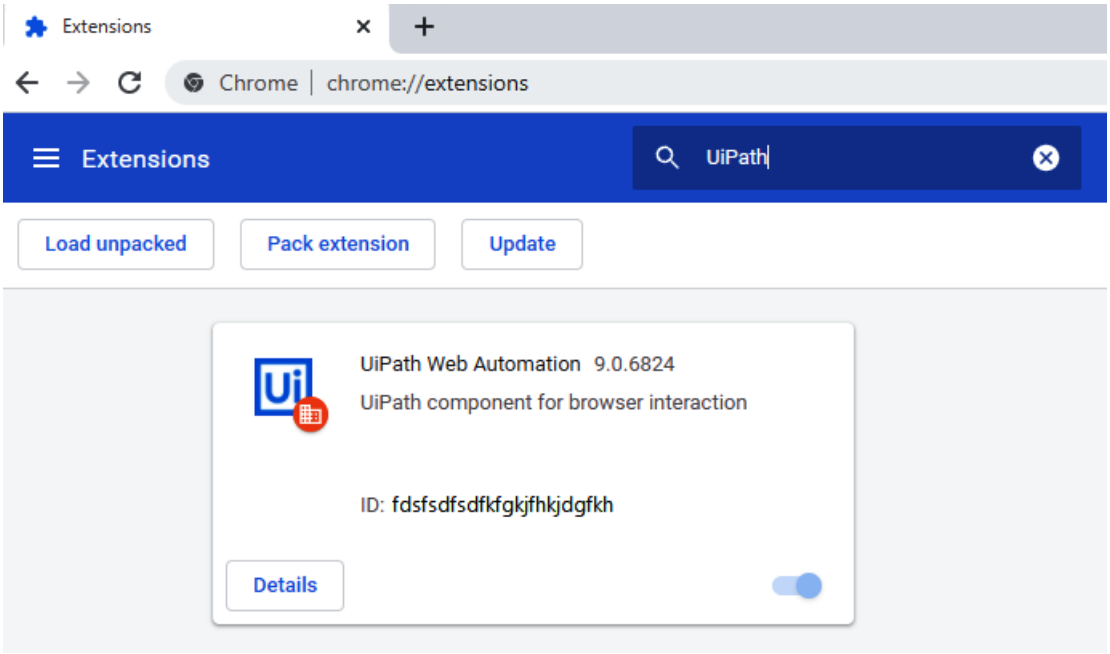

HOME
DESIGN
DEBUG
MyFirstRobot - UiPath Studio Pro
New
Save
Export as Template
Debug File
Cut
Copy
Paste
Undo
Redo
Manage Packages
Manage Entities
Recording
Screen Scraping
Data Scraping
User Events
UI Explorer
Remove Unused
Analyze File
Test Manager
Export to Excel
Publish
Activities
message Box
Available
UiPath.System.Activities
System
Dialog
Message Box
Main *
Main > MyFirst Robot
Expand All
Collapse All
MyFirst Robot
To check if the Robot can display Hello World in a message box.
Message Box
Value for a required activity argument 'Text' was not supplied.
Outline
Main
MyFirst Robot
Message Box
Project
Activities
Snippets
Output
Search
Checking compatibility for System.Text.Encodings.Web 4.7.1
Activity Coverage
Resources

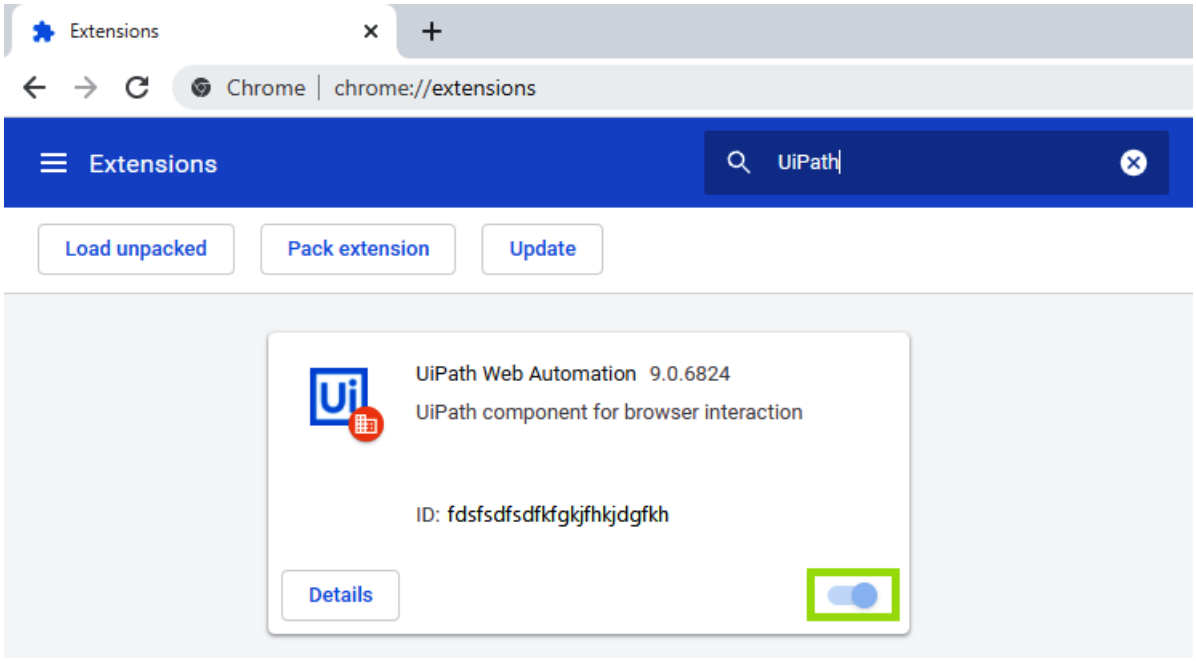

MyFirst Robot
To check if the Robot can display Hello World in a message box.
Message Box
"Hello World!"

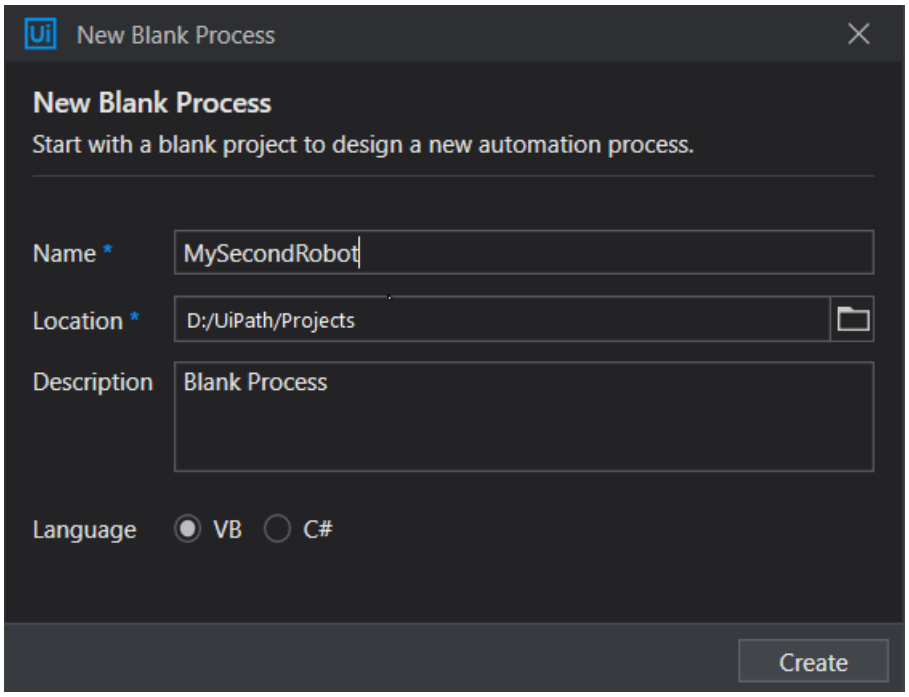

HOME
DESIGN
DEBUG
New
Save
Export as Template
Debug File
Cut
Copy
Paste
Undo
Redo
Activities
Run File
Debug
Run
Run Project (Ctrl+F5)
UiPath.System.Activities
System

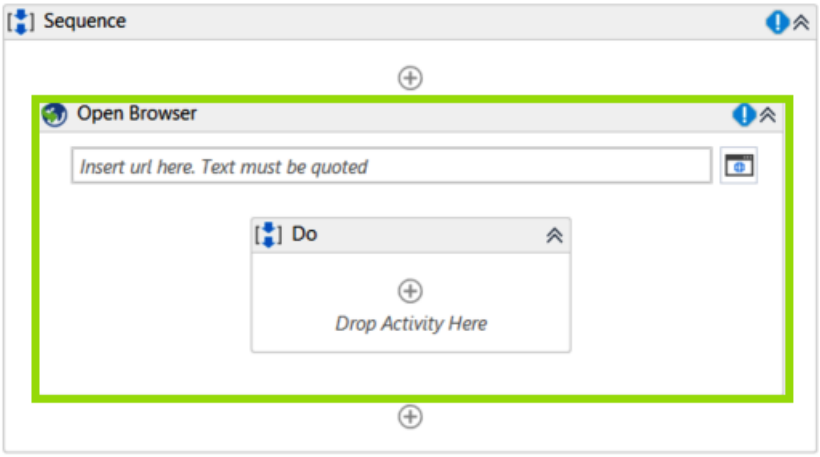

Message ...
Hello World!
OK
MyFirst Robot
To check if the
World in a message
box.
Message Box
"Hello World!"

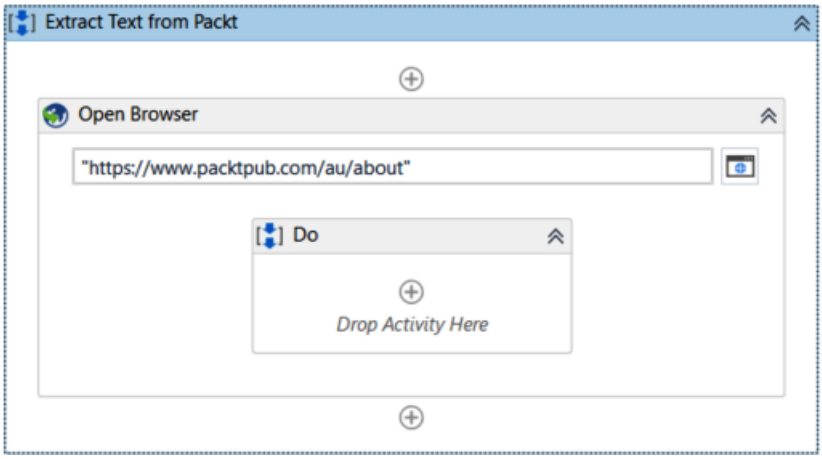

UiPath Studio Pro
AD
Open
Close
Start
Templates
Team
Tools
Settings
Help
Apps
UI Explorer
Use UI Explorer to inspect the user interface of applications. Opening UI Explorer from Studio context will use the UI automation libraries shipped with the current version of Studio.
Repair Tool for Microsoft Office
Tool which attempts to repair the Office installation and enable its interoperability features
Project Dependencies Mass Update Tool
Manage dependency versions and runtime rules across multiple projects stored locally or in SVN/TFS repositories. Edit versions, review changes, check in projects, and publish the updated projects to Orchestrator, a custom feed or locally.
UiPath Extensions
Chrome
Installs the browser extension for automating websites in Chrome.
Edge
Installs the browser extension for automating websites in Edge or Edge Legacy, automatically detecting which one is installed on the current machine.
Silverlight
Installs the runtime plugin for automating Silverlight-based applications.
Windows Remote Desktop
Install the runtime plugin for automating remote applications using a Remote Desktop Connection.
SAP Solution Manager
Configure the runtime plugin for using SAP Solution Manager integration.
Firefox
Installs the browser extension for automating websites in Firefox.
Java
Installs the runtime plugin for automating Java-based applications.
Citrix
Installs the runtime plugin for automating Citrix applications.
VMware Horizon
Install the runtime plugin for automating VMware Horizon applications.

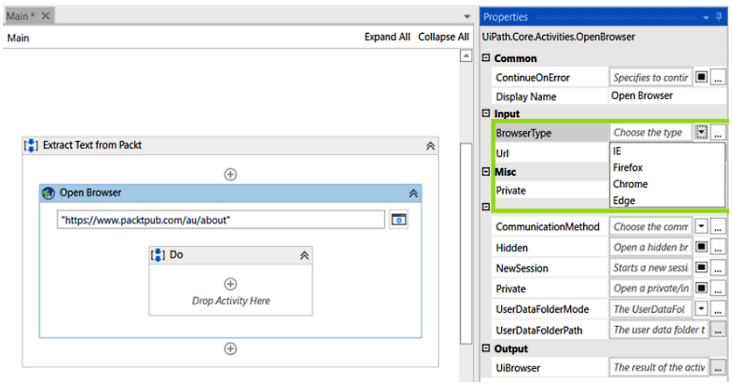

Extensions
Chrome | chrome://extensions
Extensions
UiPath
Load unpacked
Pack extension
Update
UiPath Web Automation 9.0.6824
UiPath component for browser interaction
ID: fdsfsdfsdfkfgkjfhkjdgfkh
Details

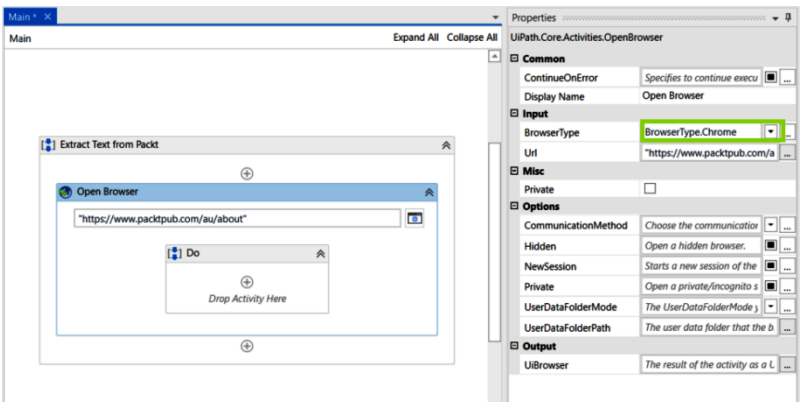

Extensions
Chrome | chrome://extensions
Extensions
UiPath
Load unpacked
Pack extension
Update
UiPath Web Automation 9.0.6824
UiPath component for browser interaction
ID: fdsfsdfsdfkfgkjfhkjdgfkh
Details

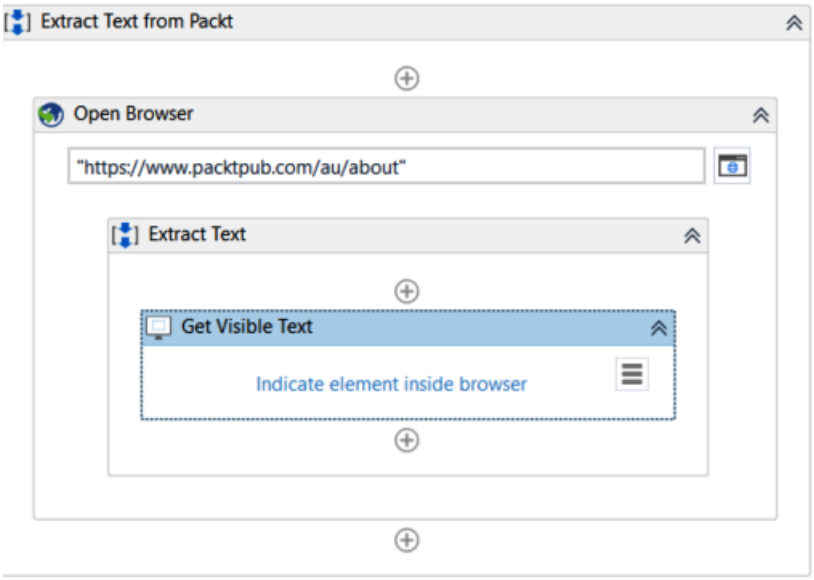

New Blank Process
New Blank Process
Start with a blank project to design a new automation process.
Name *
MySecondRobot
Location *
D:/UiPath/Projects
Description
Blank Process
Language
VB
C#
Create

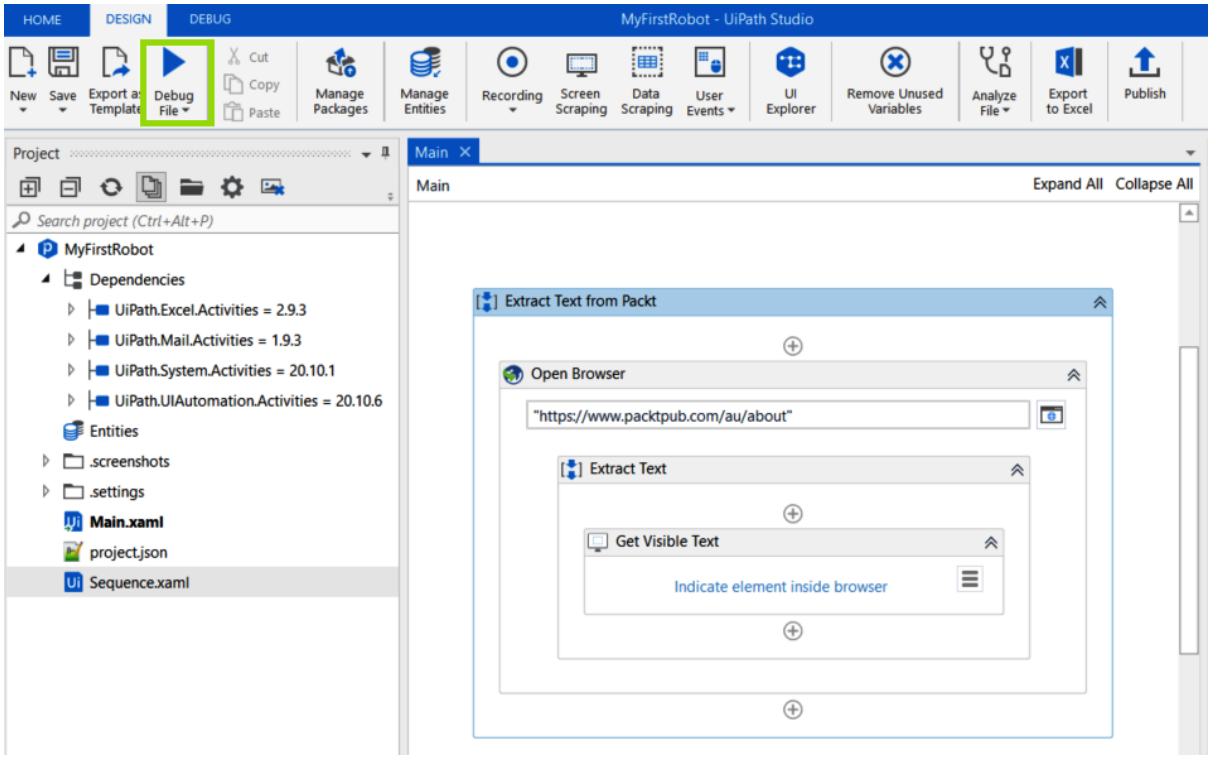

Sequence
Open Browser
Insert url here. Text must be quoted
Do
Drop Activity Here

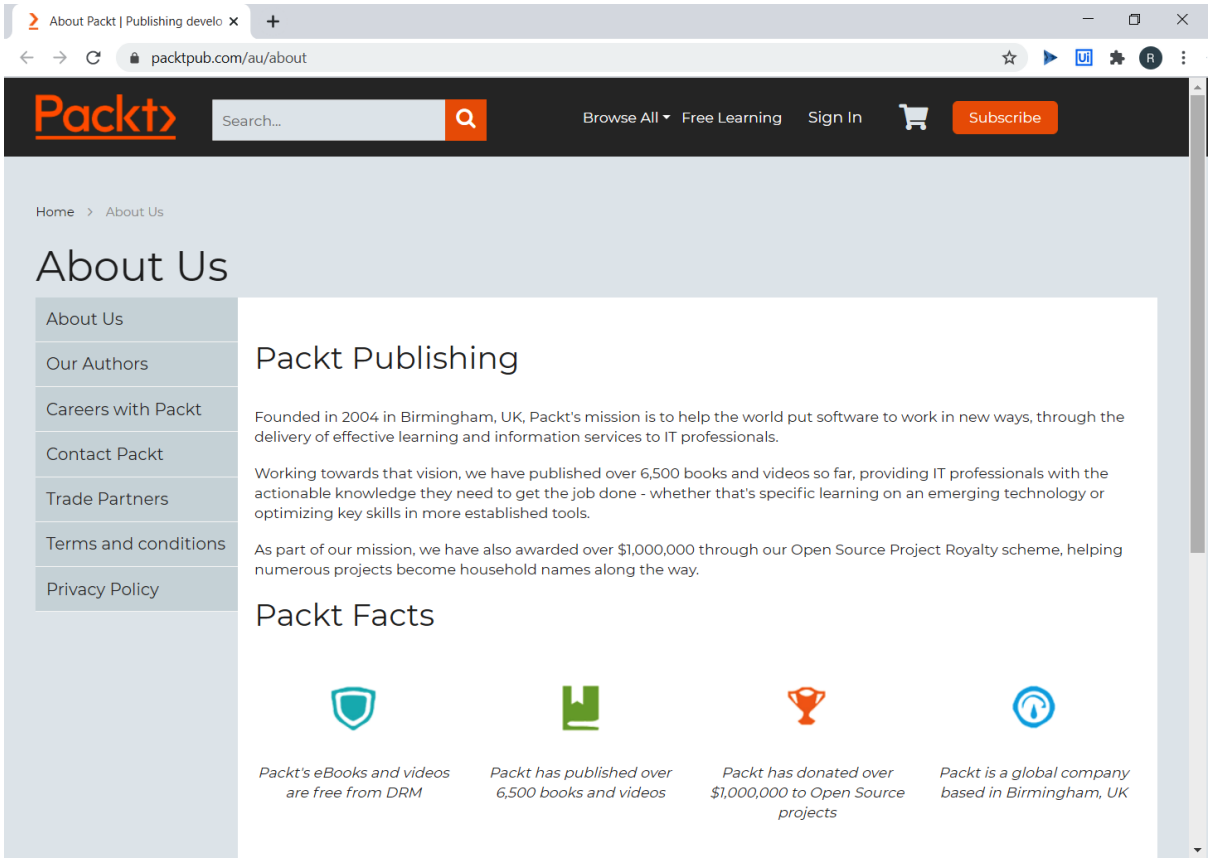

Extract Text from Packt
Open Browser
"https://www.packtpub.com/au/about"
Do
Drop Activity Here

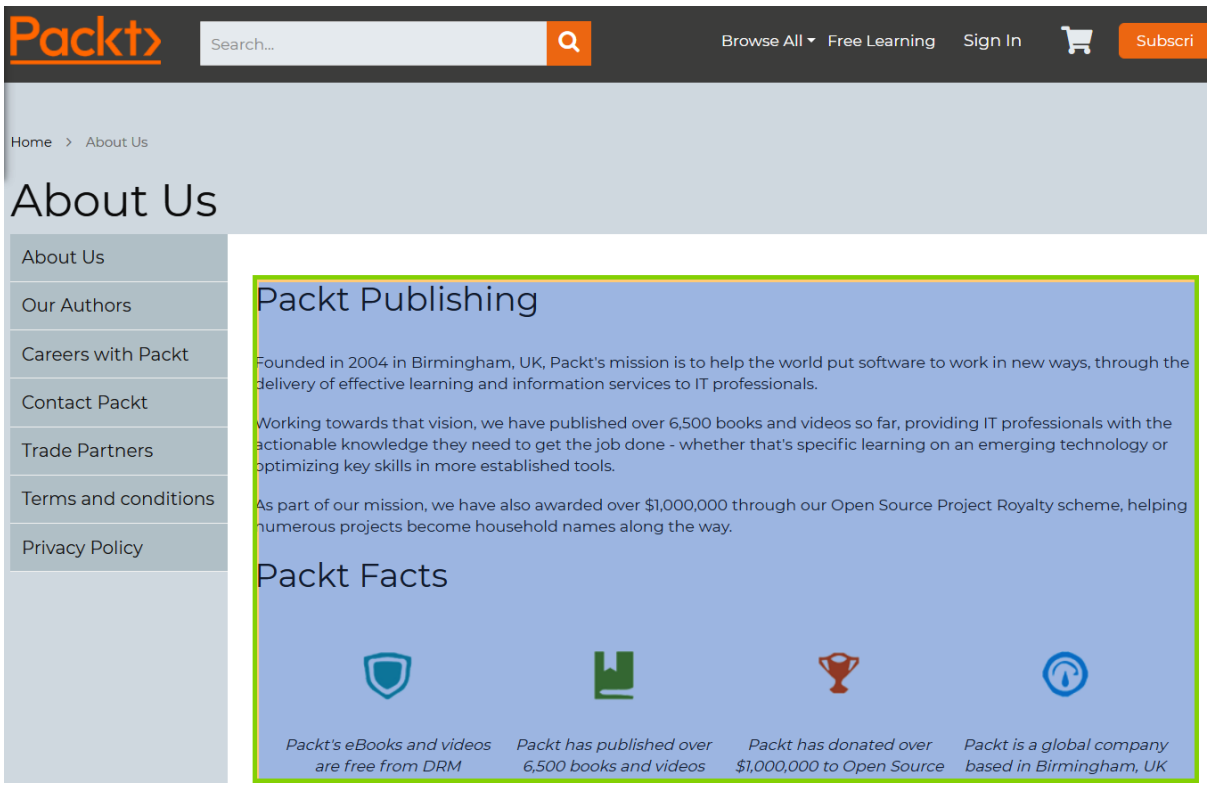

Main *
Main
Expand All
Collapse All
Extract Text from Packt
Open Browser
"https://www.packtpub.com/au/about"
Do
Drop Activity Here
Properties
UiPath.Core.Activities.OpenBrowser
Common
ContinueOnError
Specifies to contir
Display Name
Open Browser
Input
BrowserType
Choose the type
Url
Misc
Private
IE
Firefox
Chrome
Edge
CommunicationMethod
Choose the comm
Hidden
Open a hidden br
NewSession
Starts a new sessi
Private
Open a private/in
UserDataFolderMode
The UserDataFol
UserDataFolderPath
The user data folder t
Output
UiBrowser
The result of the activ


Main *
Main
Expand All
Collapse All
Extract Text from Packt
Open Browser
"https://www.packtpub.com/au/about"
Do
Drop Activity Here
Properties
UiPath.Core.Activities.OpenBrowser
Common
ContinueOnError
Specifies to continue execu
Display Name
Open Browser
Input
BrowserType
BrowserType.Chrome
Url
"https://www.packtpub.com/a
Misc
Private
Options
CommunicationMethod
Choose the communicatior
Hidden
Open a hidden browser.
NewSession
Starts a new session of the
Private
Open a private/incognito s
UserDataFolderMode
The UserDataFolderMode
UserDataFolderPath
The user data folder that the b
Output
UiBrowser
The result of the activity as a


Extract Text from Packt
Open Browser
"https://www.packtpub.com/au/about"
Extract Text
Get Visible Text
Indicate element inside browser


HOME
DESIGN
DEBUG
MyFirstRobot - UiPath Studio
New
Save
Export as Template
Debug File
Cut
Copy
Paste
Manage Packages
Manage Entities
Recording
Screen Scraping
Data Scraping
User Events
UI Explorer
Remove Unused Variables
Analyze File
Export to Excel
Publish
Project
Search project (Ctrl+Alt+P)
MyFirstRobot
Dependencies
UiPath.Excel.Activities = 2.9.3
UiPath.Mail.Activities = 1.9.3
UiPath.System.Activities = 20.10.1
UiPath.UIAutomation.Activities = 20.10.6
Entities
.screenshots
.settings
Main.xaml
project.json
Sequence.xaml
Main
Main
Expand All
Collapse All
Extract Text from Packt
Open Browser
"https://www.packtpub.com/au/about"
Extract Text
Get Visible Text
Indicate element inside browser


About Packt | Publishing develo
packtpub.com/au/about
Packt
Search...
Browse All
Free Learning
Sign In
Subscribe
Home > About Us
About Us
About Us
Our Authors
Careers with Packt
Contact Packt
Trade Partners
Terms and conditions
Privacy Policy
Packt Publishing
Founded in 2004 in Birmingham, UK, Packt's mission is to help the world put software to work in new ways, through the delivery of effective learning and information services to IT professionals.
Working towards that vision, we have published over 6,500 books and videos so far, providing IT professionals with the actionable knowledge they need to get the job done - whether that's specific learning on an emerging technology or optimizing key skills in more established tools.
As part of our mission, we have also awarded over $1,000,000 through our Open Source Project Royalty scheme, helping numerous projects become household names along the way.
Packt Facts
Packt's eBooks and videos are free from DRM
Packt has published over 6,500 books and videos
Packt has donated over $1,000,000 to Open Source projects
Packt is a global company based in Birmingham, UK


Packt
Search...
Browse All
Free Learning
Sign In
Subscri
Home > About Us
About Us
About Us
Our Authors
Careers with Packt
Contact Packt
Trade Partners
Terms and conditions
Privacy Policy
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Founded in 2004 in Birmingham, UK, Packt's mission is to help the world put software to work in new ways, through the delivery of effective learning and information services to IT professionals.
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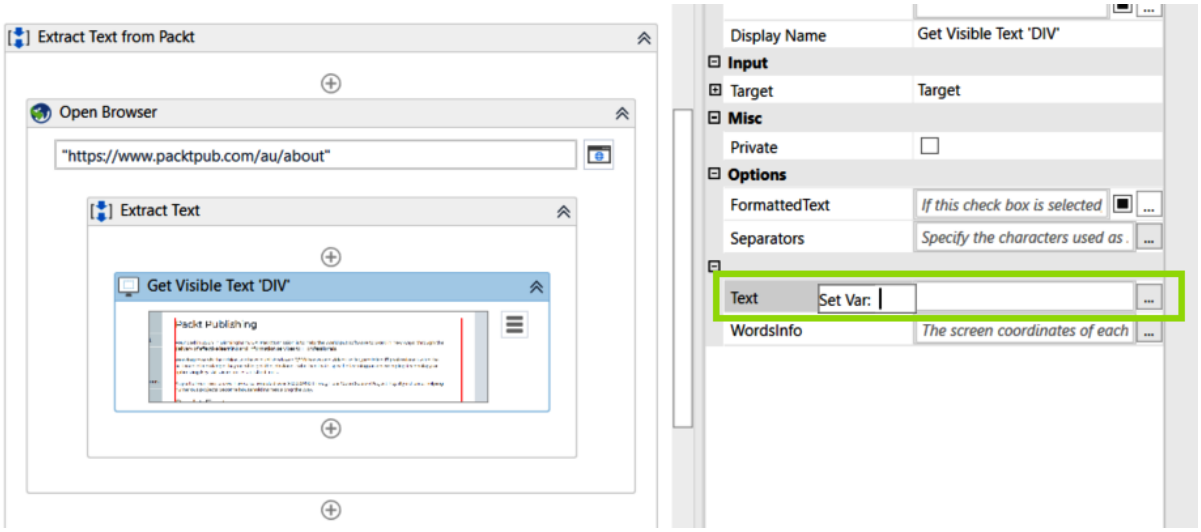
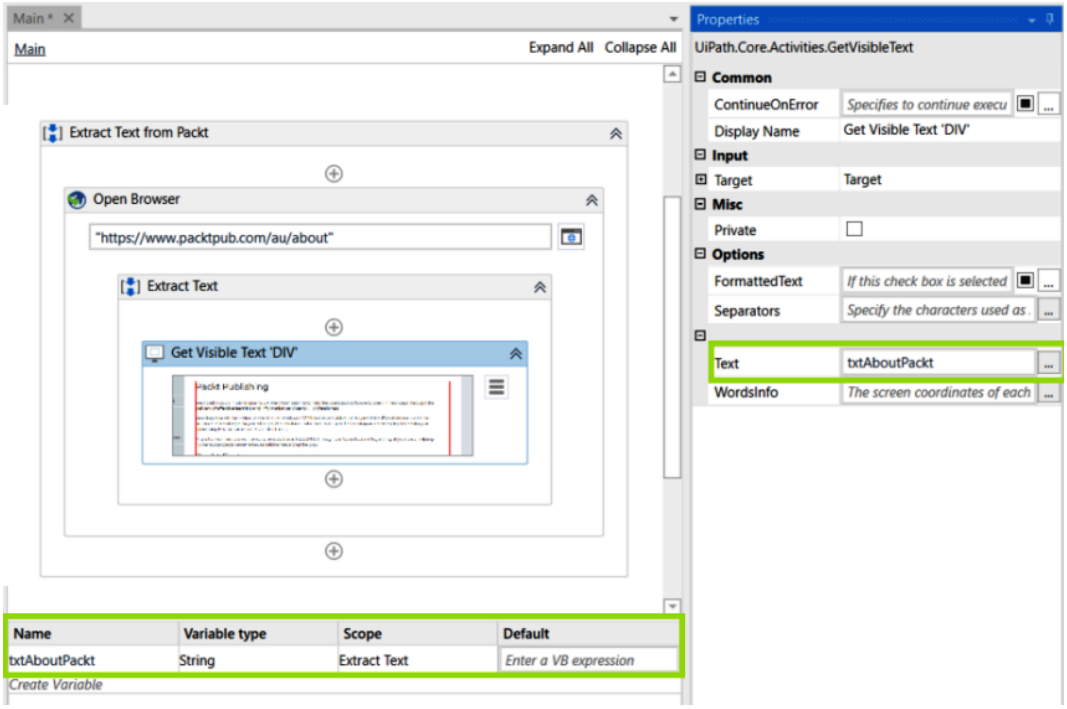
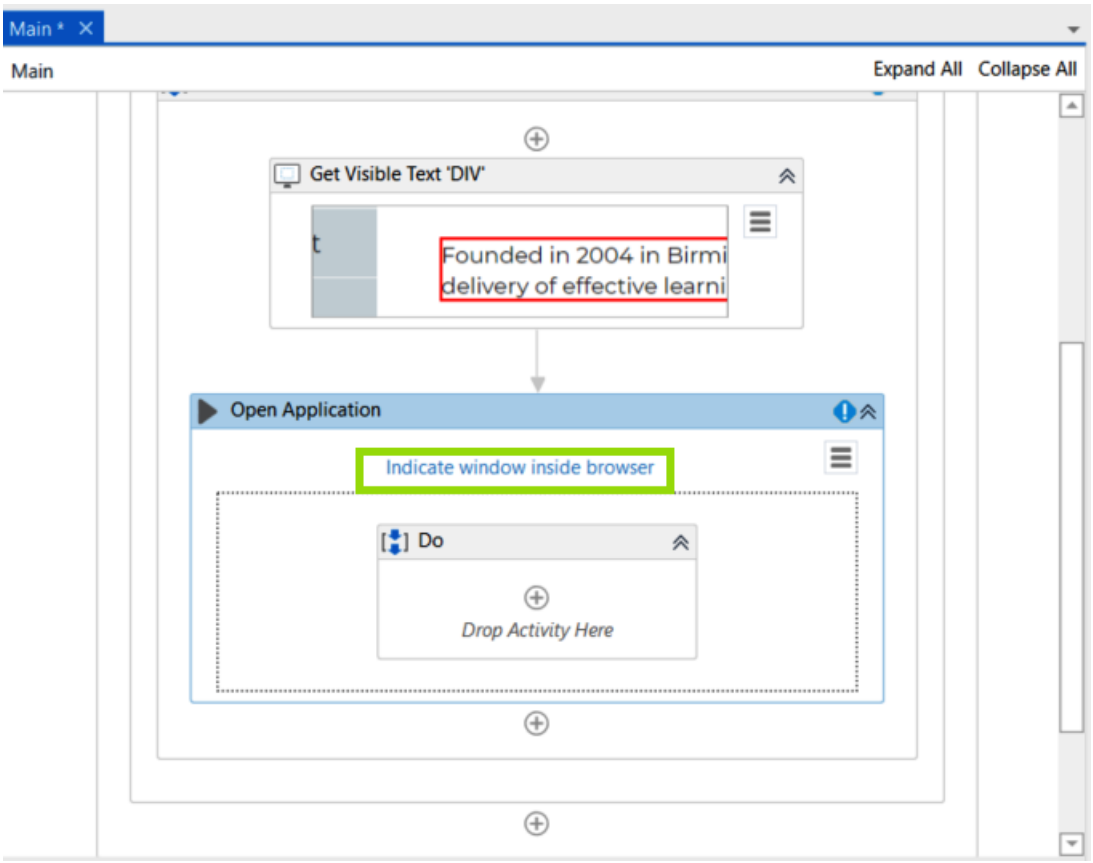
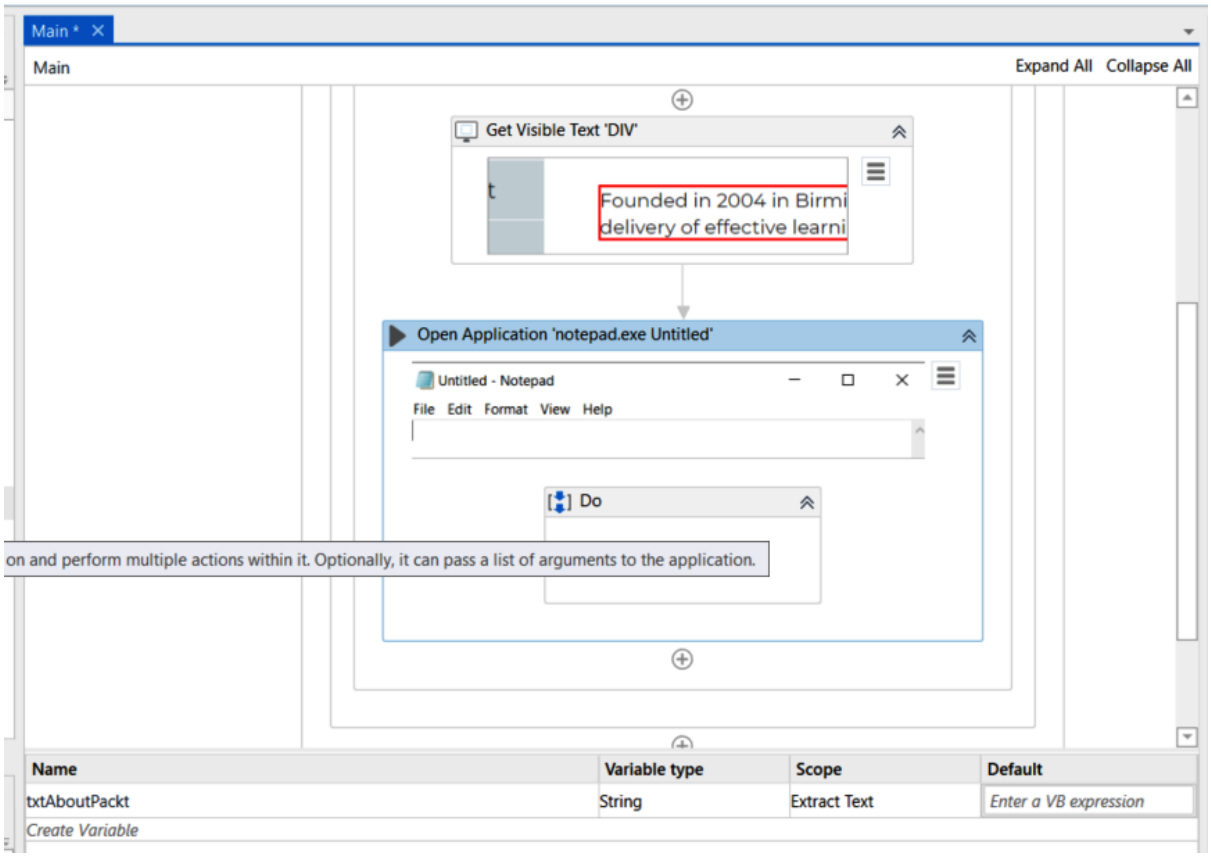
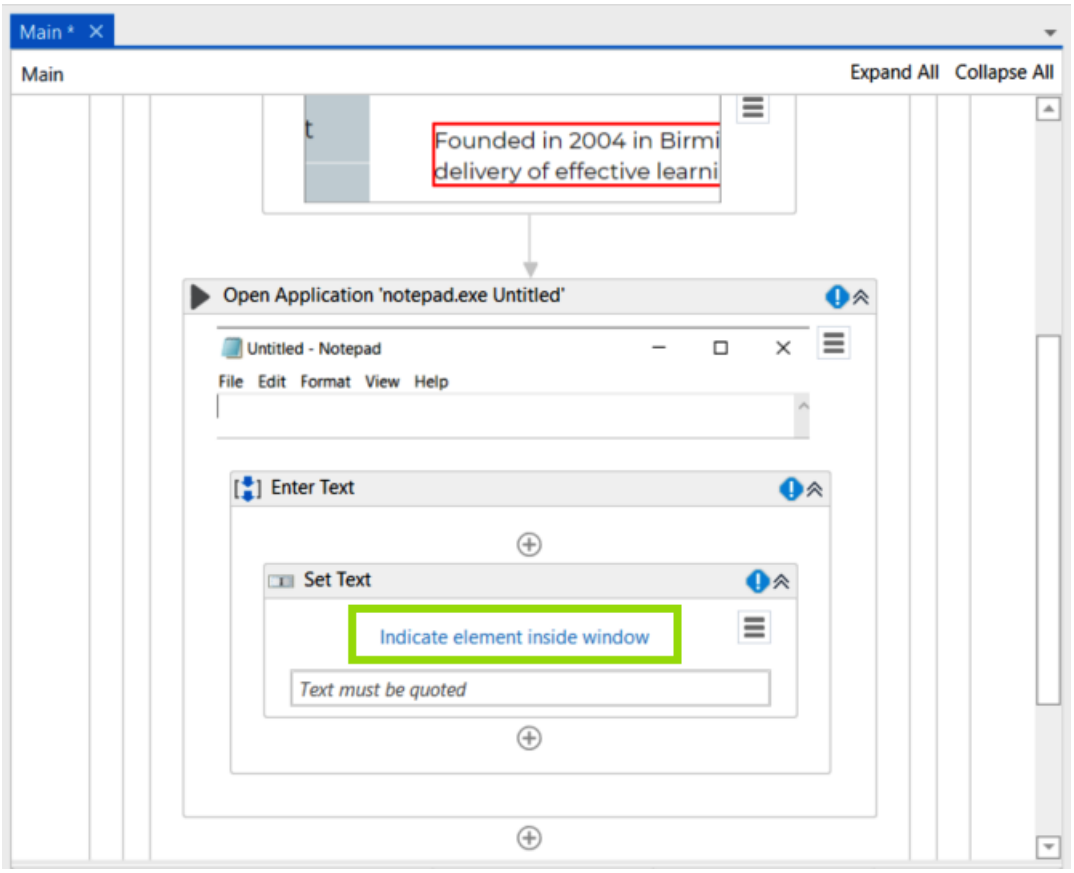
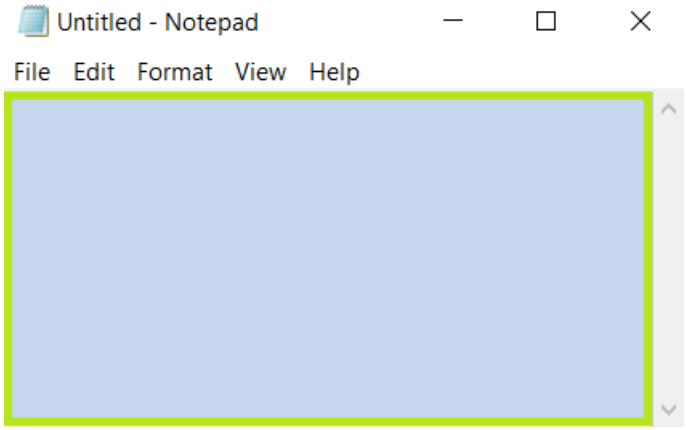

Extract Text from Packt
Open Browser
"https://www.packtpub.com/au/about"
Extract Text
Get Visible Text 'DIV'
Packt Publishing
Display Name
Get Visible Text 'DIV'
Input
Target
Target
Misc
Private
Options
FormattedText
If this check box is selected
Separators
Specify the characters used as
Text
Set Var:
WordsInfo
The screen coordinates of each

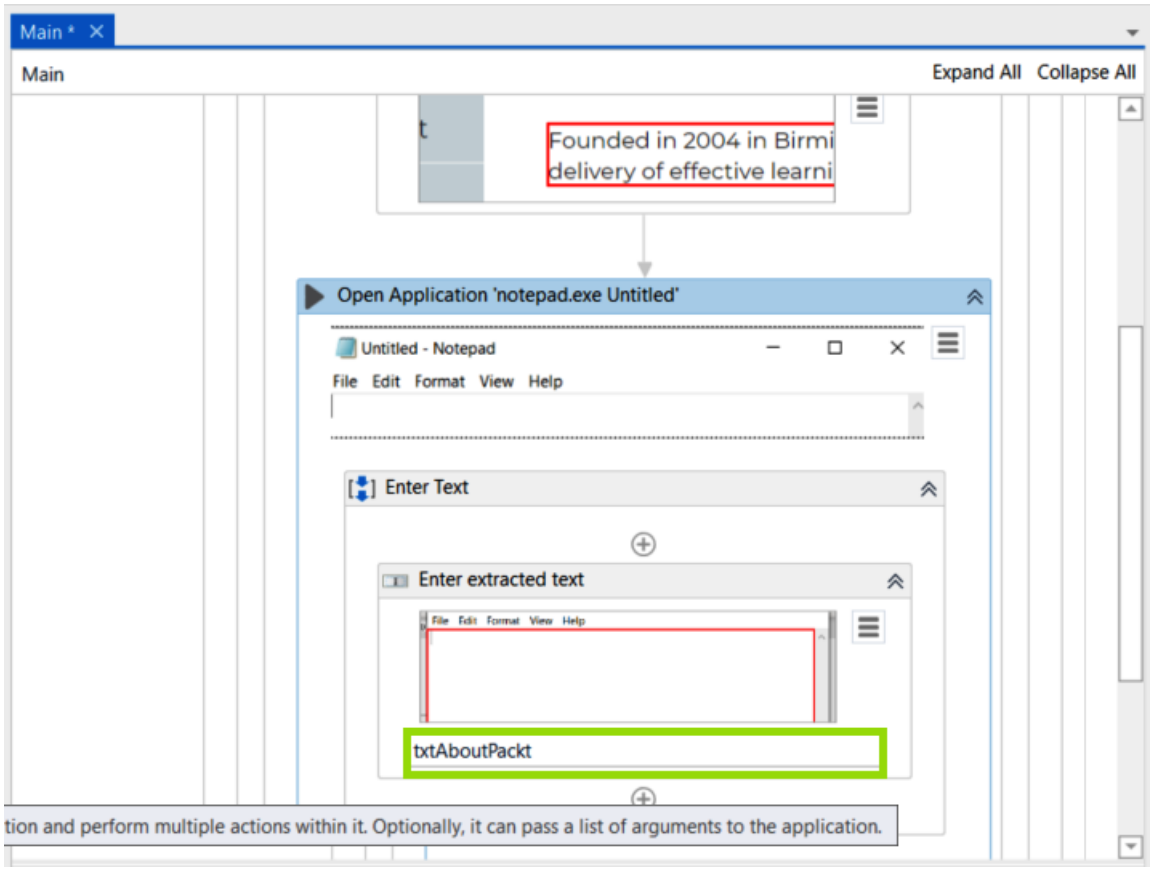

Main *
Main
Expand All
Collapse All
Extract Text from Packt
Open Browser
"https://www.packtpub.com/au/about"
Extract Text
Get Visible Text 'DIV'
Packt Publishing
Name
Variable type
Scope
Default
txtAboutPackt
String
Extract Text
Enter a VB expression
Create Variable
Properties
UiPath.Core.Activities.GetVisibleText
Common
ContinueOnError
Specifies to continue execu
Display Name
Get Visible Text 'DIV'
Input
Target
Target
Misc
Private
Options
FormattedText
If this check box is selected
Separators
Specify the characters used as
Text
txtAboutPackt
WordsInfo
The screen coordinates of each

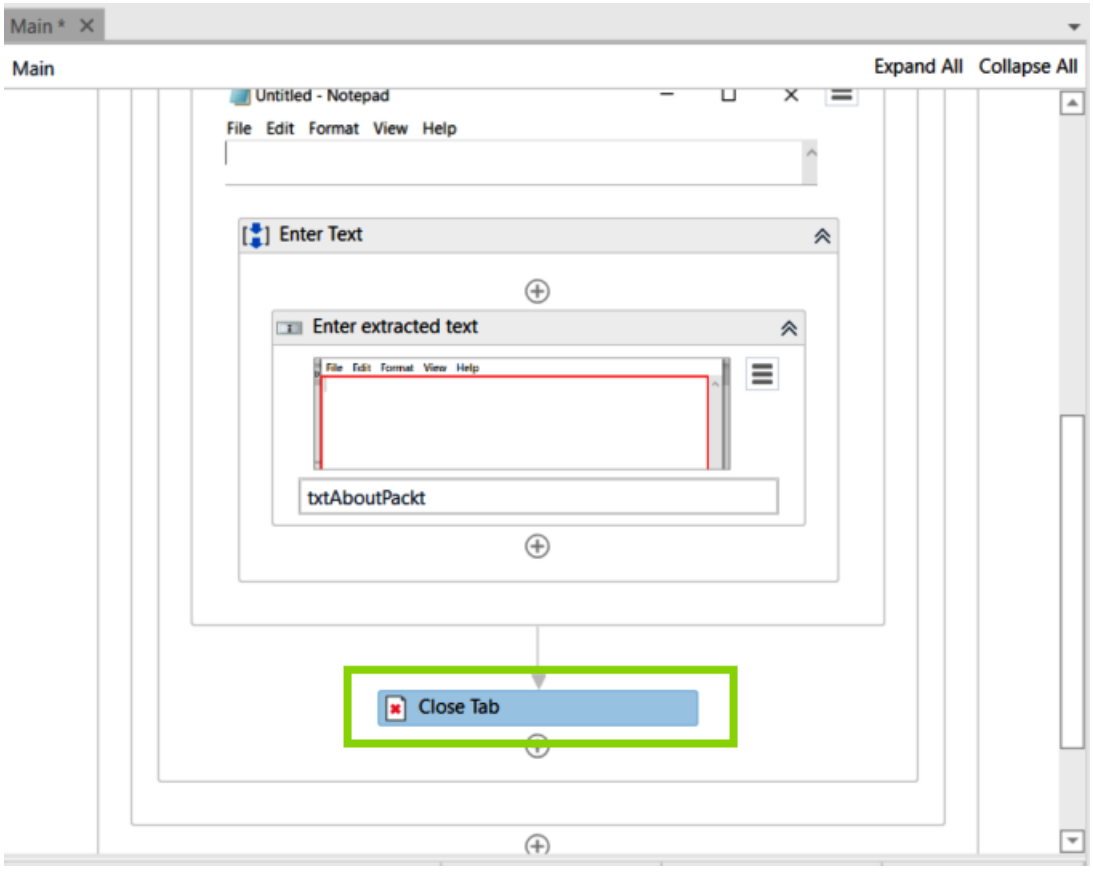

Main *
Main
Expand All
Collapse All
Get Visible Text 'DIV'
t
Founded in 2004 in Birmi
delivery of effective learni
Open Application
Indicate window inside browser
Do
Drop Activity Here

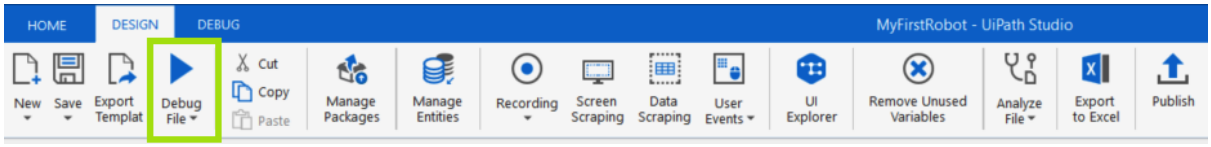

Main *
Main
Expand All
Collapse All
Get Visible Text 'DIV'
t
Founded in 2004 in Birmi
delivery of effective learni
Open Application 'notepad.exe Untitled'
Untitled - Notepad
File Edit Format View Help
Do
on and perform multiple actions within it. Optionally, it can pass a list of arguments to the application.
Name
Variable type
Scope
Default
txtAboutPackt
String
Extract Text
Enter a VB expression
Create Variable

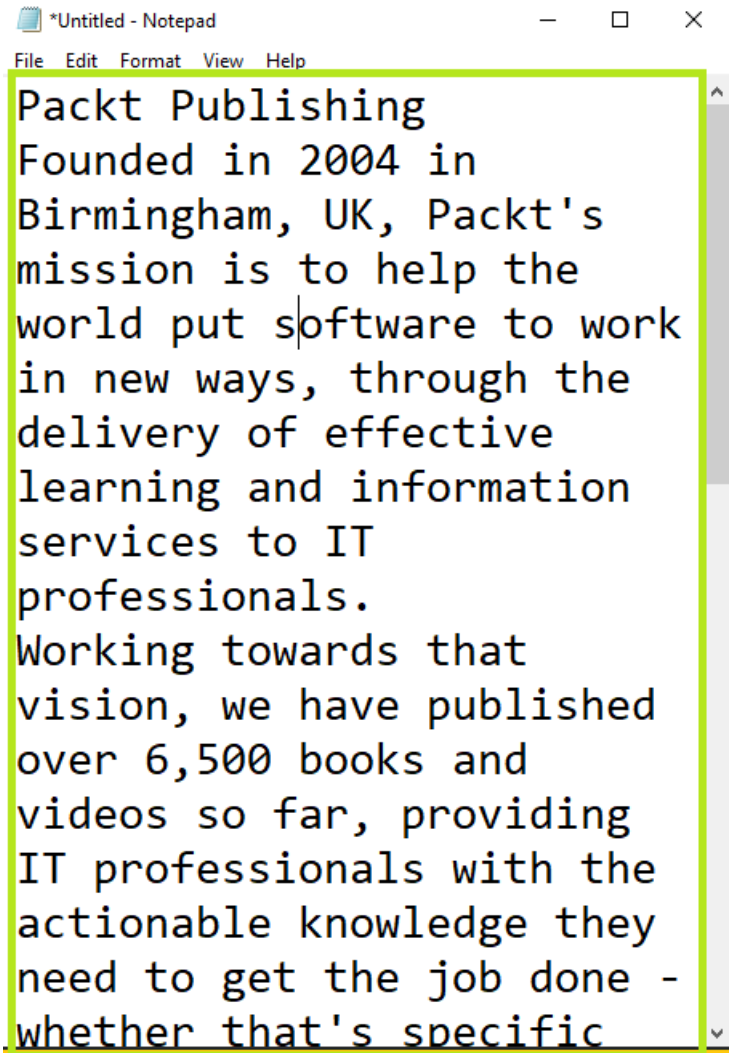

Main *
Main
Expand All
Collapse All
Founded in 2004 in Birmi
delivery of effective learni
Open Application 'notepad.exe Untitled'
Untitled - Notepad
File Edit Format View Help
Enter Text
Set Text
Indicate element inside window
Text must be quoted

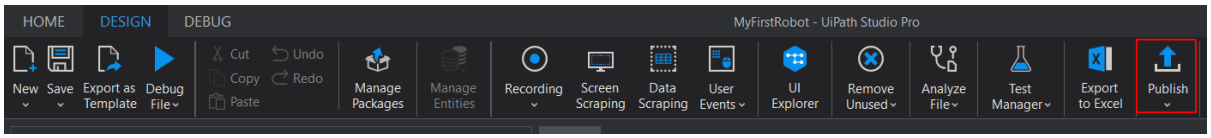

Untitled - Notepad
File Edit Format View Help

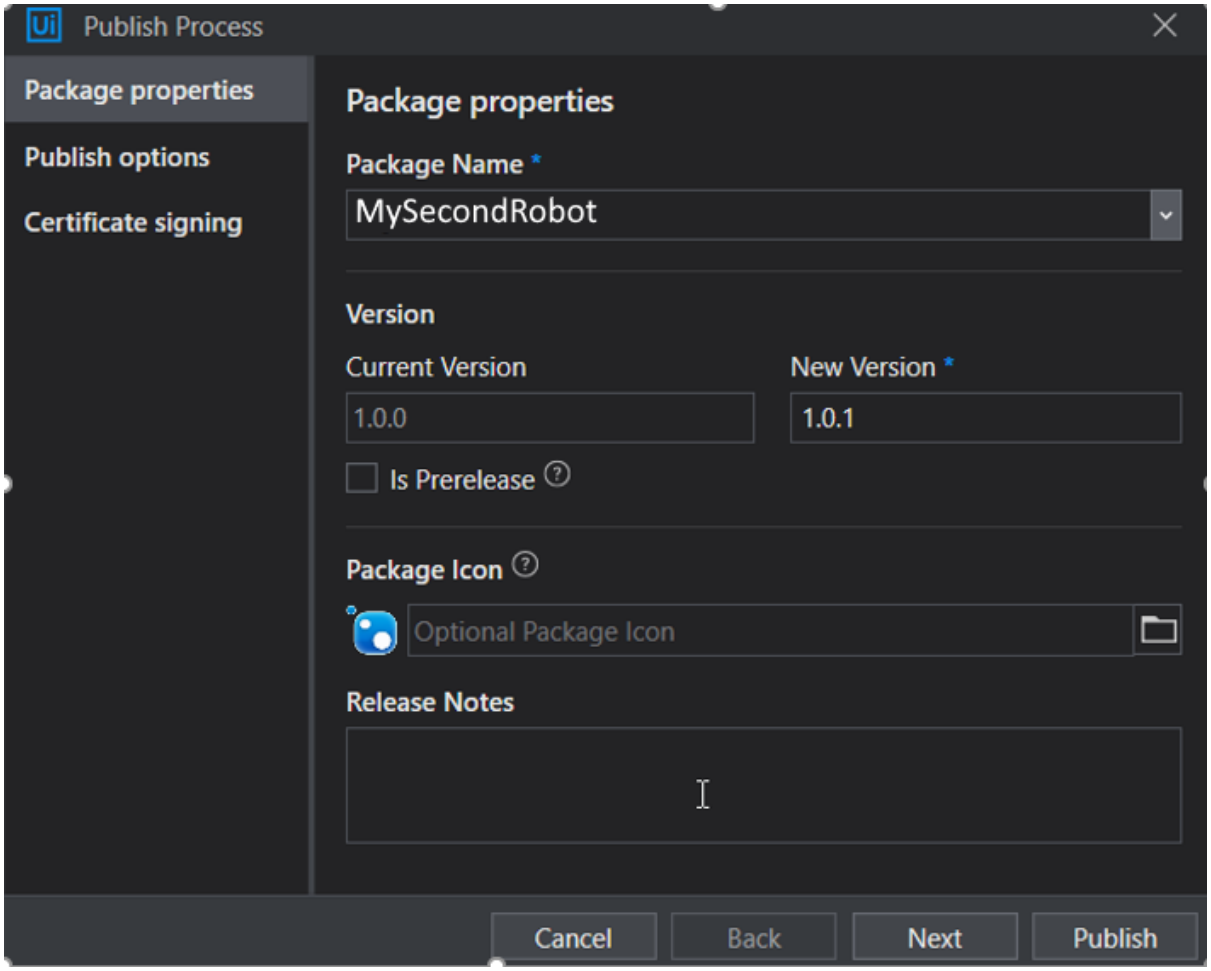

Main *
Main
Expand All
Collapse All
Founded in 2004 in Birmi
delivery of effective learni
Open Application 'notepad.exe Untitled'
Untitled - Notepad
File Edit Format View Help
Enter Text
Enter extracted text
txtAboutPackt
tion and perform multiple actions within it. Optionally, it can pass a list of arguments to the application.

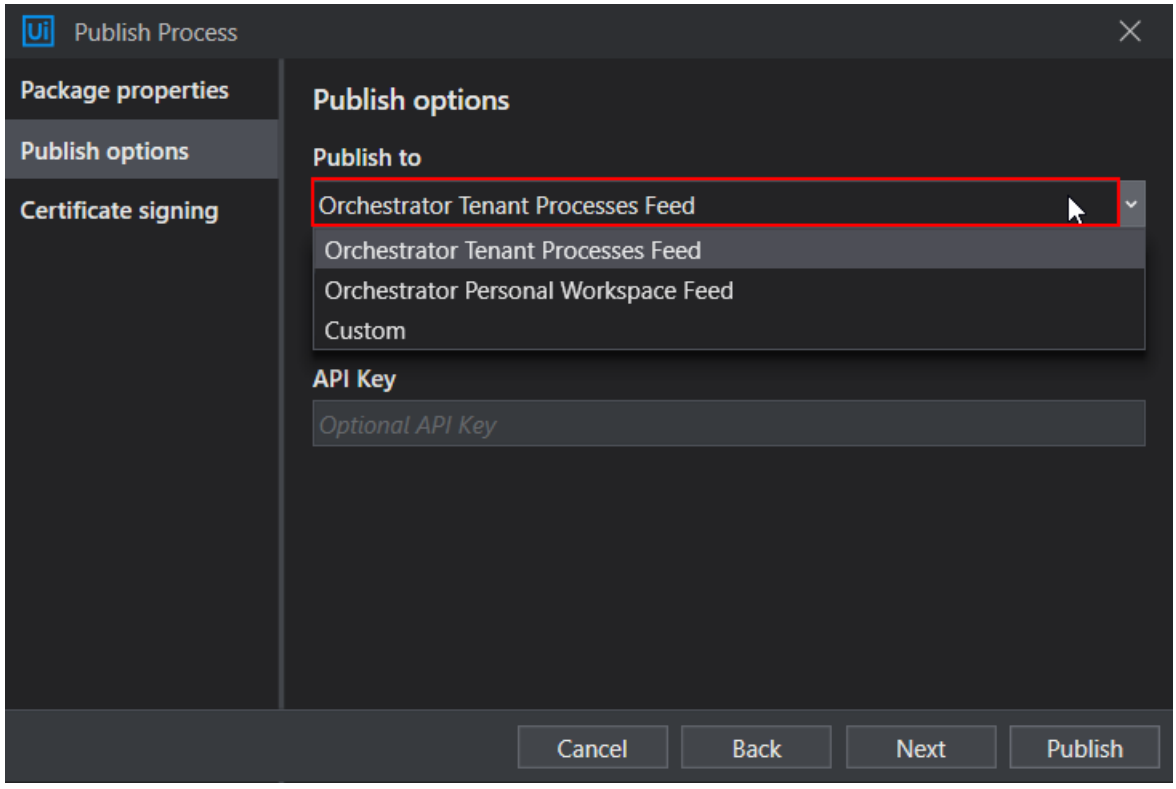

Main *
Main
Expand All
Collapse All
Untitled - Notepad
File Edit Format View Help
Enter Text
Enter extracted text
txtAboutPackt
Close Tab

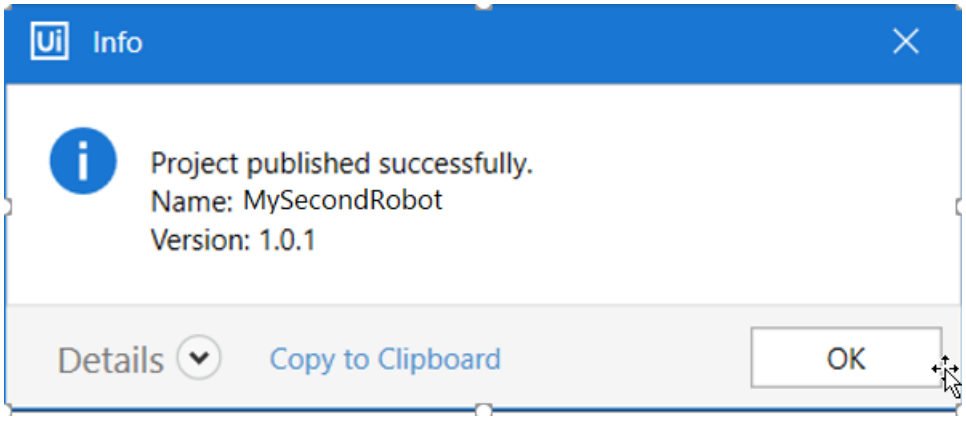

HOME
DESIGN
DEBUG
MyFirstRobot - UiPath Studio
New
Save
Export Templat
Debug File
Cut
Copy
Paste
Manage Packages
Manage Entities
Recording
Screen Scraping
Data Scraping
User Events
UI Explorer
Remove Unused Variables
Analyze File
Export to Excel
Publish

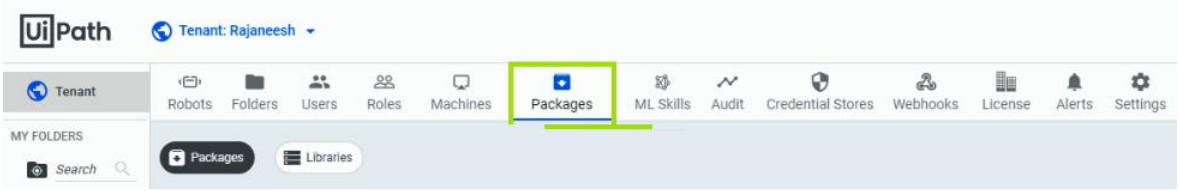

*Untitled - Notepad
File Edit Format View Help
Packt Publishing
Founded in 2004 in Birmingham, UK, Packt's mission is to help the world put software to work in new ways, through the delivery of effective learning and information services to IT professionals.
Working towards that vision, we have published over 6,500 books and videos so far, providing IT professionals with the actionable knowledge they need to get the job done - whether that's specific

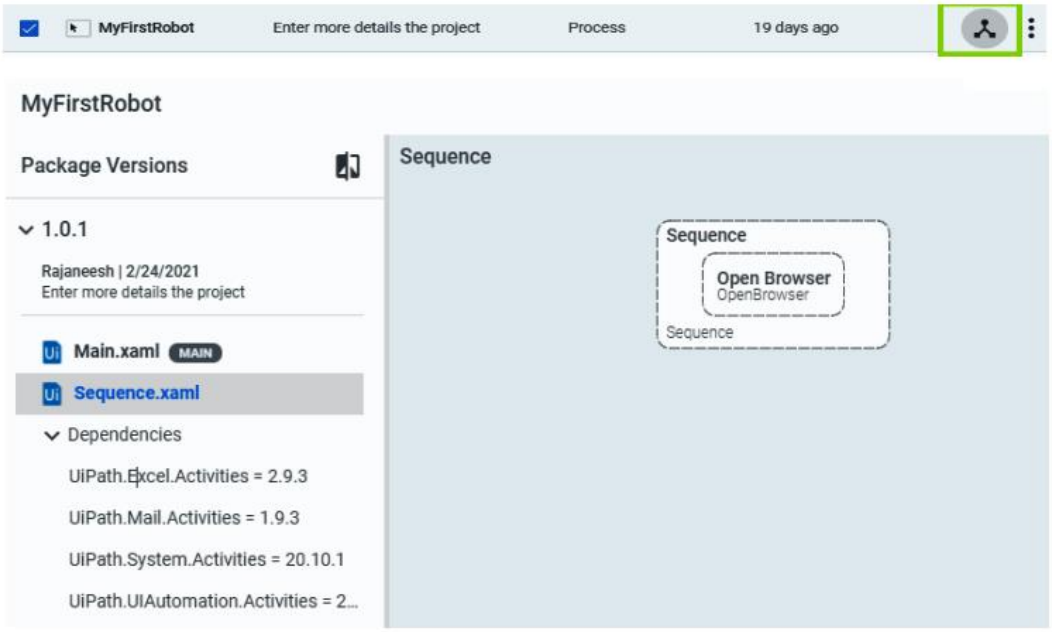

HOME
DESIGN
DEBUG
MyFirstRobot - UiPath Studio Pro
New
Save
Export as Template
Debug File
Cut
Copy
Paste
Undo
Redo
Manage Packages
Manage Entities
Recording
Screen Scraping
Data Scraping
User Events
UI Explorer
Remove Unused
Analyze File
Test Manager
Export to Excel
Publish

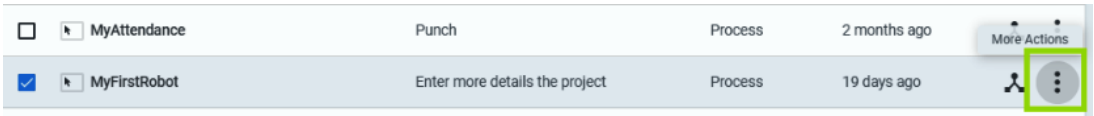

Publish Process
Package properties
Publish options
Certificate signing
Package properties
Package Name *
MySecondRobot
Version
Current Version
New Version *
1.0.0
1.0.1
Is Prerelease
Package Icon
Optional Package Icon
Release Notes
Cancel
Back
Next
Publish

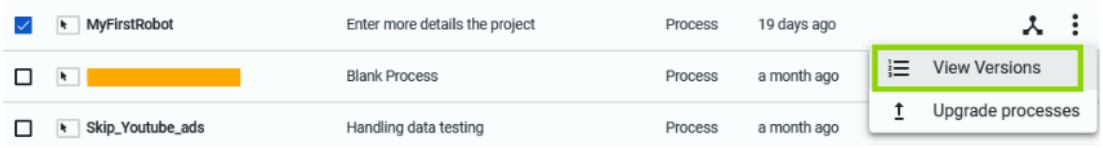

Publish Process
Package properties
Publish options
Certificate signing
Publish options
Publish to
Orchestrator Tenant Processes Feed
Orchestrator Tenant Processes Feed
Orchestrator Personal Workspace Feed
Custom
API Key
Optional API Key
Cancel
Back
Next
Publish

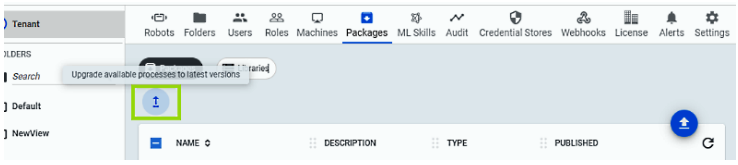

Info
Project published successfully.
Name: MySecondRobot
Version: 1.0.1
Details
Copy to Clipboard
OK

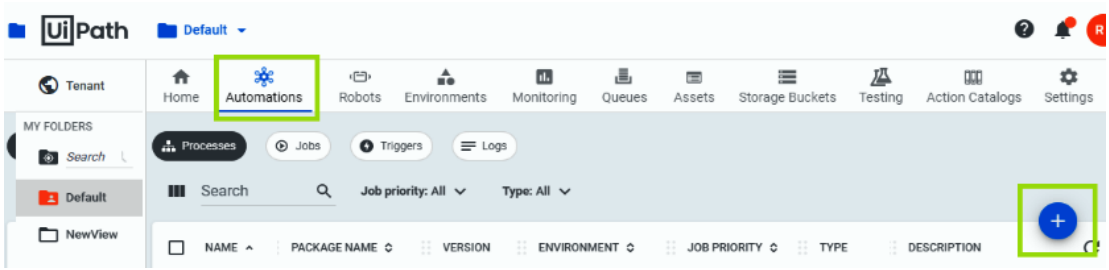

UiPath
Tenant: Rajaneesh
Tenant
Robots
Folders
Users
Roles
Machines
Packages
ML Skills
Audit
Credential Stores
Webhooks
License
Alerts
Settings
MY FOLDERS
Search
Packages
Libraries

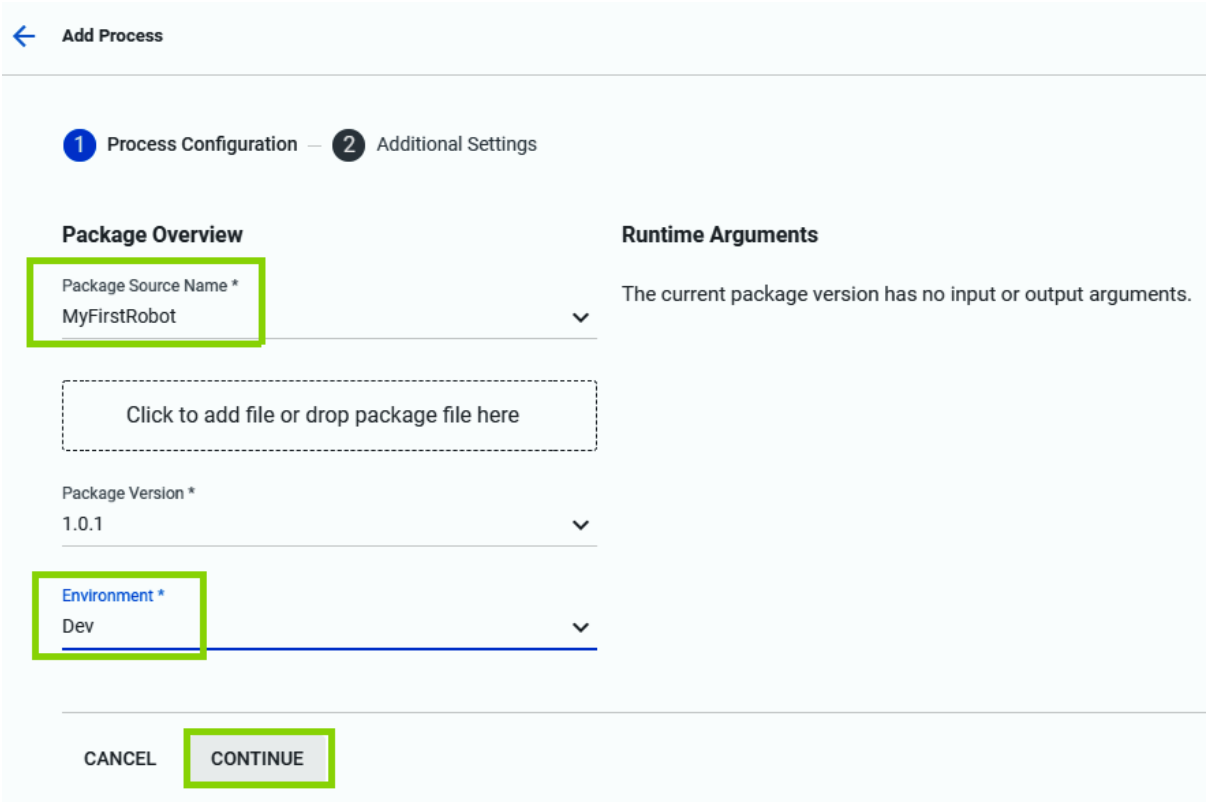

MyFirstRobot
Enter more details the project
Process
19 days ago
MyFirstRobot
Package Versions
1.0.1
Rajaneesh | 2/24/2021
Enter more details the project
Main.xaml
MAIN
Sequence.xaml
Dependencies
UiPath.Excel.Activities = 2.9.3
UiPath.Mail.Activities = 1.9.3
UiPath.System.Activities = 20.10.1
UiPath.UIAutomation.Activities = 2...
Sequence
Sequence
Open Browser
OpenBrowser
Sequence

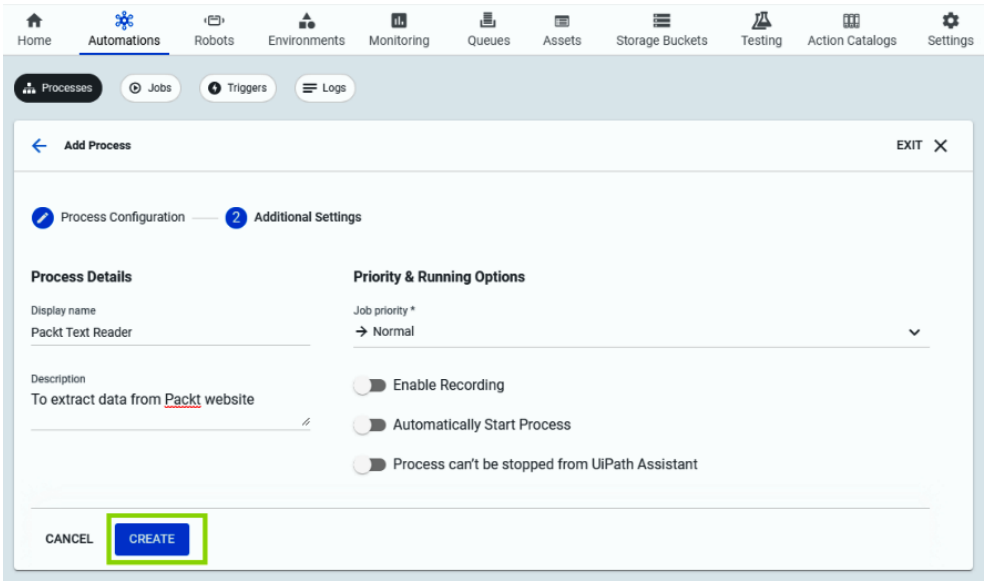

MyAttendance
Punch
Process
2 months ago
More Actions
MyFirstRobot
Enter more details the project
Process
19 days ago


MyFirstRobot
Enter more details the project
Process
19 days ago
Blank Process
Process
a month ago
Skip_Youtube_ads
Handling data testing
Process
a month ago
View Versions
Upgrade processes

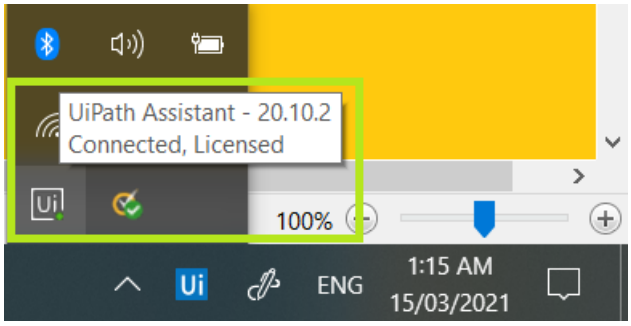

Tenant
Robots
Folders
Users
Roles
Machines
Packages
ML Skills
Audit
Credential Stores
Webhooks
License
Alerts
Settings
Search
Upgrade available processes to latest versions
Default
NewView
NAME
DESCRIPTION
TYPE
PUBLISHED

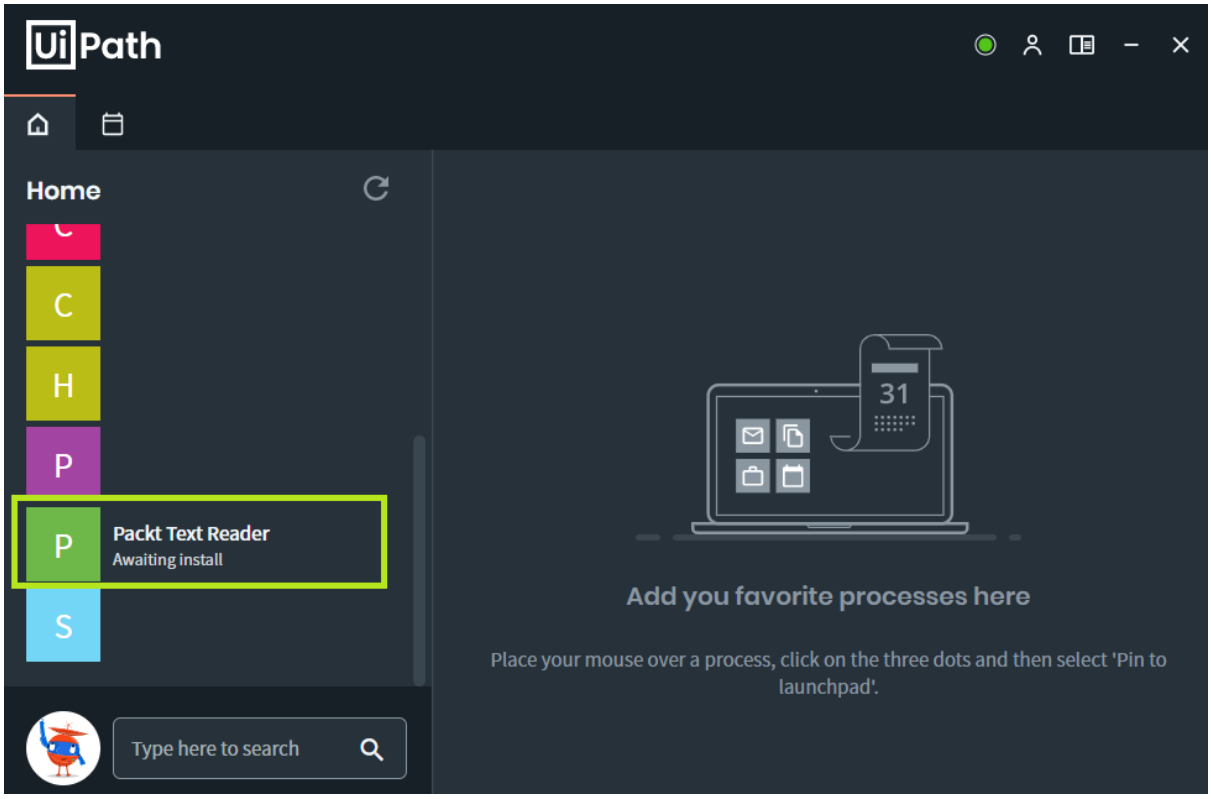

UiPath
Default
Tenant
Home
Automations
Robots
Environments
Monitoring
Queues
Assets
Storage Buckets
Testing
Action Catalogs
Settings
MY FOLDERS
Search
Default
NewView
Processes
Jobs
Triggers
Logs
Search
Job priority: All
Type: All
NAME
PACKAGE NAME
VERSION
ENVIRONMENT
JOB PRIORITY
TYPE
DESCRIPTION

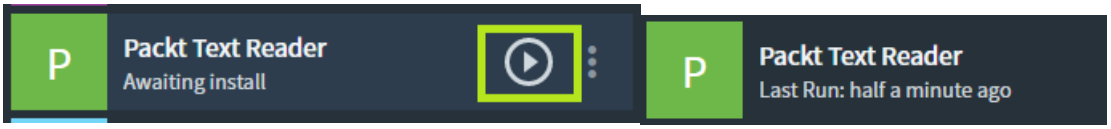

Add Process
1 Process Configuration
2 Additional Settings
Package Overview
Package Source Name *
MyFirstRobot
Click to add file or drop package file here
Package Version *
1.0.1
Environment *
Dev
Runtime Arguments
The current package version has no input or output arguments.
CANCEL
CONTINUE

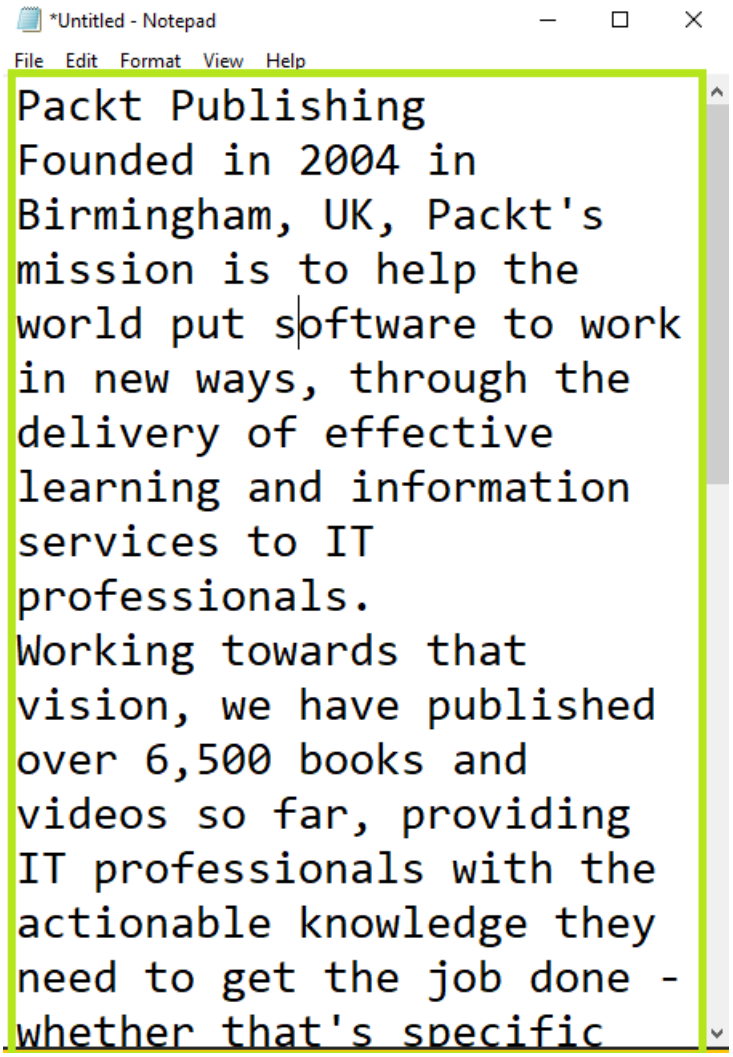

Home
Automations
Robots
Environments
Monitoring
Queues
Assets
Storage Buckets
Testing
Action Catalogs
Settings
Processes
Jobs
Triggers
Logs
Add Process
EXIT
Process Configuration
2 Additional Settings
Process Details
Display name
Packt Text Reader
Description
To extract data from Packt website
Priority & Running Options
Job priority *
Normal
Enable Recording
Automatically Start Process
Process can't be stopped from UiPath Assistant
CANCEL
CREATE

Packt Text Reader
MyFirstRobot
1.0.1
Dev
Normal
Process
To extract data fro...


UiPath Assistant - 20.10.2
Connected, Licensed
100%
ENG
1:15 AM
15/03/2021


UiPath
Home
C
H
P
P
Packt Text Reader
Awaiting install
S
Type here to search
31
Add you favorite processes here
Place your mouse over a process, click on the three dots and then select 'Pin to launchpad'.


Packt Text Reader
Awaiting install
Packt Text Reader
Last Run: half a minute ago


*Untitled - Notepad
File Edit Format View Help
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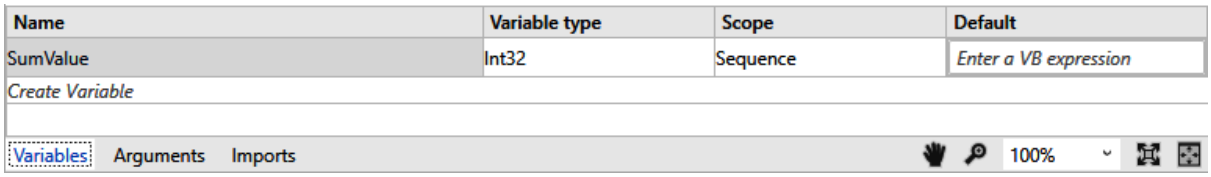
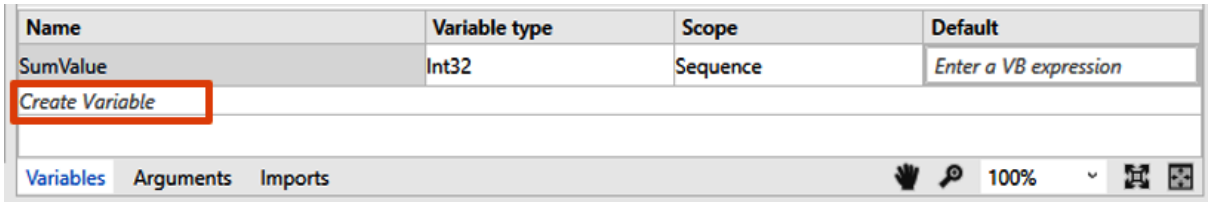
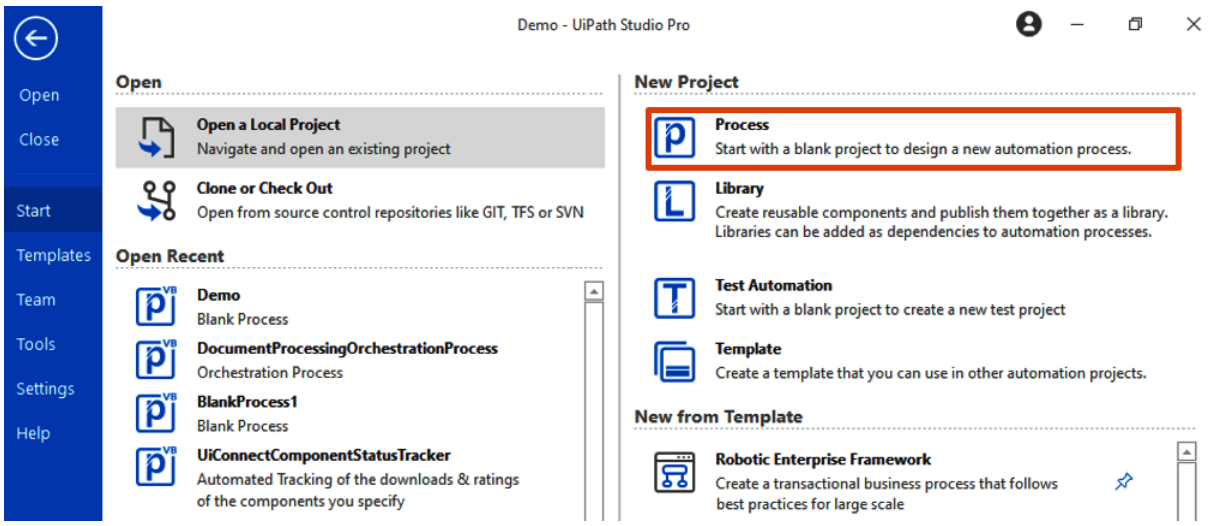
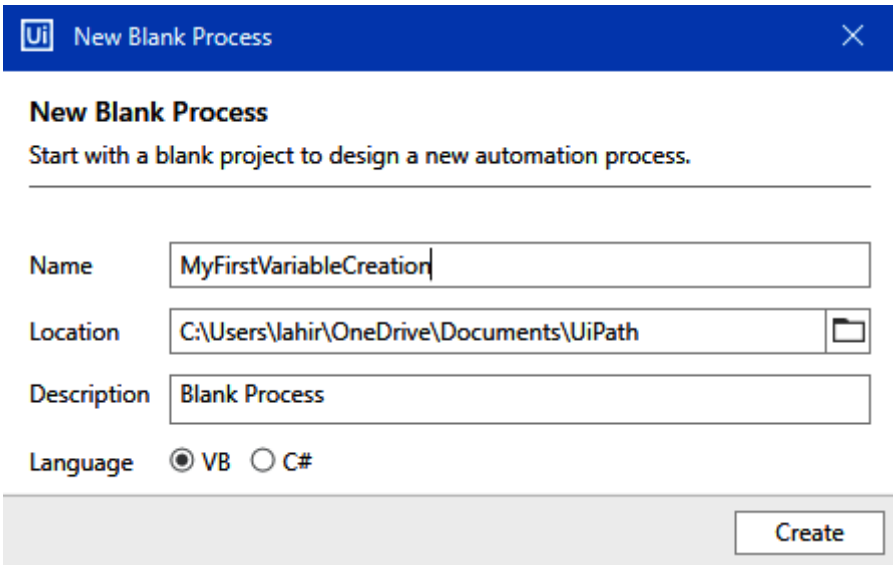
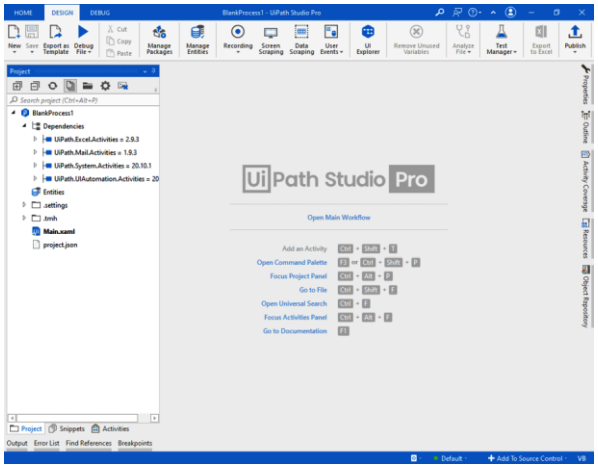
# Chapter 05: Learning about Variables and Arguments



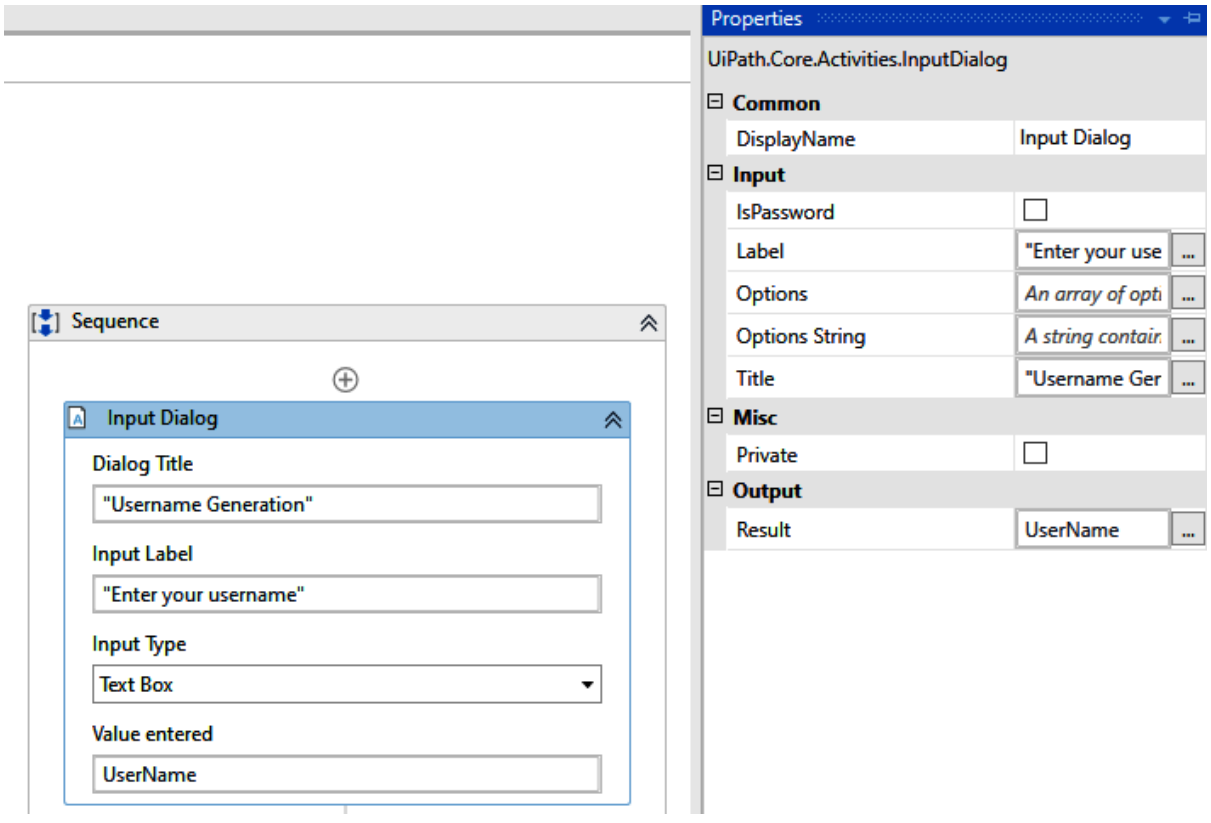



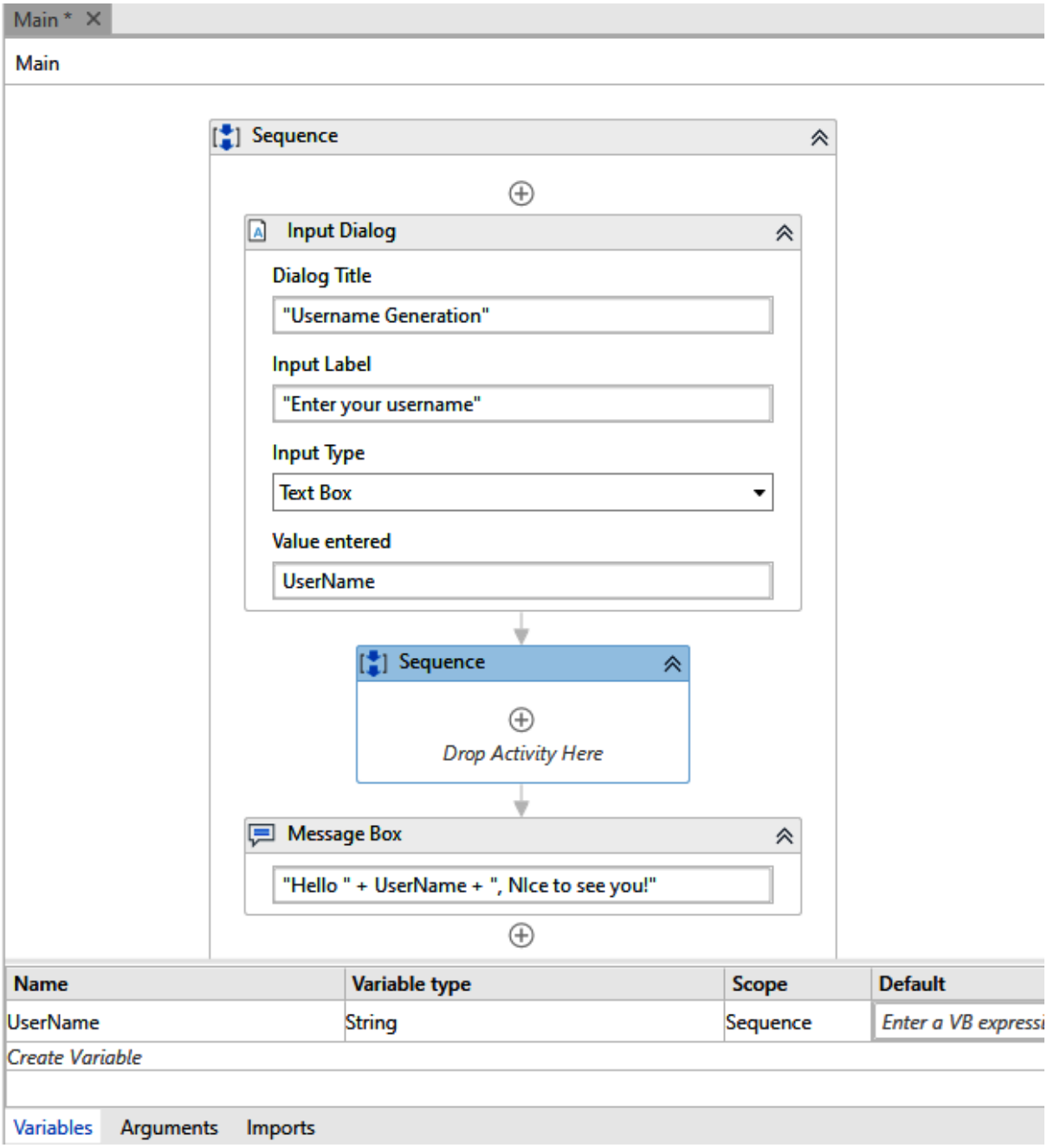



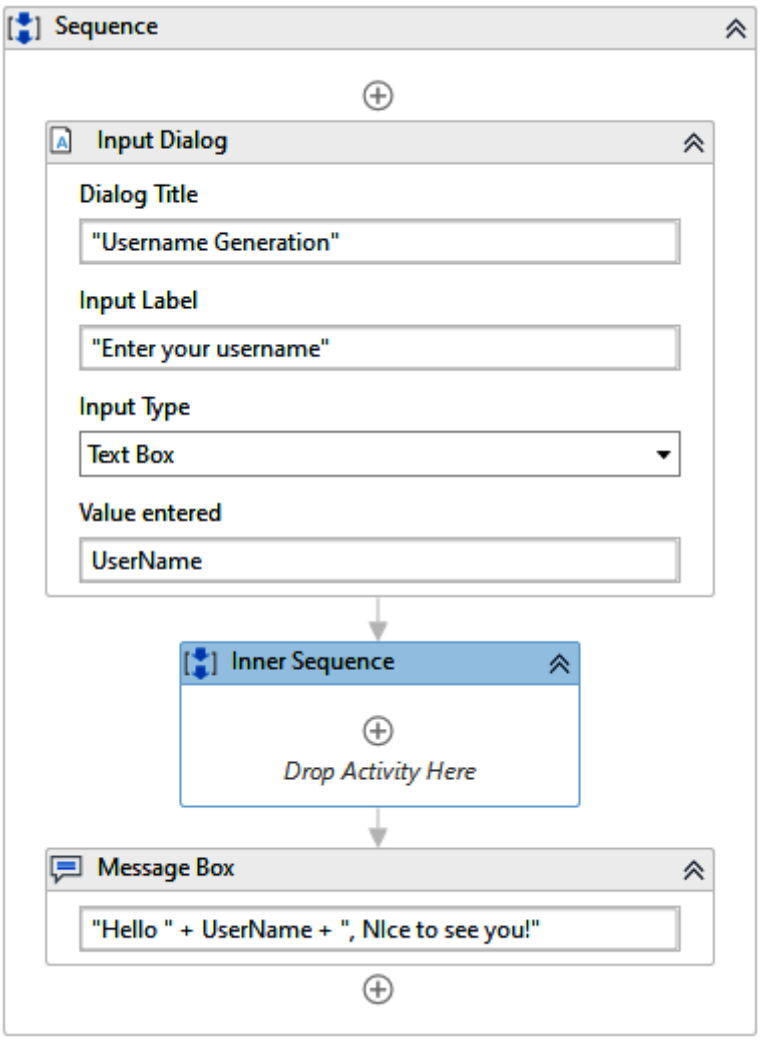


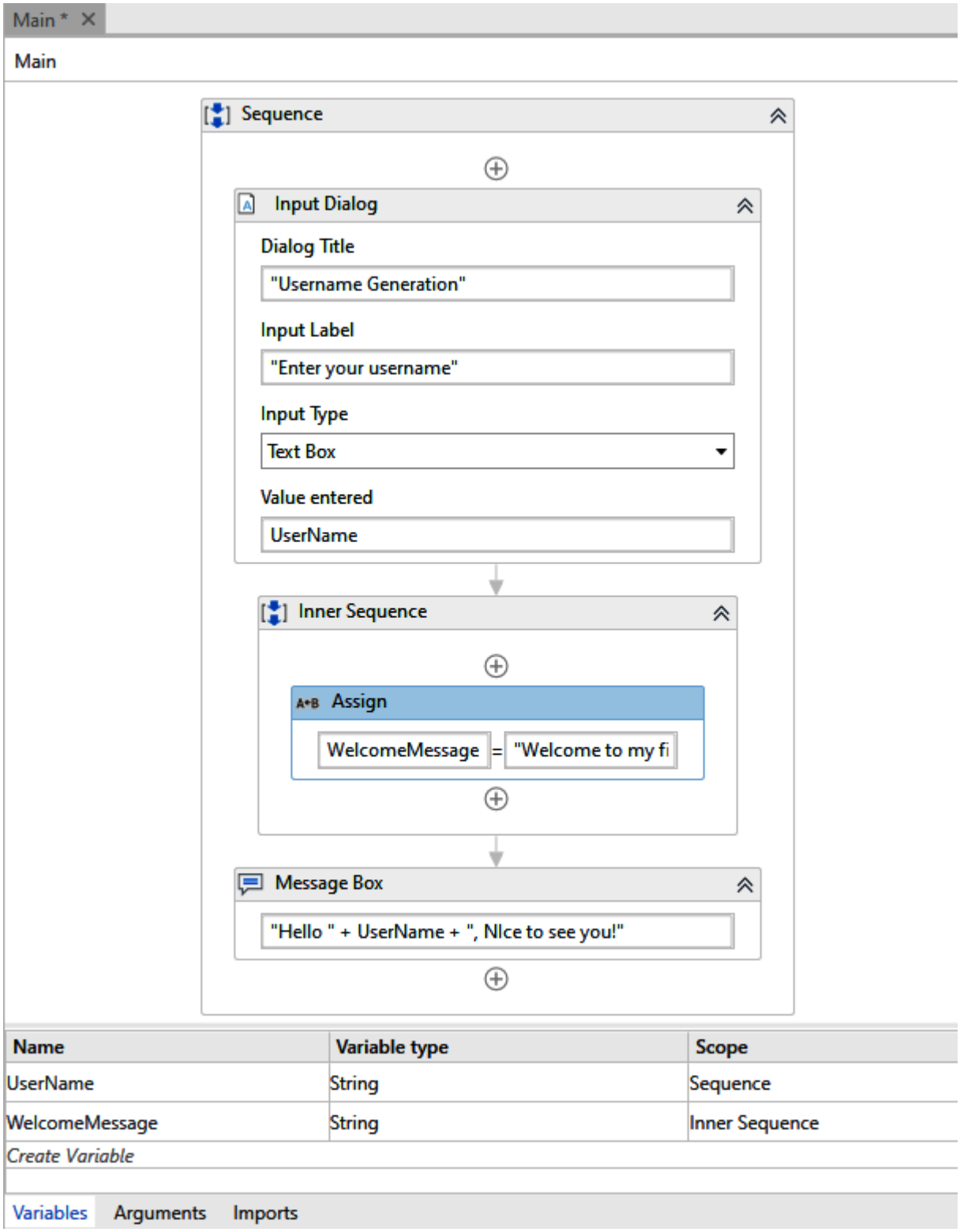

| Name | Variable type | Scope | Default |
|---|---|---|---|
| UserName | String | Sequence | *Enter a VB expression* |
| *Create Variable* | | | |

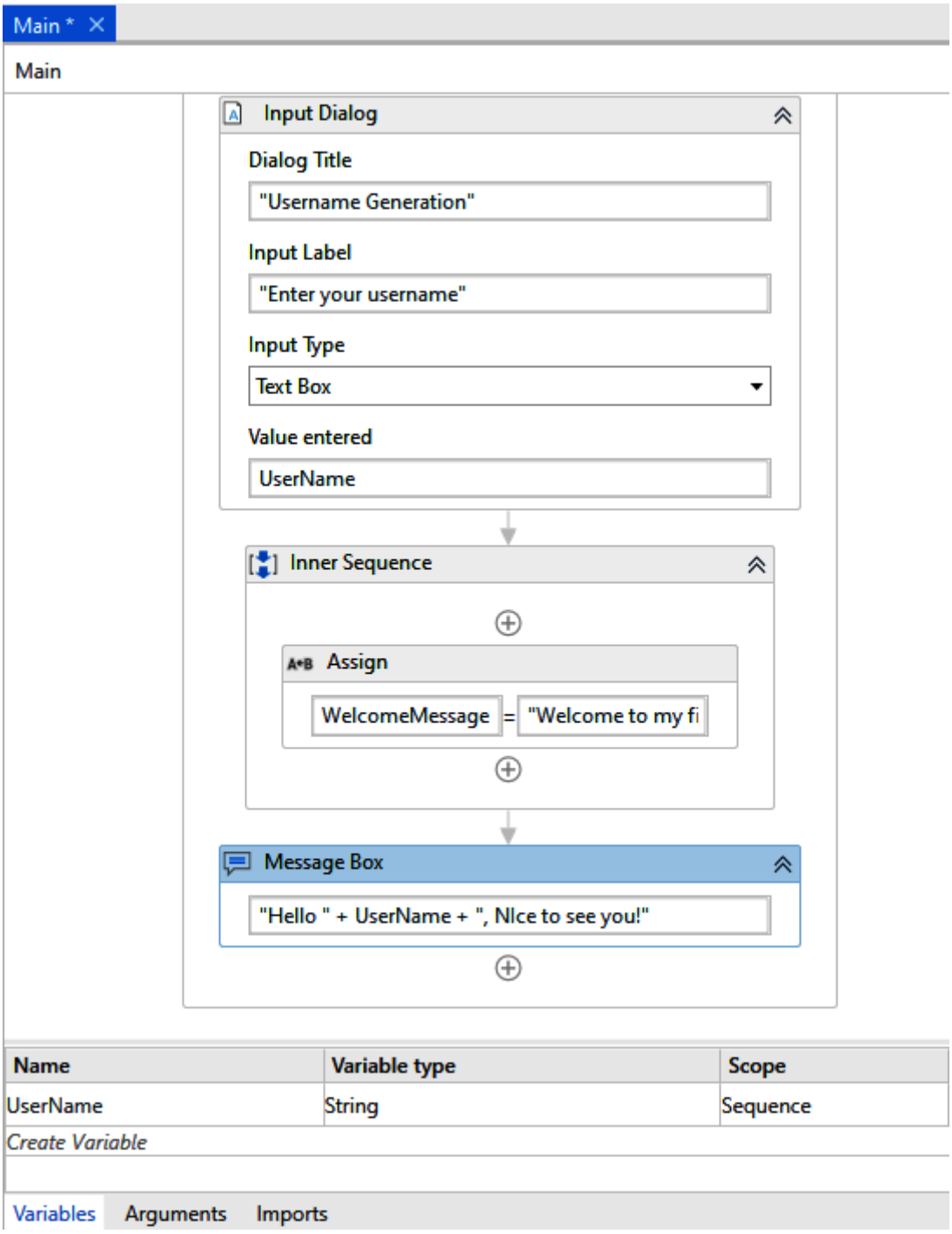
Variables Arguments Imports

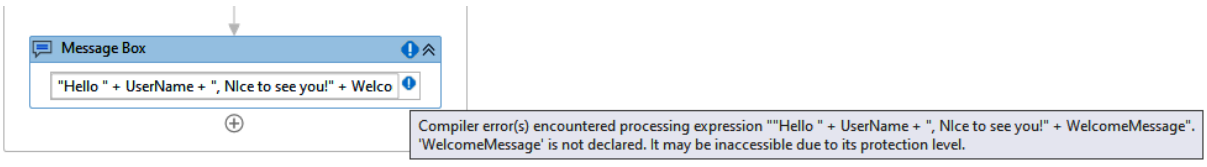


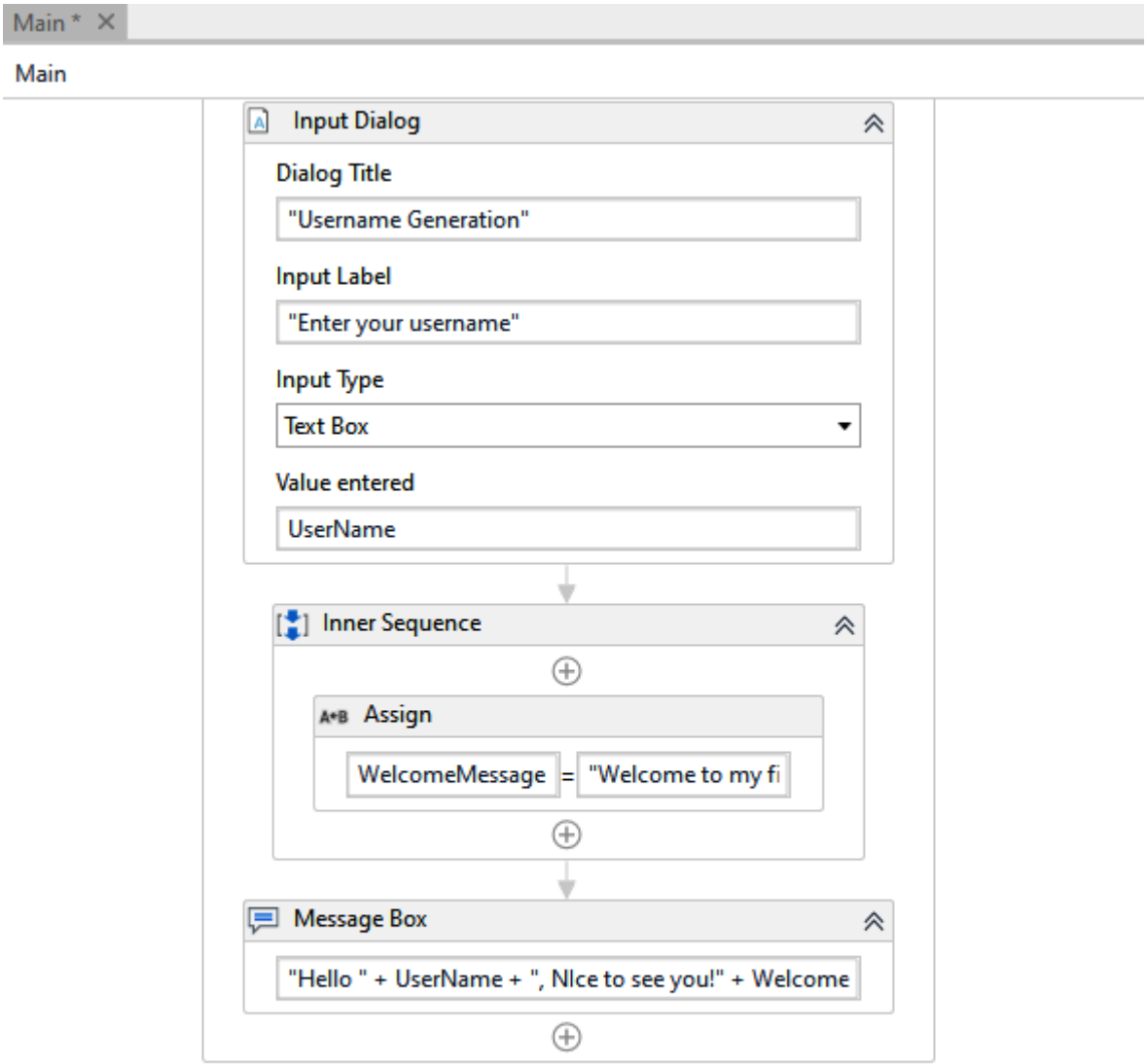

Main *
Main
Sequence
Input Dialog
Dialog Title
"Username Generation"
Input Label
"Enter your username"
Input Type
Text Box
Value entered
UserName
Sequence
Drop Activity Here
Message Box
"Hello " + UserName + ", NIce to see you!"
Name
Variable type
Scope
Default
UserName
String
Sequence
Enter a VB expressi
Create Variable
Variables
Arguments
Imports


Sequence
Input Dialog
Dialog Title
"Username Generation"
Input Label
"Enter your username"
Input Type
Text Box
Value entered
UserName
Inner Sequence
Drop Activity Here
Message Box
"Hello " + UserName + ", NIce to see you!"


Main *
Main
Sequence
Input Dialog
Dialog Title
"Username Generation"
Input Label
"Enter your username"
Input Type
Text Box
Value entered
UserName
Inner Sequence
Assign
WelcomeMessage
=
"Welcome to my fi
Message Box
"Hello " + UserName + ", Nice to see you!"
Name
Variable type
Scope
UserName
String
Sequence
WelcomeMessage
String
Inner Sequence
Create Variable
Variables
Arguments
Imports


Main *
Main
Input Dialog
Dialog Title
"Username Generation"
Input Label
"Enter your username"
Input Type
Text Box
Value entered
UserName
Inner Sequence
Assign
WelcomeMessage
=
"Welcome to my fi
Message Box
"Hello " + UserName + ", Nice to see you!"
Name
Variable type
Scope
UserName
String
Sequence
Create Variable
Variables
Arguments
Imports

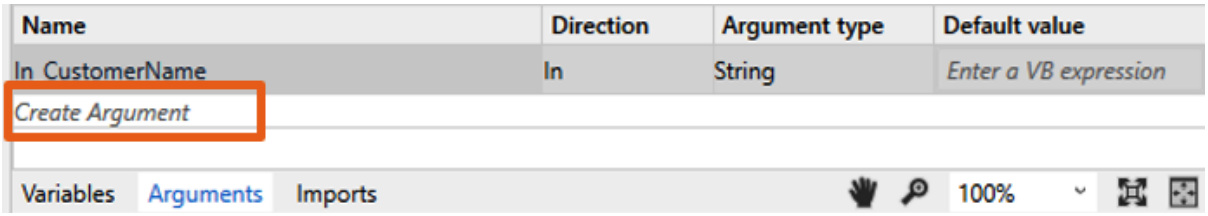

Message Box
"Hello " + UserName + ", Nice to see you!" + Welco
Compiler error(s) encountered processing expression ""Hello " + UserName + ", Nice to see you!" + WelcomeMessage".
'WelcomeMessage' is not declared. It may be inaccessible due to its protection level.

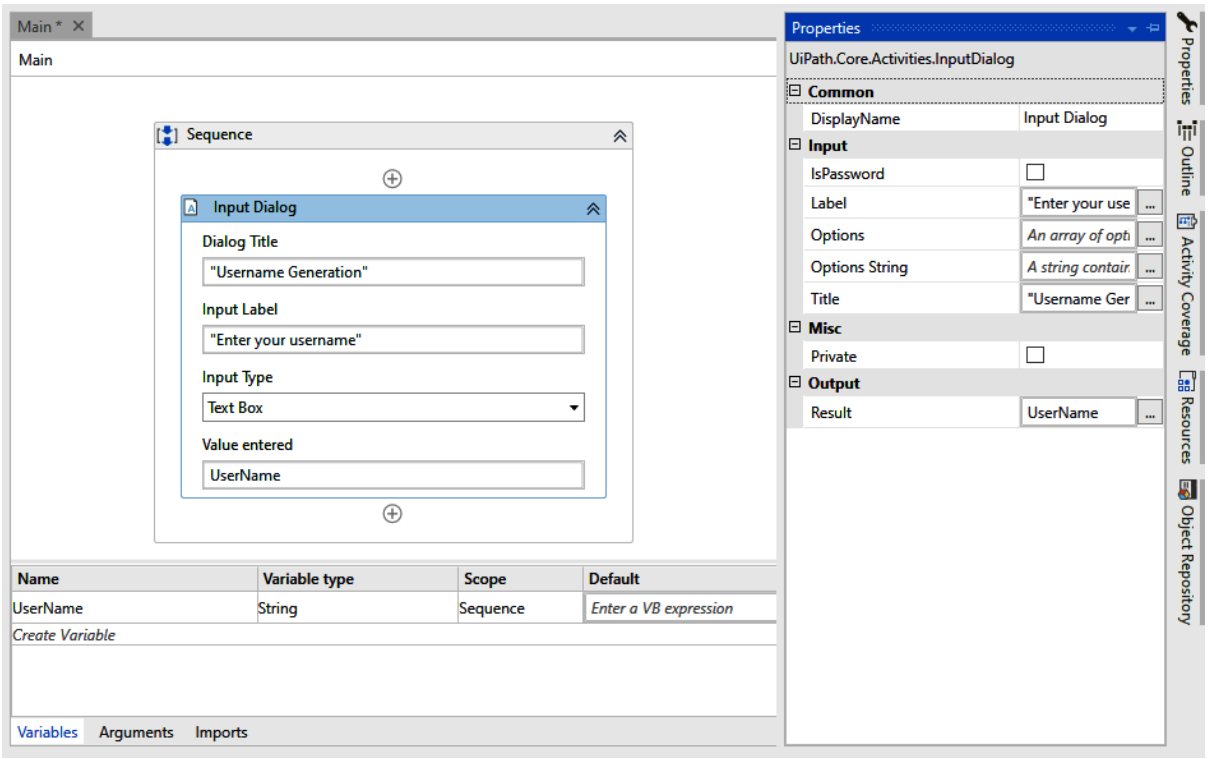


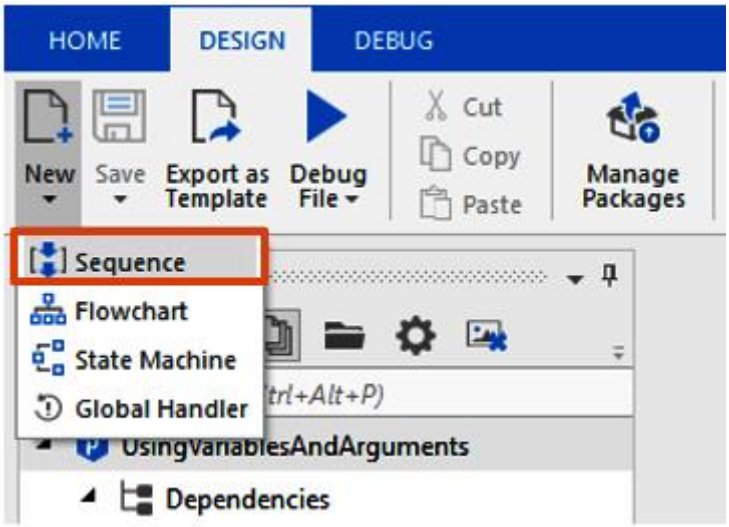

| Name | Variable type | Scope | Default |
|---|---|---|---|
| WelcomeMessage | String | Sequence | *Enter a* |
| UserName | String | Sequence | *Enter a* |

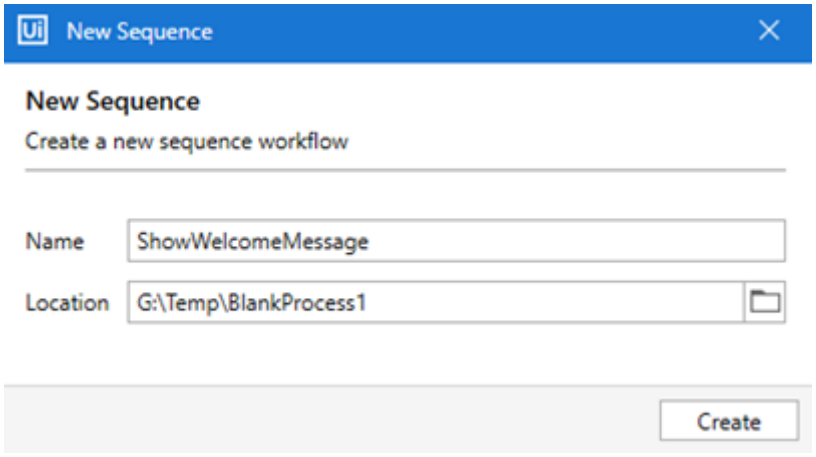
*Create Variable*

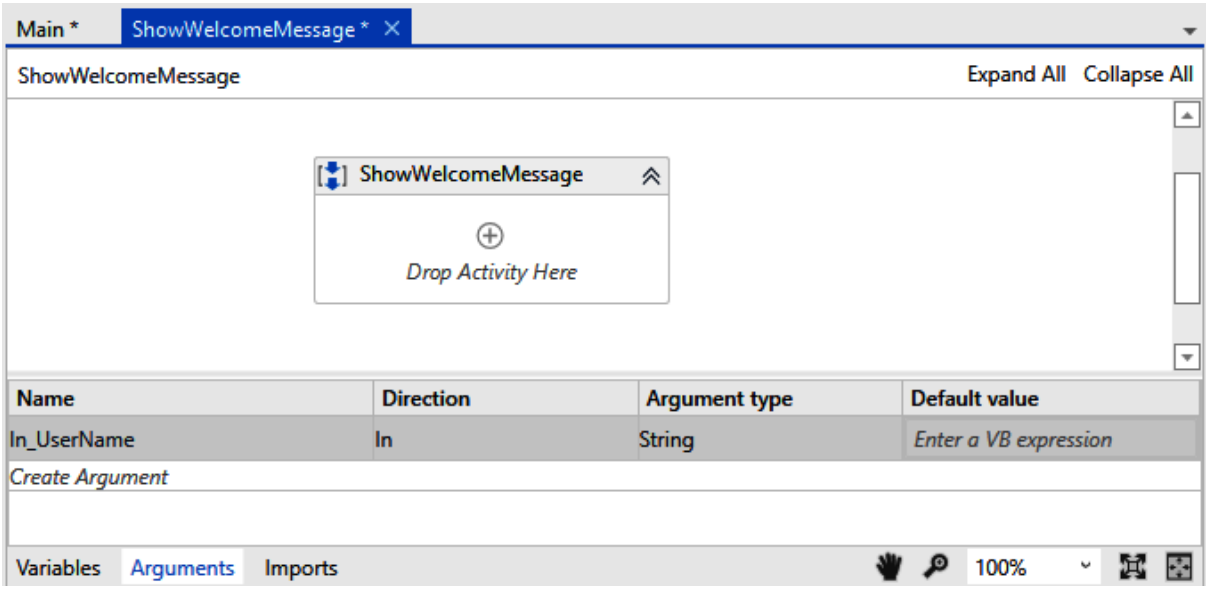
| Direction | Description |
|---|---|
| **In** | Argument can only be used within the given workflow as the data is passed into the workflow |
| **Out** | Argument can be used to pass data outside the given workflow |
| **In/Out** | Argument can be used for both receiving and sending data out |

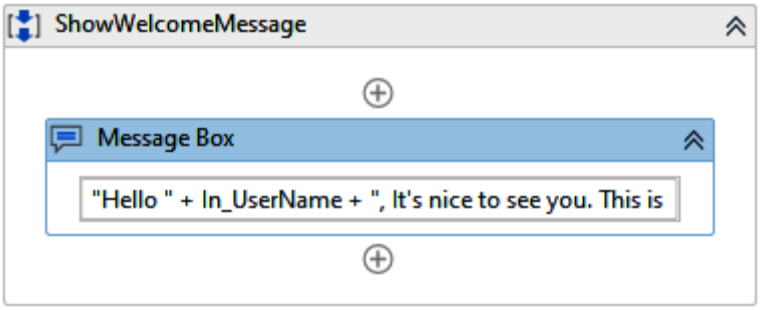

Name
Direction
Argument type
Default value
In_CustomerName
In
String
Enter a VB expression
Create Argument
Variables
Arguments
Imports
100%

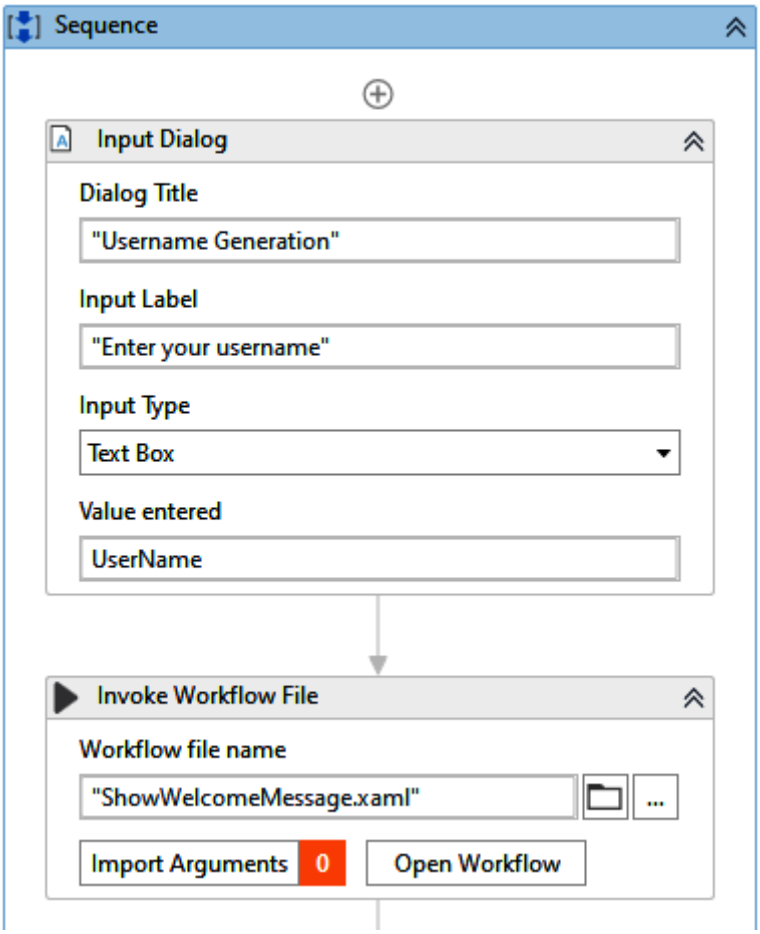

Main *
Main
Sequence
Input Dialog
Dialog Title
"Username Generation"
Input Label
"Enter your username"
Input Type
Text Box
Value entered
UserName
Properties
UiPath.Core.Activities.InputDialog
Common
DisplayName
Input Dialog
Input
IsPassword
Label
"Enter your use
Options
An array of opti
Options String
A string contair
Title
"Username Ger
Misc
Private
Output
Result
UserName
Name
Variable type
Scope
Default
UserName
String
Sequence
Enter a VB expression
Create Variable
Variables
Arguments
Imports
Properties
Outline
Activity Coverage
Resources
Object Repository

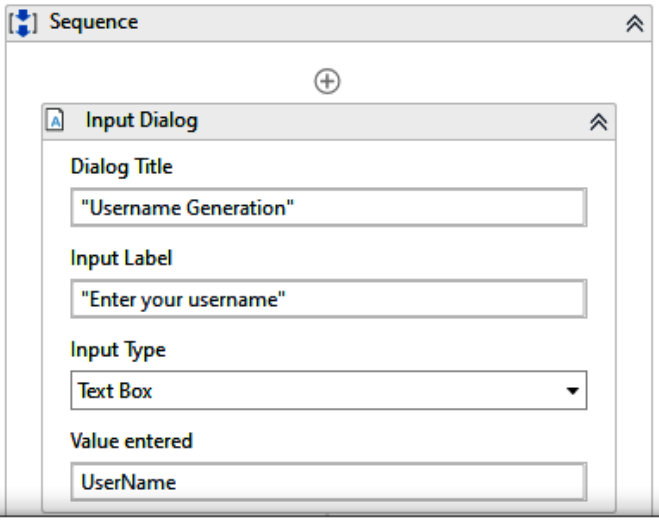

HOME
DESIGN
DEBUG
New
Save
Export as Template
Debug File
Cut
Copy
Paste
Manage Packages
Sequence
Flowchart
State Machine
Global Handler
UsingVariablesAndArguments
Dependencies

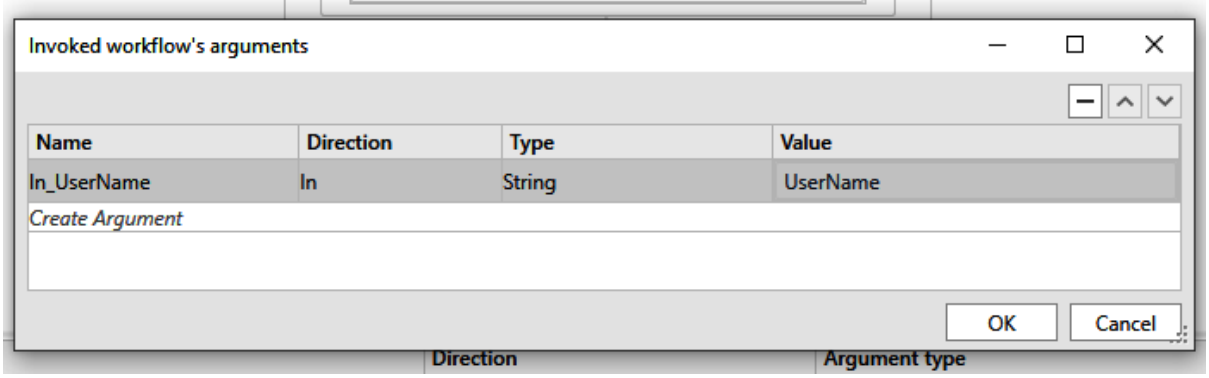

New Sequence
New Sequence
Create a new sequence workflow
Name
ShowWelcomeMessage
Location
G:\Temp\BlankProcess1
Create

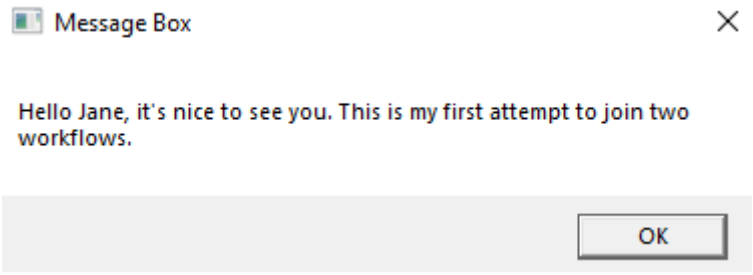

Main *
ShowWelcomeMessage *
ShowWelcomeMessage
Expand All
Collapse All
ShowWelcomeMessage
Drop Activity Here
Name
Direction
Argument type
Default value
In_UserName
In
String
Enter a VB expression
Create Argument
Variables
Arguments
Imports
100%


ShowWelcomeMessage
Message Box
"Hello " + In_UserName + ", It's nice to see you. This is


Sequence
Input Dialog
Dialog Title
"Username Generation"
Input Label
"Enter your username"
Input Type
Text Box
Value entered
UserName
Invoke Workflow File
Workflow file name
"ShowWelcomeMessage.xaml"
...
Import Arguments
0
Open Workflow


Sequence
Input Dialog
Dialog Title
"Username Generation"
Input Label
"Enter your username"
Input Type
Text Box
Value entered
UserName


Invoked workflow's arguments
Name
Direction
Type
Value
In_UserName
In
String
UserName
Create Argument
OK
Cancel
Direction
Argument type

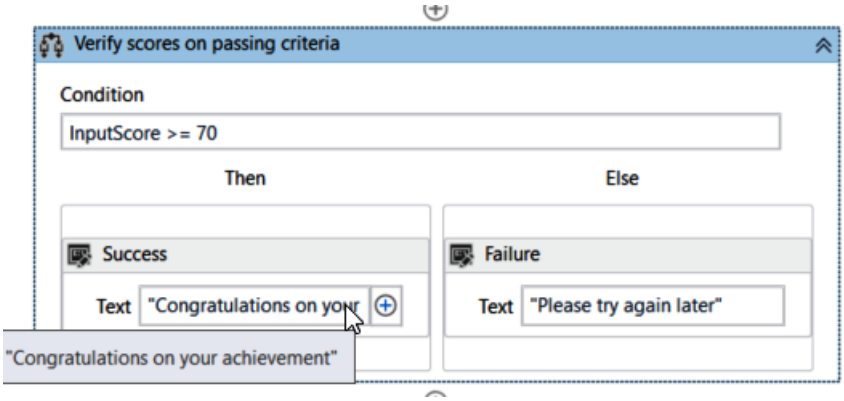


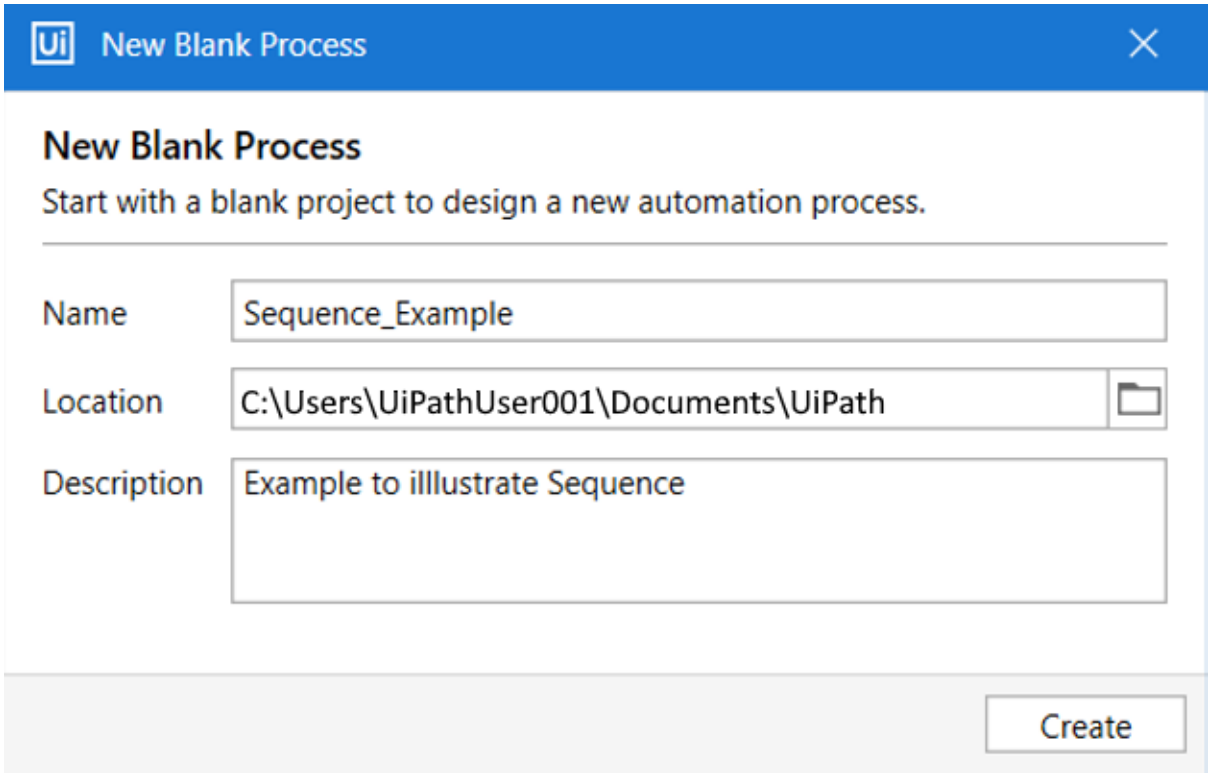

| Numeric Type | Description |
|---|---|
| **Int16/32/64** | Signed integers (for example, 10, 20, 100, -250). |
| **Long** | Holds signed integers ranging from -9,223,372,036,854,775,808 through 9,223,372,036,854,775,808 |
| **Double** | Allows you to store the largest and smallest possible floating point integers. |
| **Decimal** | Decimal supports the storage of values up to 29 significant digits and can represent values above 7.9228 x 10 ^ 28. The Decimal type is more suitable for financial calculations as it supports large numbers and does not provide errors while rounding values. |

| Data Type | Description |
|---|---|
| **DateTime** | Used to store specific date and time information regarding a given date. This allows you to perform date-related calculations, such as calculating date durations and substracting and adding dates. |
| **TimeSpan** | Used to measure the duration between two given Time values. |

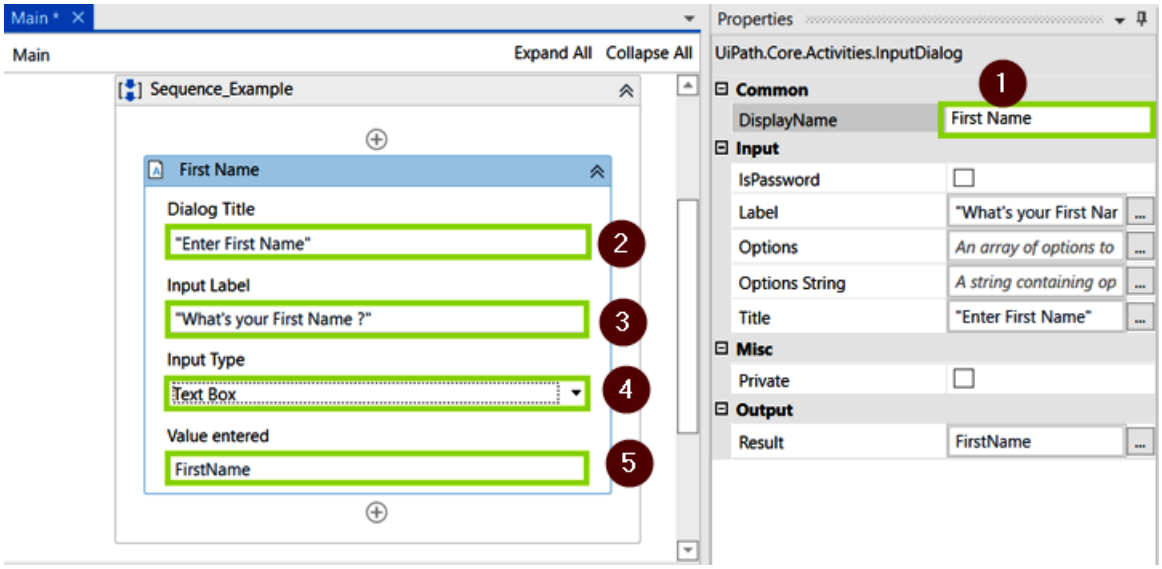
| Collection Type | Description |
|---|---|
| **Arrays** | Used to store multiple values of the same data type. The size of the object is defined at creation. |
| **Lists** | Used to store multiple values of the same data type (similar to Arrays). However, the size of the List may change during execution. |
| **Dictionary** | Used to store data values in the form of key-value pair where its unique key refers to each value. In simple words, every value in a Dictionary variable is referenced using a unique key that describes the value in the collection. |

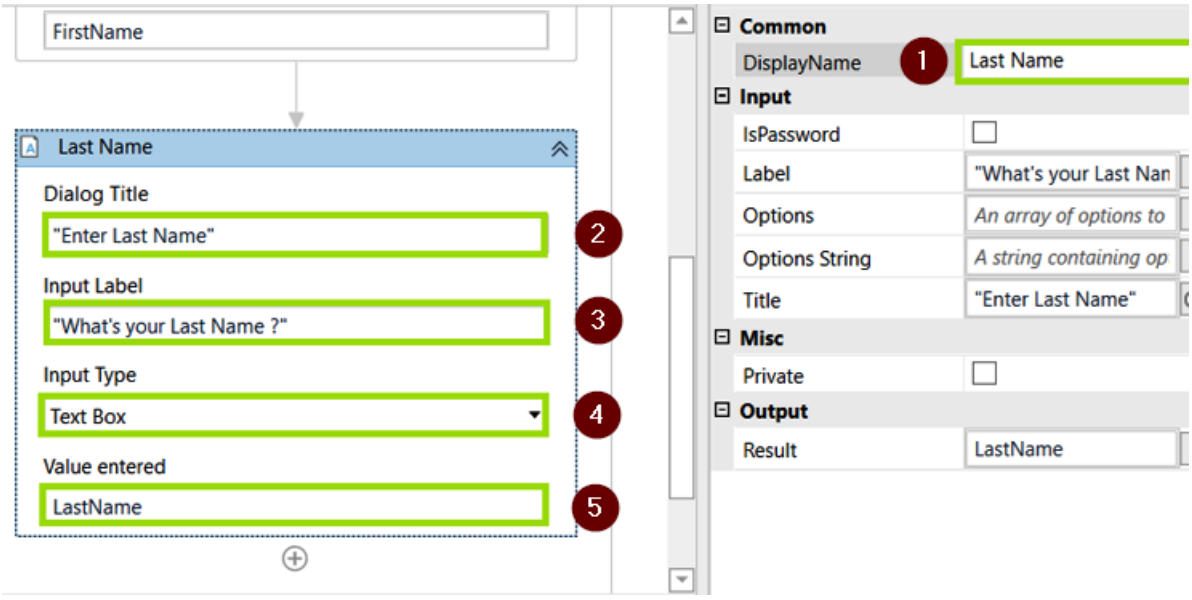
# Chapter 06: Understanding different Control Flows

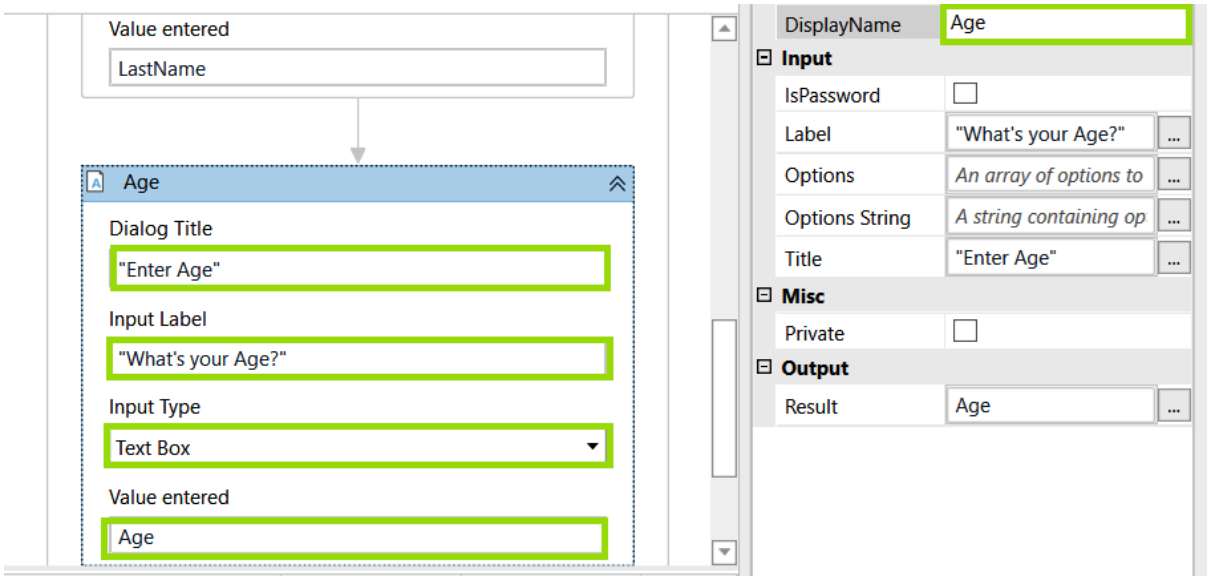


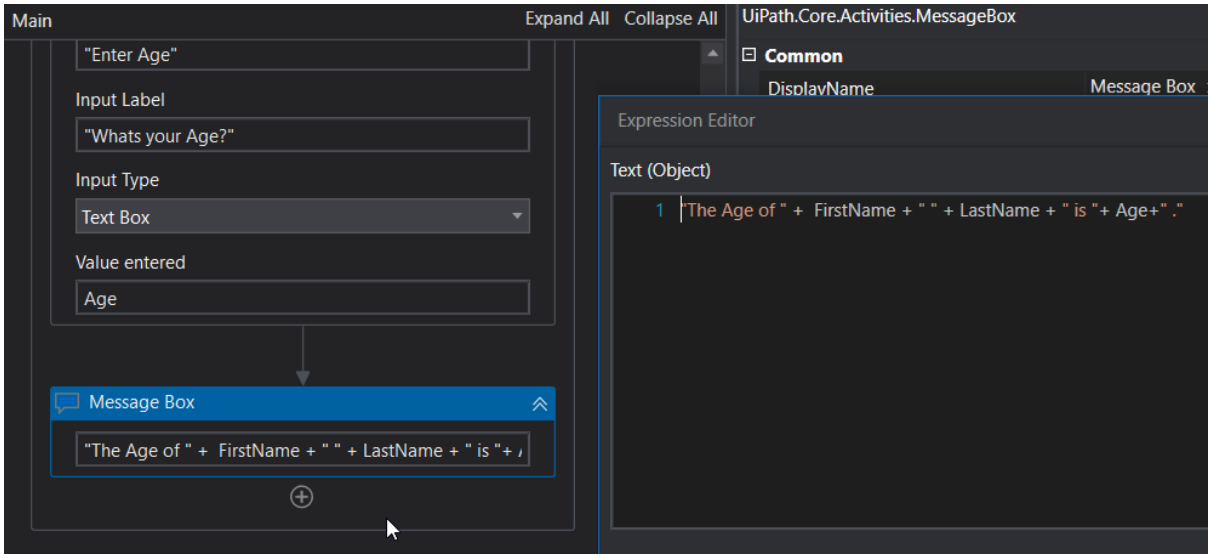



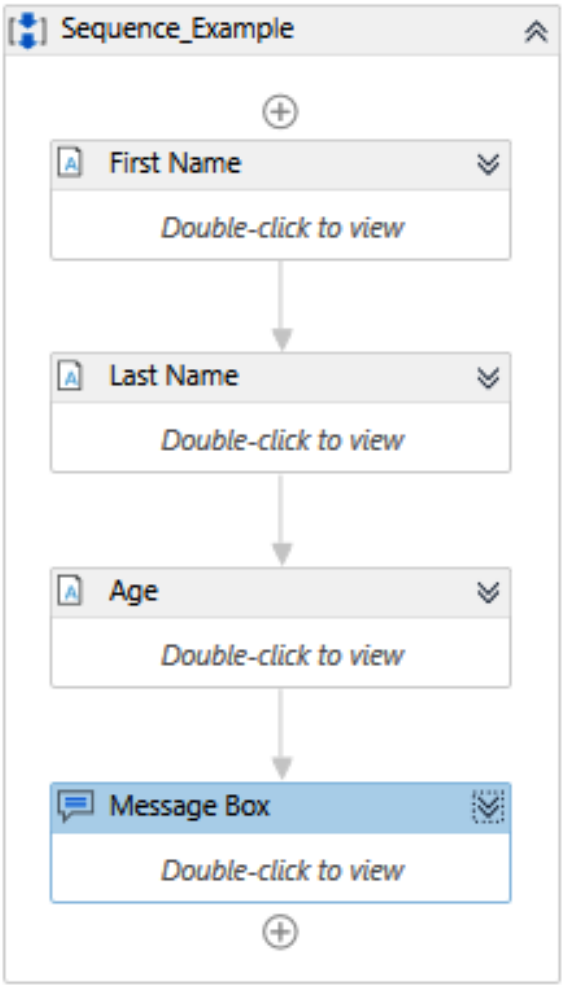

| Name | Variable type | Scope | Default |
|---|---|---|---|
| FirstName | String | Sequence_Example | *Enter a VB expression* |
| LastName | String | Sequence_Example | *Enter a VB expression* |
| Age | String | Sequence_Example | *Enter a VB expression* |

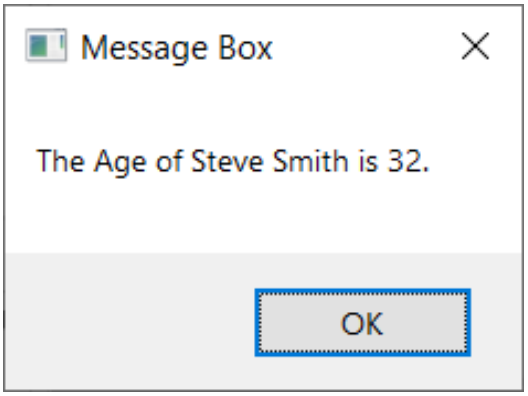

Main *
Main
Expand All
Collapse All
Sequence_Example
First Name
Dialog Title
"Enter First Name"
Input Label
"What's your First Name ?"
Input Type
Text Box
Value entered
FirstName
1
2
3
4
5
Properties
UiPath.Core.Activities.InputDialog
Common
DisplayName
First Name
Input
IsPassword
Label
"What's your First Nar
Options
An array of options to
Options String
A string containing op
Title
"Enter First Name"
Misc
Private
Output
Result
FirstName

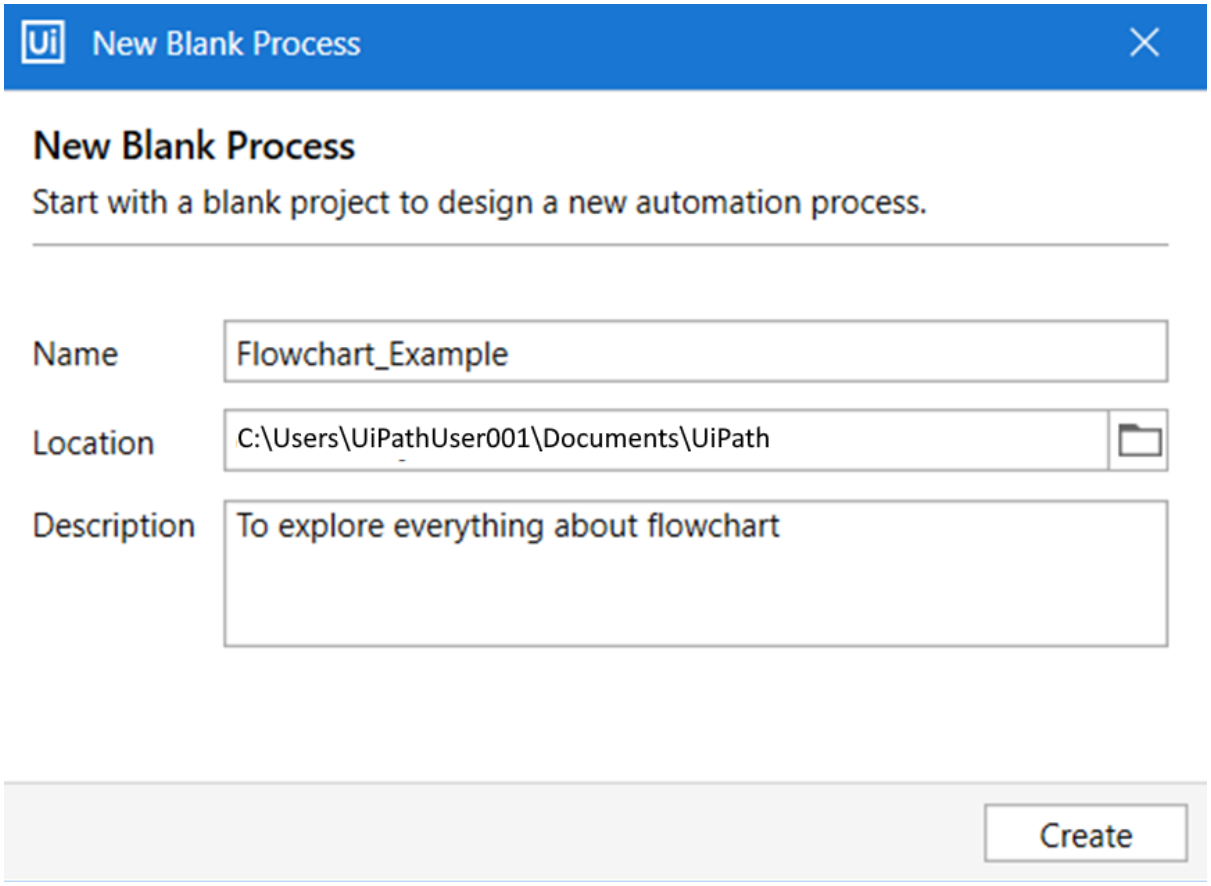

FirstName
Last Name
Dialog Title
"Enter Last Name"
Input Label
"What's your Last Name ?"
Input Type
Text Box
Value entered
LastName
2
3
4
5
Common
DisplayName
Last Name
Input
IsPassword
Label
"What's your Last Nan
Options
An array of options to
Options String
A string containing op
Title
"Enter Last Name"
Misc
Private
Output
Result
LastName

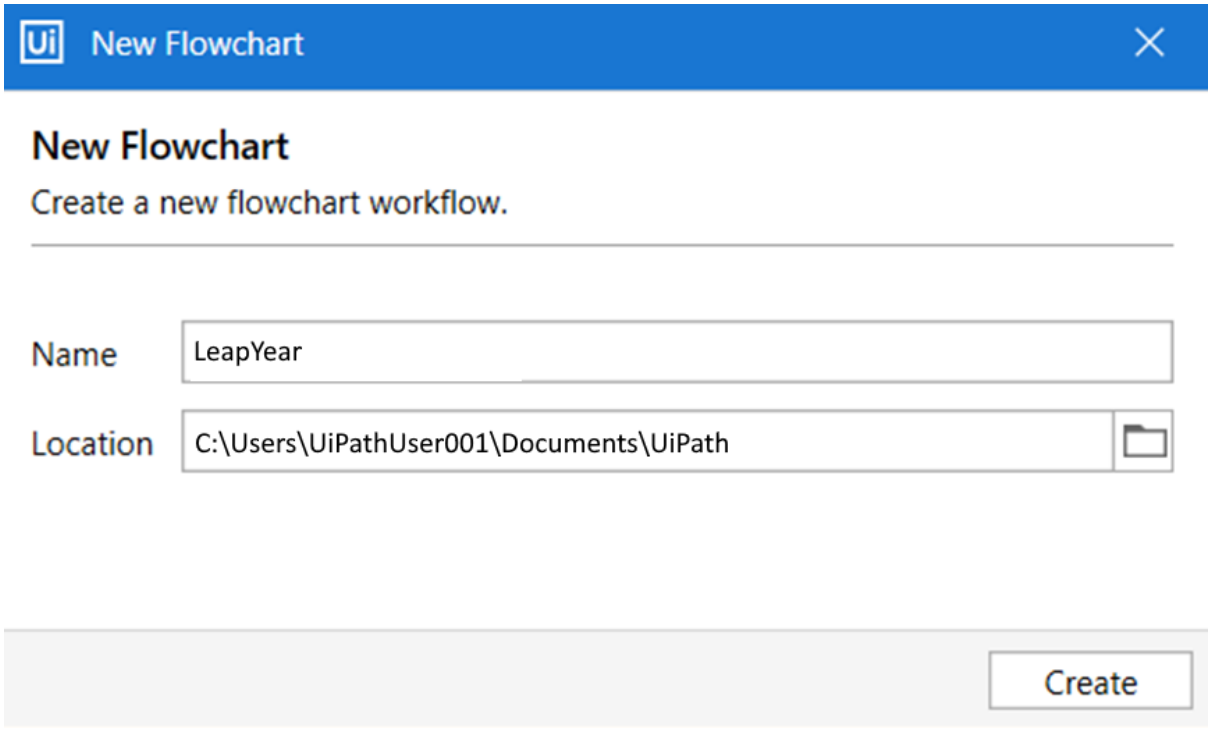

Value entered
LastName
Age
Dialog Title
"Enter Age"
Input Label
"What's your Age?"
Input Type
Text Box
Value entered
Age
DisplayName
Age
Input
IsPassword
Label
"What's your Age?"
Options
An array of options to
Options String
A string containing op
Title
"Enter Age"
Misc
Private
Output
Result
Age

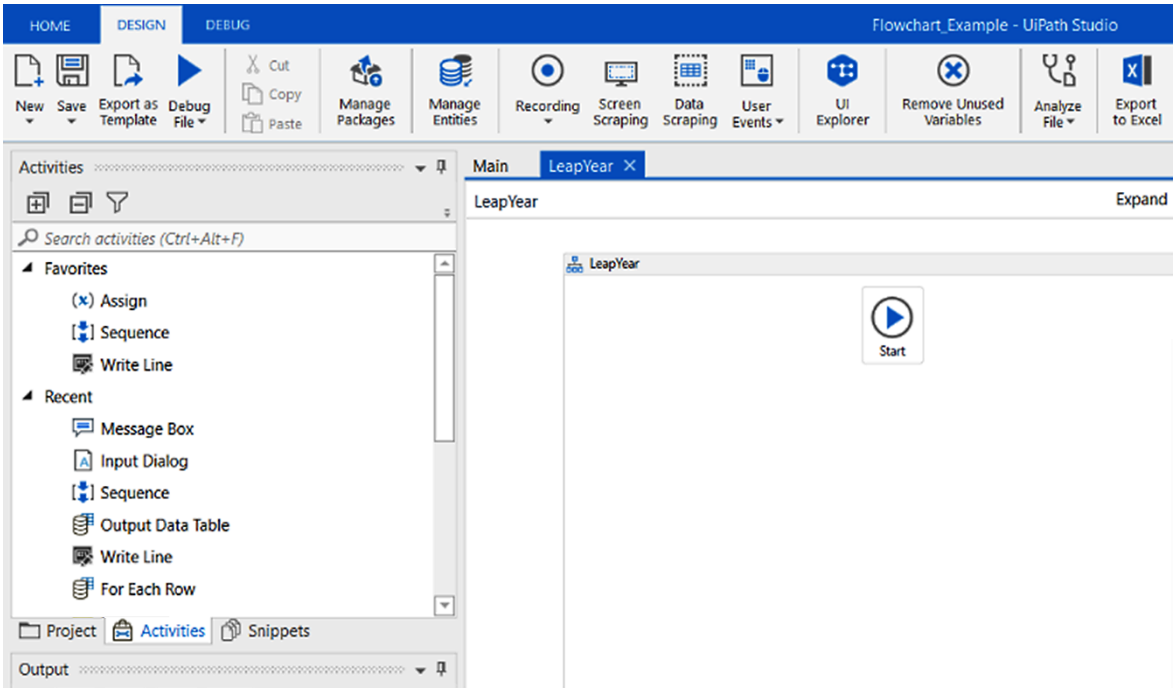

Main
Expand All
Collapse All
"Enter Age"
Input Label
"Whats your Age?"
Input Type
Text Box
Value entered
Age
Message Box
"The Age of " + FirstName + " " + LastName + " is "+ ,
UiPath.Core.Activities.MessageBox
Common
DisplayName
Message Box
Expression Editor
Text (Object)
1 "The Age of " + FirstName + " " + LastName + " is "+ Age+" ."


Sequence_Example
First Name
Double-click to view
Last Name
Double-click to view
Age
Double-click to view
Message Box
Double-click to view


Message Box
The Age of Steve Smith is 32.
OK

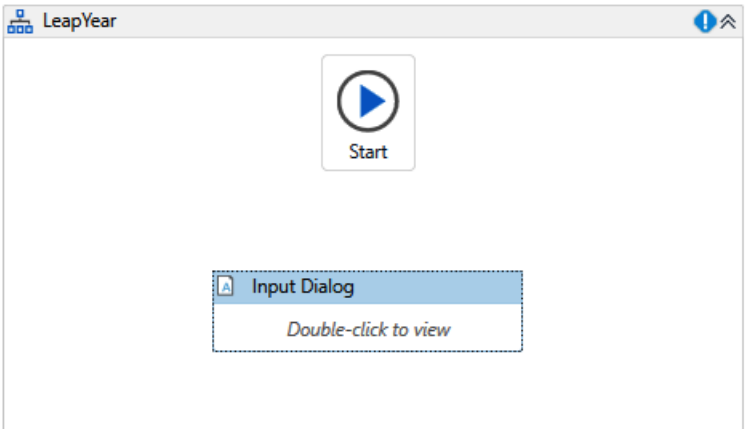

New Blank Process
New Blank Process
Start with a blank project to design a new automation process.
Name
Flowchart_Example
Location
C:\Users\UiPathUser001\Documents\UiPath
Description
To explore everything about flowchart
Create

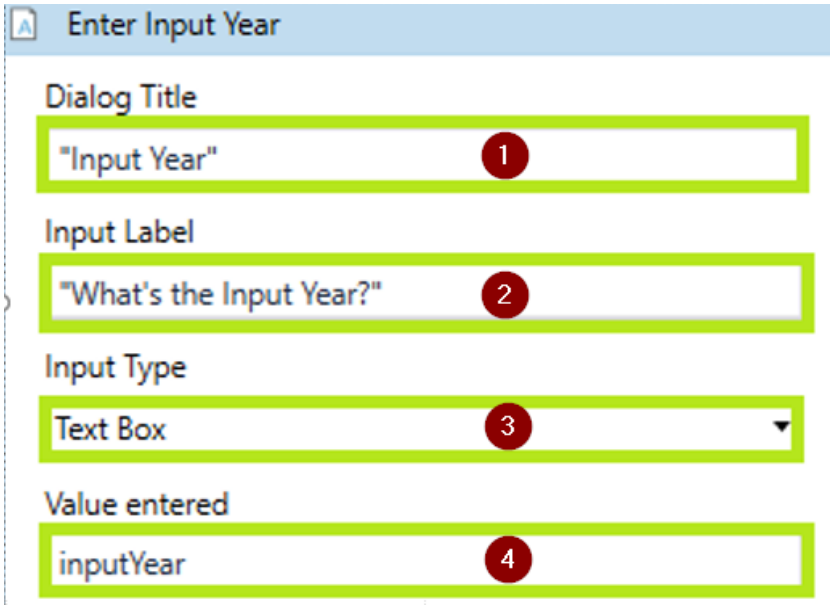


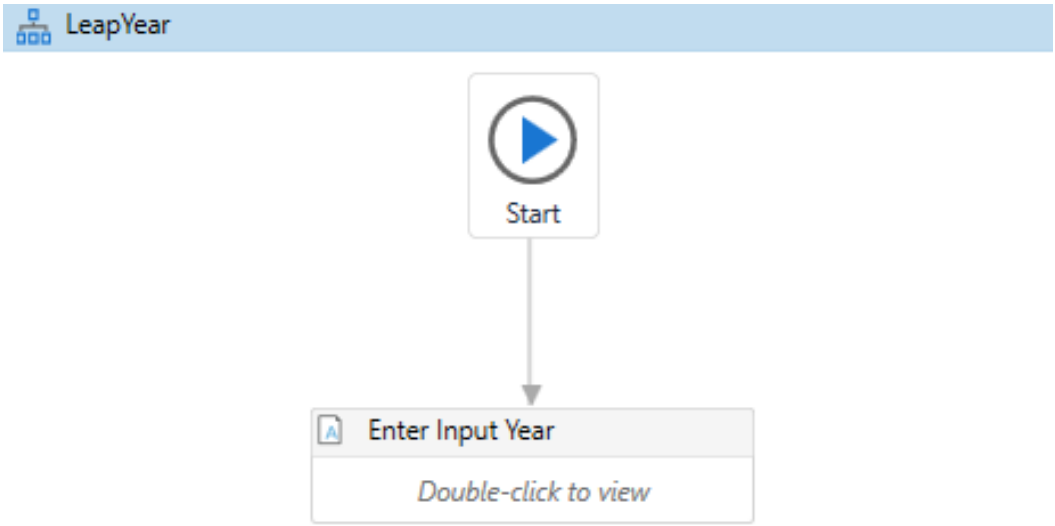



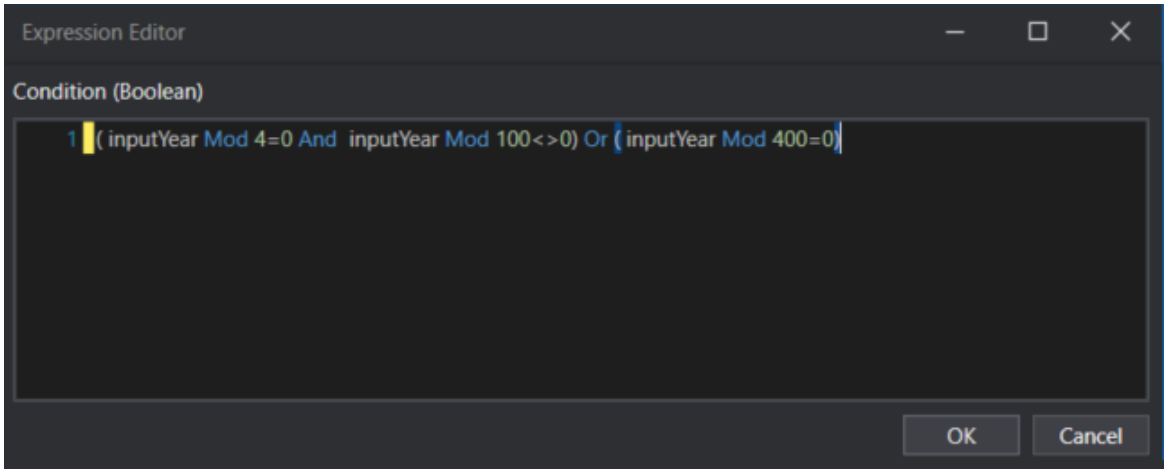

| Name | Variable type | Scope | Default |
|---|---|---|---|
| inputYear | Int32 | LeapYear | *Enter a VB expression* |

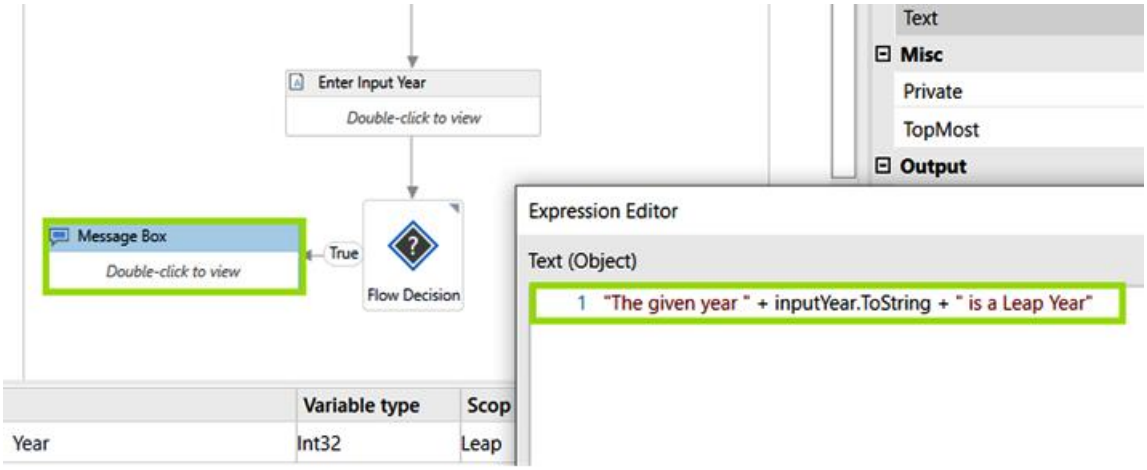
*Create Variable*

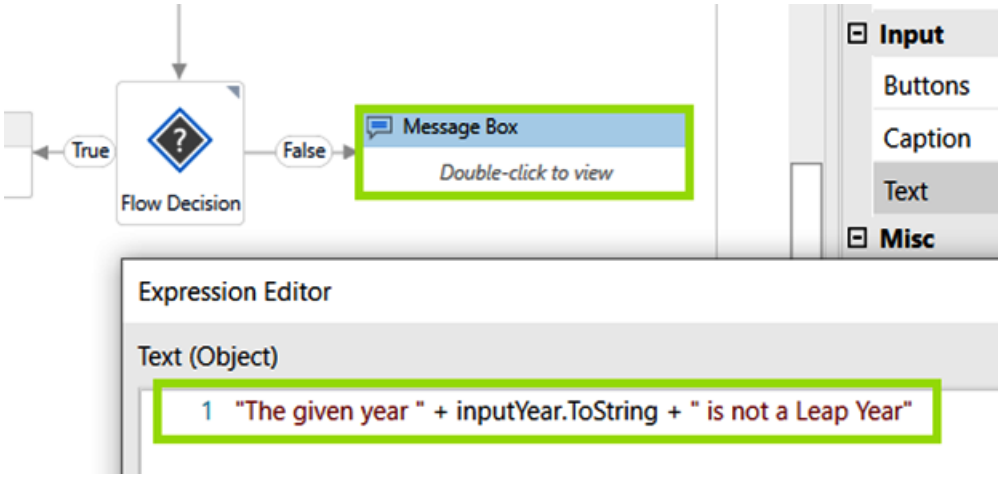

LeapYear
Start
Input Dialog
Double-click to view

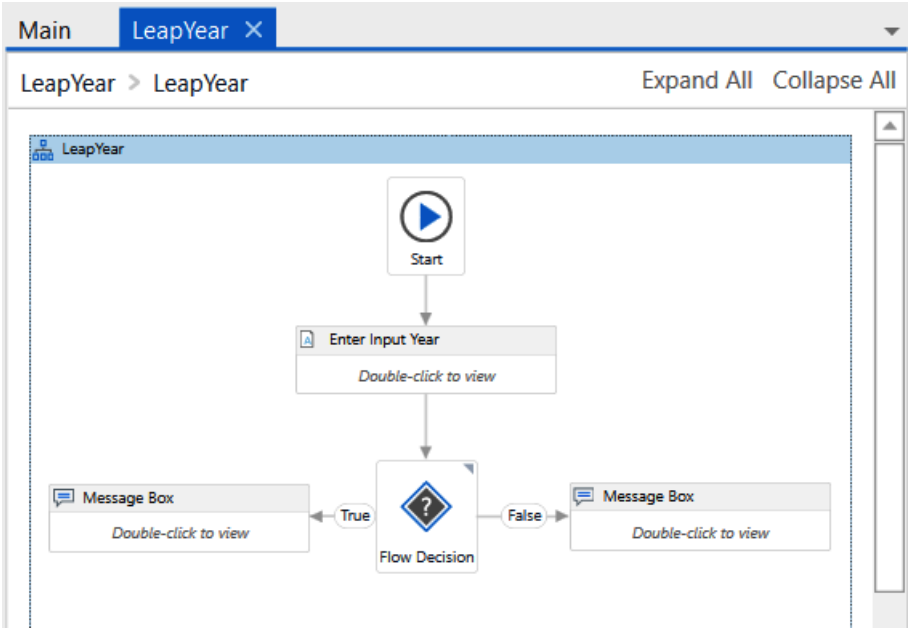

Enter Input Year
Dialog Title
"Input Year"
1
Input Label
"What's the Input Year?"
2
Input Type
Text Box
3
Value entered
inputYear
4


LeapYear
Start
Enter Input Year
Double-click to view

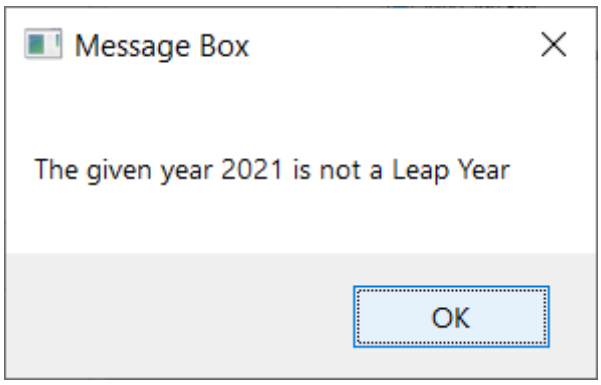

Expression Editor
Condition (Boolean)
1 ( inputYear Mod 4=0 And inputYear Mod 100<>0) Or ( inputYear Mod 400=0)
OK
Cancel

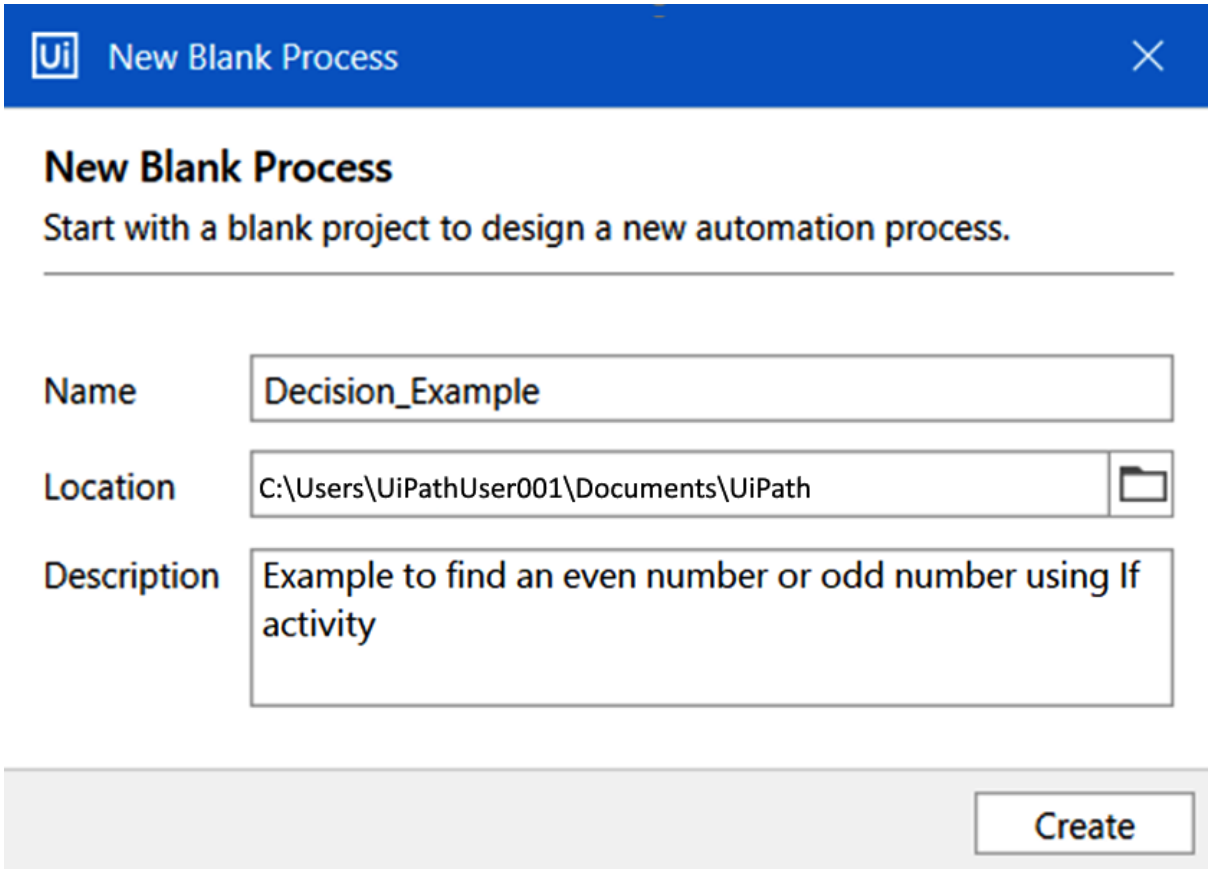

Enter Input Year
Double-click to view
Message Box
Double-click to view
True
Flow Decision
Text
Misc
Private
TopMost
Output
Expression Editor
Text (Object)
1 "The given year " + inputYear.ToString + " is a Leap Year"
Variable type
Scop
Year
Int32
Leap


True
Flow Decision
False
Message Box
Double-click to view
Input
Buttons
Caption
Text
Misc
Expression Editor
Text (Object)
1 "The given year " + inputYear.ToString + " is not a Leap Year"

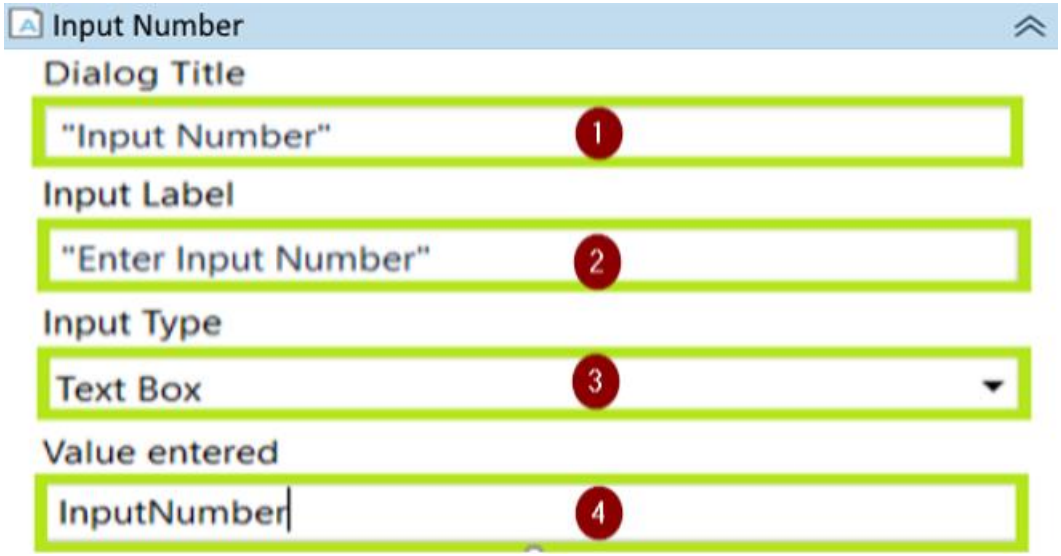

Main
LeapYear
LeapYear > LeapYear
Expand All
Collapse All
LeapYear
Start
Enter Input Year
Double-click to view
Message Box
Double-click to view
True
Flow Decision
False
Message Box
Double-click to view

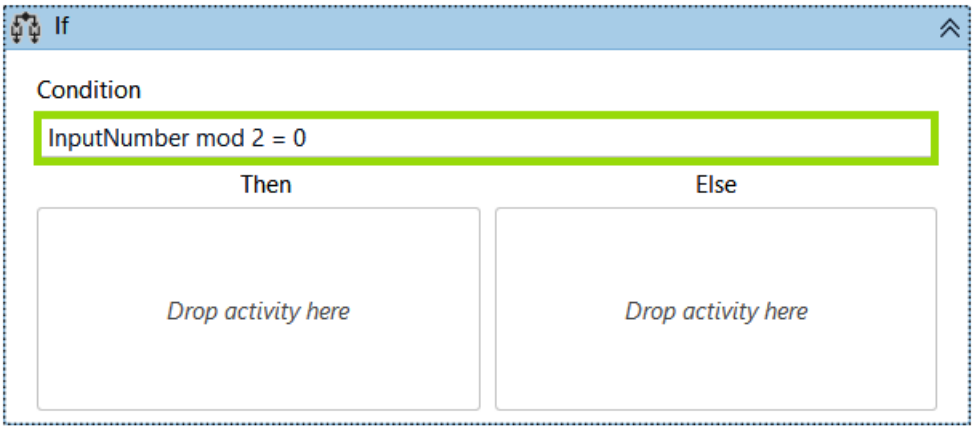
Message Box
The given year 2020 is a Leap Year
OK

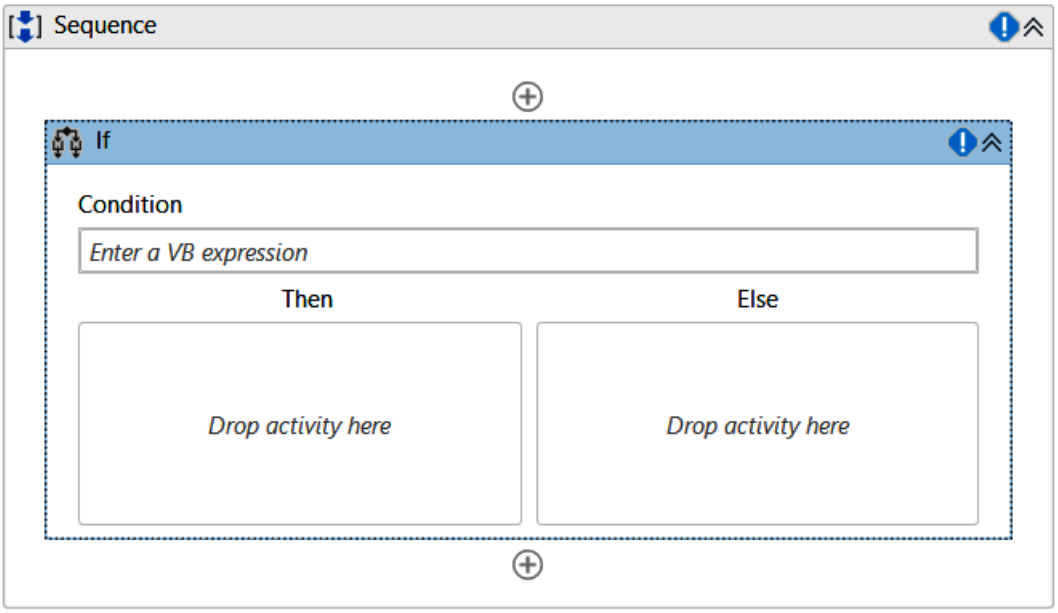

Message Box
The given year 2021 is not a Leap Year
OK

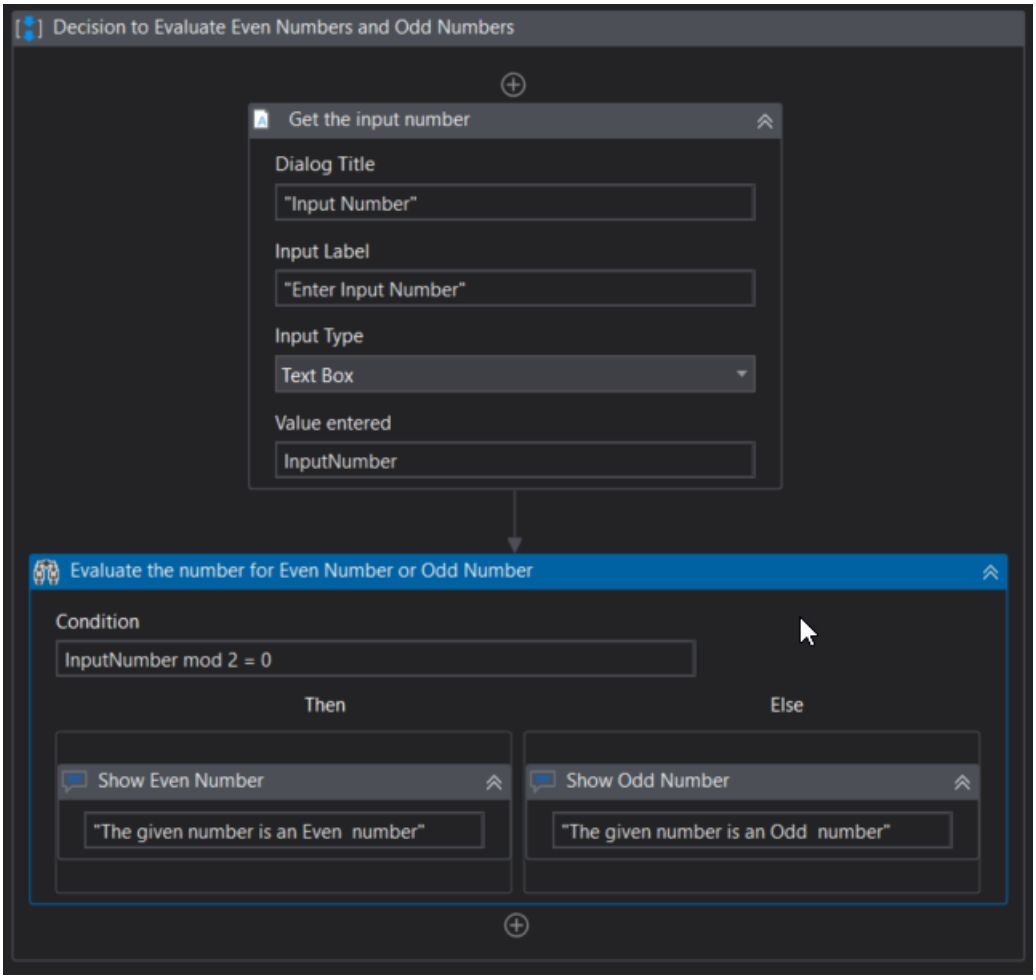


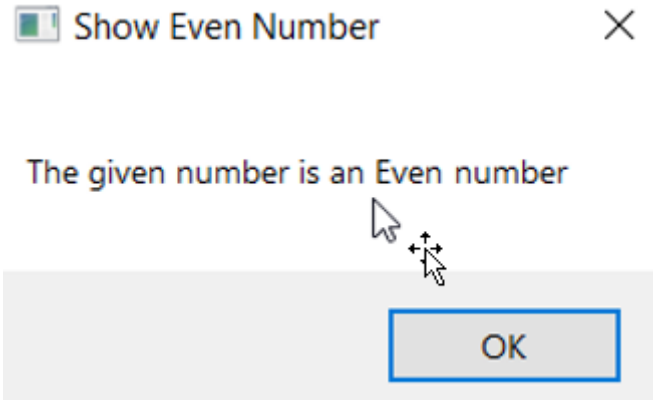

| Name | Variable type | Scope | Default |
|---|---|---|---|
| InputNumber | Int32 | Sequence | *Enter a VB expression* |
| *Create Variable* | | | |

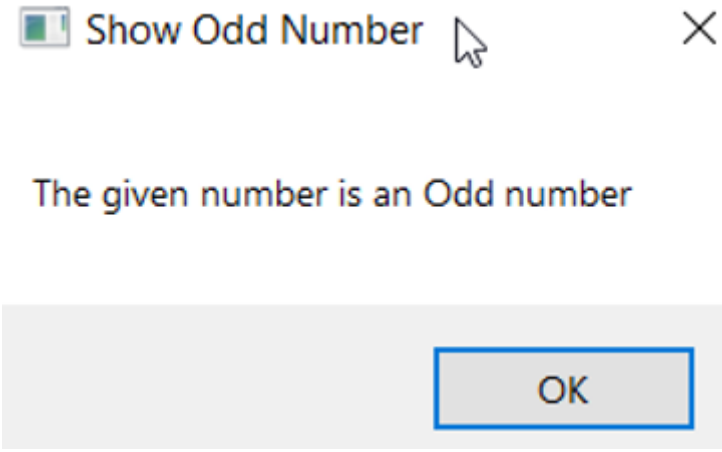


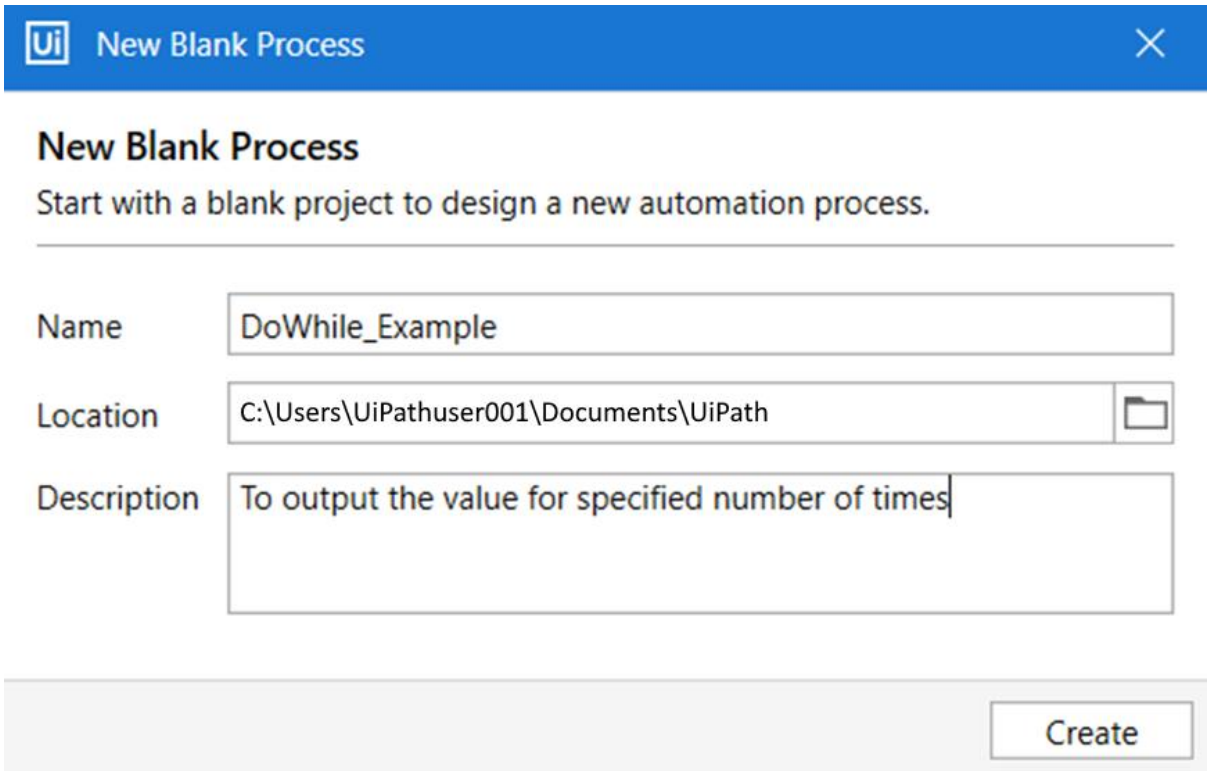

If
Condition
InputNumber mod 2 = 0
Then
Else
Drop activity here
Drop activity here


Sequence
If
Condition
Enter a VB expression
Then
Else
Drop activity here
Drop activity here

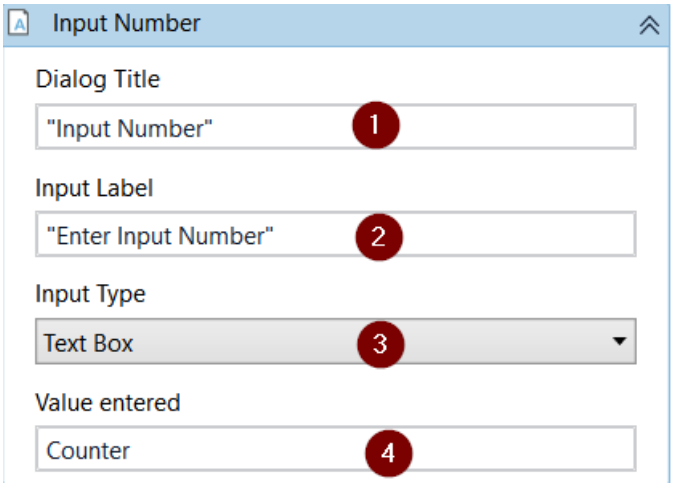

Decision to Evaluate Even Numbers and Odd Numbers
Get the input number
Dialog Title
"Input Number"
Input Label
"Enter Input Number"
Input Type
Text Box
Value entered
InputNumber
Evaluate the number for Even Number or Odd Number
Condition
InputNumber mod 2 = 0
Then
Else
Show Even Number
"The given number is an Even number"
Show Odd Number
"The given number is an Odd number"

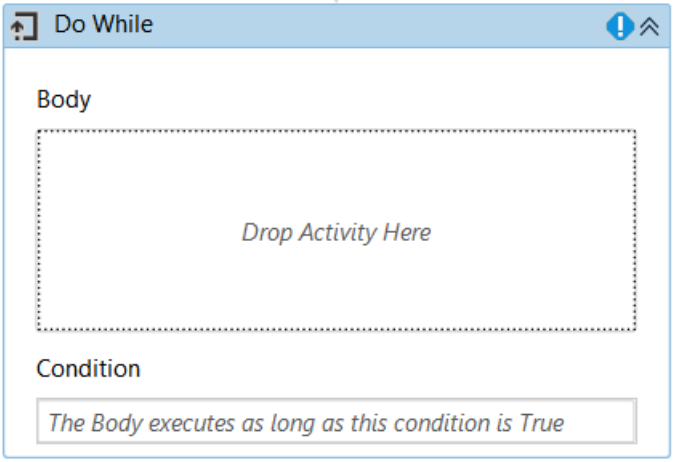

Show Even Number
The given number is an Even number
OK

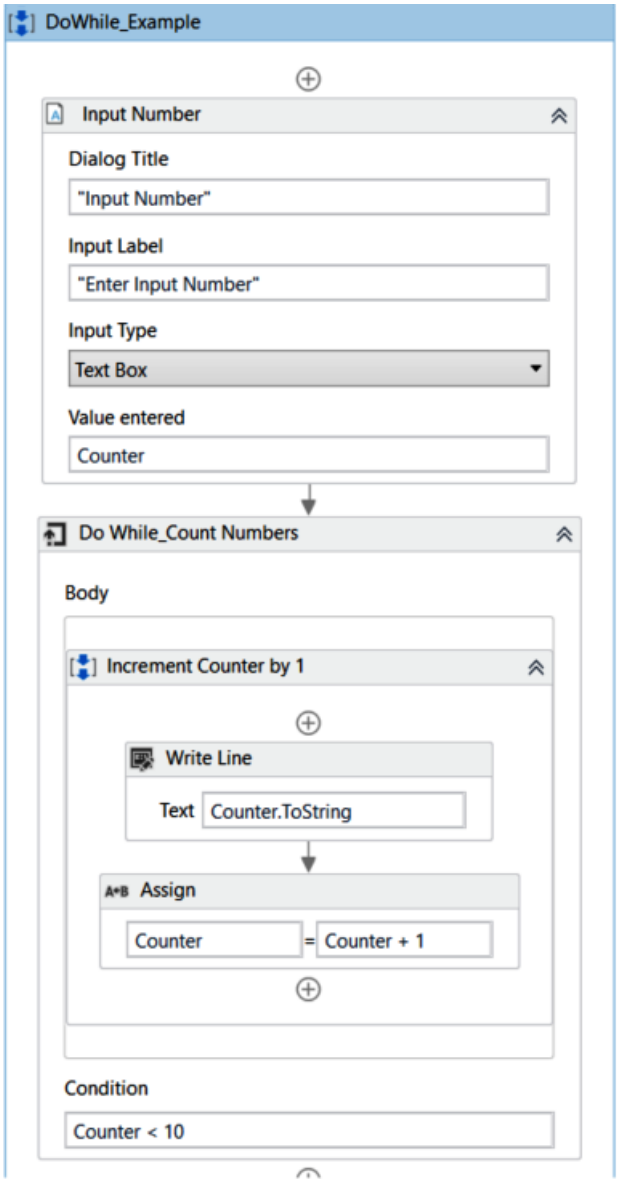


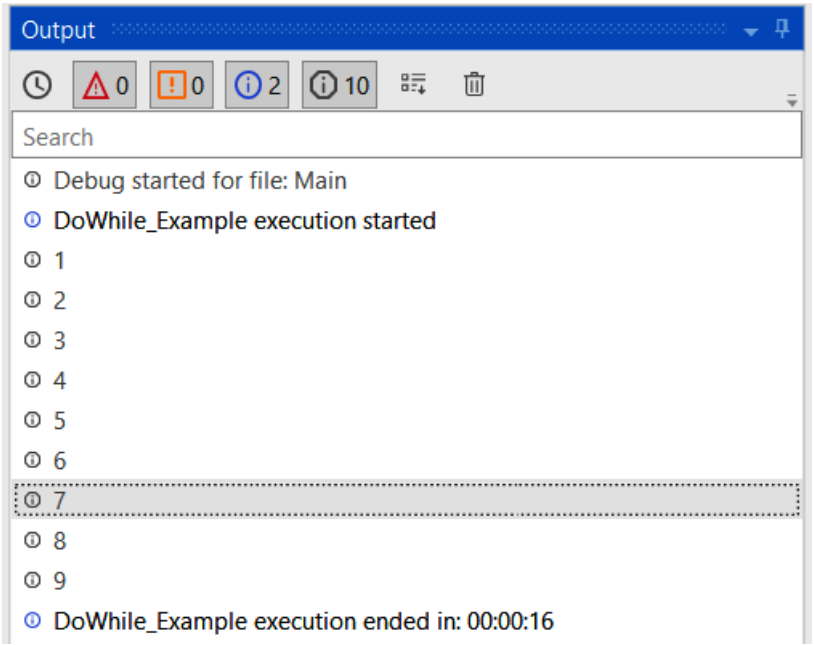



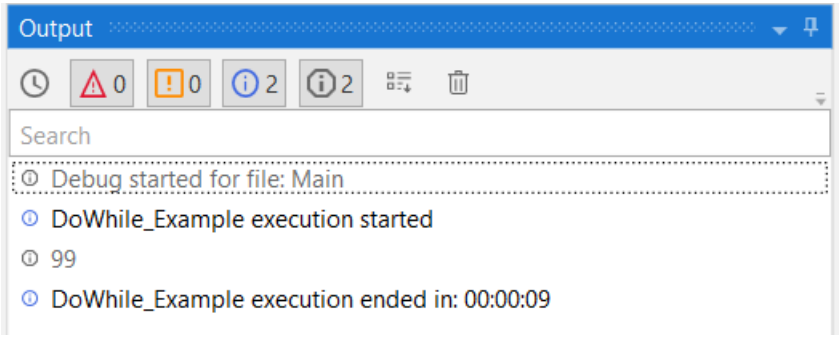

| Name | Variable type | Scope | Default |
|---|---|---|---|
| Counter | Int32 | Sequence | *Enter a VB expression* |

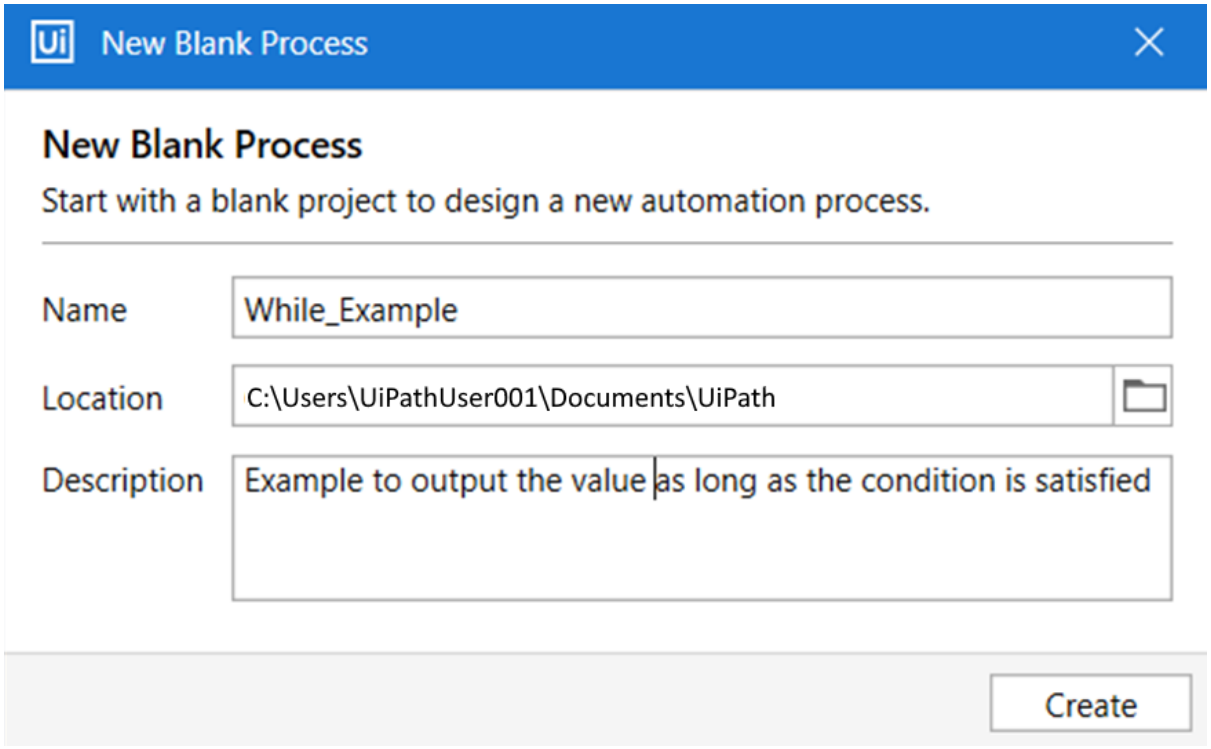

Input Number
Dialog Title
"Input Number"
1
Input Label
"Enter Input Number"
2
Input Type
Text Box
3
Value entered
Counter
4


Do While
Body
Drop Activity Here
Condition
The Body executes as long as this condition is True

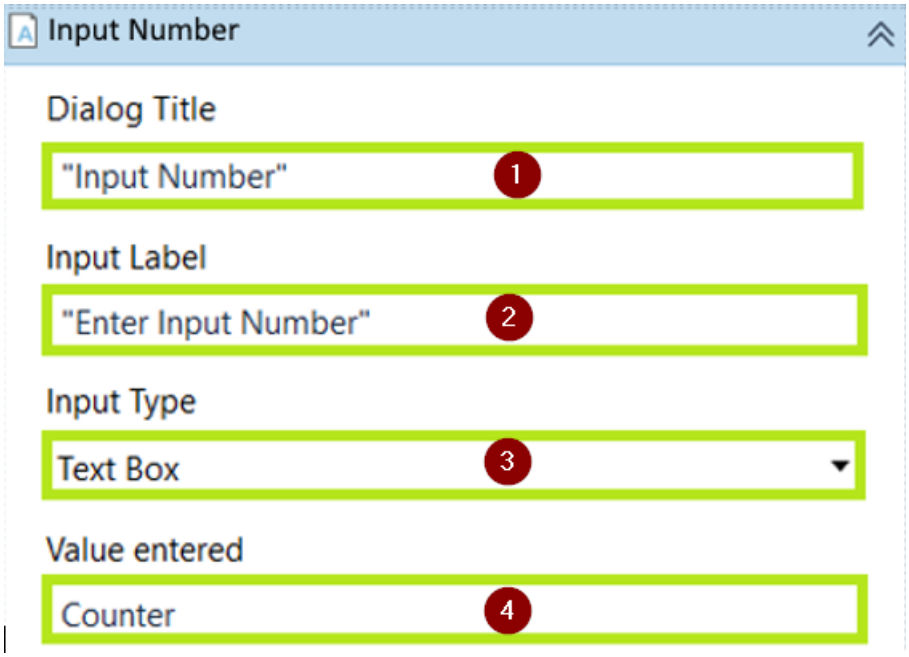

DoWhile_Example
Input Number
Dialog Title
"Input Number"
Input Label
"Enter Input Number"
Input Type
Text Box
Value entered
Counter
Do While_Count Numbers
Body
Increment Counter by 1
Write Line
Text
Counter.ToString
Assign
Counter
=
Counter + 1
Condition
Counter < 10

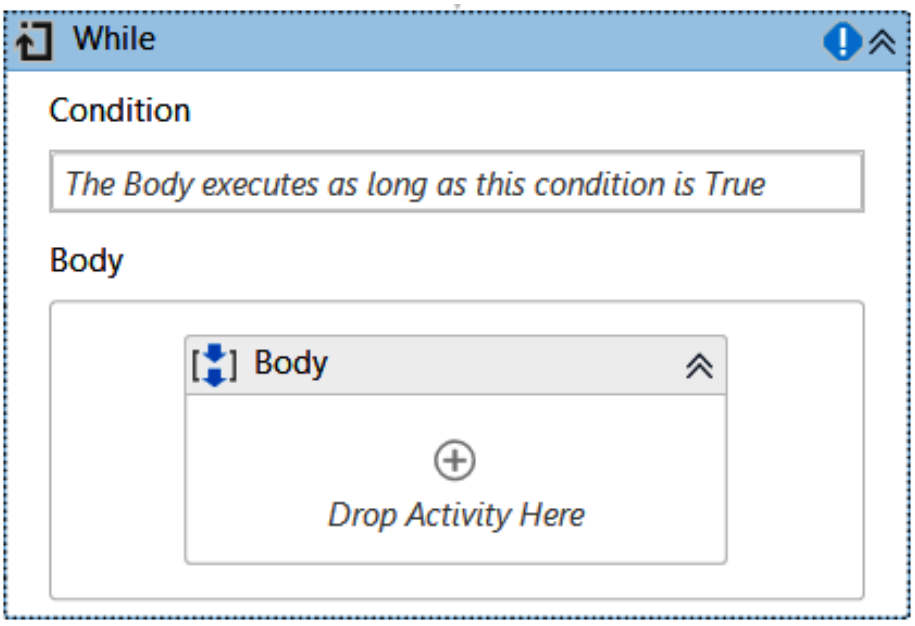

Output
0
0
2
10
Search
Debug started for file: Main
DoWhile_Example execution started
1
2
3
4
5
6
7
8
9
DoWhile_Example execution ended in: 00:00:16

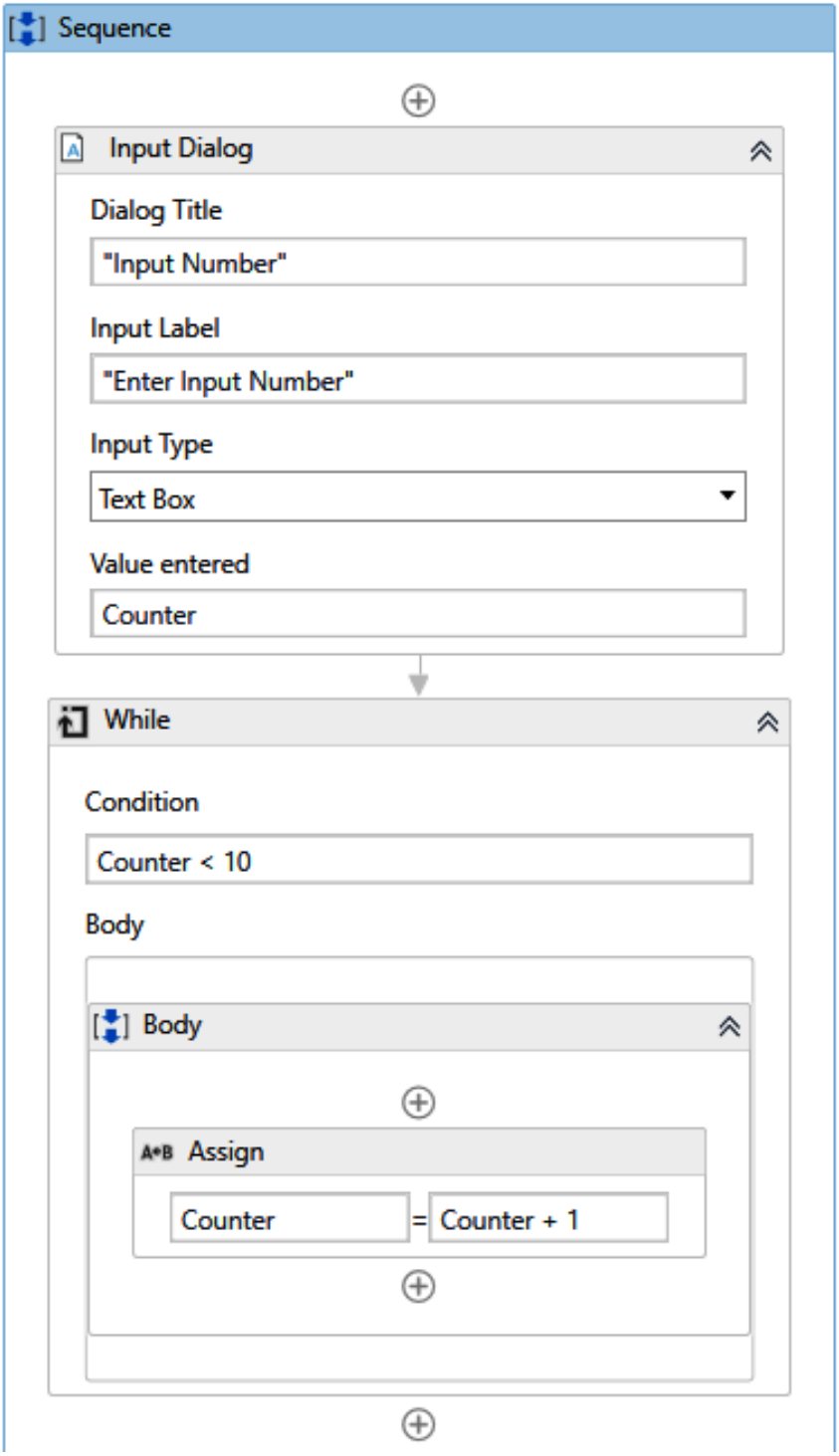


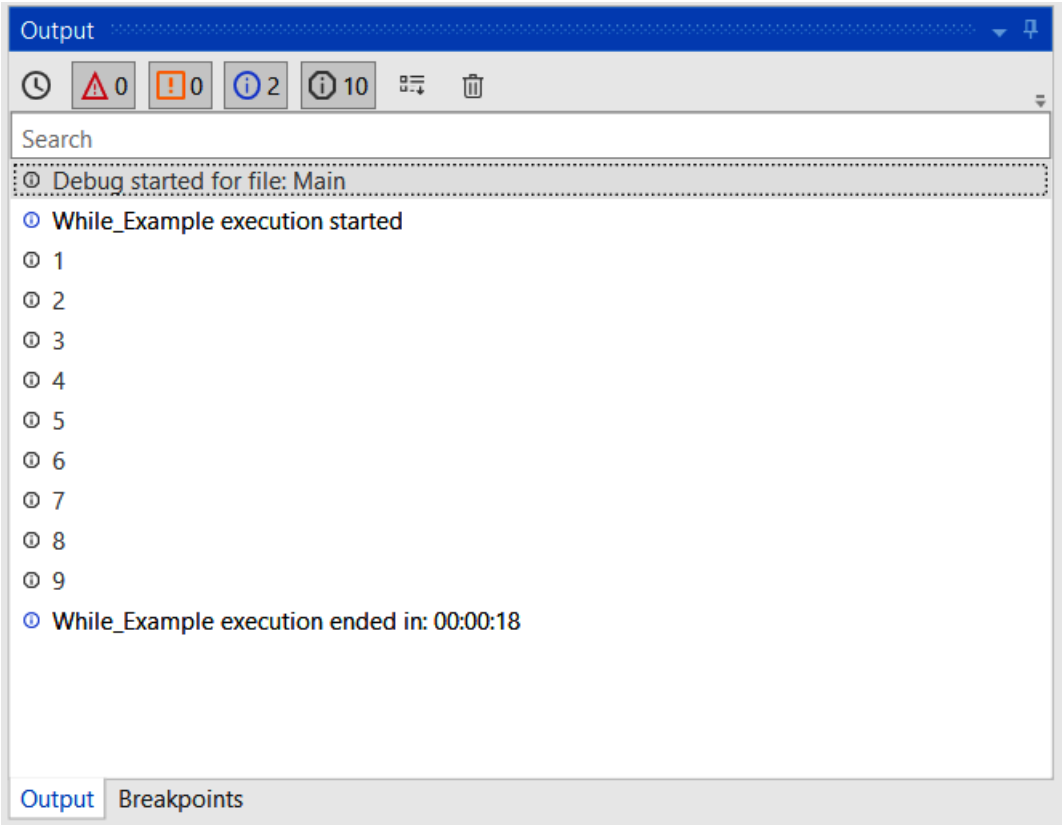



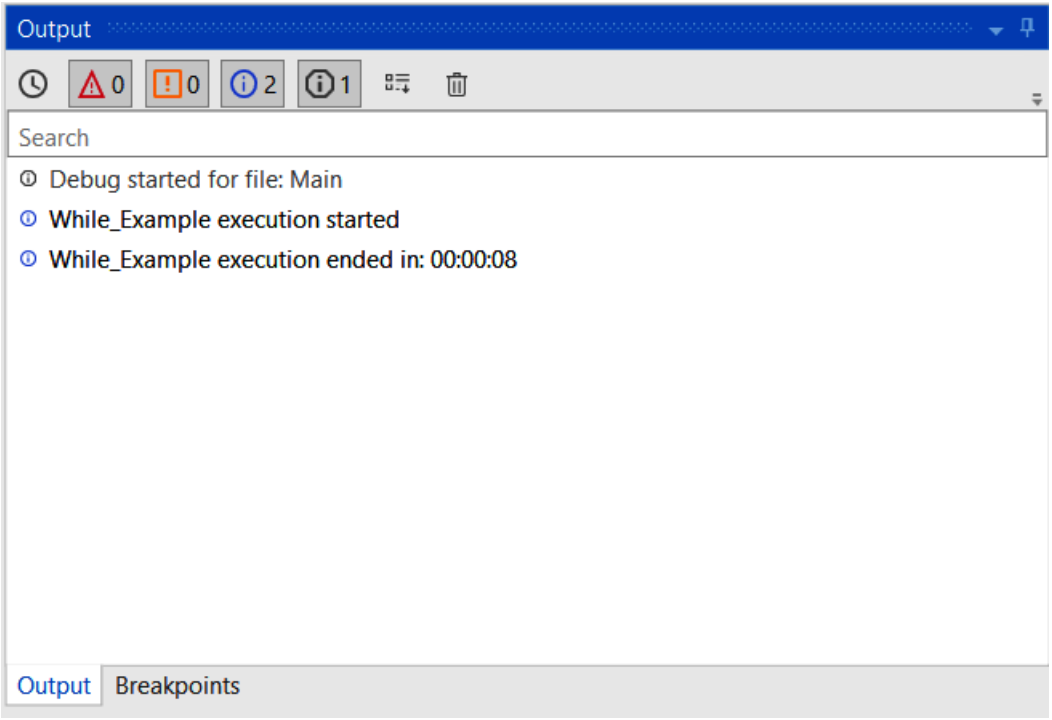

| Name | Variable type | Scope | Default |
|---|---|---|---|
| Counter | Int32 | Sequence | *Enter a VB expression* |

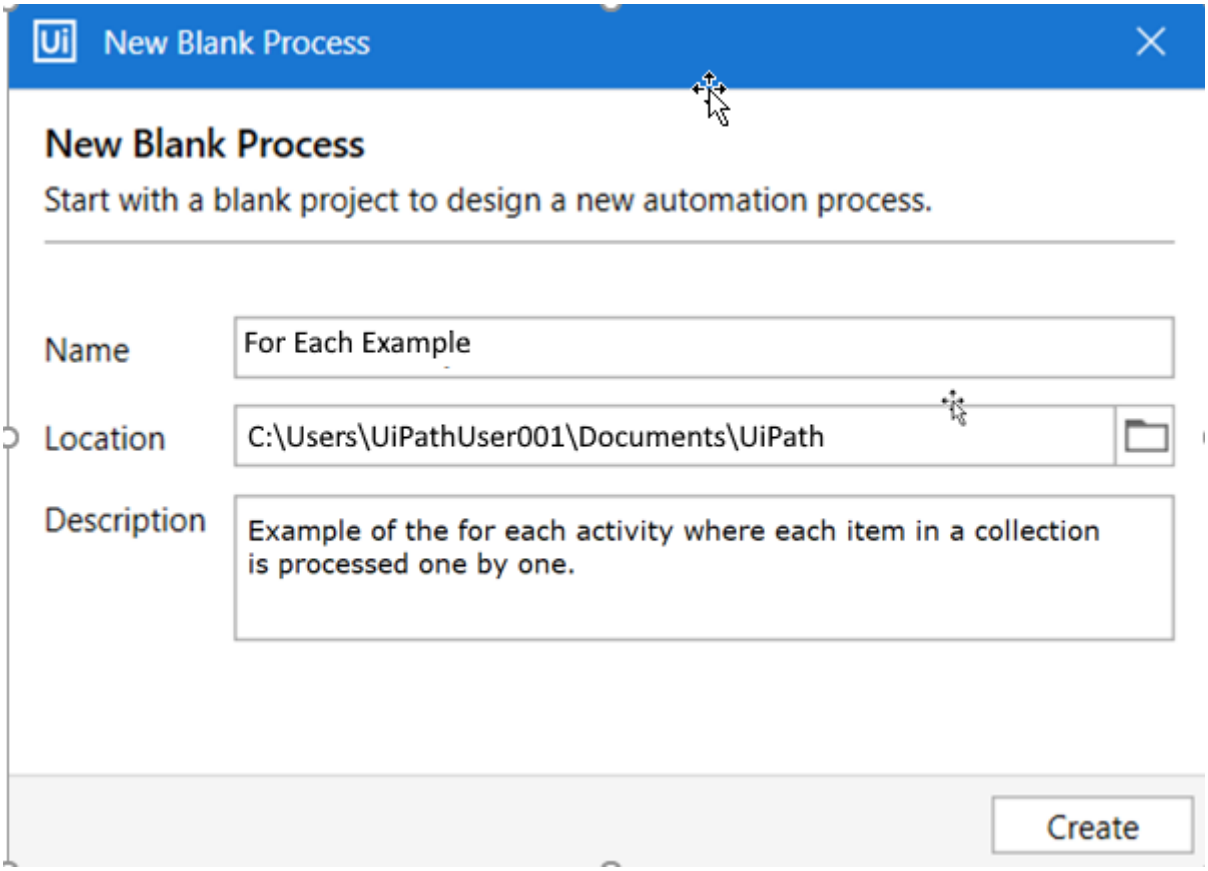

Input Number
Dialog Title
"Input Number"
1
Input Label
"Enter Input Number"
2
Input Type
Text Box
3
Value entered
Counter
4


While
Condition
The Body executes as long as this condition is True
Body
Body
Drop Activity Here


Sequence
Input Dialog
Dialog Title
"Input Number"
Input Label
"Enter Input Number"
Input Type
Text Box
Value entered
Counter
While
Condition
Counter < 10
Body
Body
Assign
Counter
=
Counter + 1

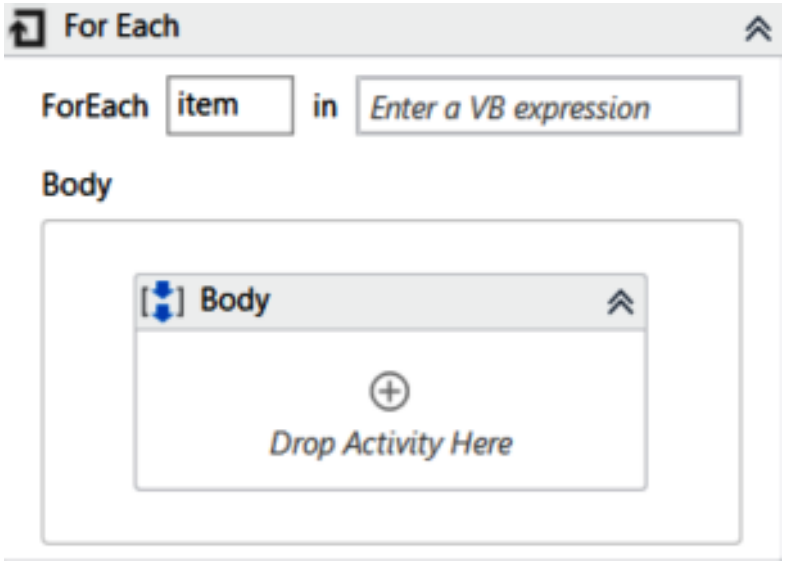

Output
0
0
2
10
Search
Debug started for file: Main
While_Example execution started
1
2
3
4
5
6
7
8
9
While_Example execution ended in: 00:00:18
Output
Breakpoints

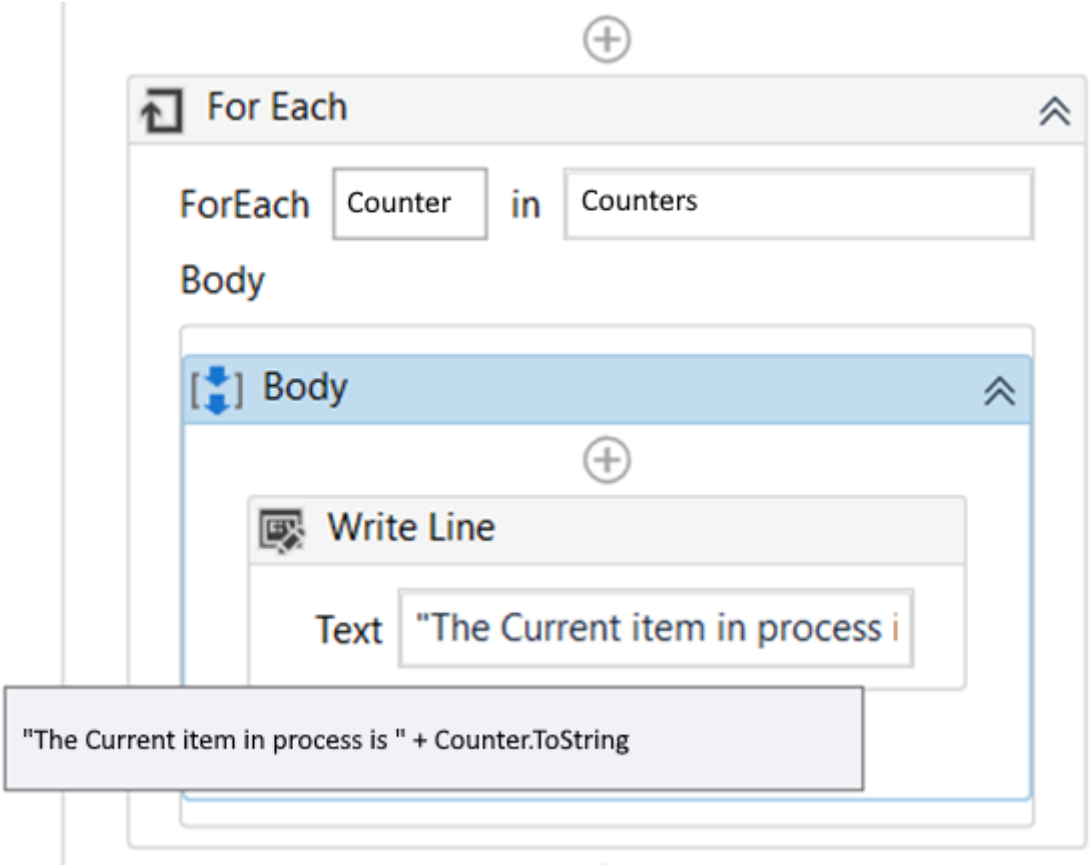

Output
0
0
2
1
Search
Debug started for file: Main
While_Example execution started
While_Example execution ended in: 00:00:08
Output
Breakpoints

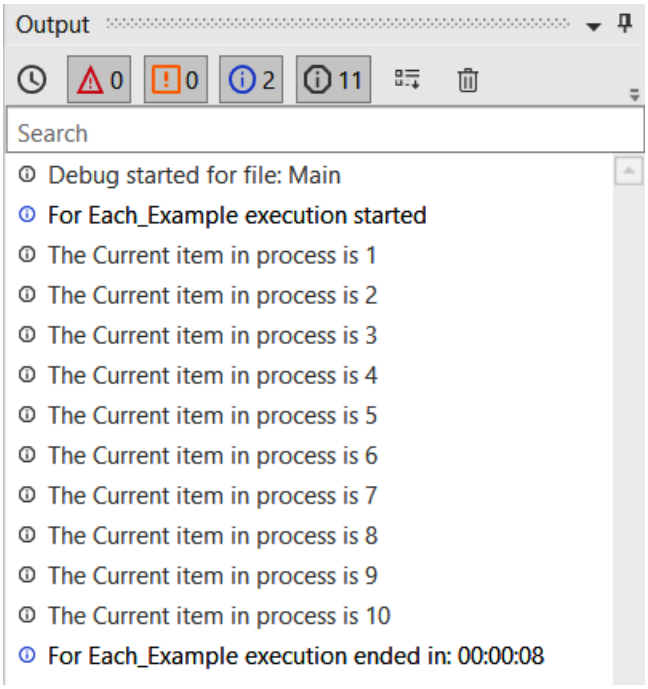



| Name | Variable type | Scope | Default |
|---|---|---|---|
| Counters | Int32[] | Sequence | *Enter a VB expression* |

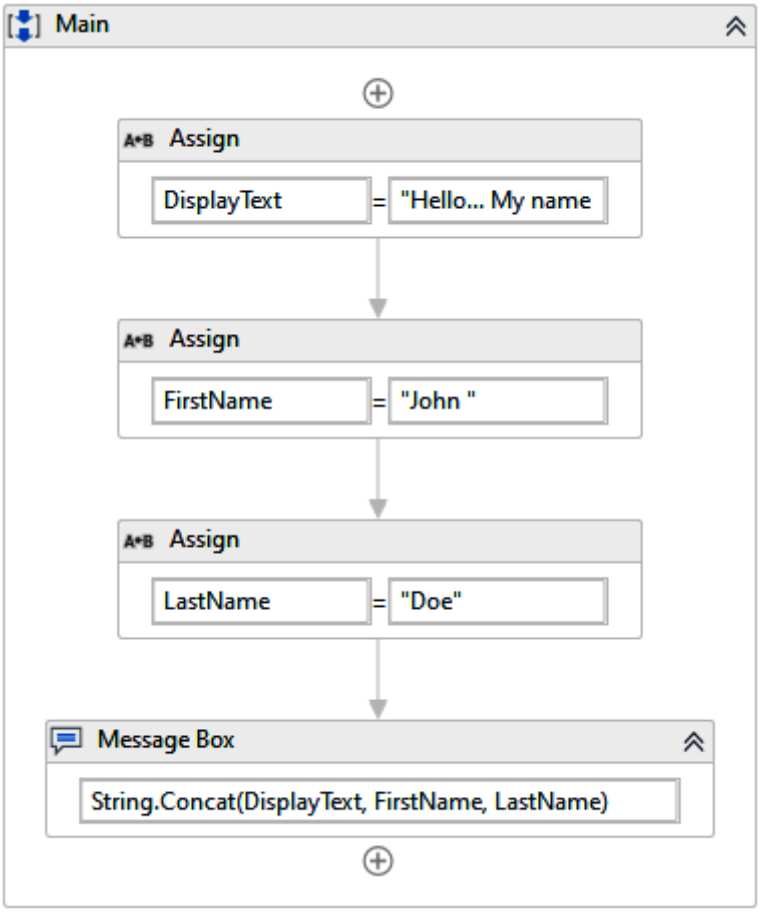
| Name | Variable type | Scope | Default |
|---|---|---|---|
| Counters | Int32[] | Sequence | {1,2,3,4,5,6,7,8,9,10} |

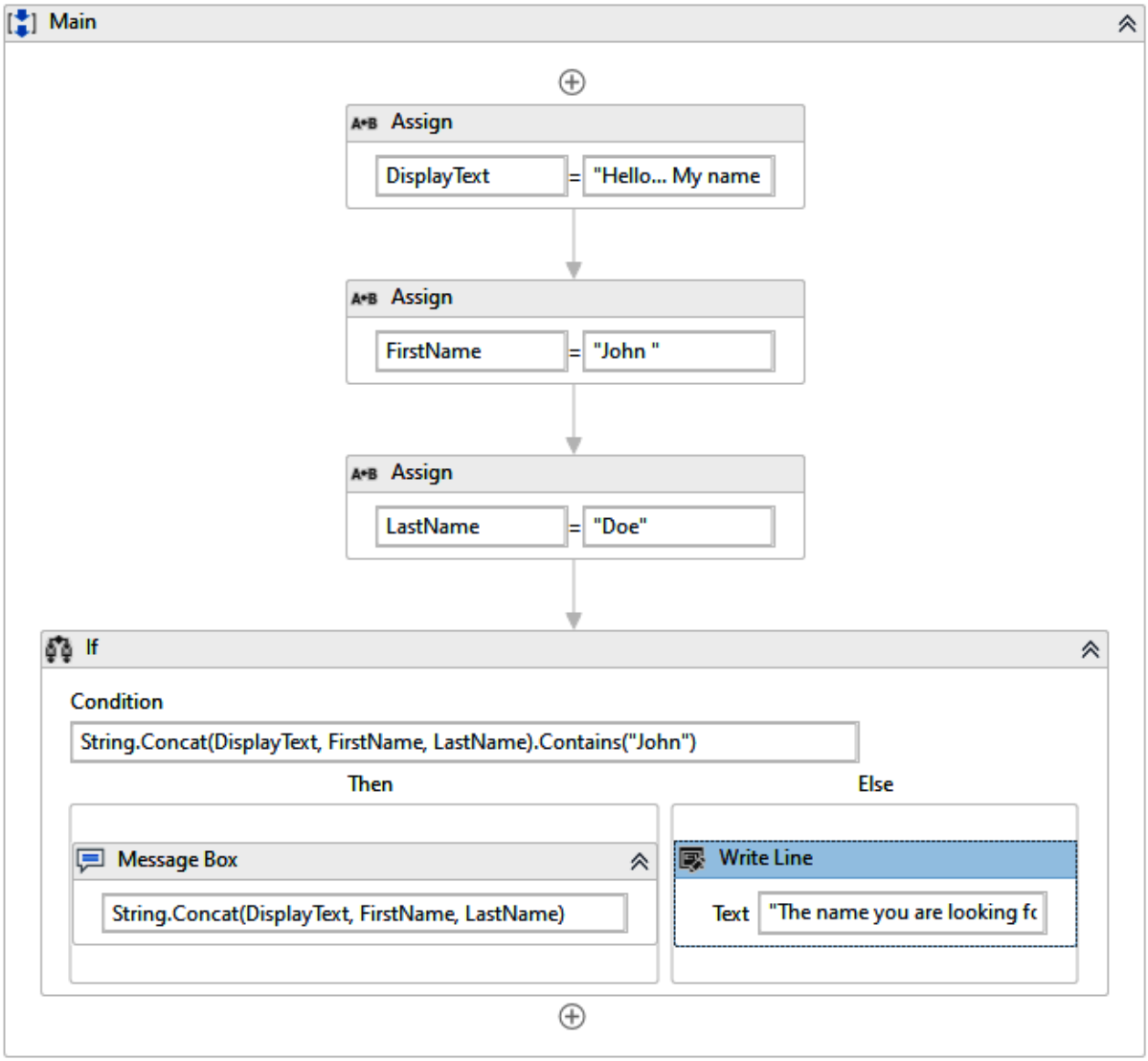


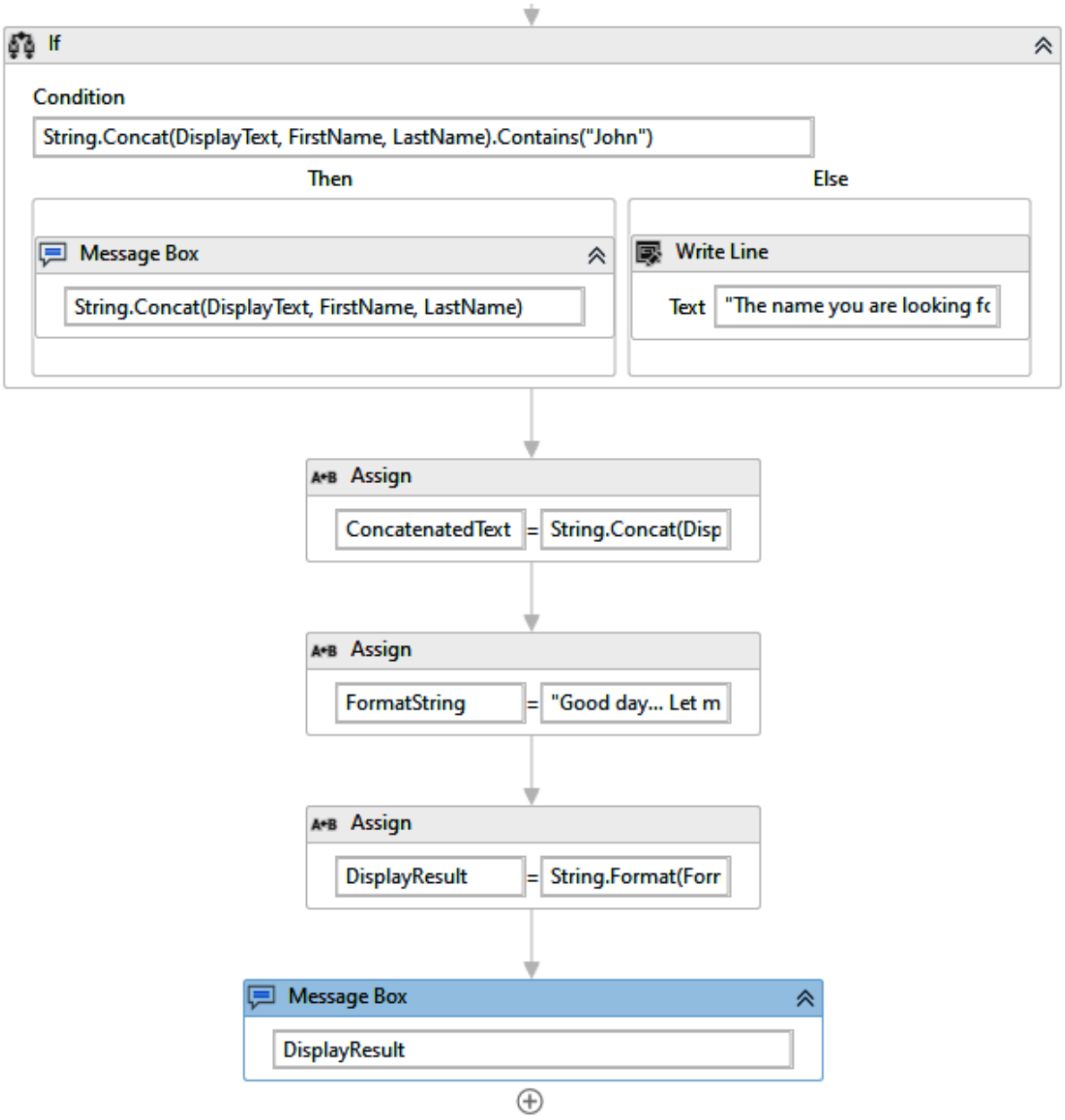

For Each
ForEach
Counter
in
Counters
Body
Body
Write Line
Text
"The Current item in process i
"The Current item in process is " + Counter.ToString

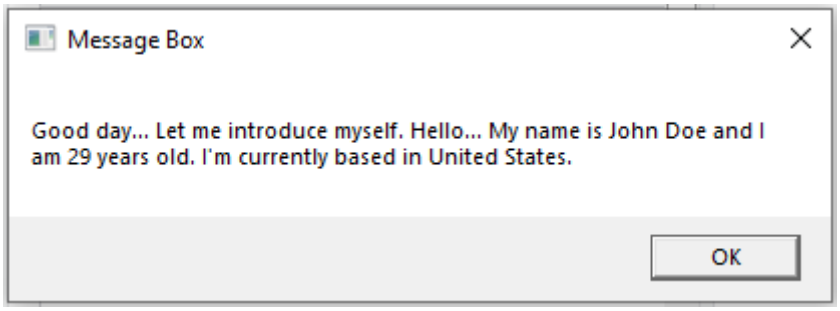

Output
0
0
2
11
Search
Debug started for file: Main
For Each_Example execution started
The Current item in process is 1
The Current item in process is 2
The Current item in process is 3
The Current item in process is 4
The Current item in process is 5
The Current item in process is 6
The Current item in process is 7
The Current item in process is 8
The Current item in process is 9
The Current item in process is 10
For Each_Example execution ended in: 00:00:08

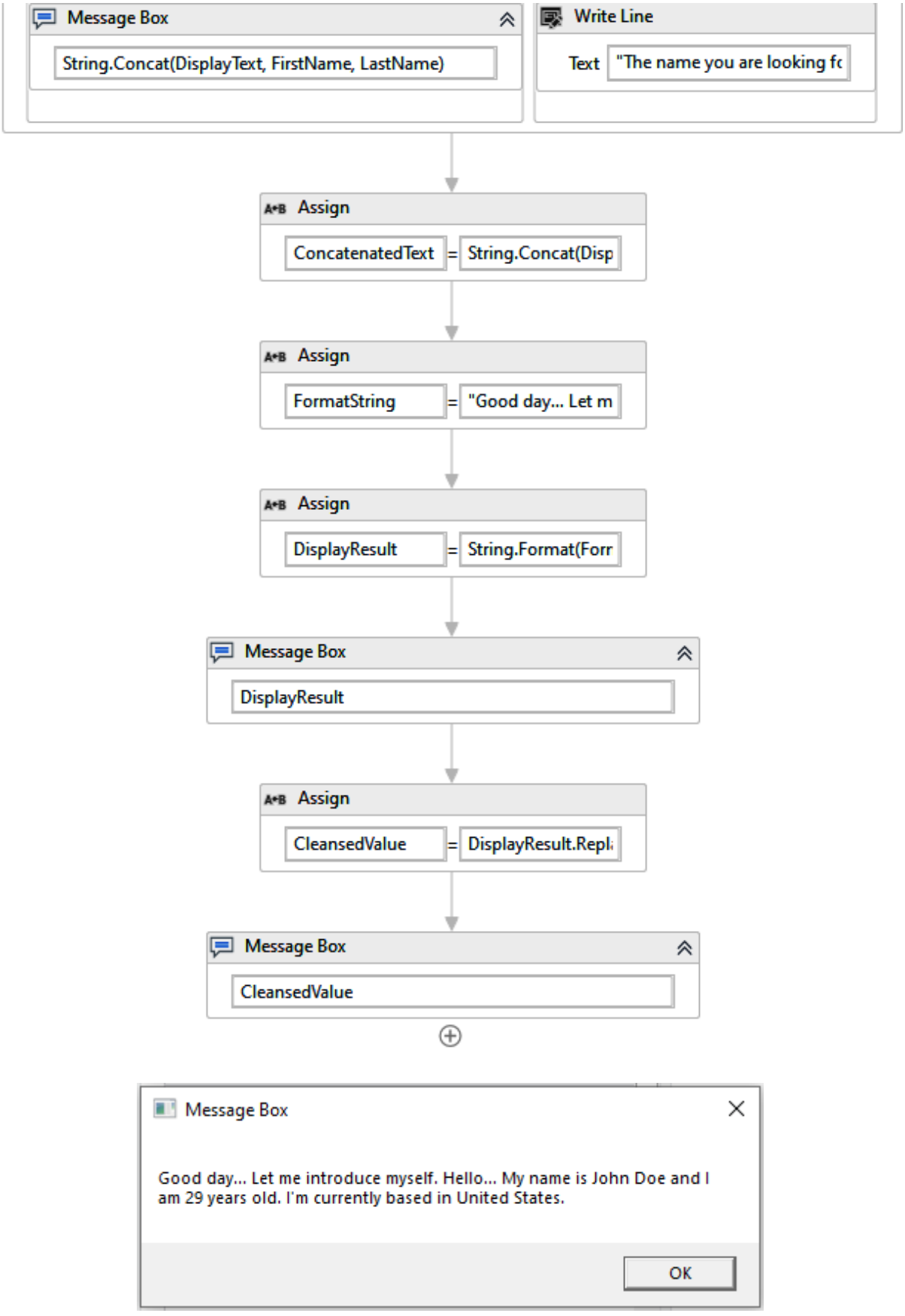
# Chapter 07: Manipulating Data using UiPath

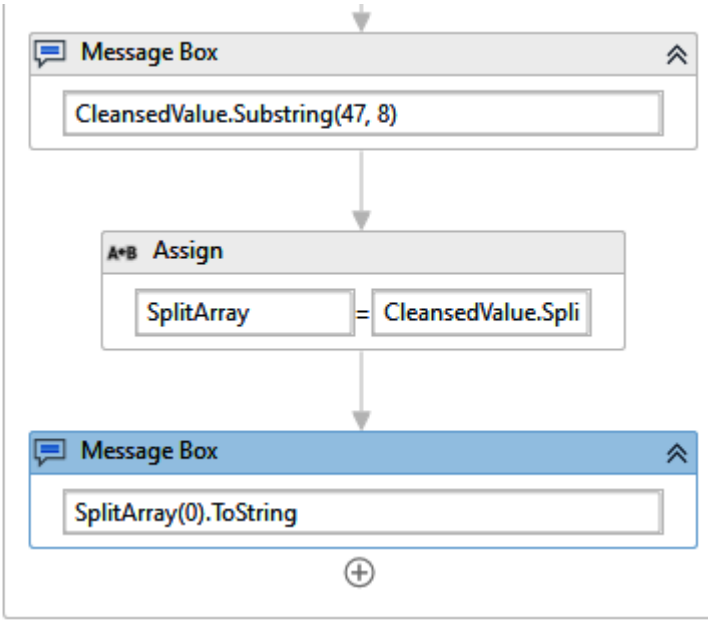



Main
Assign
DisplayText = "Hello... My name
Assign
FirstName = "John "
Assign
LastName = "Doe"
If
Condition
String.Concat(DisplayText, FirstName, LastName).Contains("John")
Then
Else
Message Box
String.Concat(DisplayText, FirstName, LastName)
Write Line
Text "The name you are looking fo

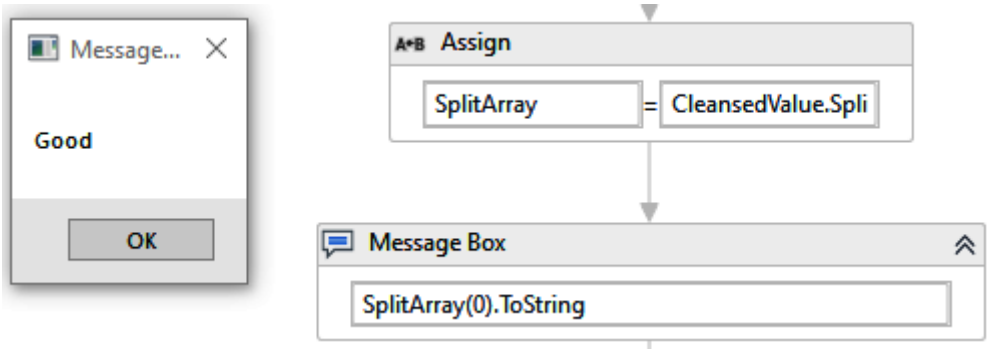

If
Condition
String.Concat(DisplayText, FirstName, LastName).Contains("John")
Then
Else
Message Box
String.Concat(DisplayText, FirstName, LastName)
Write Line
Text
"The name you are looking fc
Assign
ConcatenatedText
=
String.Concat(Disp
Assign
FormatString
=
"Good day... Let m
Assign
DisplayResult
=
String.Format(Forr
Message Box
DisplayResult

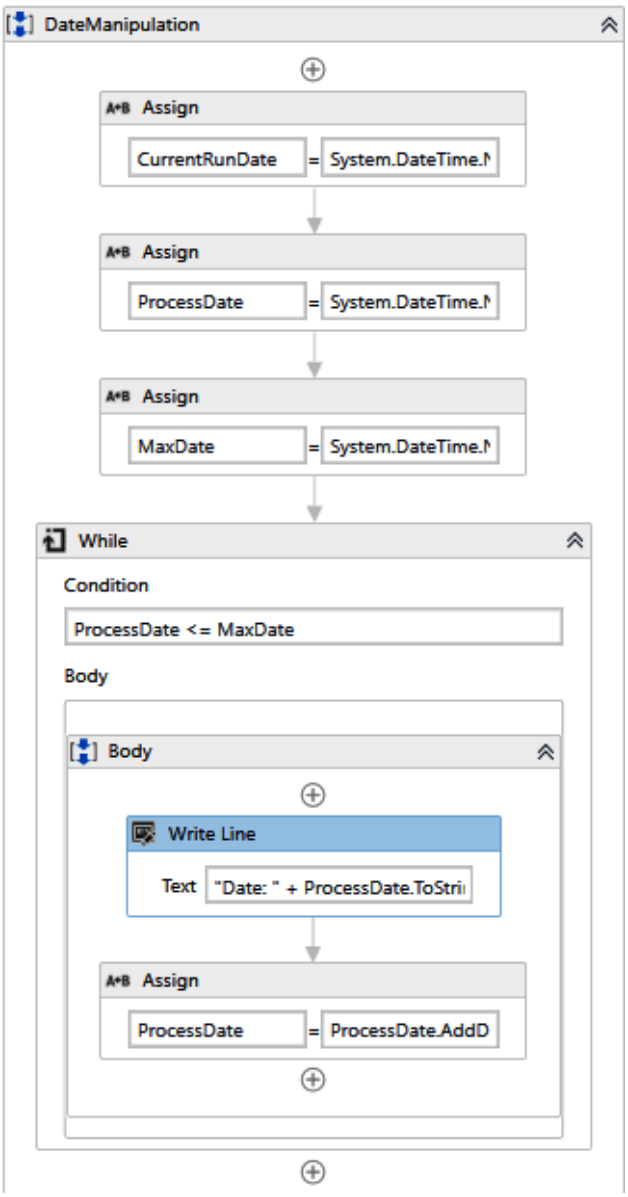

Message Box
Good day... Let me introduce myself. Hello... My name is John Doe and I am 29 years old. I'm currently based in United States.
OK

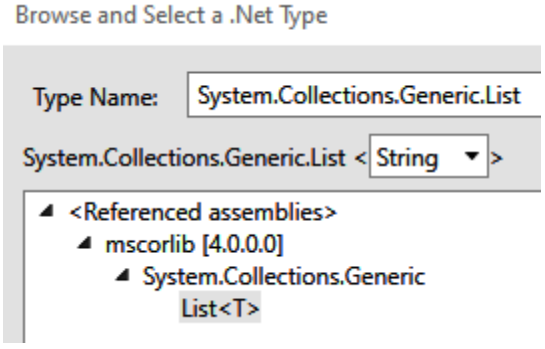

Message Box
String.Concat(DisplayText, FirstName, LastName)
Write Line
Text
"The name you are looking fc
Assign
ConcatenatedText
=
String.Concat(Disp
Assign
FormatString
=
"Good day... Let m
Assign
DisplayResult
=
String.Format(Forr
Message Box
DisplayResult
Assign
CleansedValue
=
DisplayResult.Repl
Message Box
CleansedValue
Message Box
Good day... Let me introduce myself. Hello... My name is John Doe and I am 29 years old. I'm currently based in United States.
OK

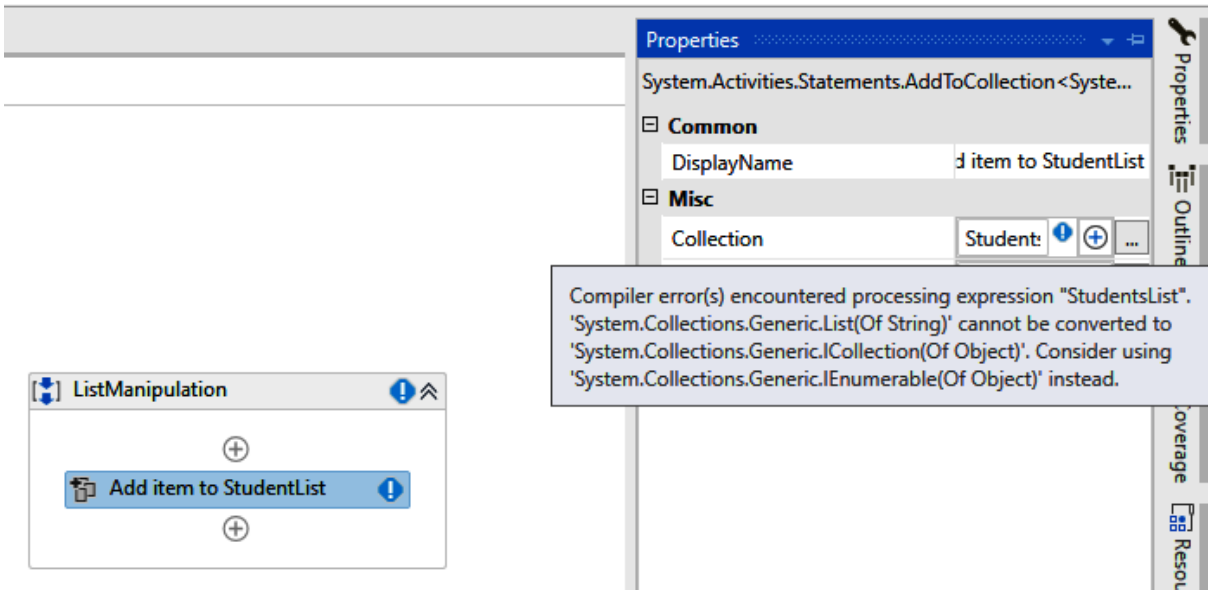


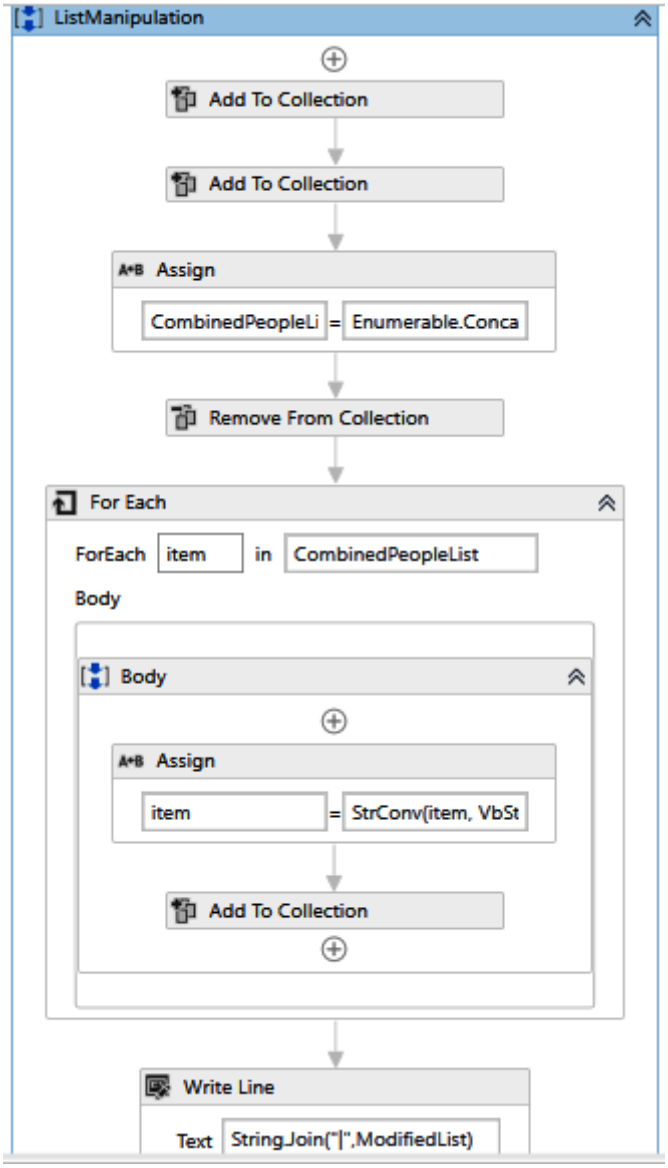

| Name | Variable type | Scope |
|---|---|---|
| DisplayText | String | Main |
| FirstName | String | Main |
| LastName | String | Main |
| ConcatenatedText | String | Main |
| FormatString | String | Main |
| DisplayResult | String | Main |
| CleansedValue | String | Main |
| SplitArray | String[] | Main |
| *Create Variable* | | |




DateManipulation
Assign
CurrentRunDate
=
System.DateTime.N
Assign
ProcessDate
=
System.DateTime.N
Assign
MaxDate
=
System.DateTime.N
While
Condition
ProcessDate <= MaxDate
Body
Body
Write Line
Text
"Date: " + ProcessDate.ToStri
Assign
ProcessDate
=
ProcessDate.AddD

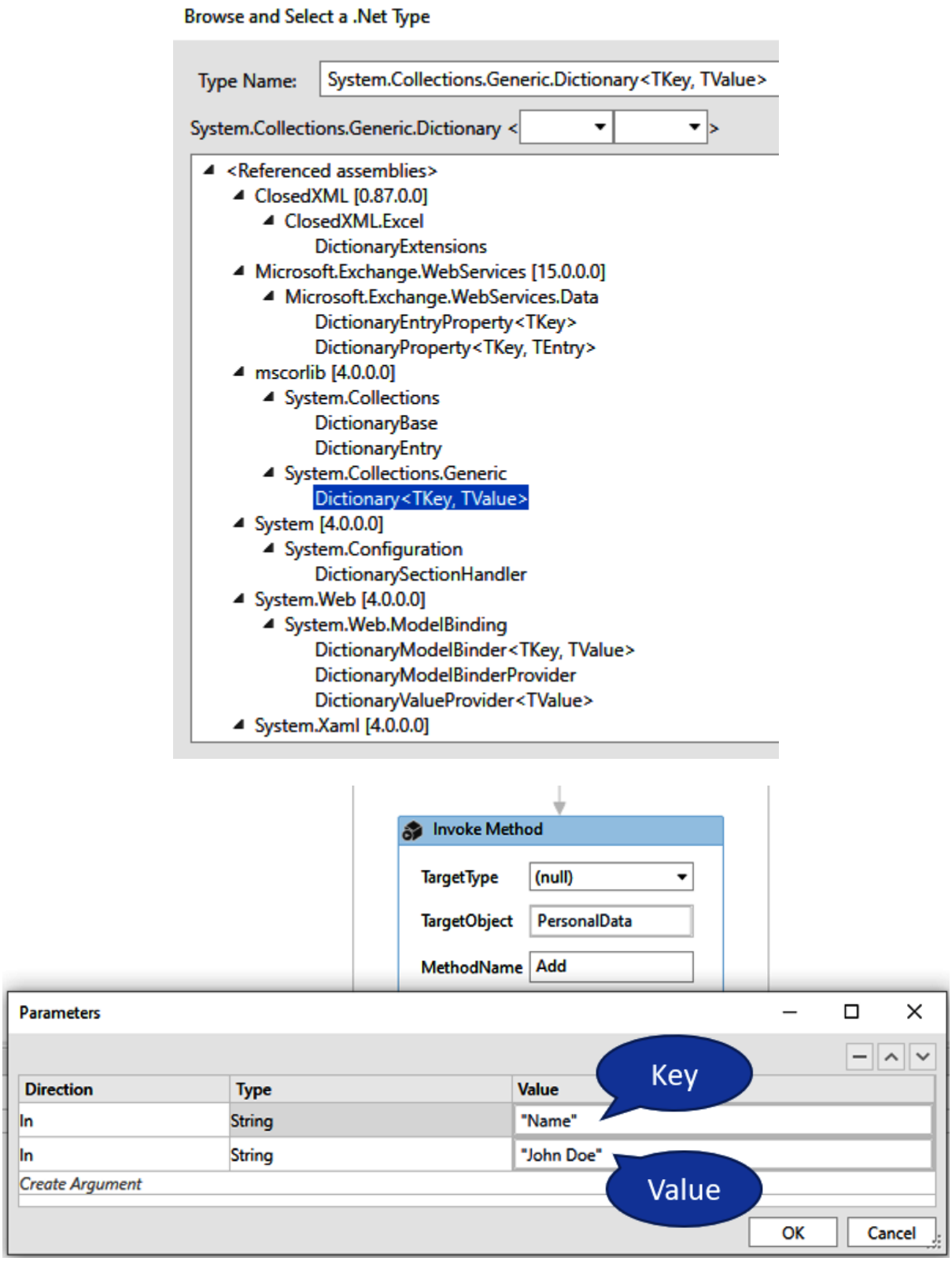

Browse and Select a .Net Type
Type Name:
System.Collections.Generic.List
System.Collections.Generic.List <
String
>
<Referenced assemblies>
mscorlib [4.0.0.0]
System.Collections.Generic
List<T>

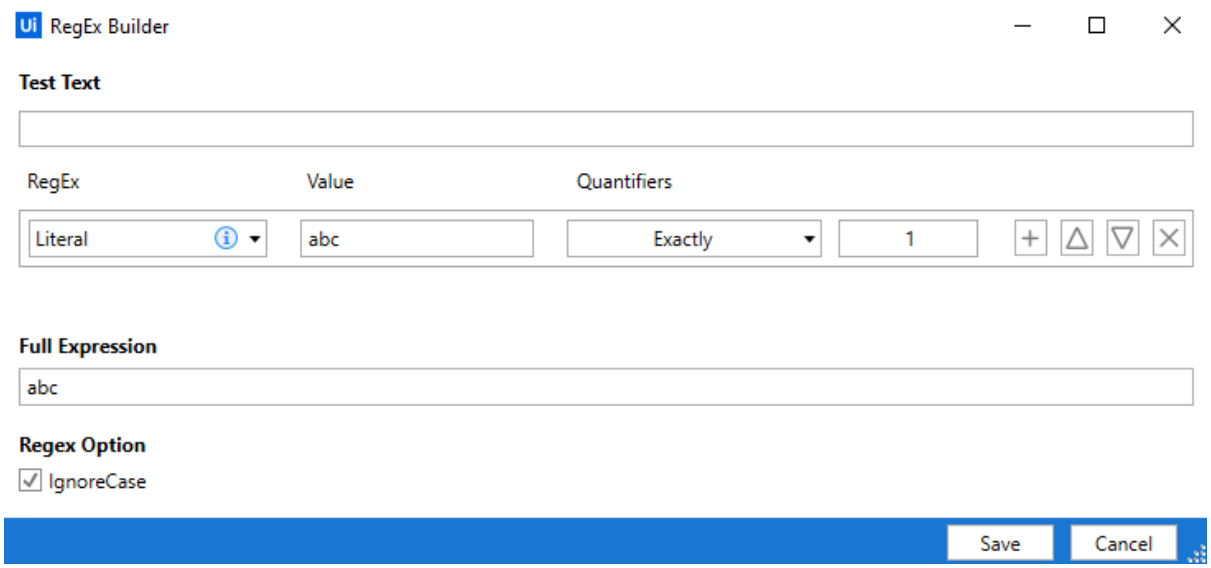

Properties
System.Activities.Statements.AddToCollection<Syste...
Common
DisplayName
d item to StudentList
Misc
Collection
Student:
Compiler error(s) encountered processing expression "StudentsList".
'System.Collections.Generic.List(Of String)' cannot be converted to
'System.Collections.Generic.ICollection(Of Object)'. Consider using
'System.Collections.Generic.IEnumerable(Of Object)' instead.
ListManipulation
Add item to StudentList
Properties
Outline
Coverage
Resou


ListManipulation
Add To Collection
Add To Collection
Assign
CombinedPeopleLi
=
Enumerable.Conca
Remove From Collection
For Each
ForEach
item
in
CombinedPeopleList
Body
Body
Assign
item
=
StrConv(item, VbSt
Add To Collection
Write Line
Text
String.Join("|",ModifiedList)

| Name | Variable type | Scope | Default |
|---|---|---|---|
| StudentsList | List<String> | ListManipulation | New List(Of String) from {"John", "Daniel", "Keith"} |
| EmployeeList | List<String> | ListManipulation | New List(Of String) from {"Diana", "Lizi", "Peter", "Daniel"} |
| CombinedPeopleList | List<String> | ListManipulation | *Enter a VB expression* |
| ModifiedList | List<String> | ListManipulation | New List(Of String) |
| *Create Variable* | | | |

| Key | Value |
|---|---|
| **BusinessURL** | https://www.google.com |
| **InputExcelFolderPath** | C:\Invoice Files\ |
| **ProcessTimeout** | 10000 |

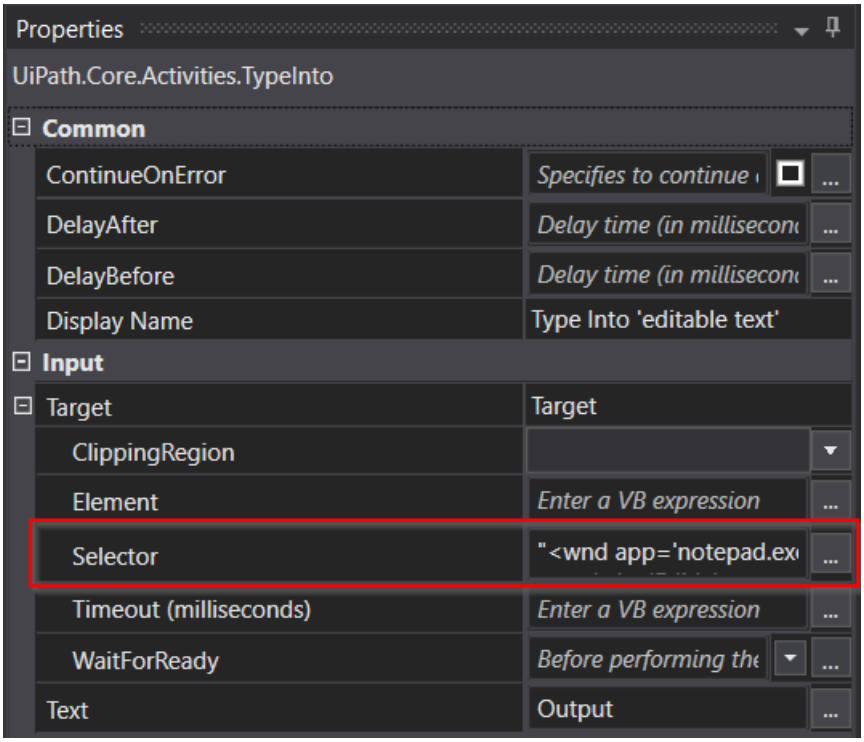

Browse and Select a .Net Type
Type Name:
System.Collections.Generic.Dictionary<TKey, TValue>
System.Collections.Generic.Dictionary <
<Referenced assemblies>
ClosedXML [0.87.0.0]
ClosedXML.Excel
DictionaryExtensions
Microsoft.Exchange.WebServices [15.0.0.0]
Microsoft.Exchange.WebServices.Data
DictionaryEntryProperty<TKey>
DictionaryProperty<TKey, TEntry>
mscorlib [4.0.0.0]
System.Collections
DictionaryBase
DictionaryEntry
System.Collections.Generic
Dictionary<TKey, TValue>
System [4.0.0.0]
System.Configuration
DictionarySectionHandler
System.Web [4.0.0.0]
System.Web.ModelBinding
DictionaryModelBinder<TKey, TValue>
DictionaryModelBinderProvider
DictionaryValueProvider<TValue>
System.Xaml [4.0.0.0]
Invoke Method
TargetType
(null)
TargetObject
PersonalData
MethodName
Add
Parameters
Direction
Type
Value
In
String
"Name"
Key
In
String
"John Doe"
Value
Create Argument
OK
Cancel

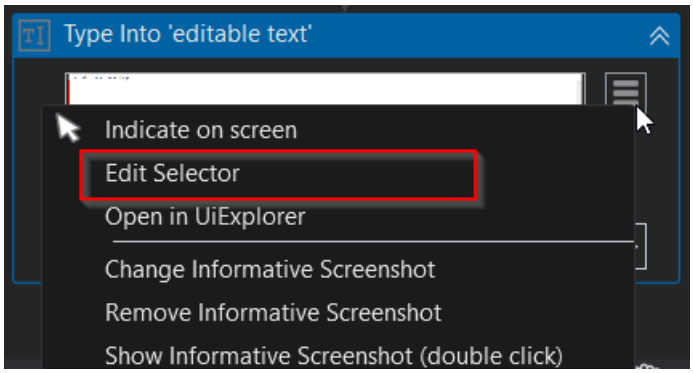

RegEx Builder
Test Text
RegEx
Value
Quantifiers
Literal
abc
Exactly
1
Full Expression
abc
Regex Option
IgnoreCase
Save
Cancel

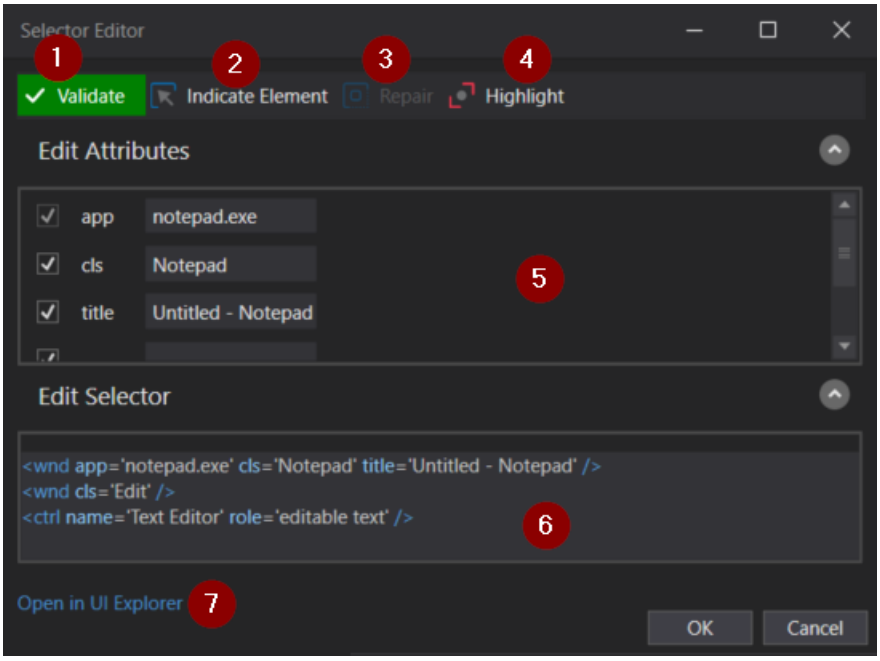
# Chapter 08: Exploring UiPath Selectors

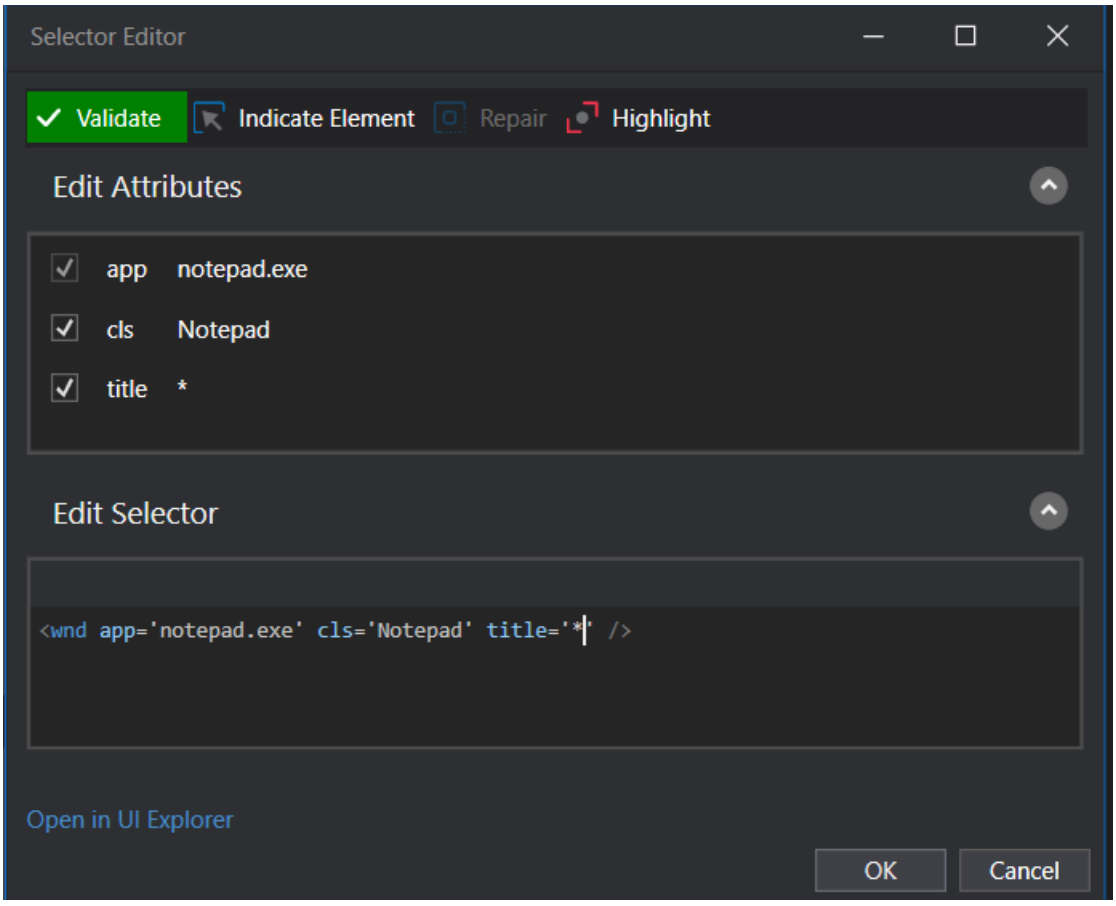
```
<Node_1 >
<Node_2>
…….
<Node_N>
```

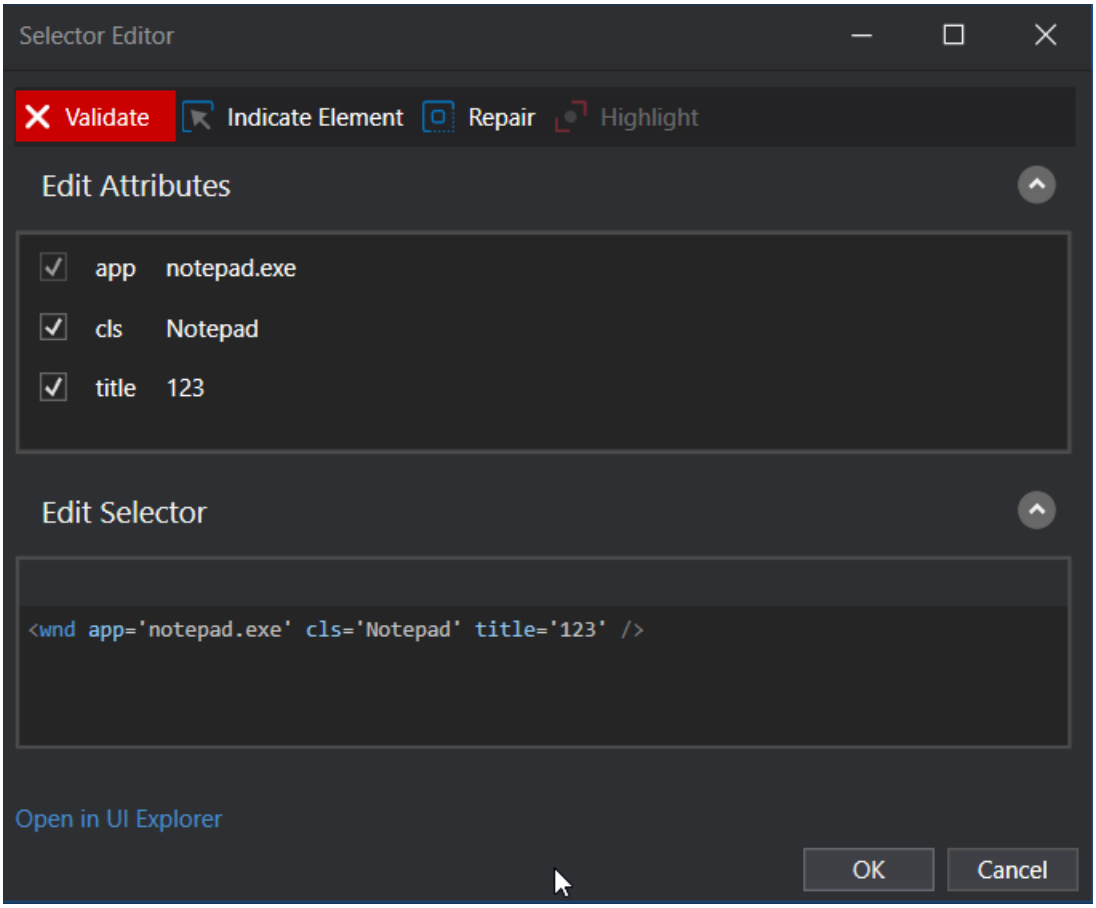
```
<wnd app='notepad.exe' cls='Notepad' title='Untitled -
Notepad' />
<wndcls='Edit' />
<ctrl name='Text Editor' role='editable text' />
```

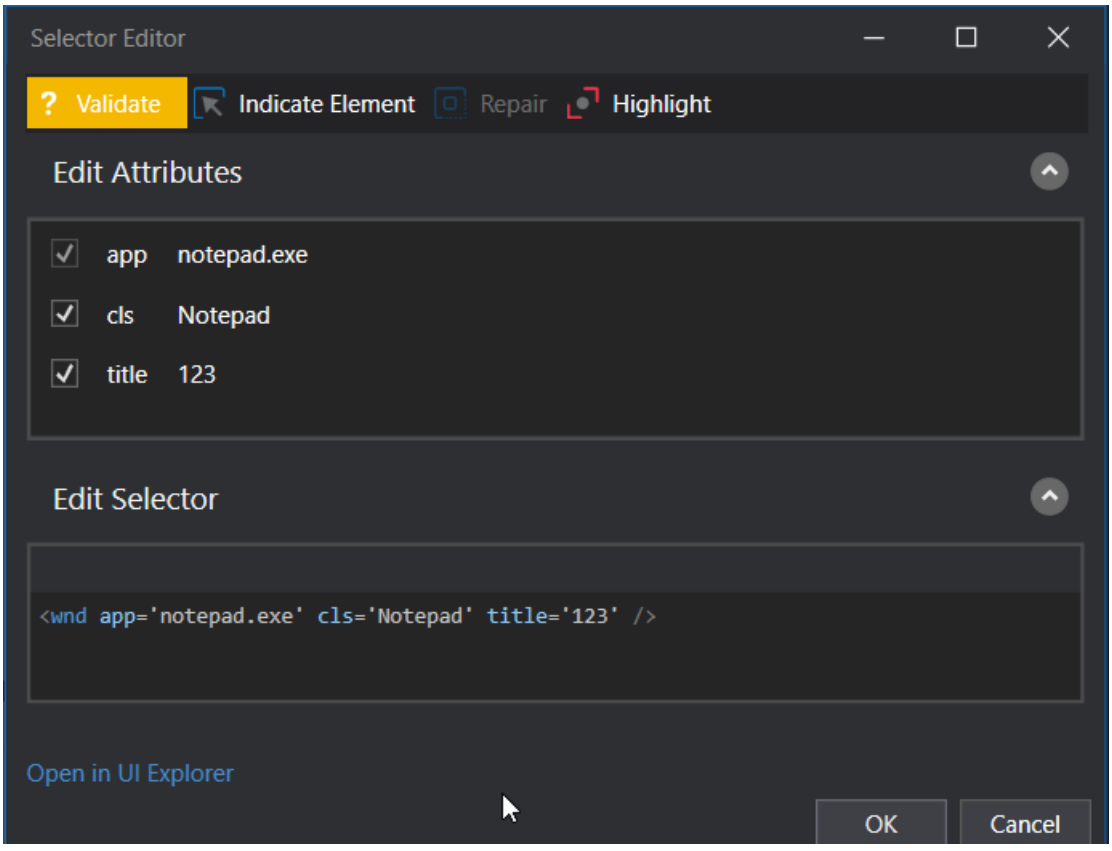


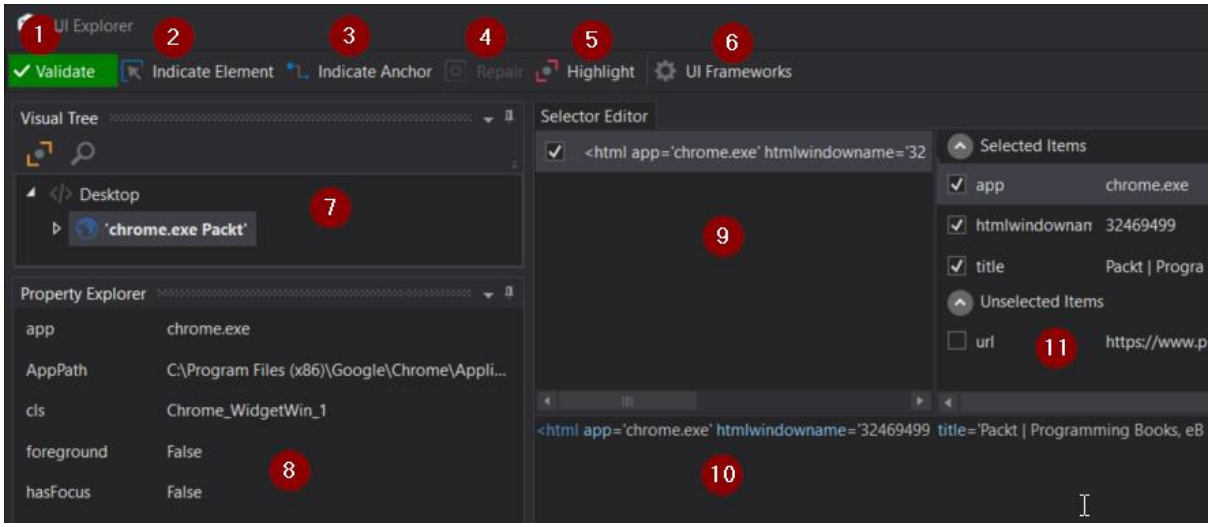



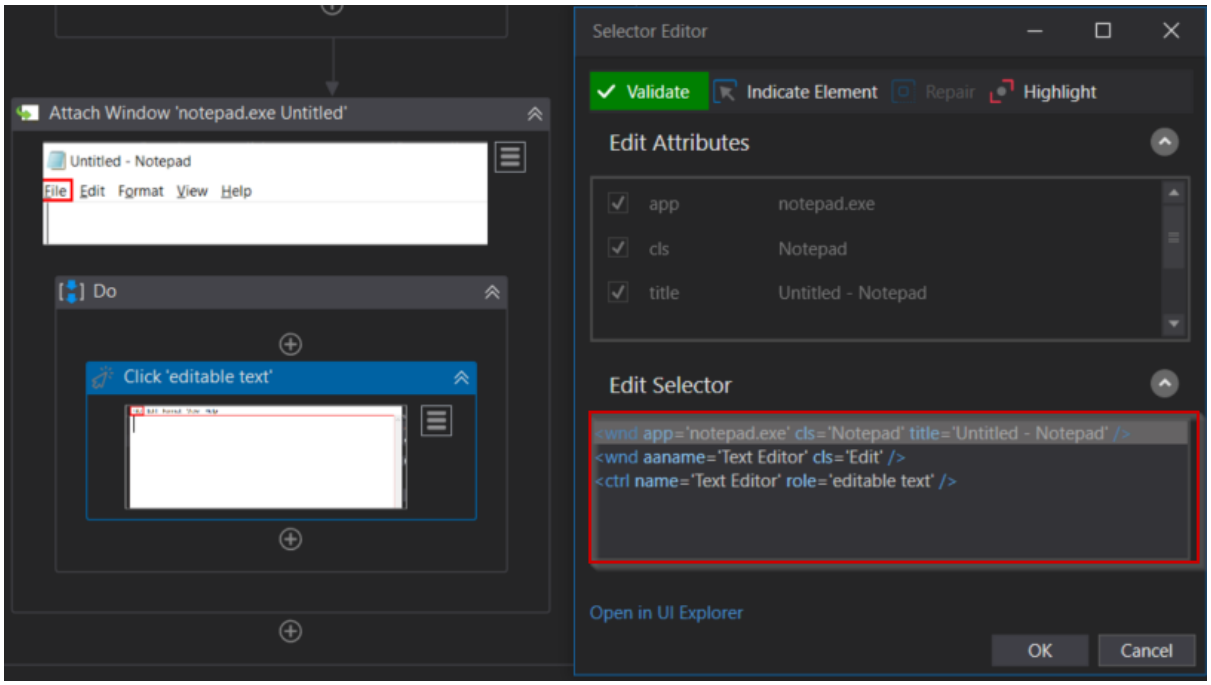

Selector Editor
1
2
3
4
Validate
Indicate Element
Repair
Highlight
Edit Attributes
app
notepad.exe
cls
Notepad
title
Untitled - Notepad
5
Edit Selector
<wnd app='notepad.exe' cls='Notepad' title='Untitled - Notepad' />
<wnd cls='Edit' />
<ctrl name='Text Editor' role='editable text' />
6
Open in UI Explorer
7
OK
Cancel

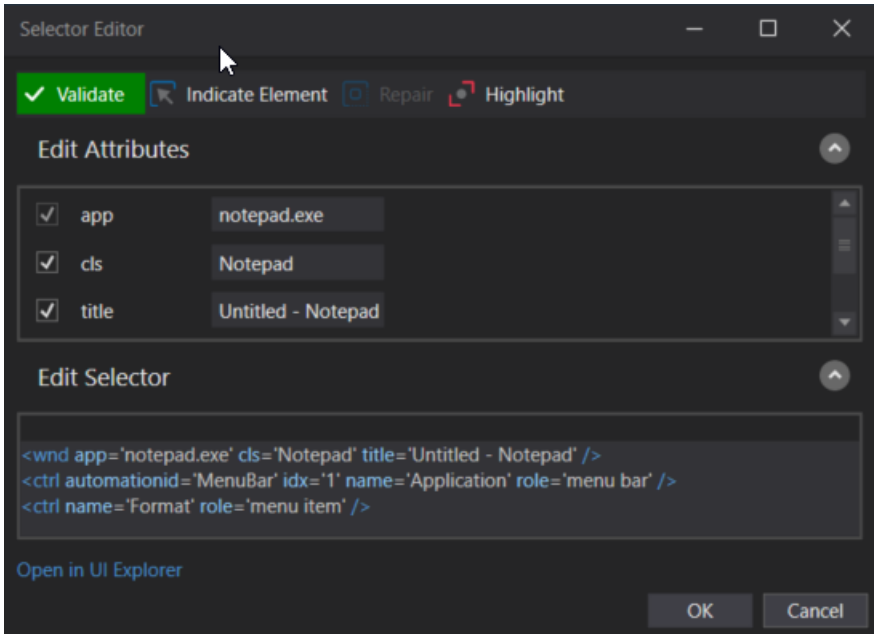

Selector Editor
Validate
Indicate Element
Repair
Highlight
Edit Attributes
app
notepad.exe
cls
Notepad
title
*
Edit Selector
<wnd app='notepad.exe' cls='Notepad' title='*' />
Open in UI Explorer
OK
Cancel


Selector Editor
Validate
Indicate Element
Repair
Highlight
Edit Attributes
app notepad.exe
cls Notepad
title 123
Edit Selector
<wnd app='notepad.exe' cls='Notepad' title='123' />
Open in UI Explorer
OK
Cancel


Selector Editor
Validate
Indicate Element
Repair
Highlight
Edit Attributes
app notepad.exe
cls Notepad
title 123
Edit Selector
<wnd app='notepad.exe' cls='Notepad' title='123' />
Open in UI Explorer
OK
Cancel


UI Explorer
1
2
3
4
5
6
Validate
Indicate Element
Indicate Anchor
Repair
Highlight
UI Frameworks
Visual Tree
Desktop
'chrome.exe Packt'
7
Property Explorer
app
chrome.exe
AppPath
C:\Program Files (x86)\Google\Chrome\Appli...
cls
Chrome_WidgetWin_1
foreground
False
hasFocus
False
8
Selector Editor
<html app='chrome.exe' htmlwindowname='32
9
Selected Items
app
chrome.exe
htmlwindowname
32469499
title
Packt | Progra
Unselected Items
url
11
https://www.p
<html app='chrome.exe' htmlwindowname='32469499 title='Packt | Programming Books, eB
10

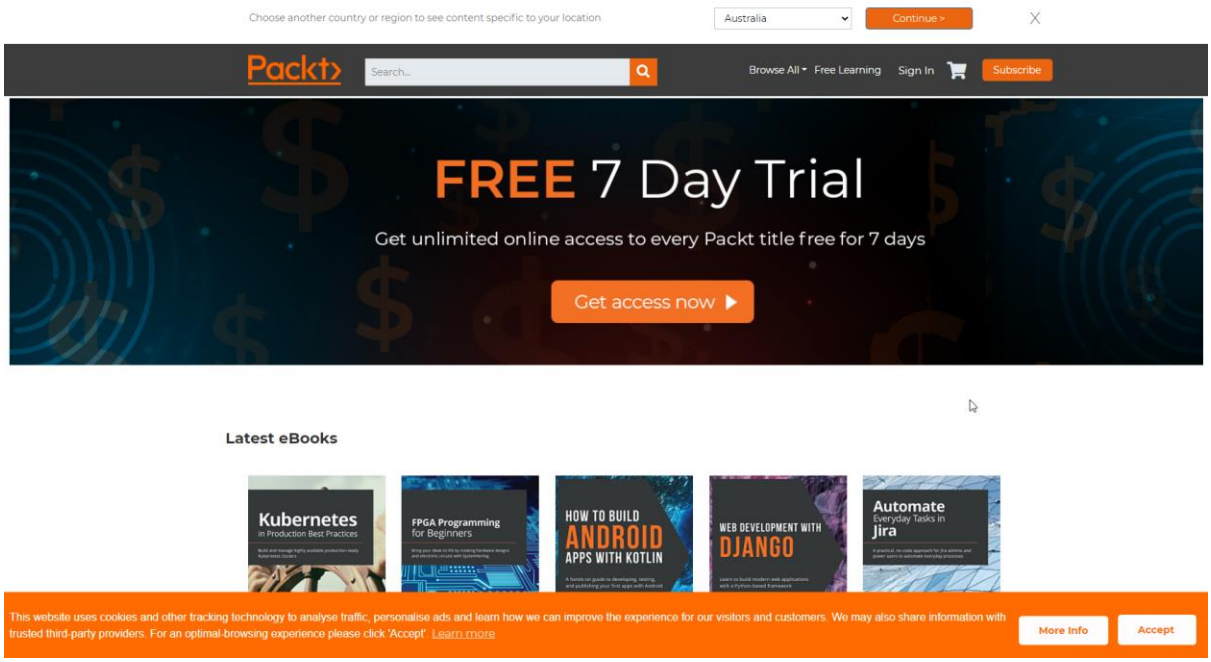

Attach Window 'notepad.exe Untitled'
Untitled - Notepad
File Edit Format View Help
Do
Click 'editable text'
Selector Editor
Validate
Indicate Element
Repair
Highlight
Edit Attributes
app
notepad.exe
cls
Notepad
title
Untitled - Notepad
Edit Selector
<wnd app='notepad.exe' cls='Notepad' title='Untitled - Notepad' />
<wnd aaname='Text Editor' cls='Edit' />
<ctrl name='Text Editor' role='editable text' />
Open in UI Explorer
OK
Cancel

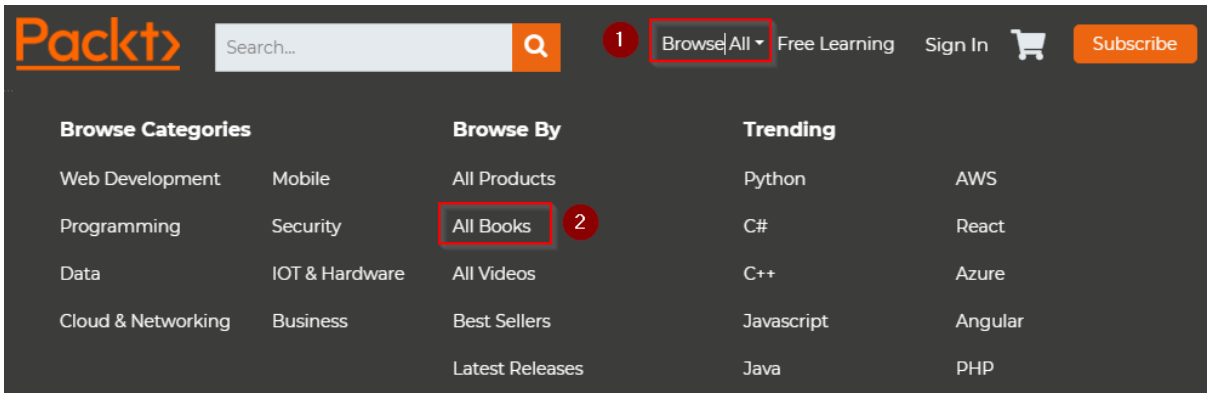


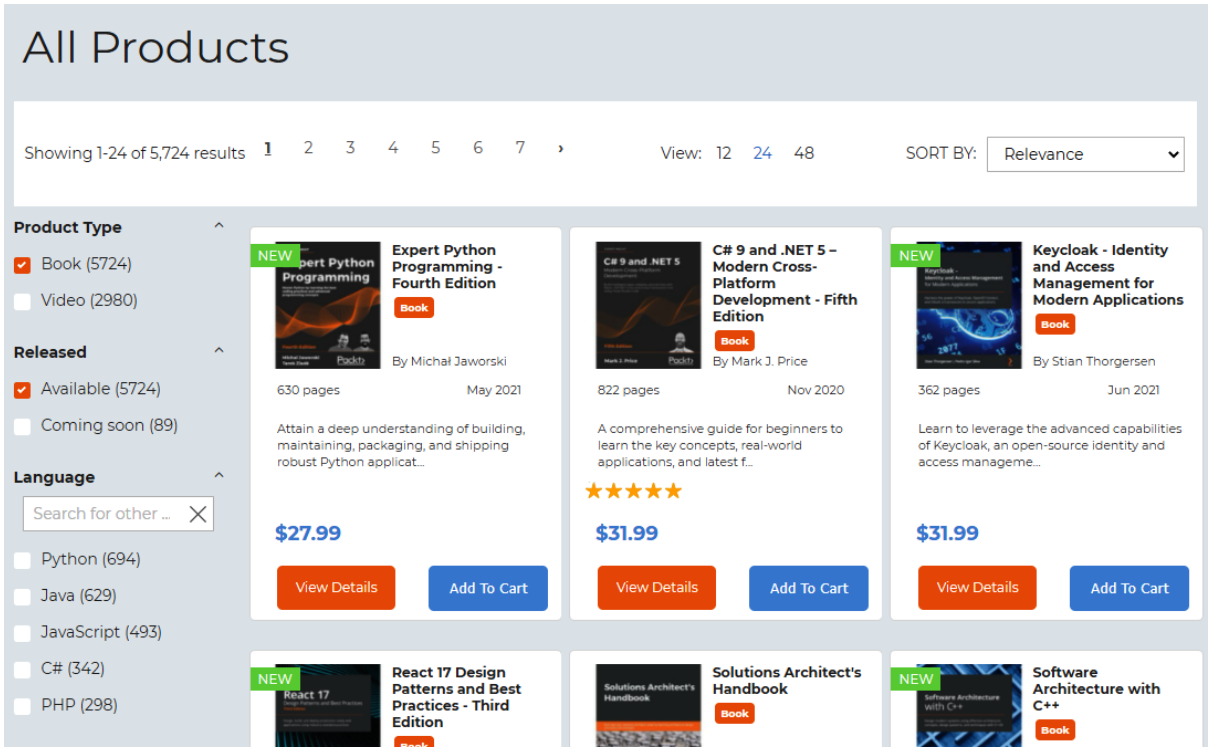

| Partial Selector | Full Selector |
|---|---|
| Generated by the Desktop Recorder. | Generated by the Basic Recorder. |
| Does not contain top-level elements. | Contains top-level elements. |
| Used when switching between multiple windows. | Used when staying inside the same window. |
| Enclosed inside containers. | Containers are not needed. |
| All attributes are editable. | Only elements related to partial selectors can be edited. |

```
<tag attribute = '{{Value}}' />
```

| Static Selector | Dynamic Selector |
|---|---|
| Used to identify elements that are highly stable by having standard properties. | Used to identify elements that are unstable by changing their properties frequently. |
| You can hardcode the Property values inside the Edit selector window. | You can parameterize the Property values using variables or arguments inside the Edit selector window. |
| Uses tags and attributes to identify the target element. | Uses tags, attributes, variables, and arguments to identify the target element. |
| Indicates the target element for any required changes. | Indicates the target element and makes the necessary changes to the value of the variable or argument. |


Choose another country or region to see content specific to your location
Australia
Continue >
Packt
Search...
Browse All
Free Learning
Sign In
Subscribe
FREE 7 Day Trial
Get unlimited online access to every Packt title free for 7 days
Get access now
Latest eBooks
Kubernetes
in Production Best Practices
FPGA Programming
for Beginners
HOW TO BUILD
ANDROID
APPS WITH KOTLIN
WEB DEVELOPMENT WITH
DJANGO
Automate
Everyday Tasks in
Jira
This website uses cookies and other tracking technology to analyse traffic, personalise ads and learn how we can improve the experience for our visitors and customers. We may also share information with trusted third-party providers. For an optimal-browsing experience please click 'Accept'. Learn more
More Info
Accept


Packt
Search...
1
Browse All
Free Learning
Sign In
Subscribe
Browse Categories
Web Development
Programming
Data
Cloud & Networking
Mobile
Security
IOT & Hardware
Business
Browse By
All Products
All Books
2
All Videos
Best Sellers
Latest Releases
Trending
Python
C#
C++
Javascript
Java
AWS
React
Azure
Angular
PHP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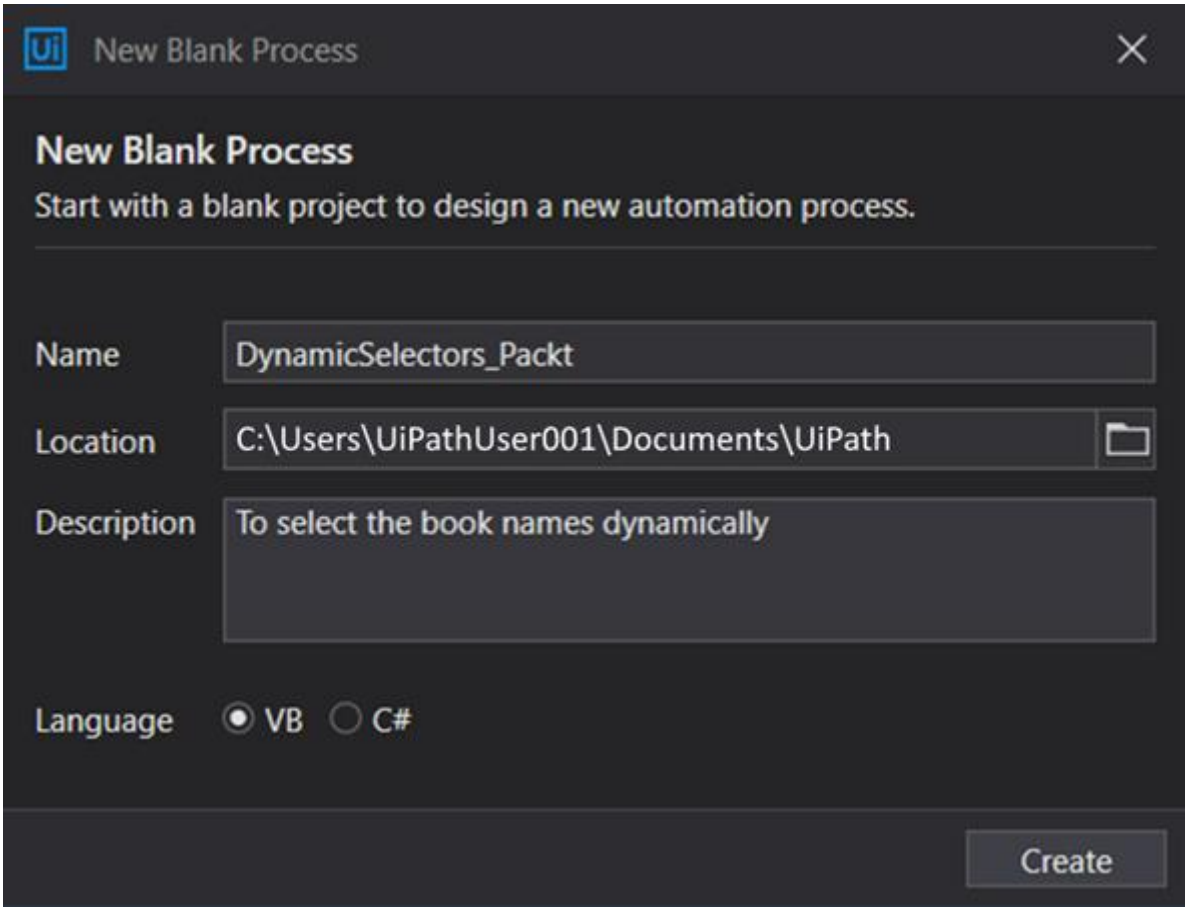
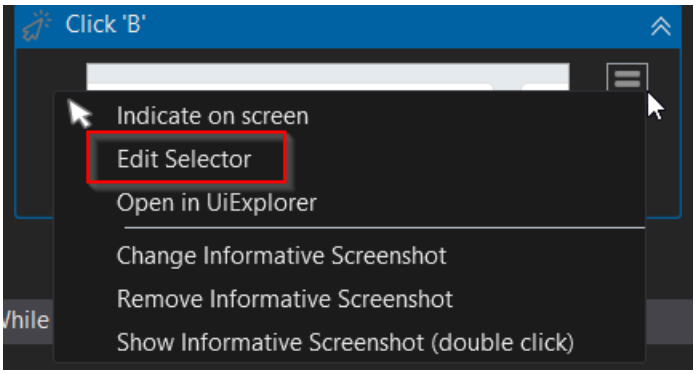
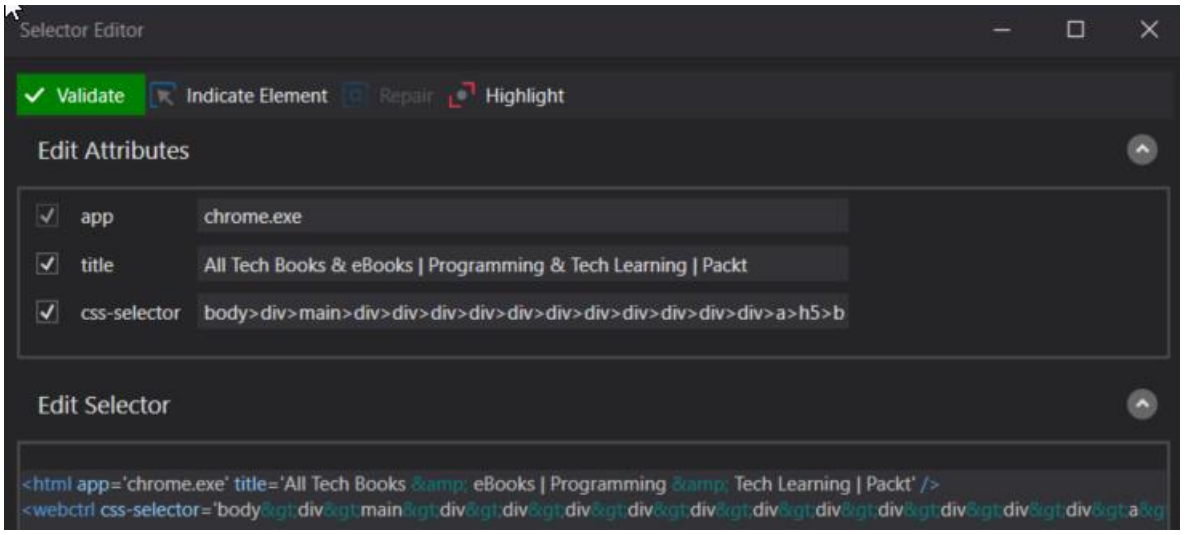

New Blank Process
New Blank Process
Start with a blank project to design a new automation process.
Name
DynamicSelectors_Packt
Location
C:\Users\UiPathUser001\Documents\UiPath
Description
To select the book names dynamically
Language
VB
C#
Create

Click 'B'
Expert Python Programming - Fourth Edition


Click 'B'
Indicate on screen
Edit Selector
Open in UiExplorer
Change Informative Screenshot
Remove Informative Screenshot
Show Informative Screenshot (double click)


Selector Editor
Validate
Indicate Element
Repair
Highlight
Edit Attributes
app
chrome.exe
title
All Tech Books & eBooks | Programming & Tech Learning | Packt
css-selector
body>div>main>div>div>div>div>div>div>div>div>div>div>div>a>h5>b
Edit Selector
<html app='chrome.exe' title='All Tech Books & eBooks | Programming & Tech Learning | Packt' />
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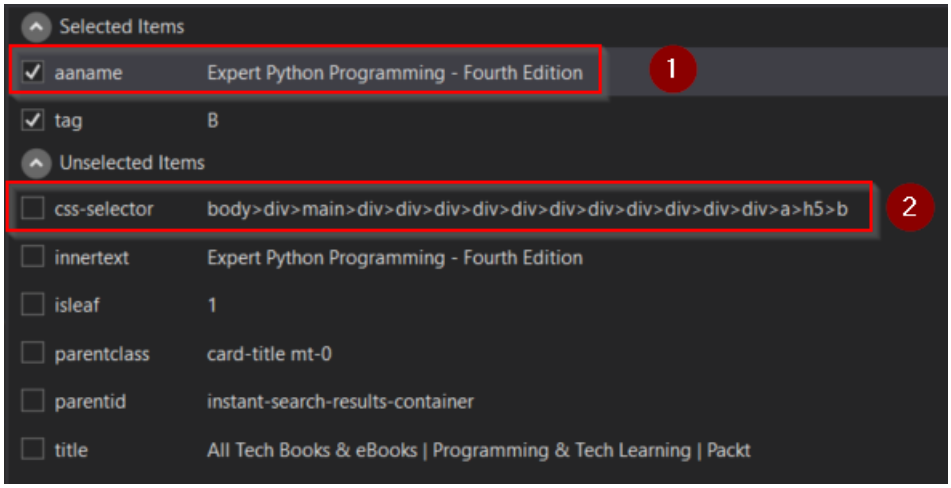
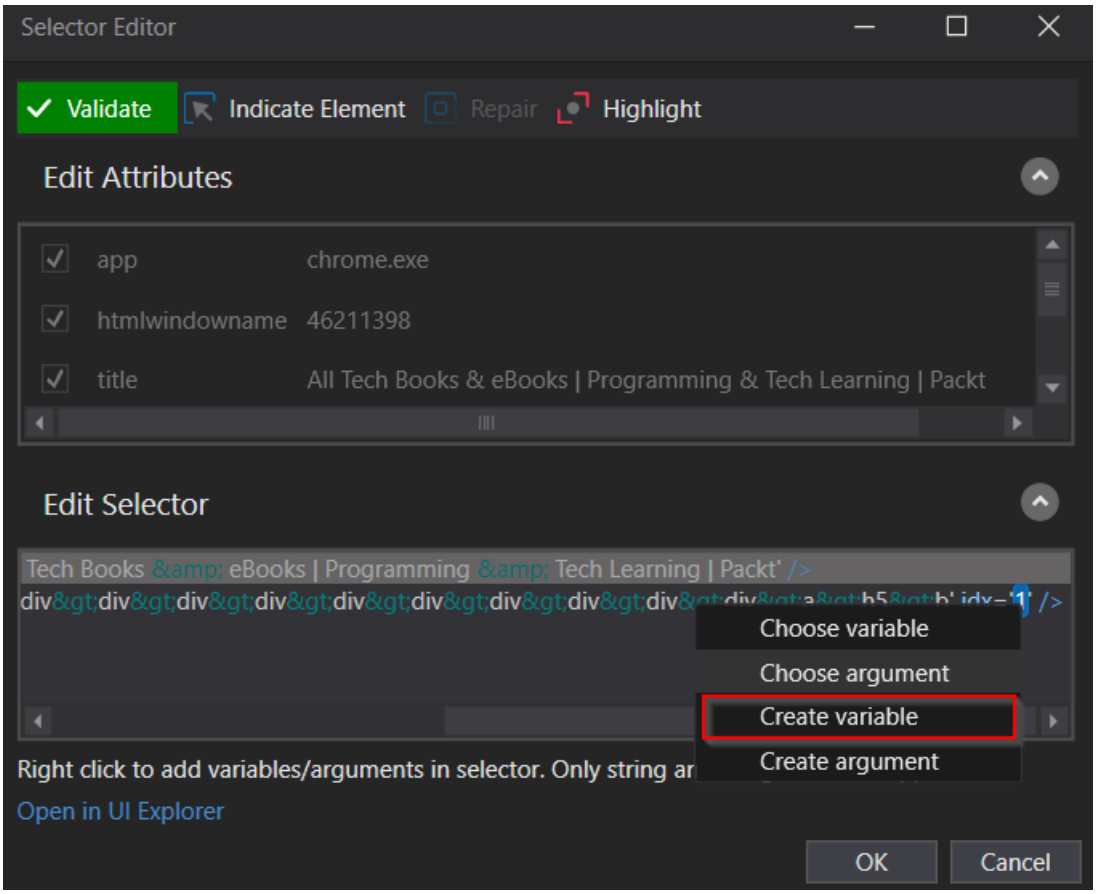
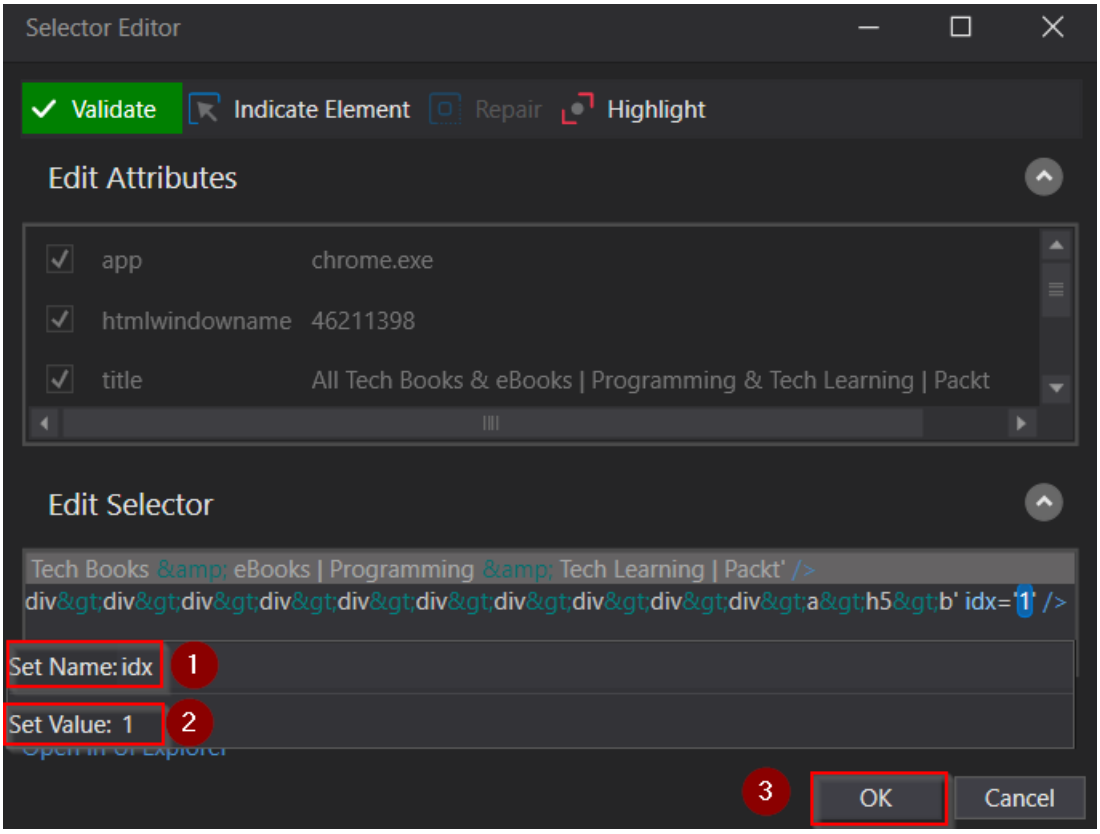

Selected Items
aaname
Expert Python Programming - Fourth Edition
1
tag
B
Unselected Items
css-selector
body>div>main>div>div>div>div>div>div>div>div>div>div>div>a>h5>b
2
innertext
Expert Python Programming - Fourth Edition
isleaf
1
parentclass
card-title mt-0
parentid
instant-search-results-container
title
All Tech Books & eBooks | Programming & Tech Learning | Packt

```
<webctrl tag='B' css-selector='body&gt;div&gt;main&gt;div&gt;
div&gt;div&gt;div&gt;div&gt;div&gt;div&gt;div&gt;div&gt;div&gt;
div&gt;a&gt;h5&gt;b' idx='1' />
```






```
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Programming &amp; Tech Learning | Packt' />
<webctrl css-selector='body&gt;div&gt;main&gt;div&gt;div&gt;
div&gt;div&gt;div&gt;div&gt;div&gt;div&gt;div&gt;div&gt;div&gt;
a&gt;h5&gt;b' idx='{{idx}}' />
```
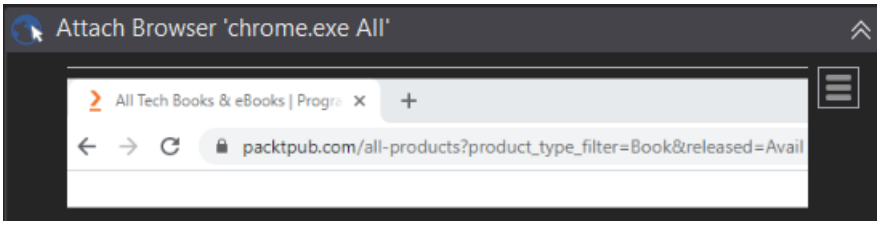
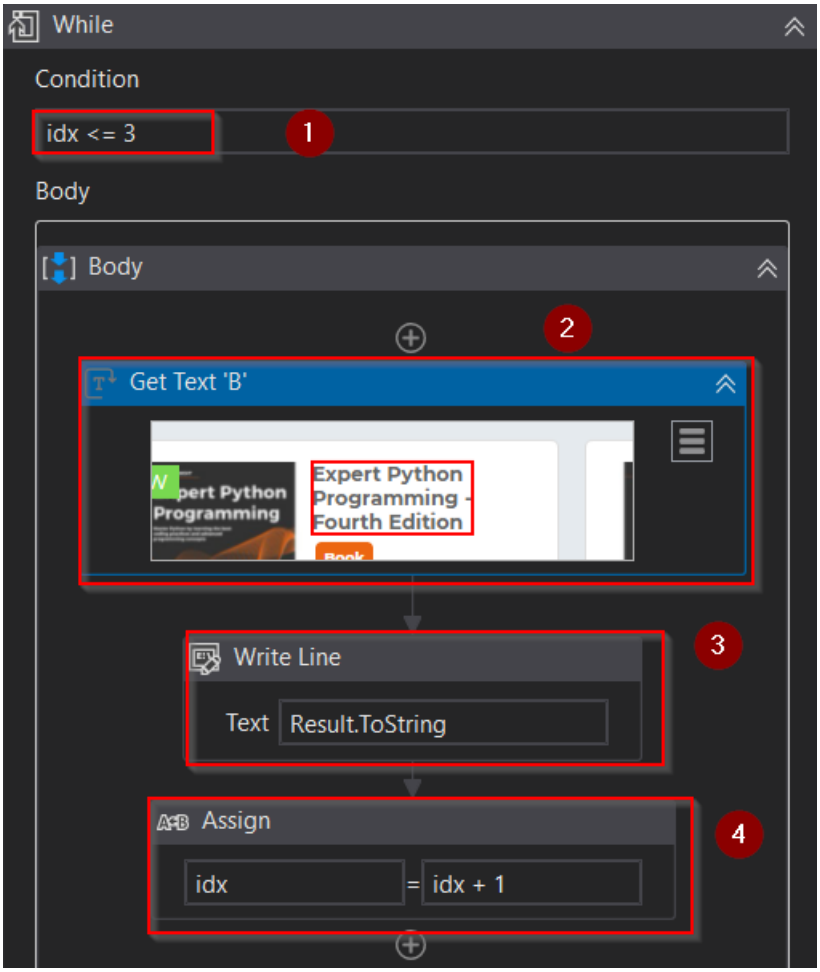
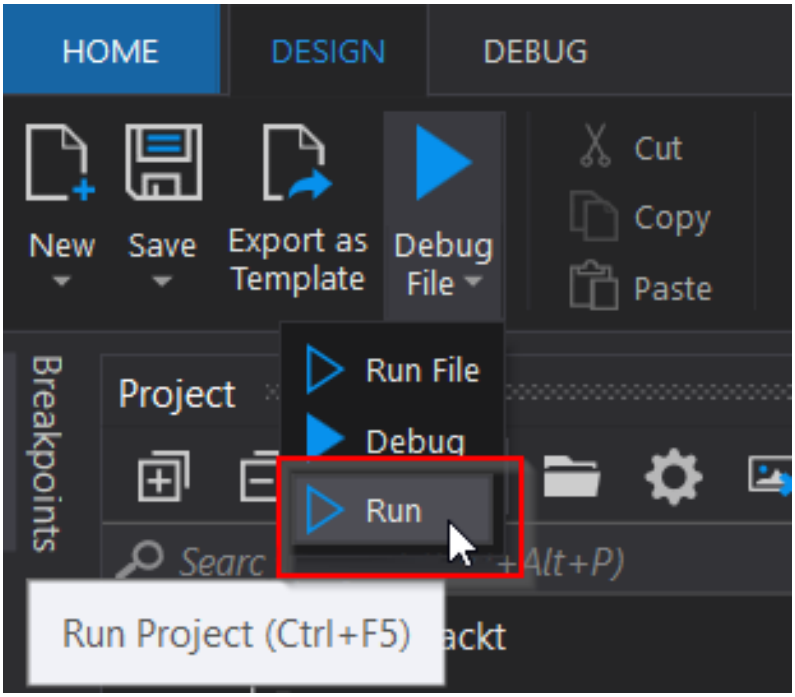
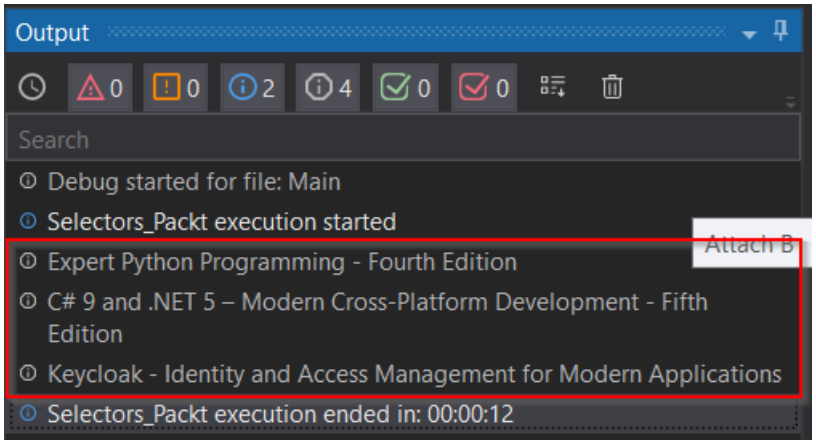




While
Condition
idx <= 3
1
Body
Body
2
Get Text 'B'
Expert Python Programming
Expert Python Programming - Fourth Edition
Write Line
3
Text
Result.ToString
Assign
4
idx
=
idx + 1

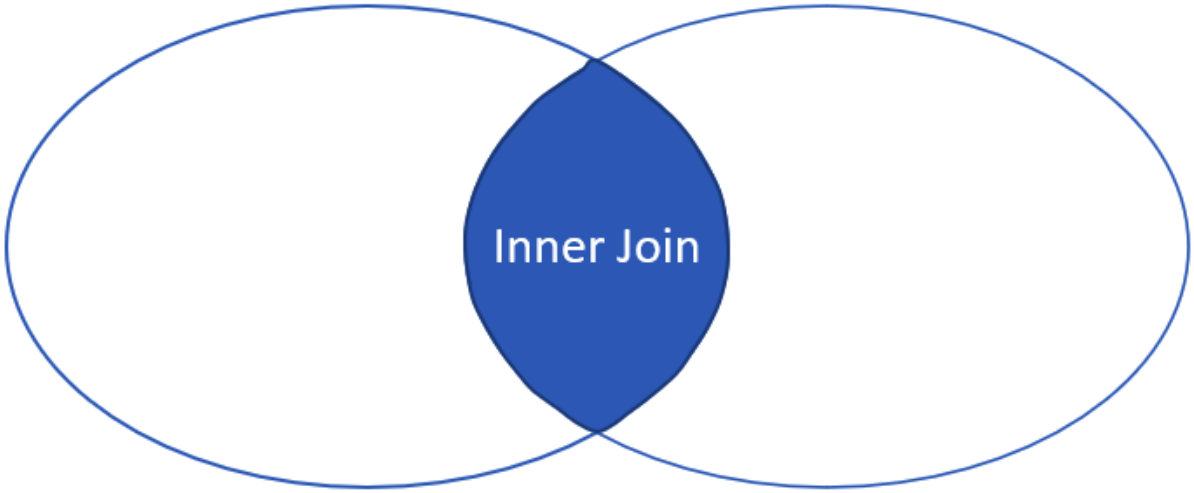

HOME
DESIGN
DEBUG
New
Save
Export as Template
Debug File
Cut
Copy
Paste
Run File
Debug
Run
Project
Breakpoints
Run Project (Ctrl+F5)


Output
0
0
2
4
0
0
Search
Debug started for file: Main
Selectors_Packt execution started
Expert Python Programming - Fourth Edition
C# 9 and .NET 5 – Modern Cross-Platform Development - Fifth Edition
Keycloak - Identity and Access Management for Modern Applications
Selectors_Packt execution ended in: 00:00:12
Attach B

# Chapter 09: Learning the Uses of Data Tables and Exploring Excel Automation

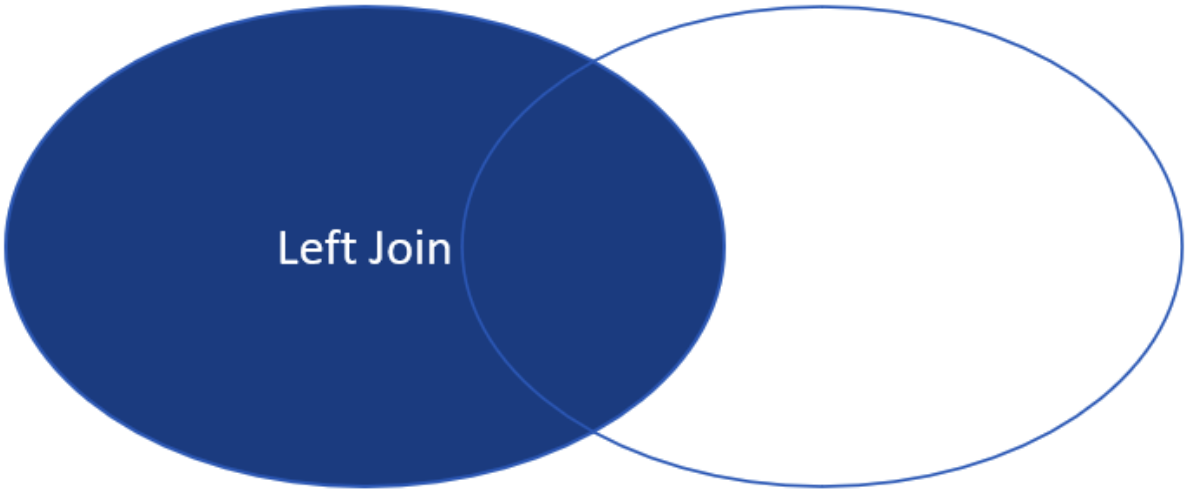
| Join Type | Description |
|---|---|
| **Inner Join** | It is used when we are sure that we only need the records that match the join conditionspecified. The records that do not match are removed from the resulting data table.<br><br>In simple words, it checks for matching records based on the defind commonly available columns and returns only rows that have match on both data tables.<br><br>Example:<br><br>Returns only the employees that is assigned to a department |
| **Left Join** | As we know, a Join includes two data tables. The first data table we specify for the Data Table 1 property is considered as your Left data table. The data table you specify for the Data Table 2 property is considered as your Right data table. You are giving priority to your Left data table the momemt you select the join condition as Left Join. Unlike in Inner Join, Left join returns all the rows on your Left data table. However, it also returns all the matching rows it finds from the second data table and empty rows that did not have a match.<br><br>Example:<br><br>Returns all the employees along with the information of their assigned department. Further, the result also contains employees with no assigned department. |
| **Full Join** | Keep all the records from both data tables irrespective of the join condition. It is more like a combination of both Left Join and Right Join. Full Join adds null values for both sides for the records that do not match. |

DataTable 1: Employee  DataTable 2: Department



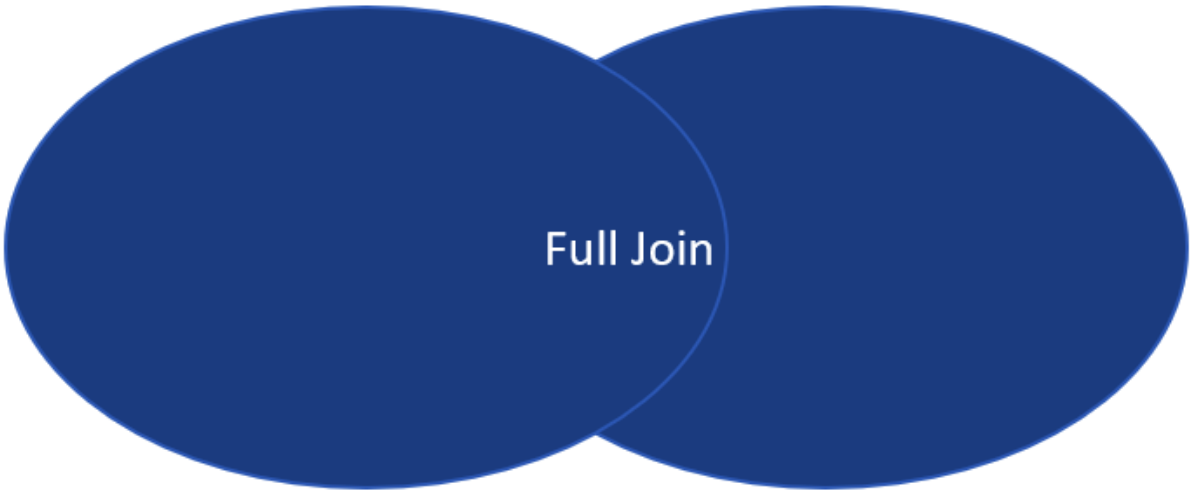

DT1 Department ID = DT2 Department ID

DataTable 1: Employee  DataTable 2: Department



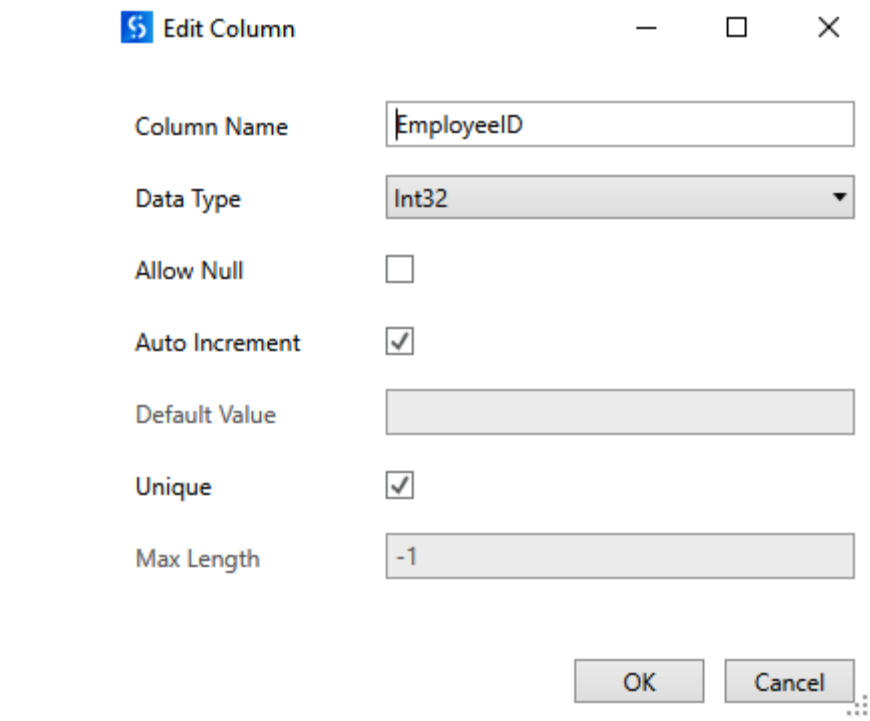

DT1 Department ID = DT2 Department ID

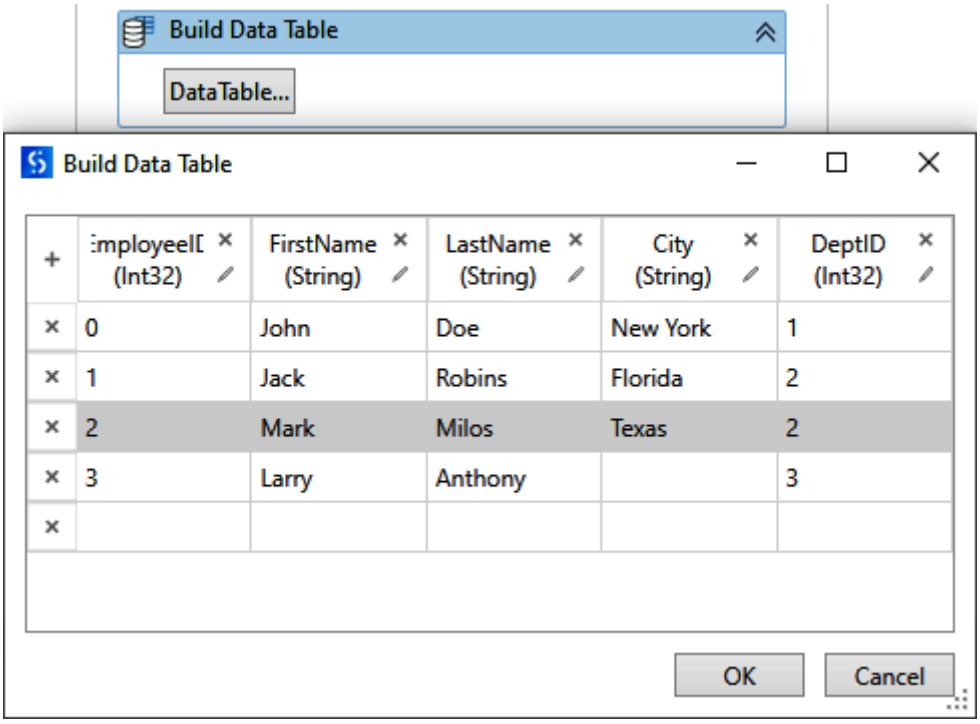
DataTable 1: Employee  DataTable 2: Department

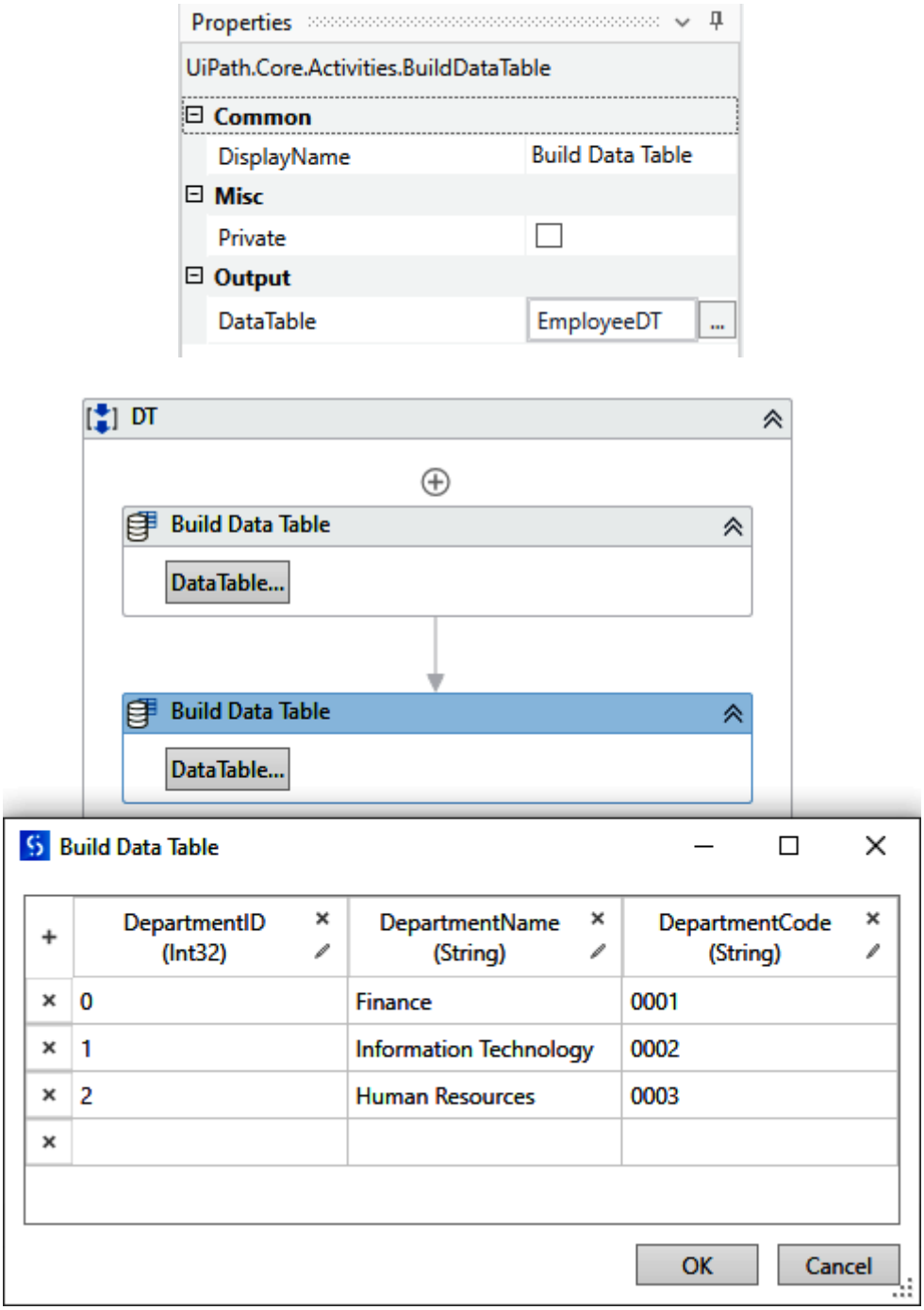


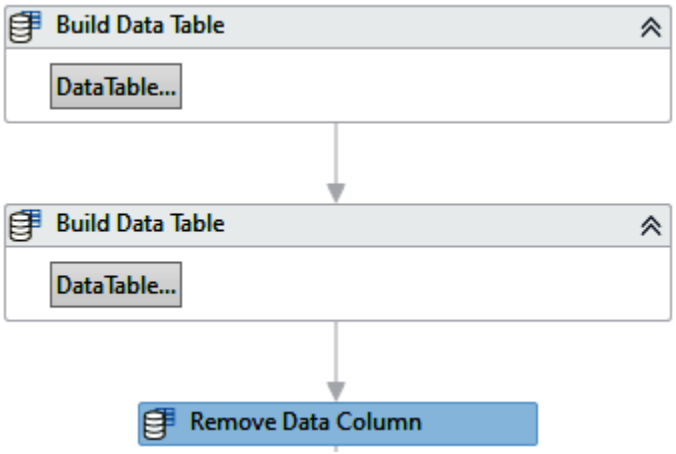

DT1 Department ID = DT2 Department ID

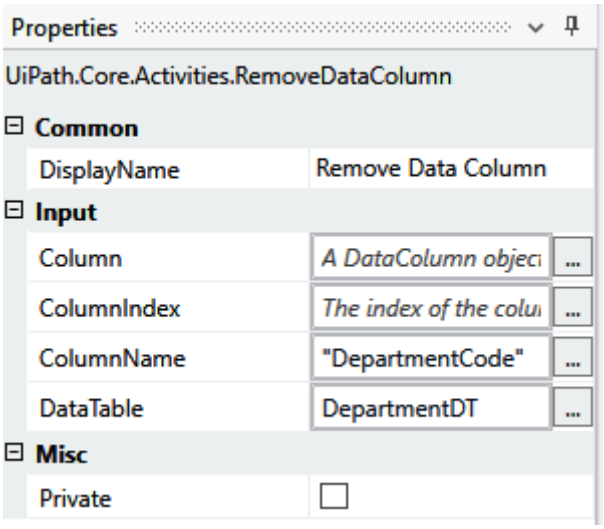
| Missing Schema Handle Option | Description |
|---|---|
| **Add** | Adds the missing schema to the destination data table |
| **Ignore** | Ignores the schema changes and merges columns already available on both data tables |
| **Error** | Throws an error if any schema changes detected |
| **Add with Key** | Adds new columns with a built-built key |

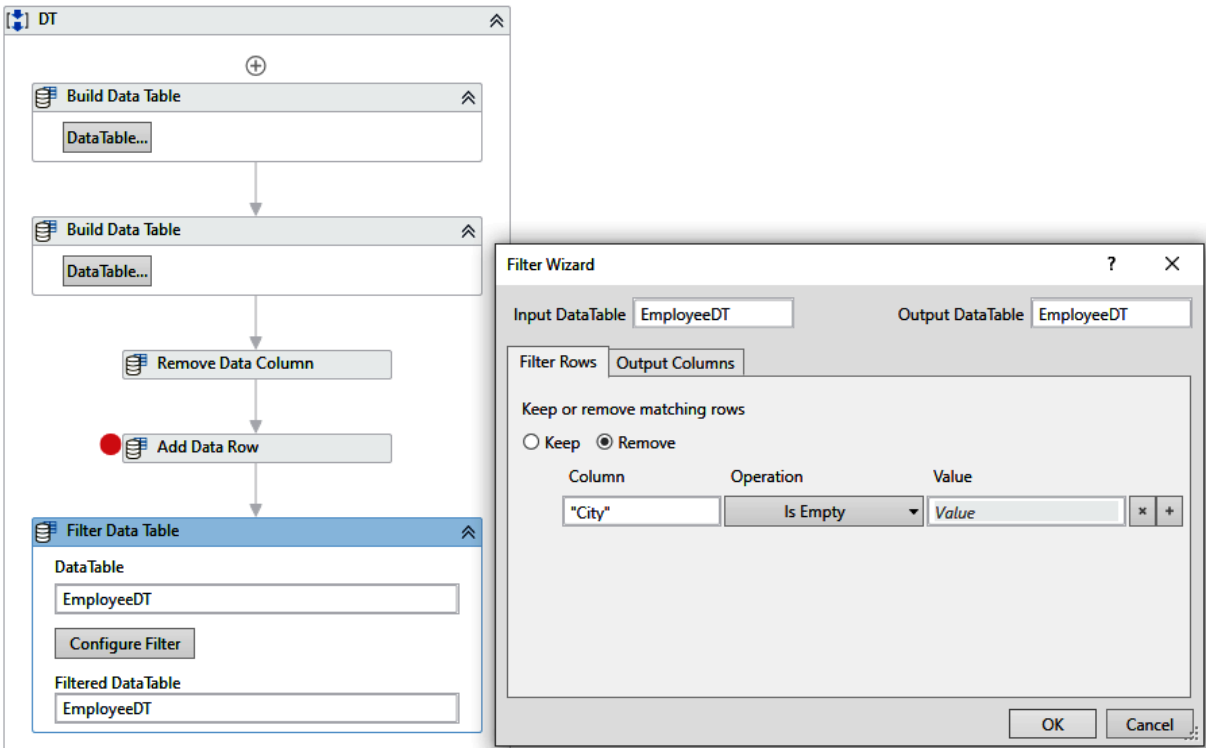

Edit Column
Column Name
EmployeeID
Data Type
Int32
Allow Null
Auto Increment
Default Value
Unique
Max Length
-1
OK
Cancel

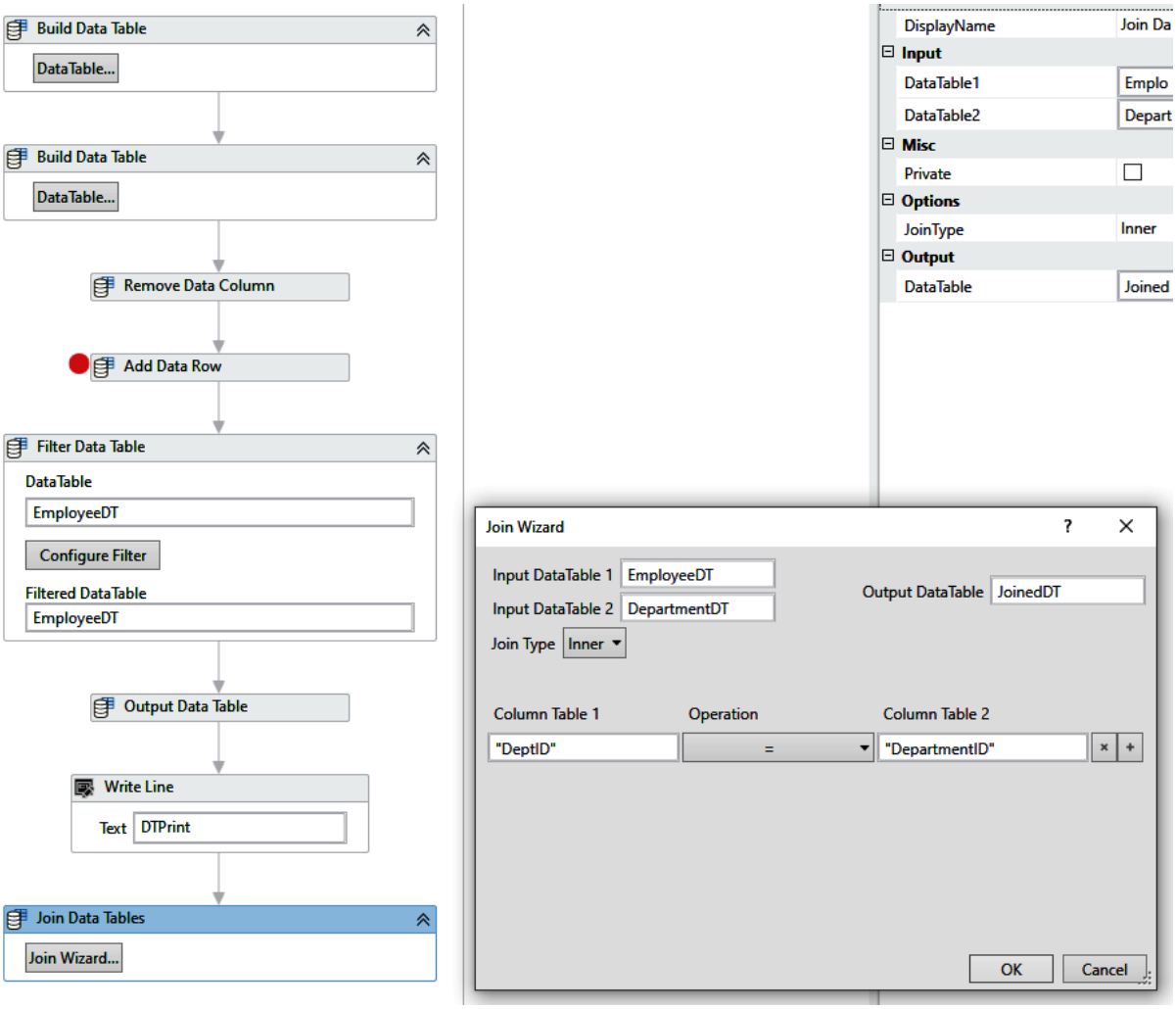

Build Data Table
DataTable...
Build Data Table
EmployeeID (Int32)
FirstName (String)
LastName (String)
City (String)
DeptID (Int32)
0 John Doe New York 1
1 Jack Robins Florida 2
2 Mark Milos Texas 2
3 Larry Anthony 3
OK
Cancel


Properties
UiPath.Core.Activities.BuildDataTable
Common
DisplayName
Build Data Table
Misc
Private
Output
DataTable
EmployeeDT
DT
Build Data Table
DataTable...
Build Data Table
DataTable...
Build Data Table
DepartmentID (Int32)
DepartmentName (String)
DepartmentCode (String)
0
Finance
0001
1
Information Technology
0002
2
Human Resources
0003
OK
Cancel

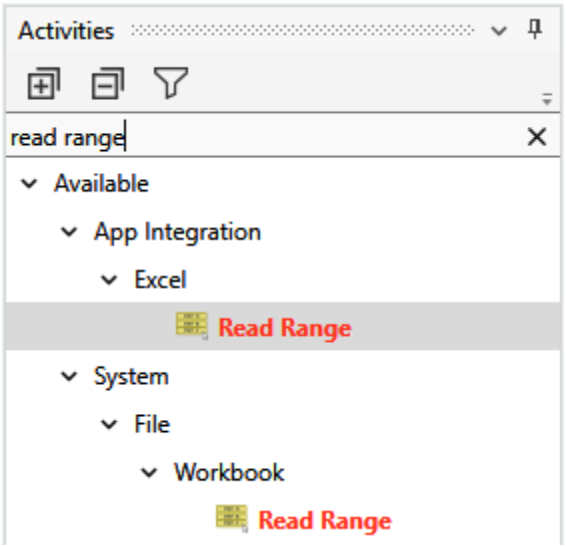

Build Data Table
DataTable...
Build Data Table
DataTable...
Remove Data Column


Properties
UiPath.Core.Activities.RemoveDataColumn
Common
DisplayName
Remove Data Column
Input
Column
A DataColumn objec
ColumnIndex
The index of the colu
ColumnName
"DepartmentCode"
DataTable
DepartmentDT
Misc
Private

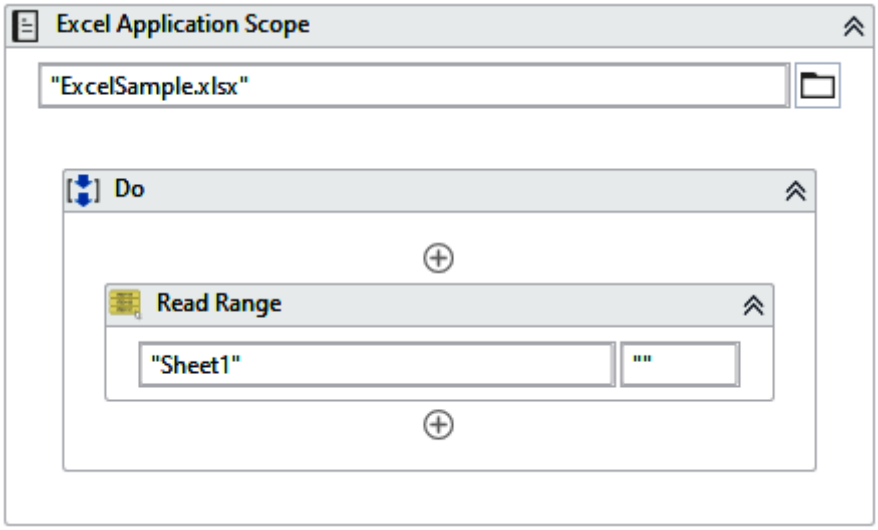

DT
Build Data Table
DataTable...
Build Data Table
DataTable...
Remove Data Column
Add Data Row
Filter Data Table
DataTable
EmployeeDT
Configure Filter
Filtered DataTable
EmployeeDT
Filter Wizard
Input DataTable
EmployeeDT
Output DataTable
EmployeeDT
Filter Rows
Output Columns
Keep or remove matching rows
Keep
Remove
Column
Operation
Value
"City"
Is Empty
Value
OK
Cancel

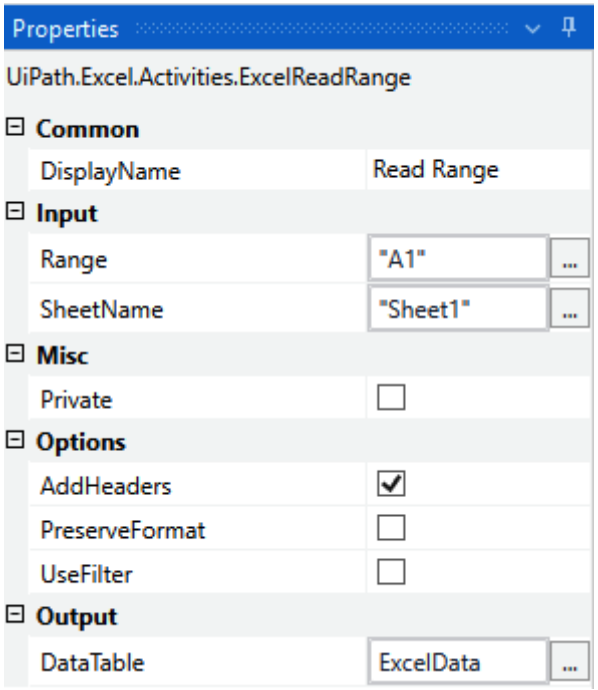


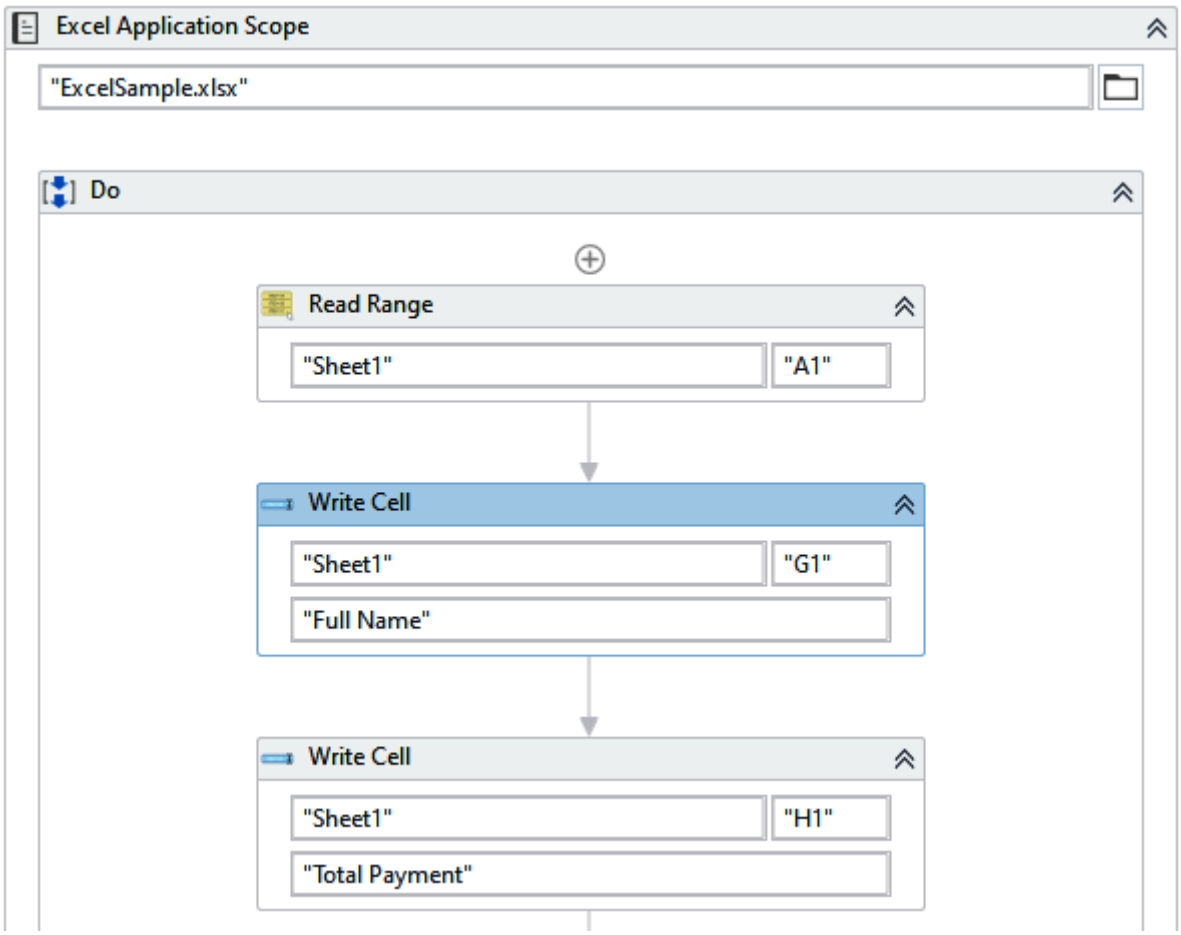

EmployeeID,FirstName,LastName,City,DeptID,DepartmentID,DepartmentName
0,John,Doe,New York,1,1,Information Technology
1,Jack,Robins,Florida,2,2,Human Resources
2,Mark,Milos,Texas,2,2,Human Resources

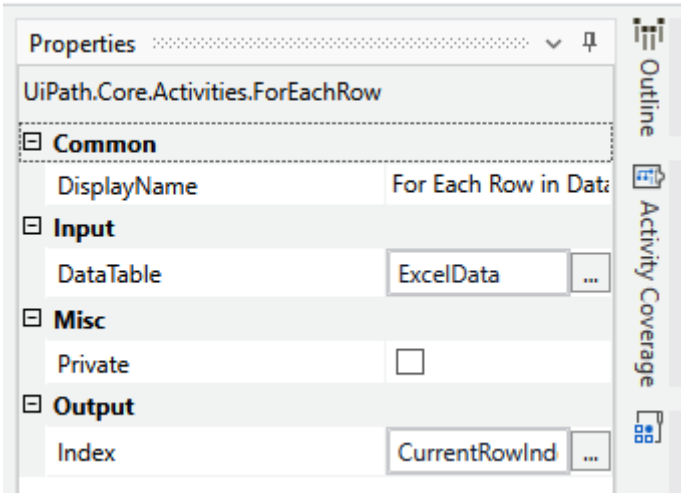


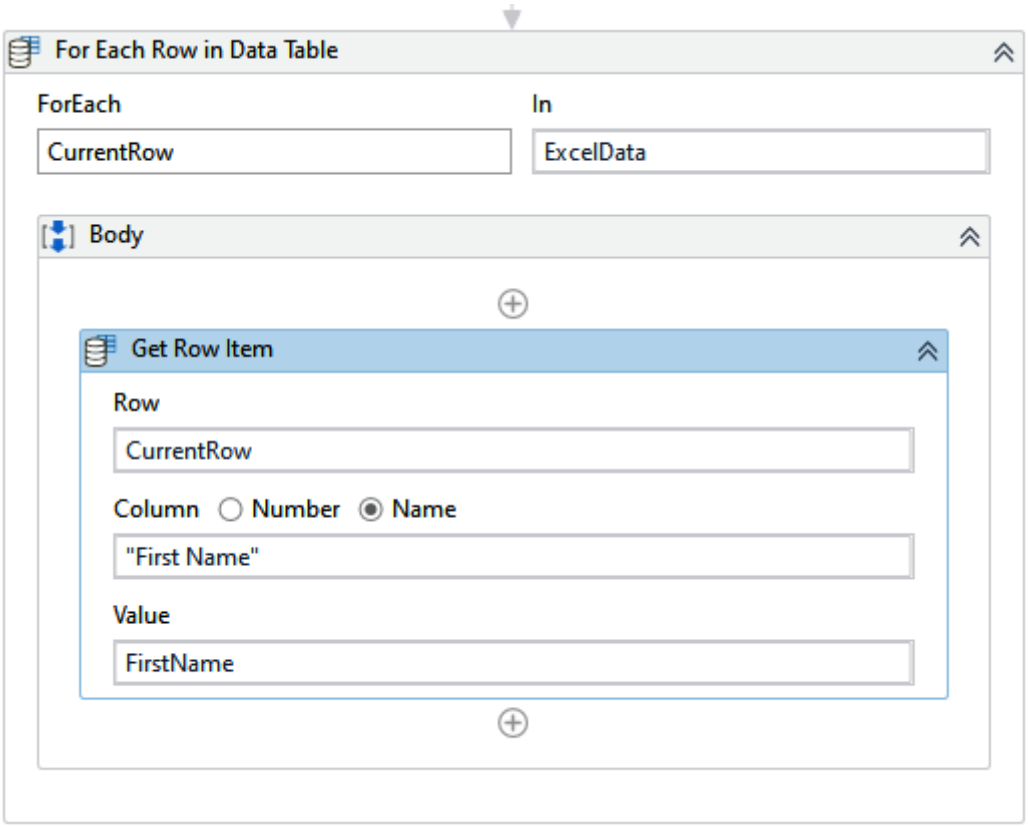
| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | ID | First Name | Last Name | Age | Hourly Rate ($) | Work Hours | |
| 2 | E0001 | Dany | Joe | 25 | 5 | 20 | |
| 3 | E0002 | John | Smith | 36 | 25 | 100 | |
| 4 | E0003 | John | Doe | 27 | 15 | 120 | |
| 5 | E0004 | Mary | Ann | 30 | 15 | 50 | |
| 6 | E0005 | Emmy | Elissa | 21 | 10 | 200 | |
| 7 | | | | | | | |



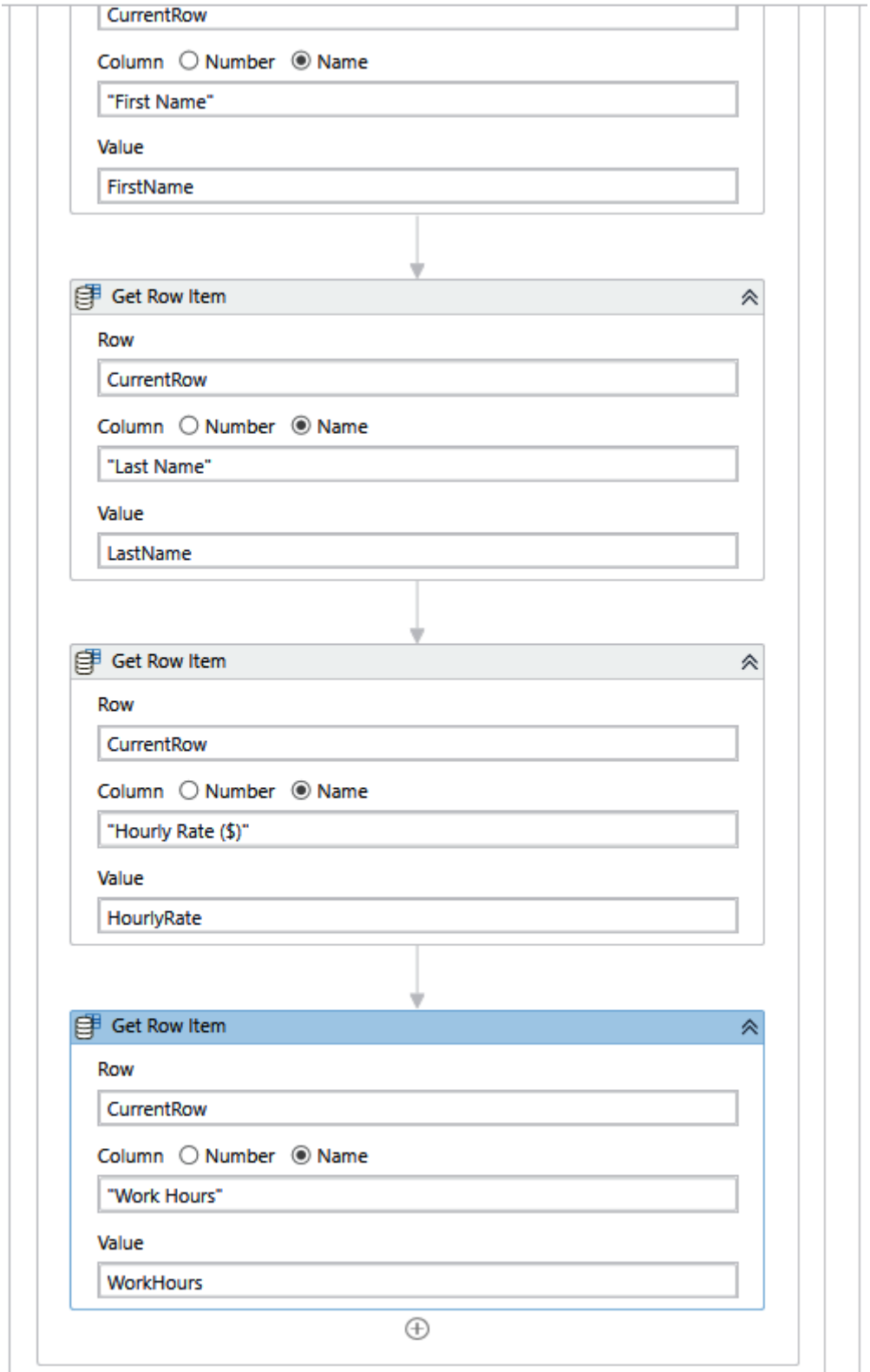

Excel Application Scope
"ExcelSample.xlsx"
Do
Read Range
"Sheet1"
"A1"
Write Cell
"Sheet1"
"G1"
"Full Name"
Write Cell
"Sheet1"
"H1"
"Total Payment"


Properties
UiPath.Core.Activities.ForEachRow
Common
DisplayName
For Each Row in Data
Input
DataTable
ExcelData
Misc
Private
Output
Index
CurrentRowInd
Outline
Activity Coverage

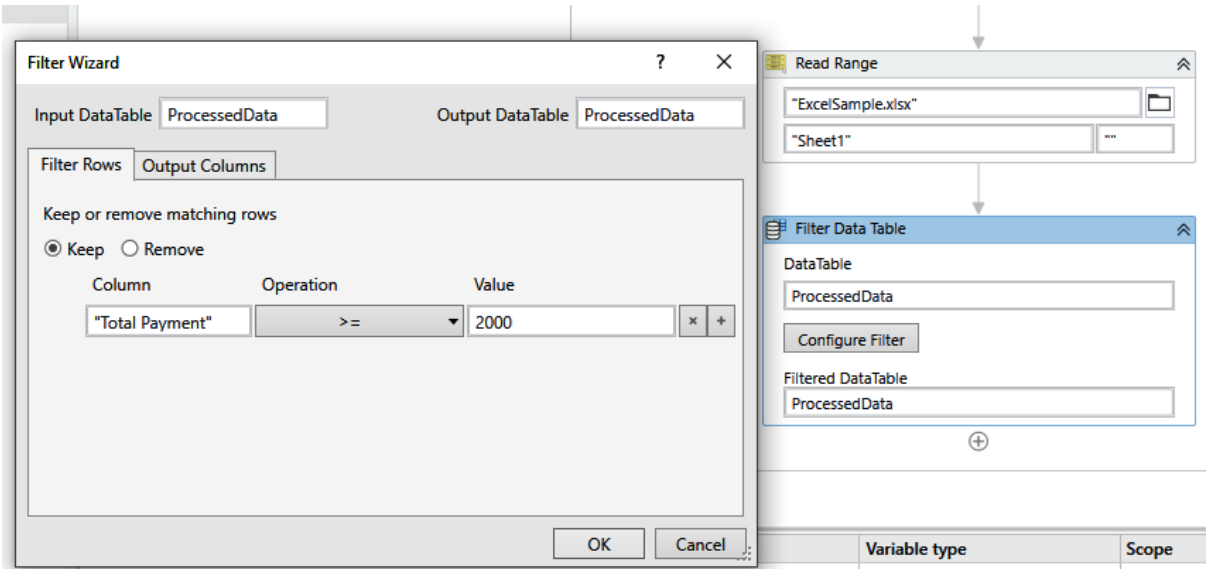


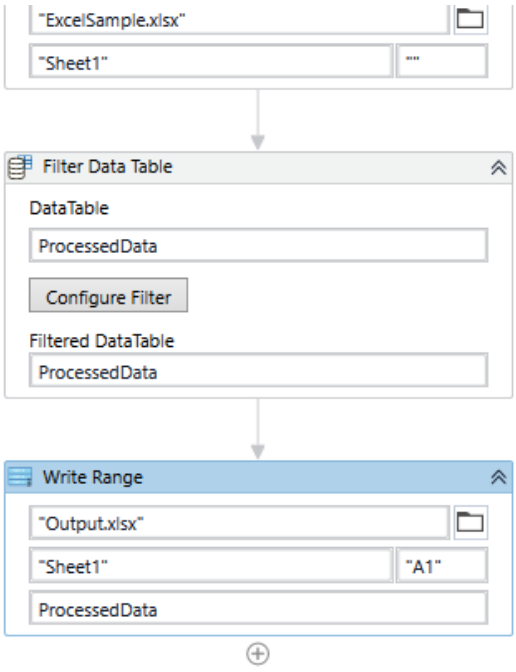

| Name | Variable type | Scope |
|---|---|---|
| FirstName | String | Body |
| LastName | String | Body |
| HourlyRate | Double | Body |
| WorkHours | Double | Body |
| ExcelData | DataTable | Do |
| CurrentRowIndex | Int32 | Do |
| ProcessedData | DataTable | ExcelAutomation |
| *Create Variable* | | |

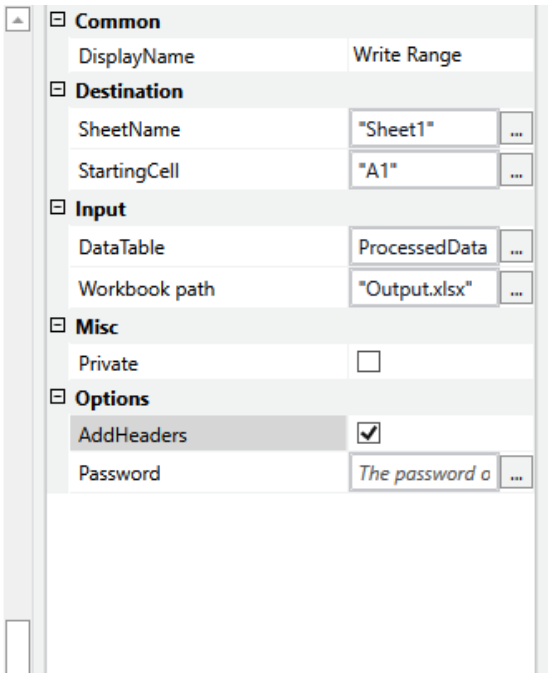
Variables Arguments Imports


CurrentRow
Column Number Name
"First Name"
Value
FirstName
Get Row Item
Row
CurrentRow
Column Number Name
"Last Name"
Value
LastName
Get Row Item
Row
CurrentRow
Column Number Name
"Hourly Rate ($)"
Value
HourlyRate
Get Row Item
Row
CurrentRow
Column Number Name
"Work Hours"
Value
WorkHours

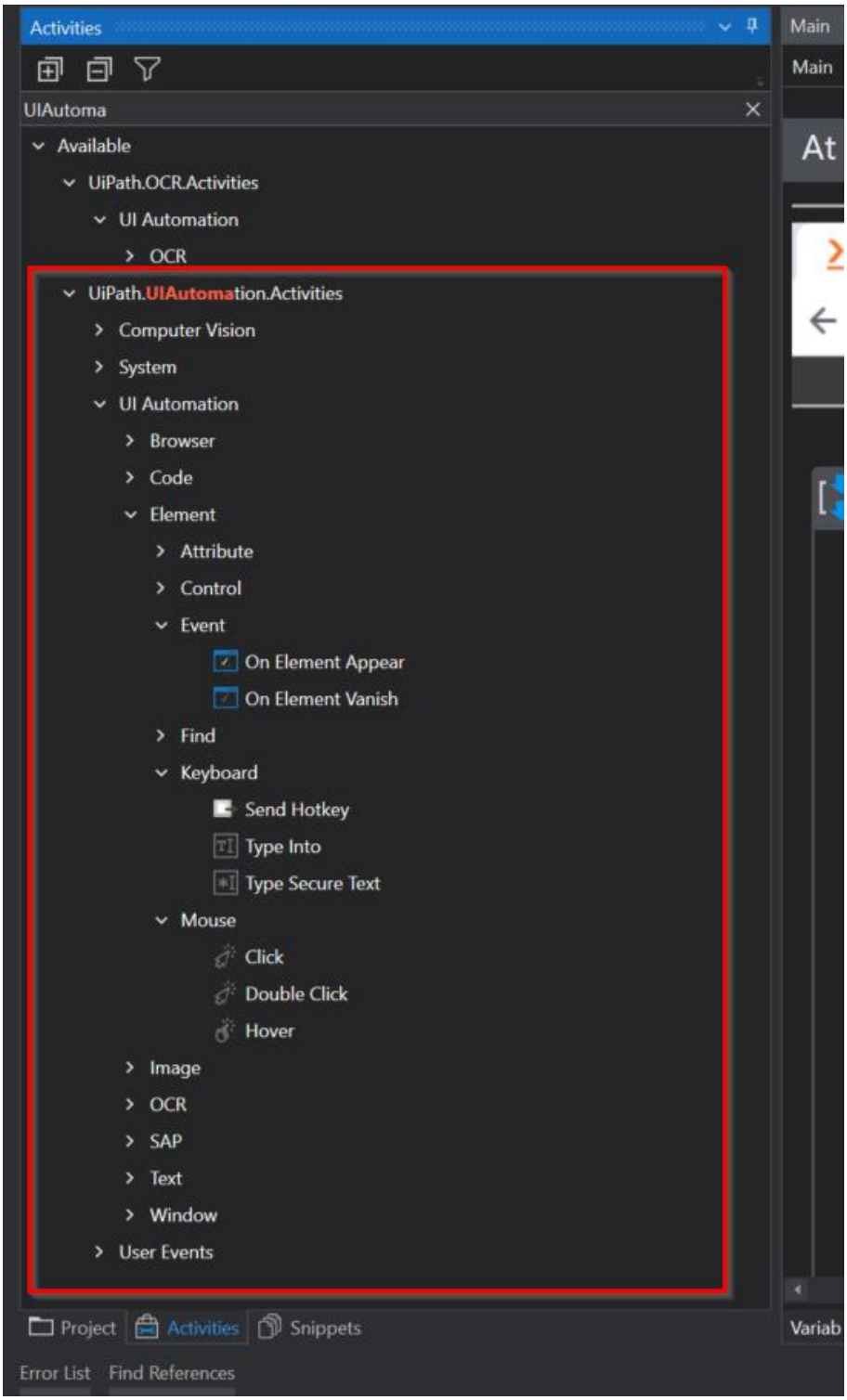
| | A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ID | First Name | Last Name | Age | Hourly Rate ($) | Work Hours | Full Name | Total Payment | |
| 2 | E0001 | Dany | Joe | 25 | 5 | 20 | Dany Joe | 100 | |
| 3 | E0002 | John | Smith | 36 | 25 | 100 | John Smith | 2500 | |
| 4 | E0003 | John | Doe | 27 | 15 | 120 | John Doe | 1800 | |
| 5 | E0004 | Mary | Ann | 30 | 15 | 50 | Mary Ann | 750 | |
| 6 | E0005 | Emmy | Elissa | 21 | 10 | 200 | Emmy Elissa | 2000 | |
| 7 | | | | | | | | | |

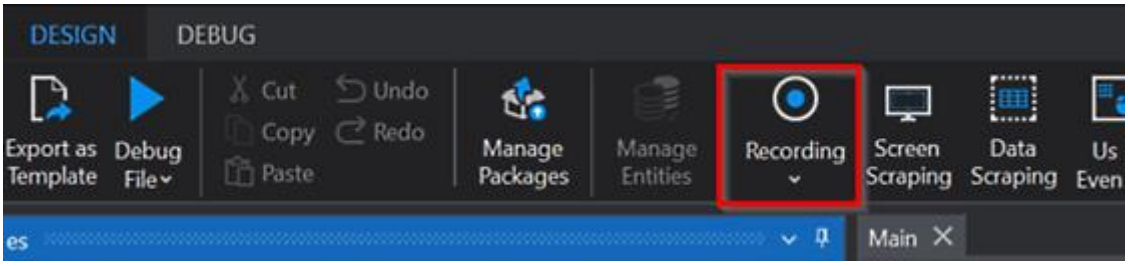


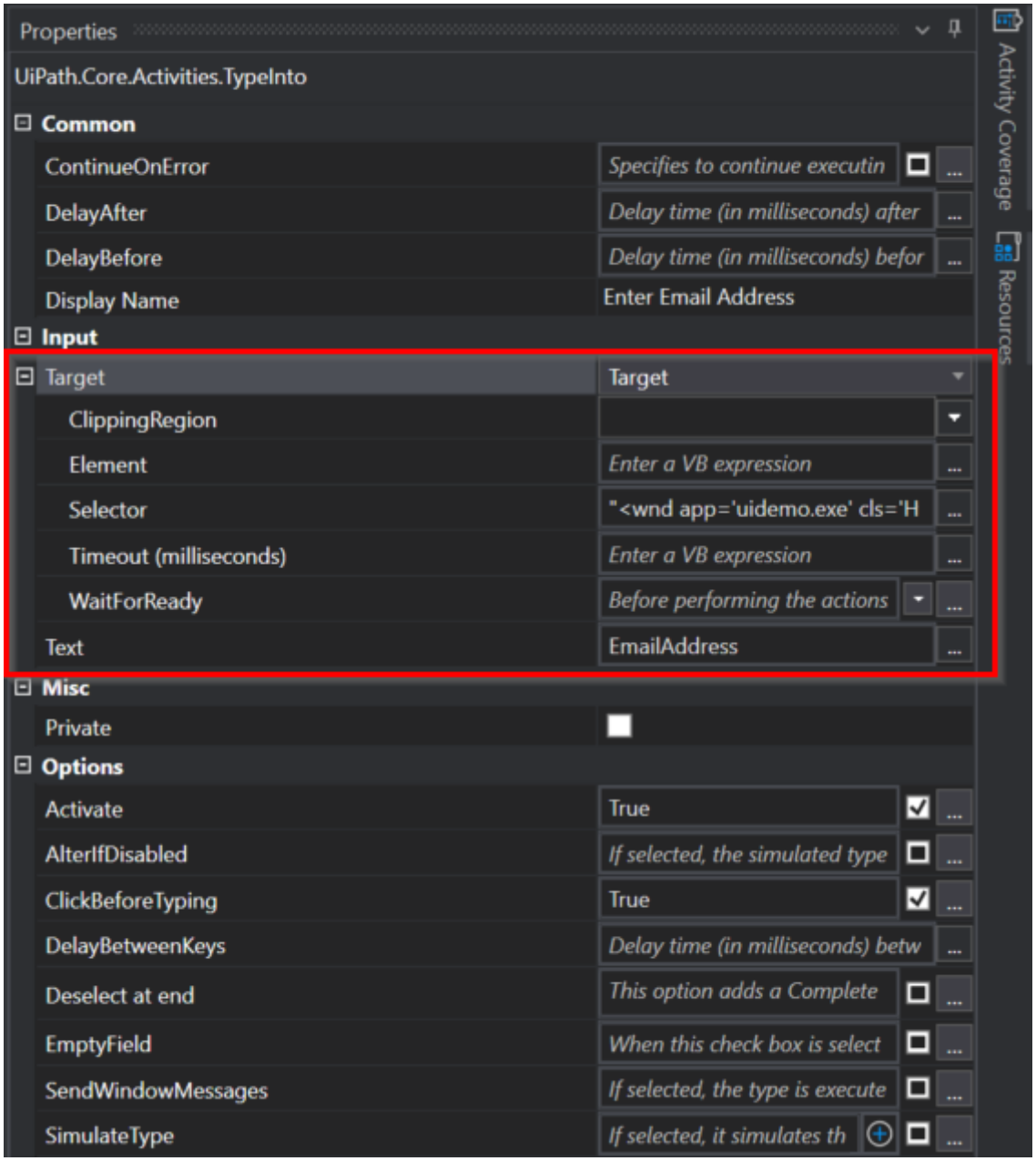



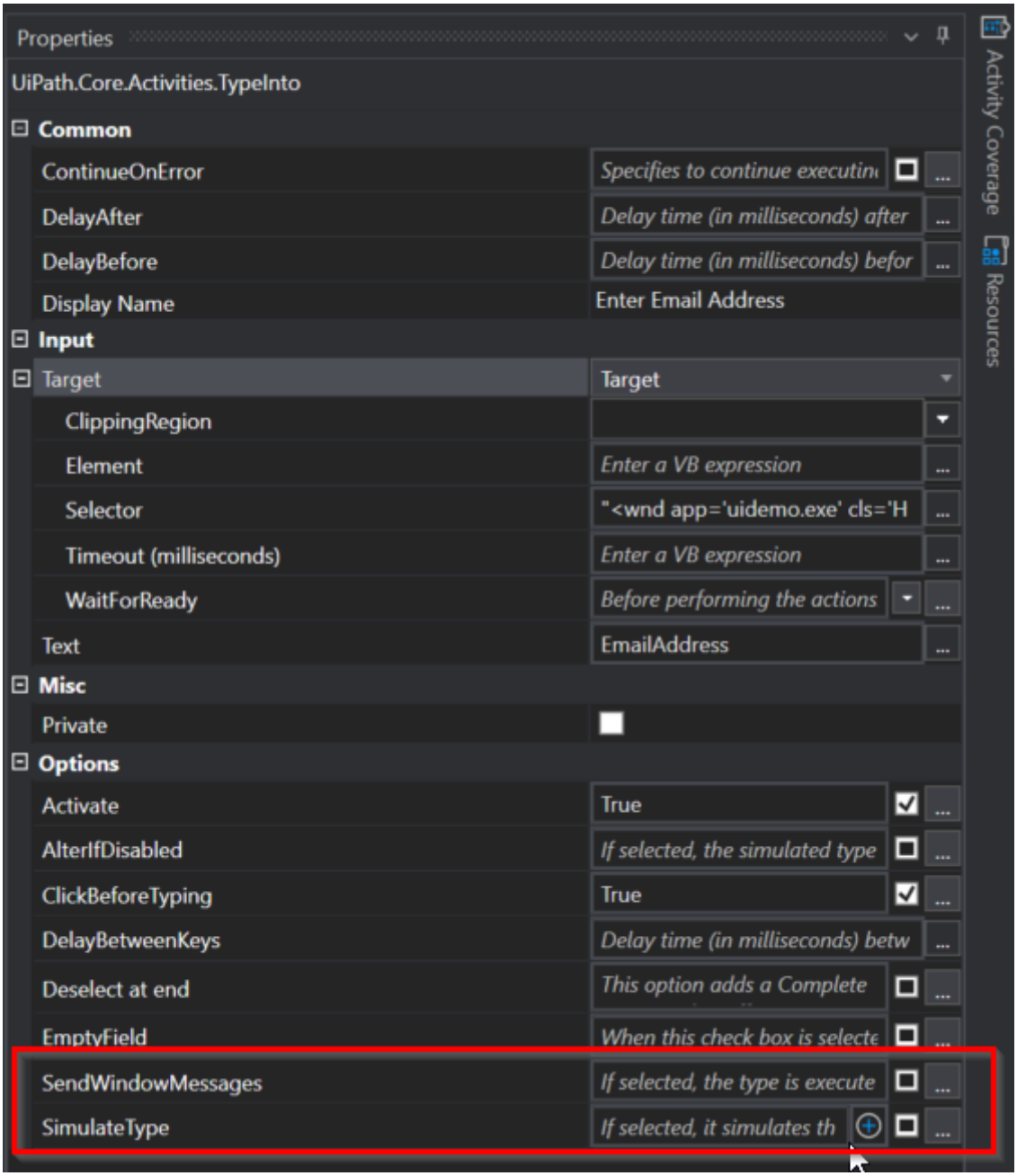



# Chapter 10: Exploring User Interfaces and User/Robot Interactions

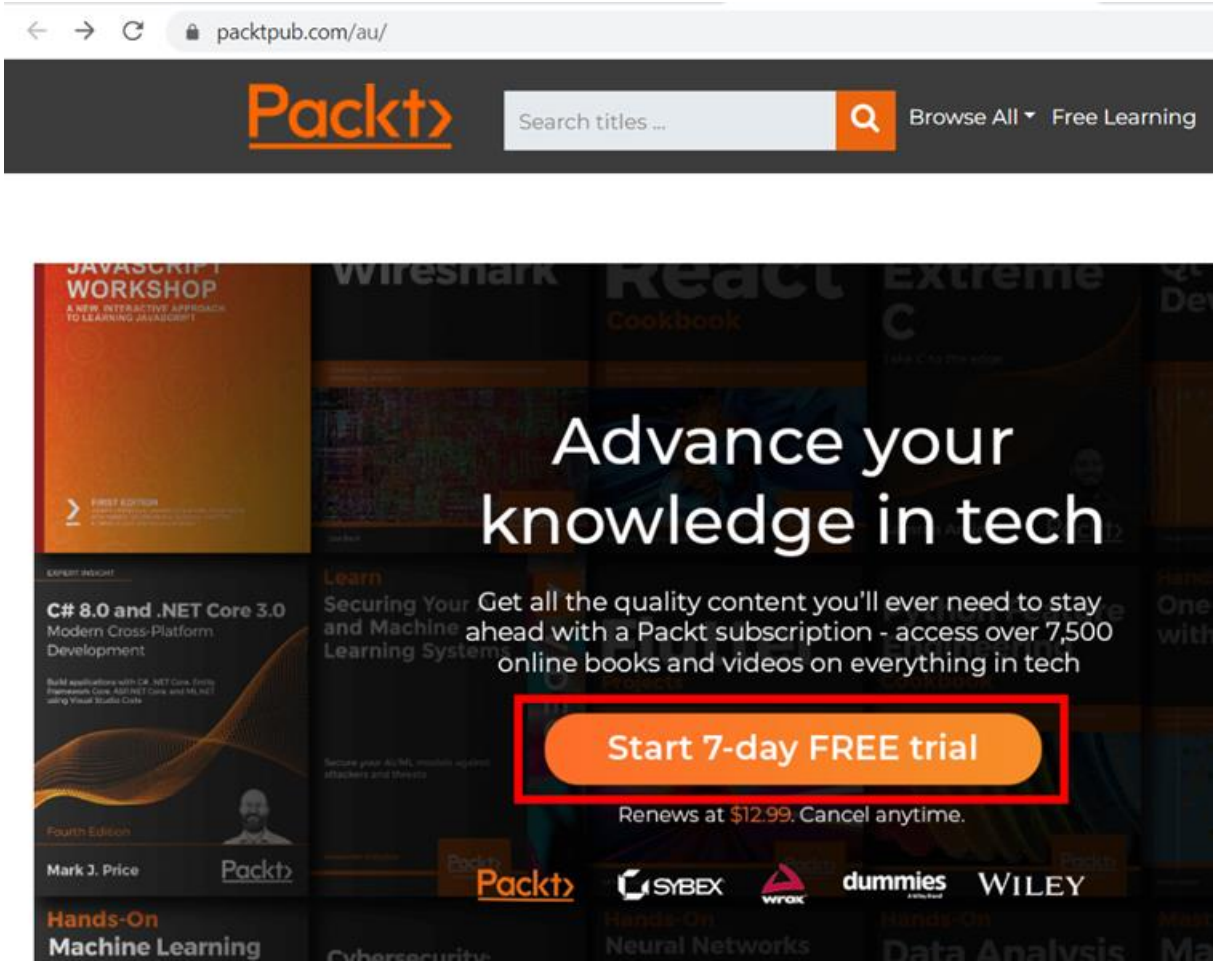



DESIGN
DEBUG
Export as Template
Debug File
Cut
Copy
Paste
Undo
Redo
Manage Packages
Manage Entities
Recording
Screen Scraping
Data Scraping
Us Even
es
Main


Properties
UiPath.Core.Activities.TypeInto
Common
ContinueOnError
Specifies to continue executin
DelayAfter
Delay time (in milliseconds) after
DelayBefore
Delay time (in milliseconds) befor
Display Name
Enter Email Address
Input
Target
Target
ClippingRegion
Element
Enter a VB expression
Selector
"<wnd app='uidemo.exe' cls='H
Timeout (milliseconds)
Enter a VB expression
WaitForReady
Before performing the actions
Text
EmailAddress
Misc
Private
Options
Activate
True
AlterIfDisabled
If selected, the simulated type
ClickBeforeTyping
True
DelayBetweenKeys
Delay time (in milliseconds) betw
Deselect at end
This option adds a Complete
EmptyField
When this check box is select
SendWindowMessages
If selected, the type is execute
SimulateType
If selected, it simulates th
Activity Coverage
Resources




| Activities | Description |
|---|---|
| **Containers** | These are used to locate any GUI applications (desktop, web, or mainframes) or to identify active windows or pop up windows to communicate with the elements within the scope of the selected window. Open Browser, Open Application, Attach Browser, and Attach Window are examples of containers. |
| **Input** | These activities are used to provide inputs or perform actions on the UI elements. Examples are Click, Type Into, and Send Hotkeys. |
| **Output** | These activities instruct the robot to extract data from the GUI. Examples are GetText, GetURL, and GetOCRText. |
| **Synchronization** | These activities instruct the robot to perform defined operations based on the GUI behaviors to overcome any unexpected UI behavior. Examples are Element Exists, Image Exists, and Wait Element Vanish. |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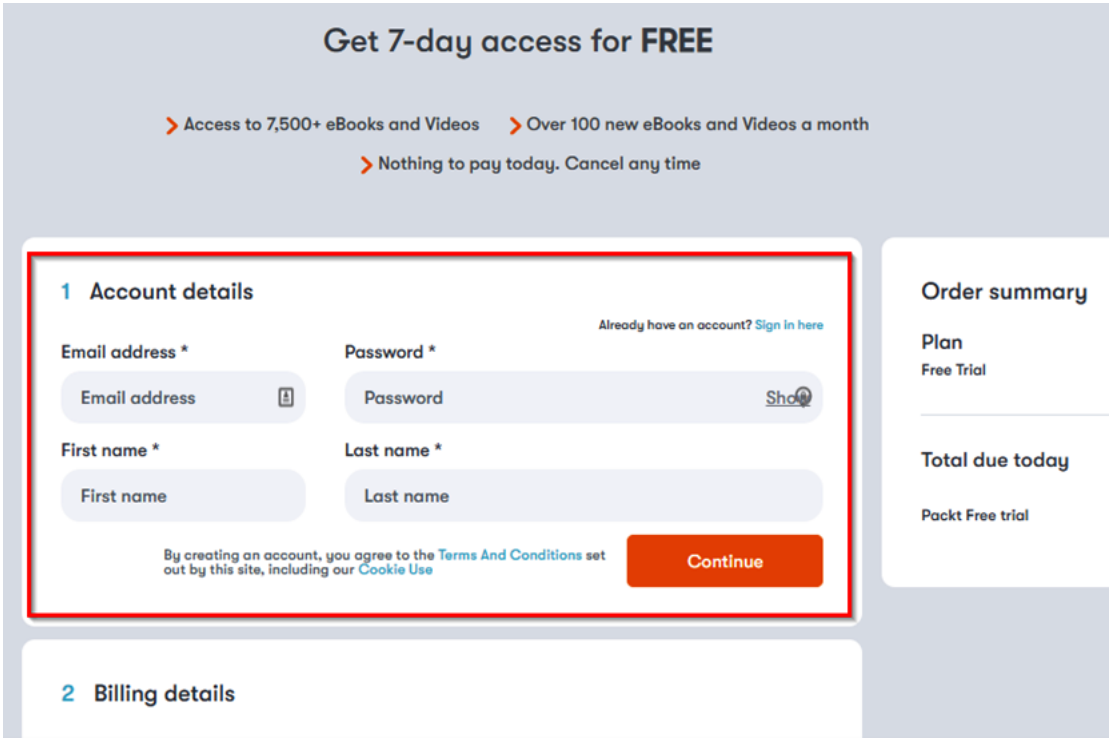
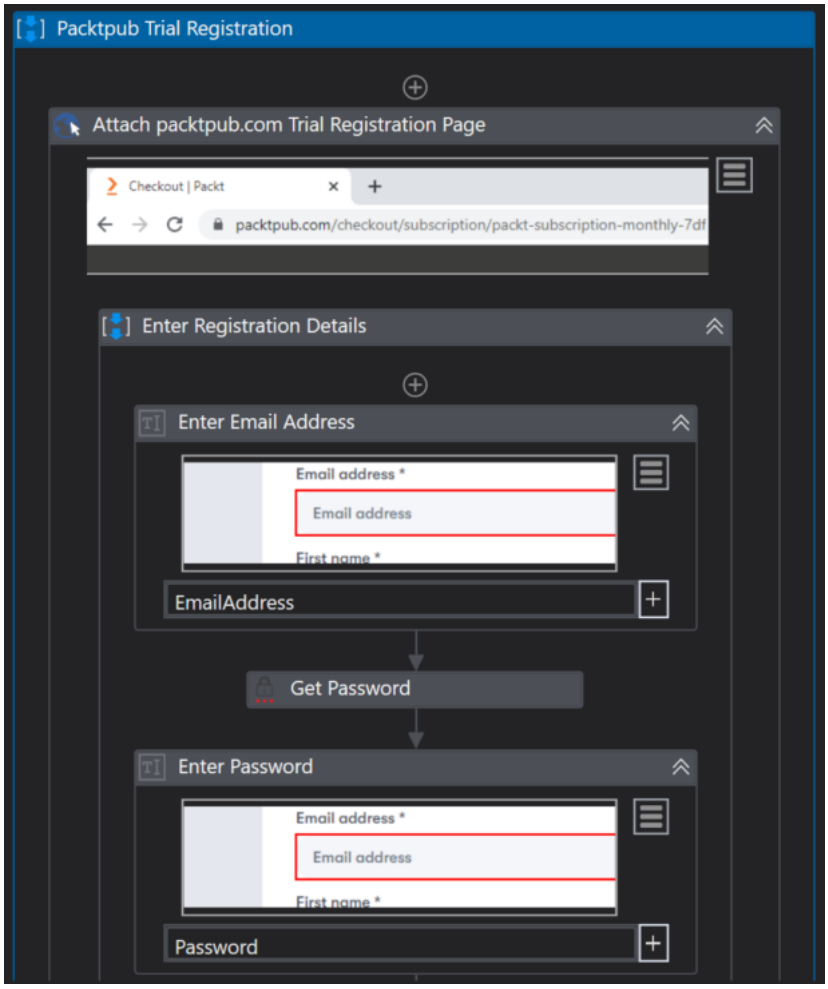
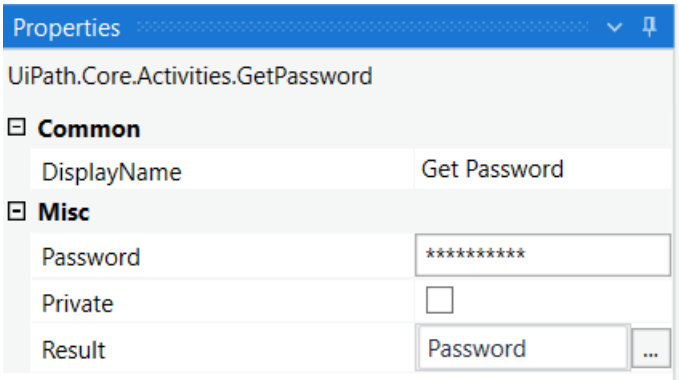
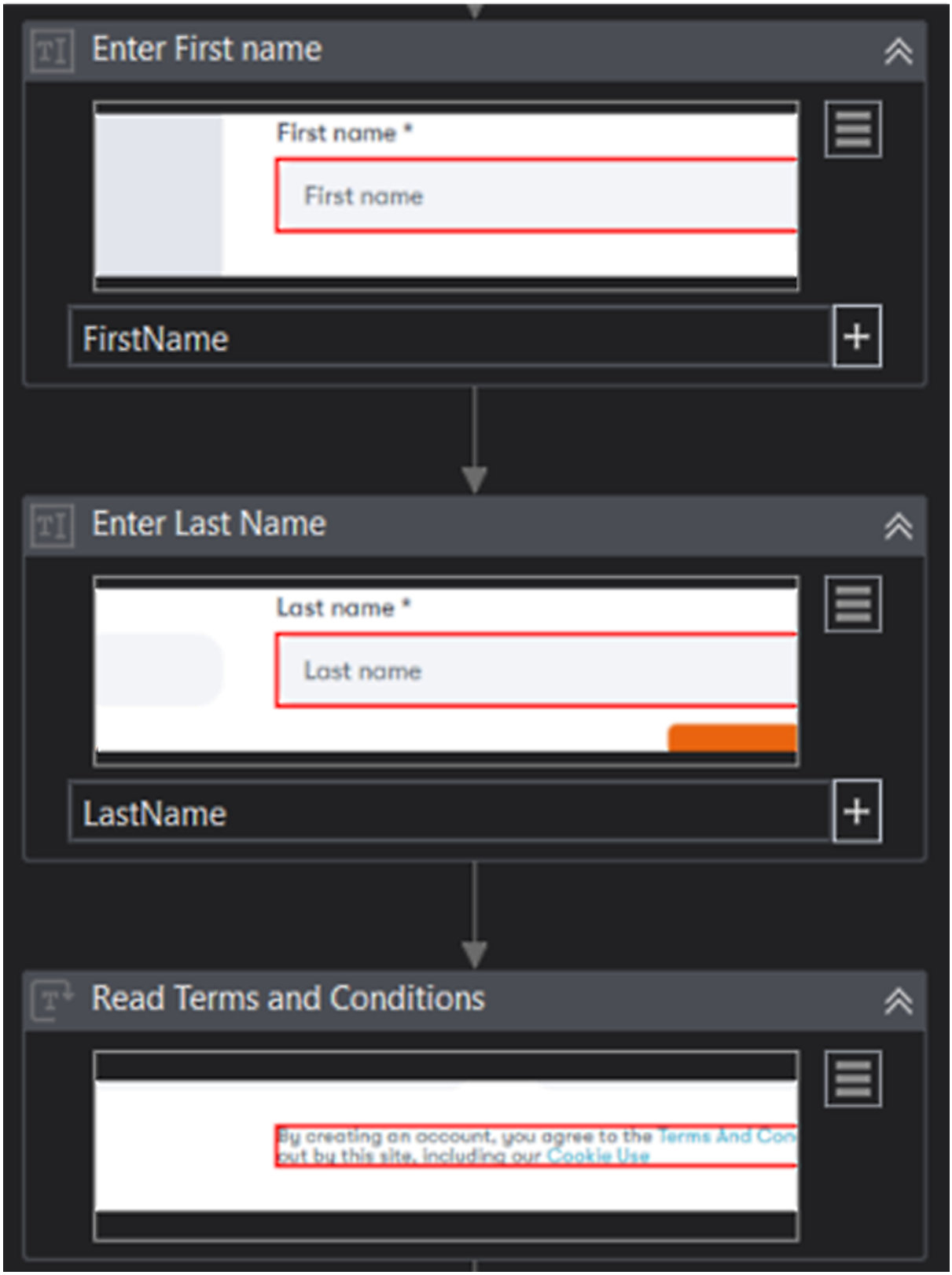
Renews at $12.99. Cancel anytime.
Packt
SYBEX
dummies
WILEY

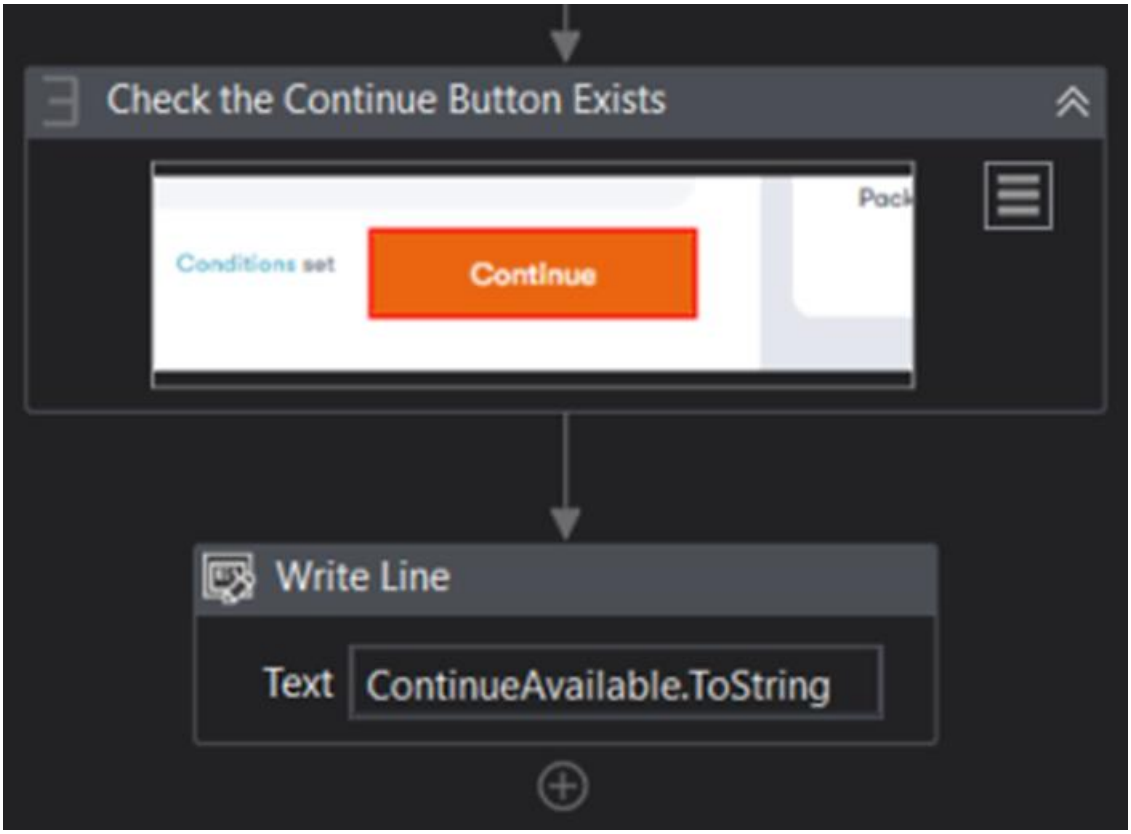

Get 7-day access for FREE
Access to 7,500+ eBooks and Videos
Over 100 new eBooks and Videos a month
Nothing to pay today. Cancel any time
1 Account details
Already have an account? Sign in here
Email address *
Email address
Password *
Password
First name *
First name
Last name *
Last name
By creating an account, you agree to the Terms And Conditions set out by this site, including our Cookie Use
Continue
Order summary
Plan
Free Trial
Total due today
Packt Free trial
2 Billing details

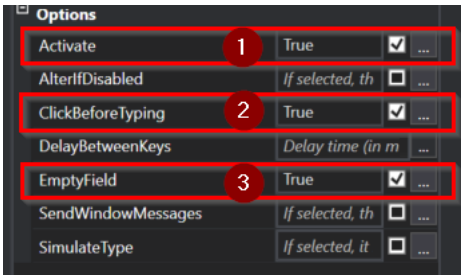



| Name | Variable type | Scope | Default |
|---|---|---|---|
| EmailAddress | String | Packtpub Trial Registration | "uipathadmin@gmail.com" |
| FirstName | String | Packtpub Trial Registration | "UiPath" |
| LastName | String | Packtpub Trial Registration | "Admin" |
| Password | String | Packtpub Trial Registration | *Enter a VB expression* |
| TermsAndConditions | String | Packtpub Trial Registration | *Enter a VB expression* |




Enter First name
First name *
First name
FirstName
Enter Last Name
Last name *
Last name
LastName
Read Terms and Conditions
By creating an account, you agree to the Terms And Con
out by this site, including our Cookie Use




## 1 Account details

Already have an account? Sign in here

Email address *

uipathadmin@gmail.com

Password *

Sho

First name *

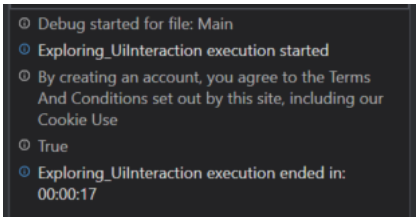
UiPath

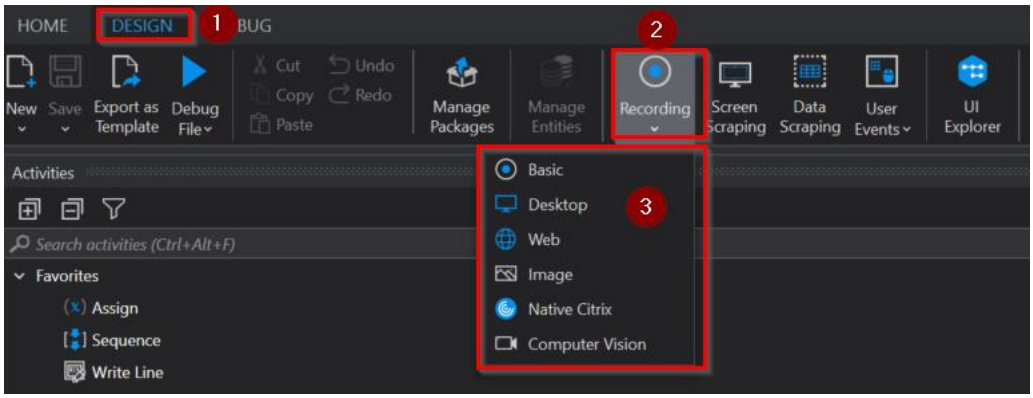
Last name *

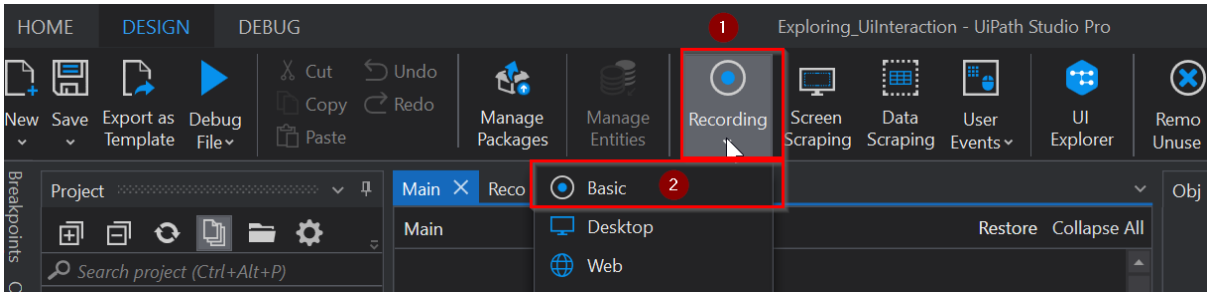
Admin

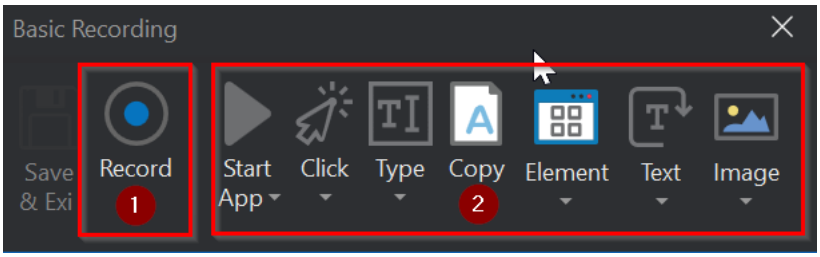
By creating an account, you agree to the Terms And Conditions set out by this site, including our Cookie Use

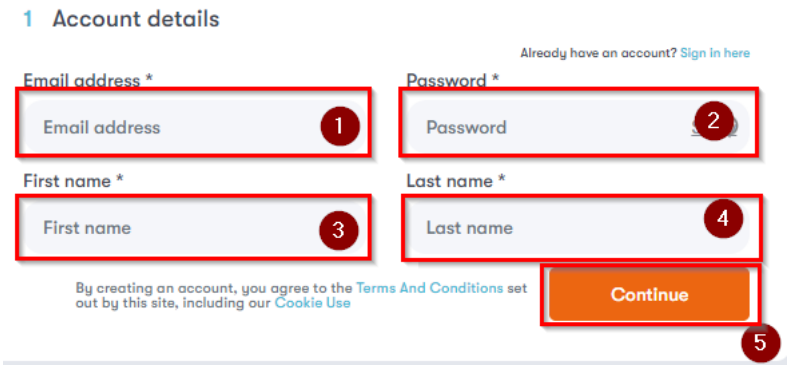
Continue

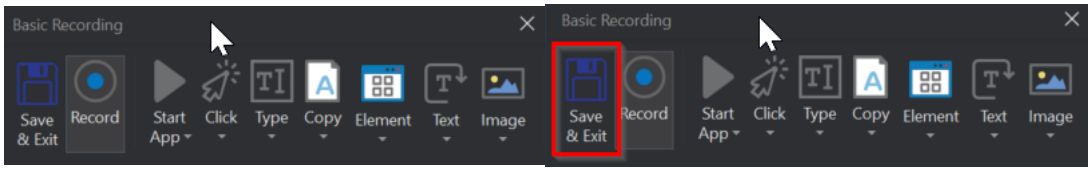

Debug started for file: Main
Exploring_UiInteraction execution started
By creating an account, you agree to the Terms And Conditions set out by this site, including our Cookie Use
True
Exploring_UiInteraction execution ended in: 00:00:17

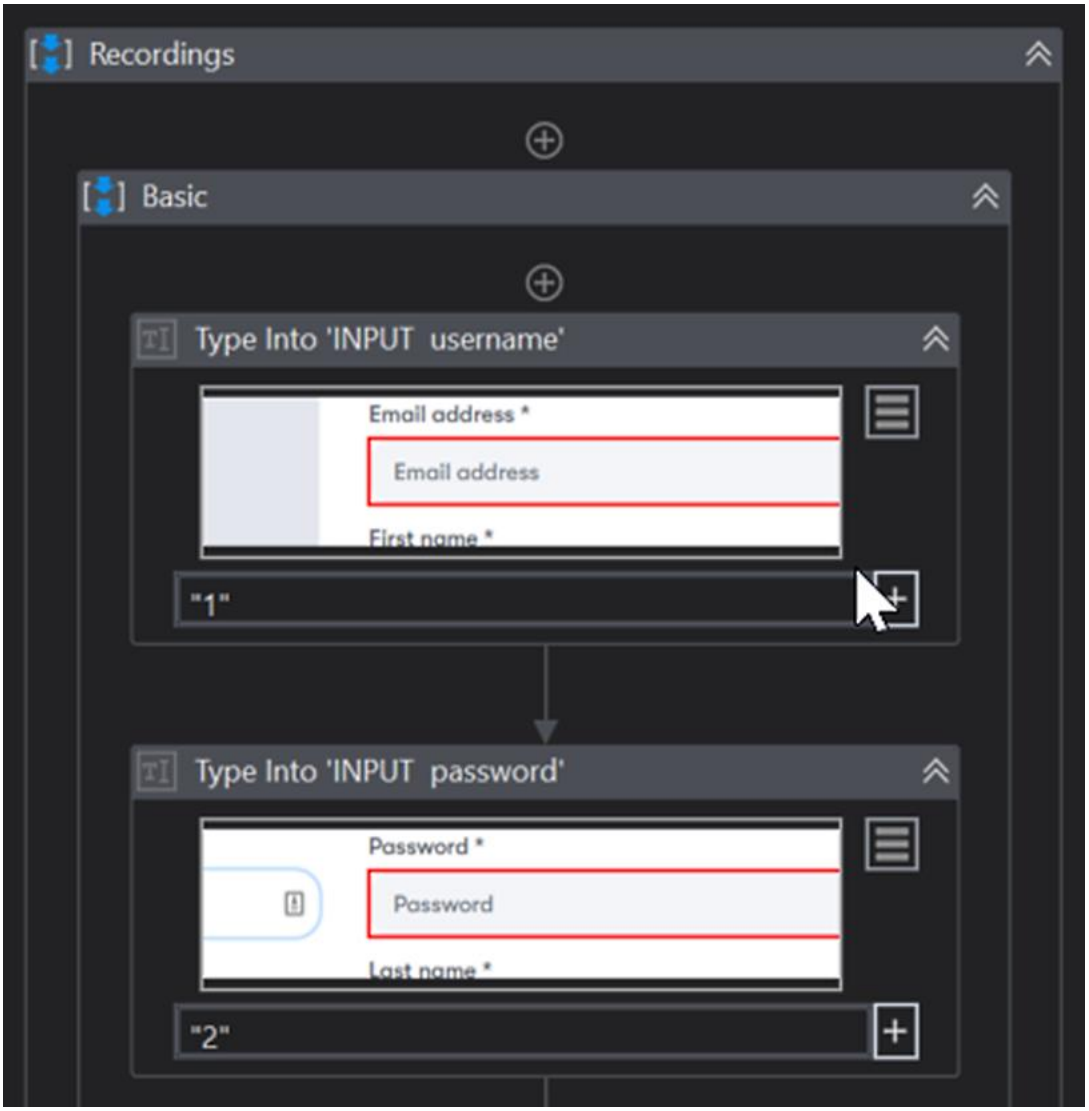

HOME
DESIGN
1
BUG
2
New
Save
Export as Template
Debug File
Cut
Copy
Paste
Undo
Redo
Manage Packages
Manage Entities
Recording
Screen Scraping
Data Scraping
User Events
UI Explorer
Activities
Search activities (Ctrl+Alt+F)
Favorites
Assign
Sequence
Write Line
Basic
Desktop
3
Web
Image
Native Citrix
Computer Vision


HOME
DESIGN
DEBUG
1
Exploring_UiInteraction - UiPath Studio Pro
New
Save
Export as Template
Debug File
Cut
Copy
Paste
Undo
Redo
Manage Packages
Manage Entities
Recording
Screen Scraping
Data Scraping
User Events
UI Explorer
Remo
Unuse
Project
Search project (Ctrl+Alt+P)
Main
Reco
Basic
2
Desktop
Web
Restore
Collapse All
Obj
Breakpoints

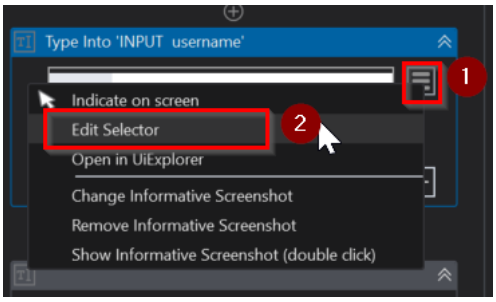

Basic Recording
Save & Exi
Record
1
Start App
Click
Type
Copy
2
Element
Text
Image

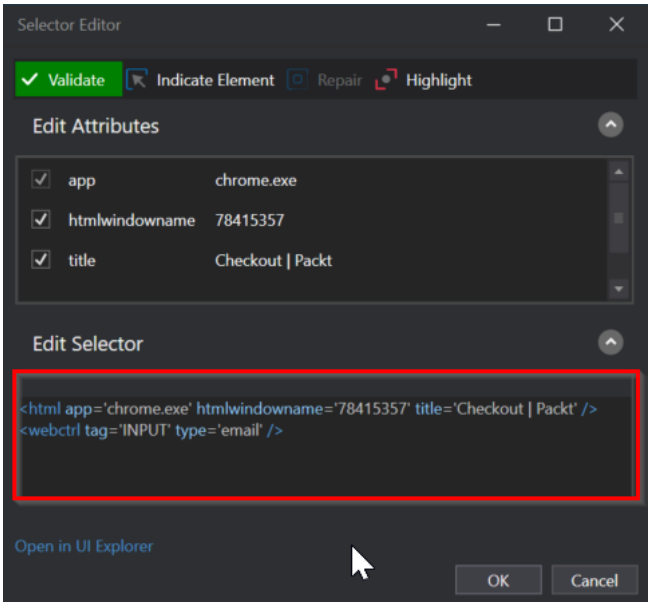

1 Account details
Already have an account? Sign in here
Email address *
Email address
1
Password *
Password
2
First name *
First name
3
Last name *
Last name
4
By creating an account, you agree to the Terms And Conditions set out by this site, including our Cookie Use
Continue
5

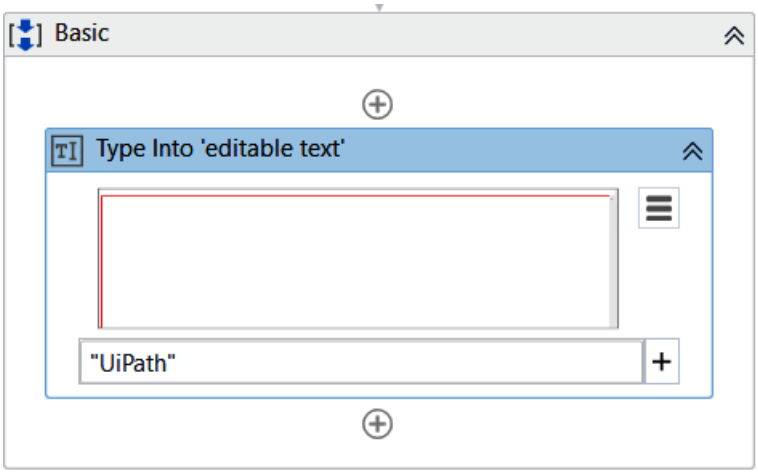

Basic Recording
Save & Exit
Record
Start App
Click
Type
Copy
Element
Text
Image
Basic Recording
Save & Exit
Record
Start App
Click
Type
Copy
Element
Text
Image

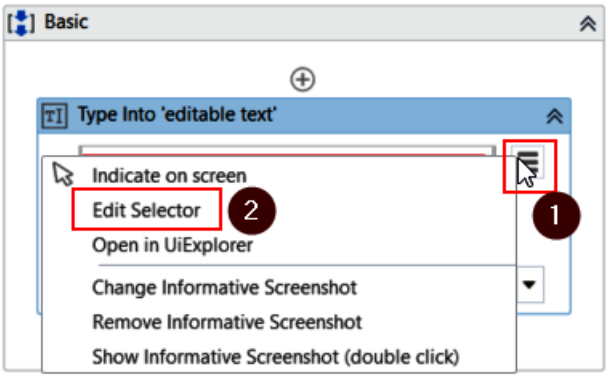

Recordings
Basic
Type Into 'INPUT username'
Email address *
Email address
First name *
"1"
Type Into 'INPUT password'
Password *
Password
Last name *
"2"

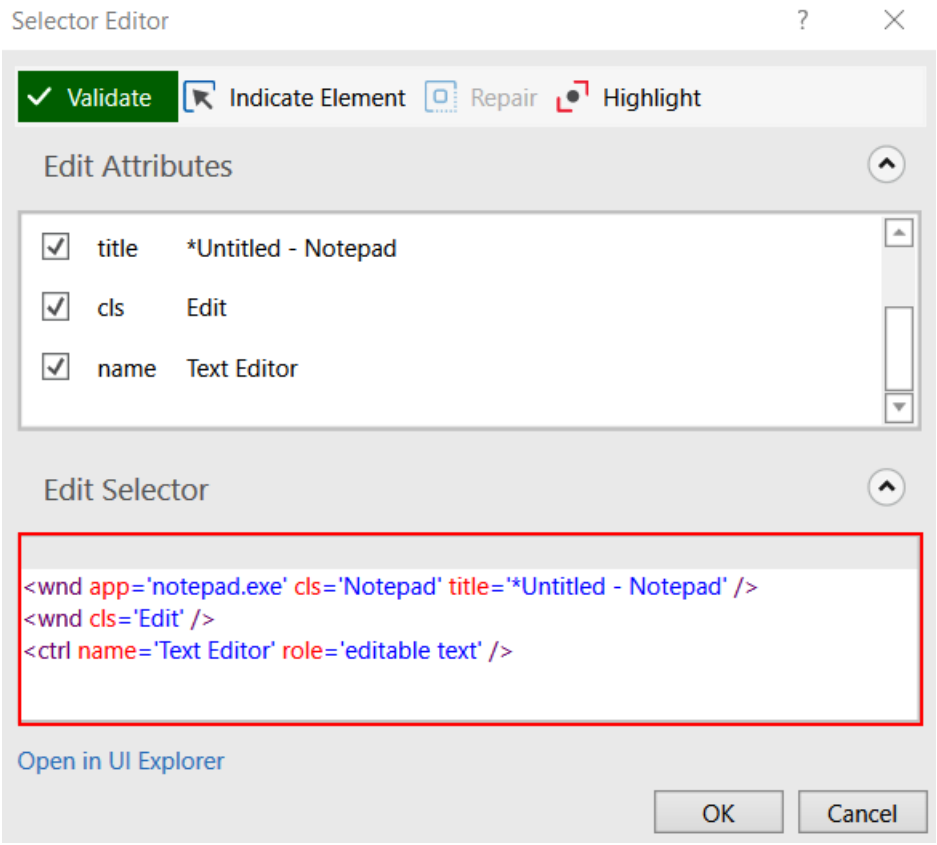
Type Into 'INPUT firstName'
First name *
First name
"3"
Type Into 'INPUT lastName'
Last name *
Last name
"4"
Click 'BUTTON'
Conditions set
Continue

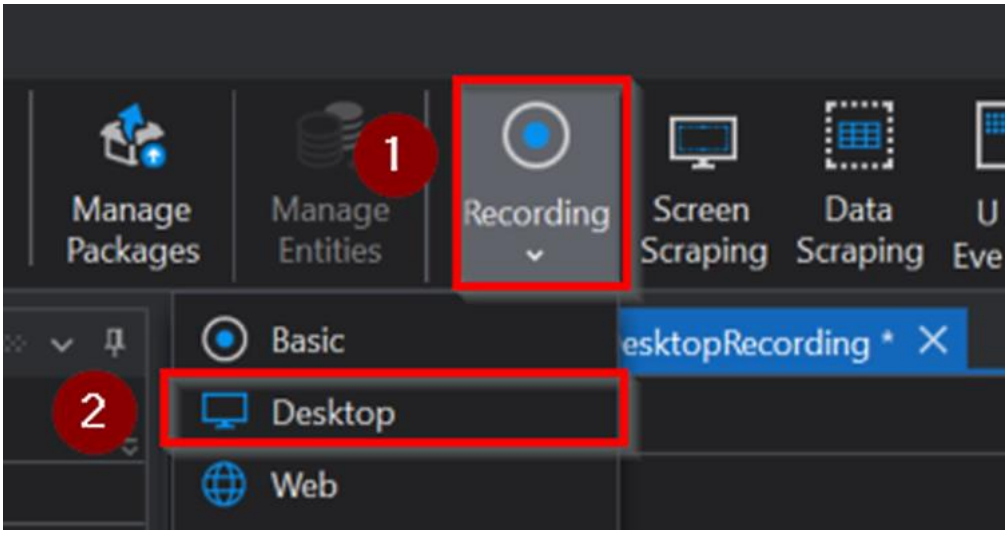

Type Into 'INPUT username'
1
Indicate on screen
Edit Selector
2
Open in UiExplorer
Change Informative Screenshot
Remove Informative Screenshot
Show Informative Screenshot (double click)

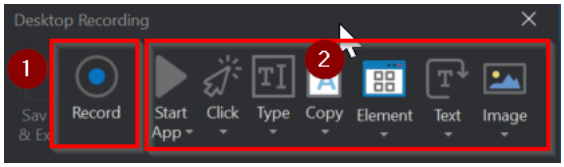

Selector Editor
Validate
Indicate Element
Repair
Highlight
Edit Attributes
app
chrome.exe
htmlwindowname
78415357
title
Checkout | Packt
Edit Selector
<html app='chrome.exe' htmlwindowname='78415357' title='Checkout | Packt' />
<webctrl tag='INPUT' type='email' />
Open in UI Explorer
OK
Cancel

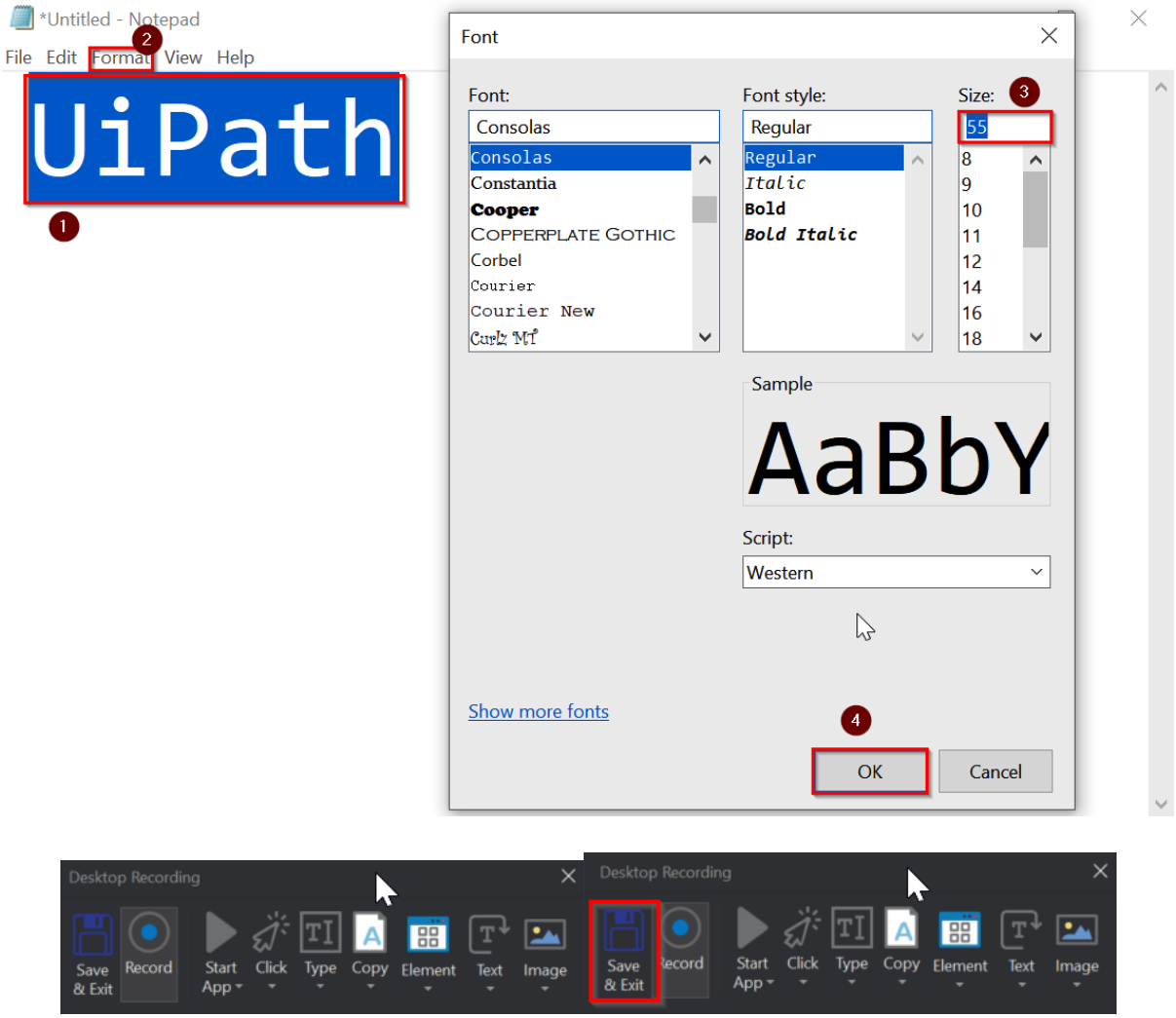

Basic
Type Into 'editable text'
"UiPath"


Basic
Type Into 'editable text'
Indicate on screen
Edit Selector
2
Open in UiExplorer
Change Informative Screenshot
Remove Informative Screenshot
Show Informative Screenshot (double click)
1

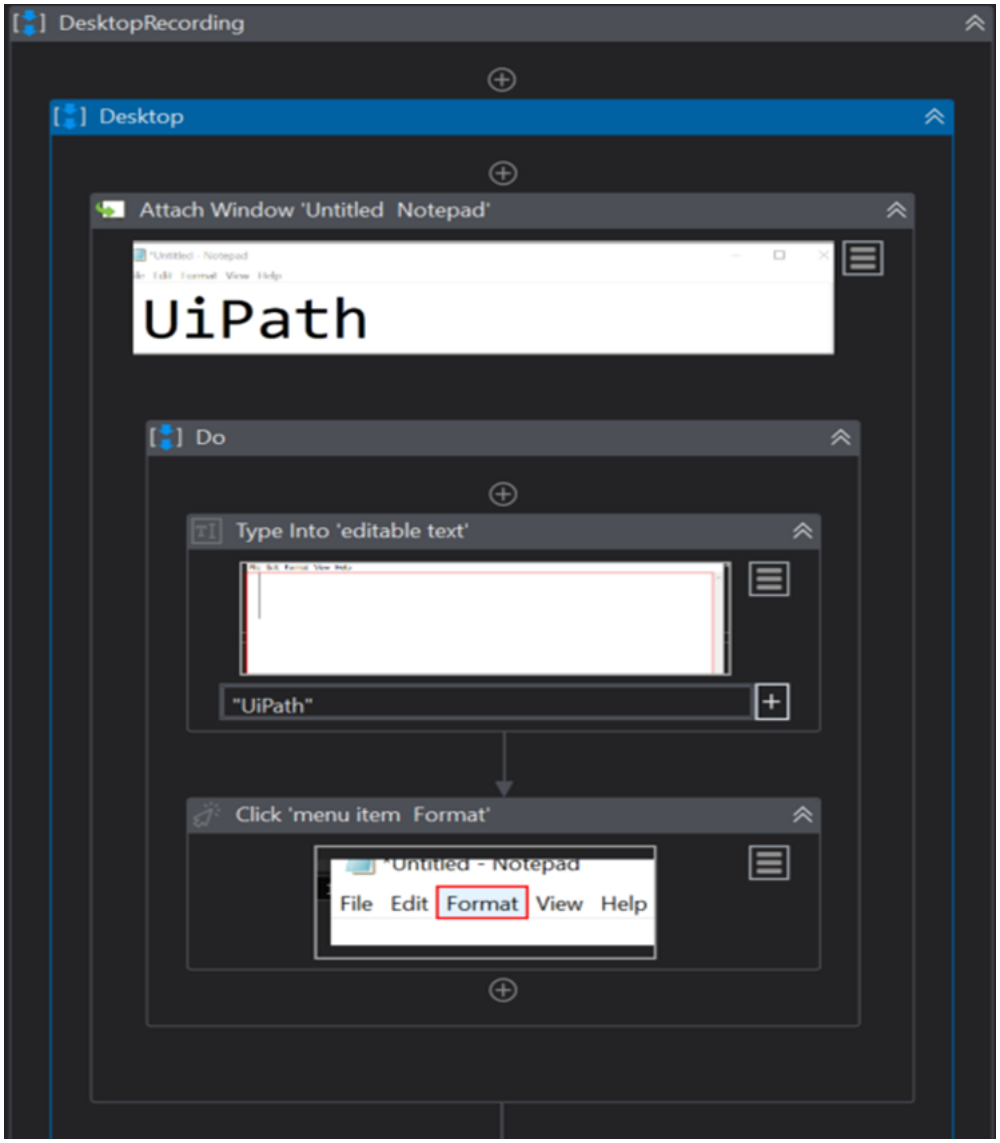

Selector Editor
Validate
Indicate Element
Repair
Highlight
Edit Attributes
title *Untitled - Notepad
cls Edit
name Text Editor
Edit Selector
<wnd app='notepad.exe' cls='Notepad' title='*Untitled - Notepad' />
<wnd cls='Edit' />
<ctrl name='Text Editor' role='editable text' />
Open in UI Explorer
OK
Cancel

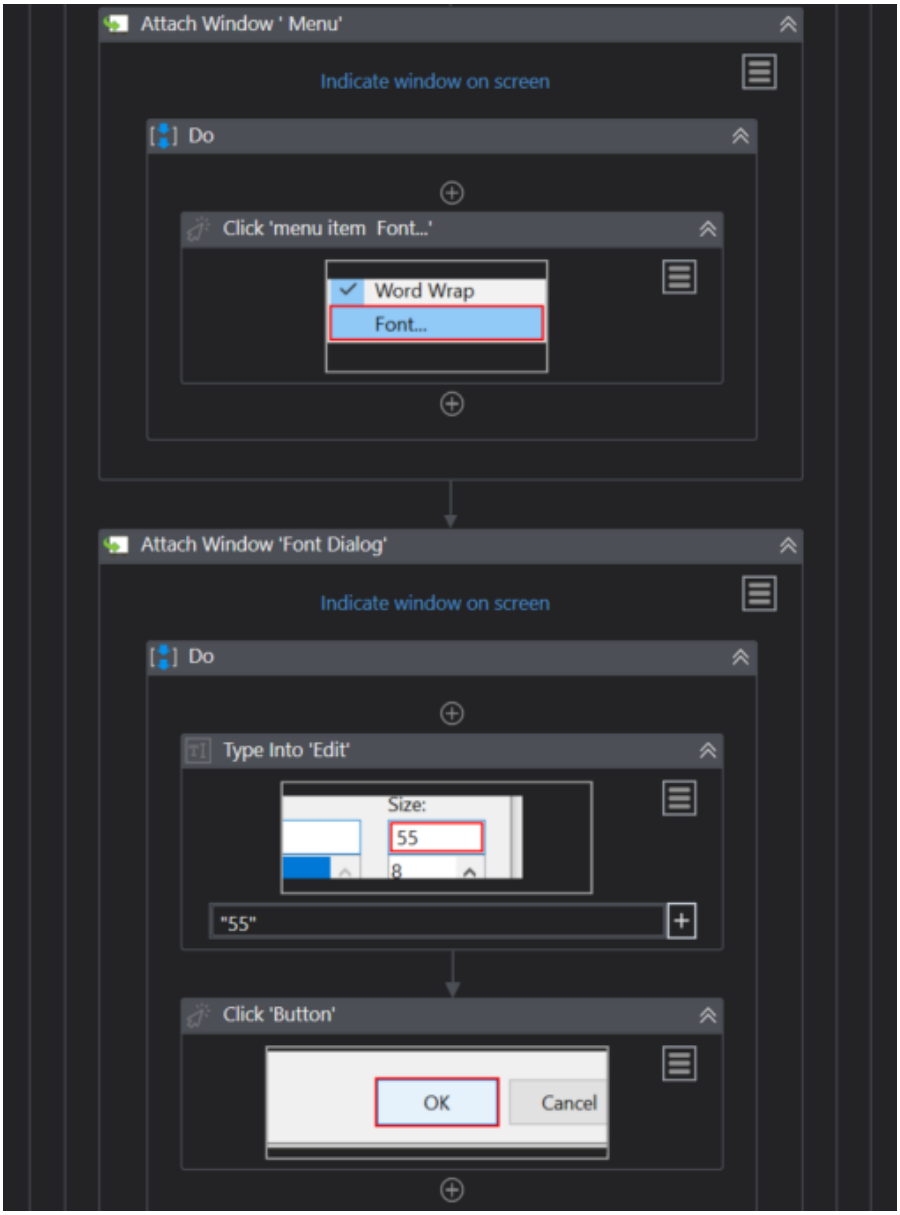

Manage Packages
Manage Entities
1
Recording
Screen Scraping
Data Scraping
Basic
Desktop
Web
2
esktopRecording *

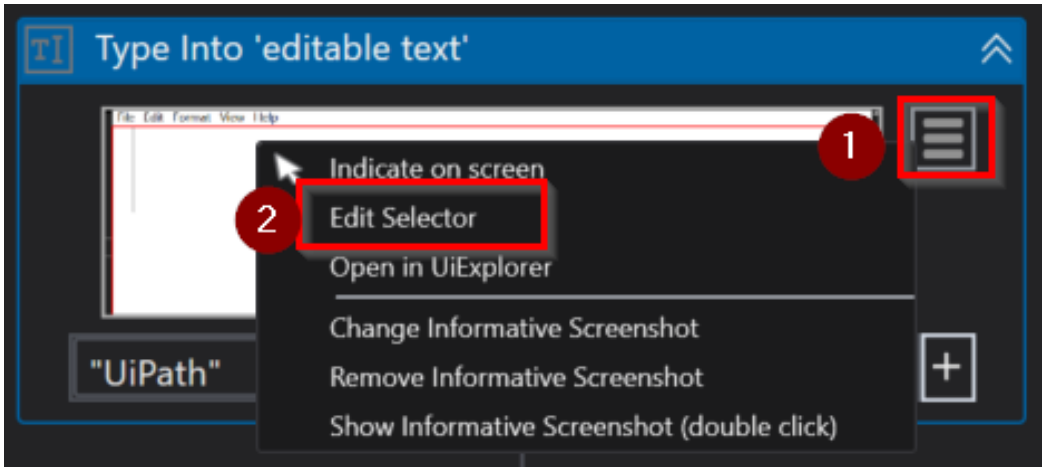

Desktop Recording
1
Record
2
Start App
Click
Type
Copy
Element
Text
Image

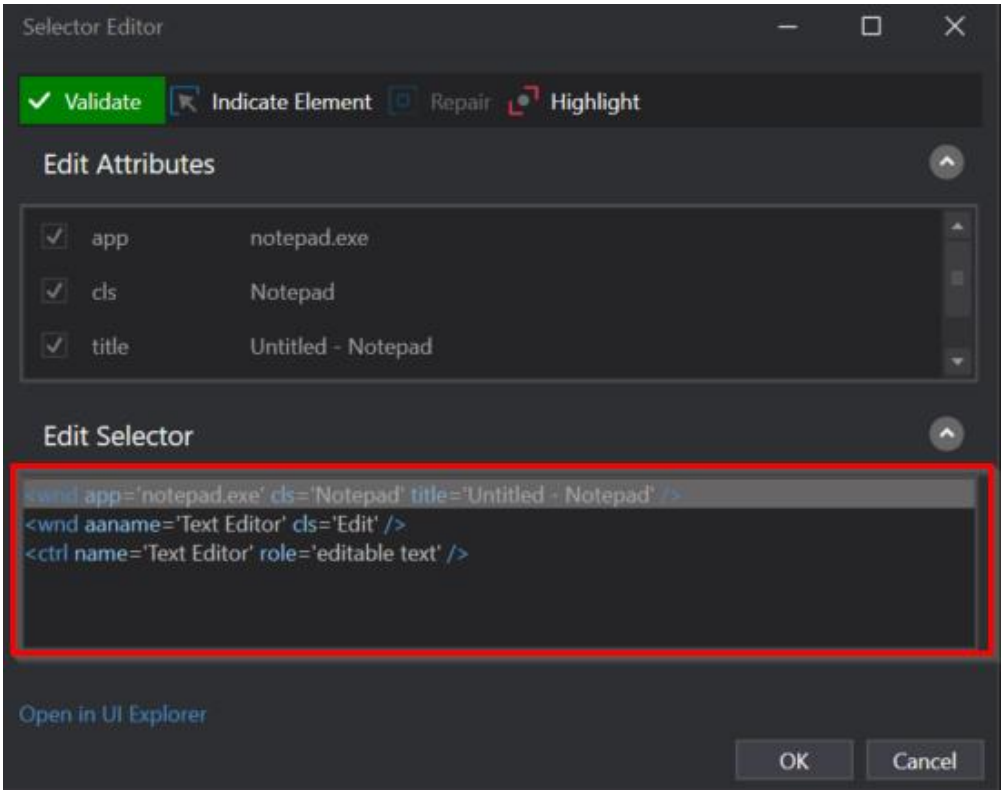

*Untitled - Notepad
File Edit Format View Help
UiPath
1
2
Font
Font:
Consolas
Consolas
Constantia
Cooper
COPPERPLATE GOTHIC
Corbel
Courier
Courier New
Font style:
Regular
Regular
Italic
Bold
Bold Italic
Size:
3
55
8
9
10
11
12
14
16
18
Sample
AaBbY
Script:
Western
Show more fonts
4
OK
Cancel

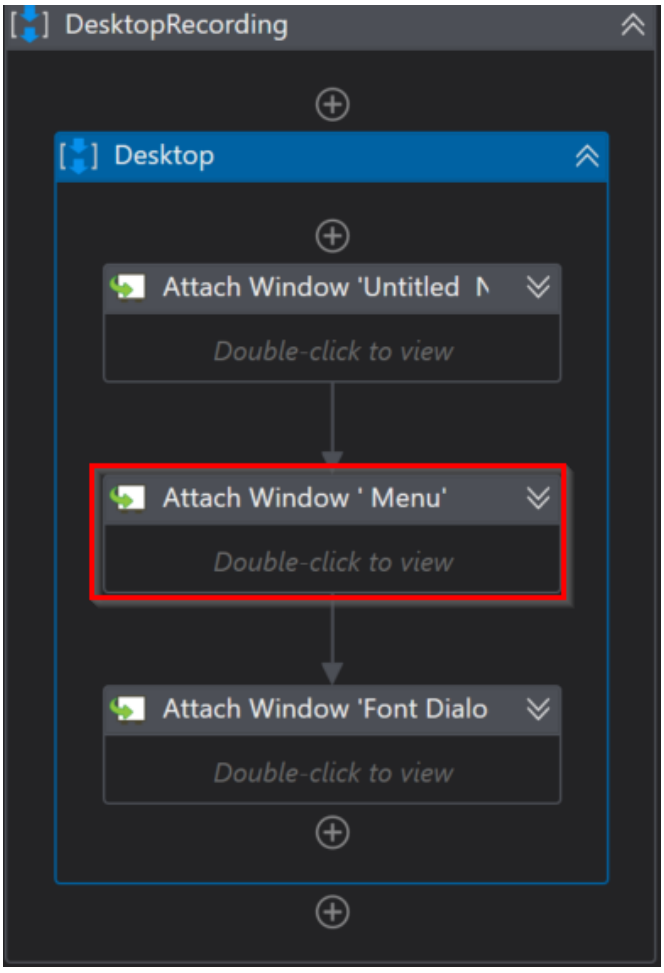

Desktop Recording
Save & Exit
Record
Start App
Click
Type
Copy
Element
Text
Image
Desktop Recording
Save & Exit
Start App
Click
Type
Copy
Element
Text
Image

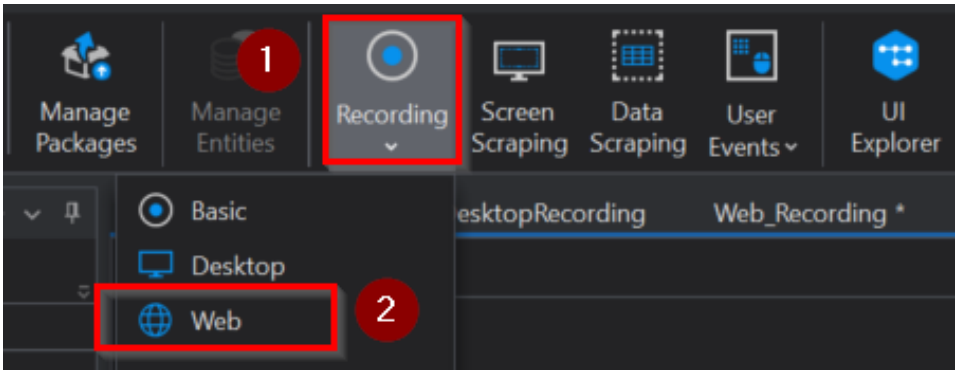

DesktopRecording
Desktop
Attach Window 'Untitled  Notepad'
UiPath
Do
Type Into 'editable text'
"UiPath"
Click 'menu item  Format'
File Edit Format View Help

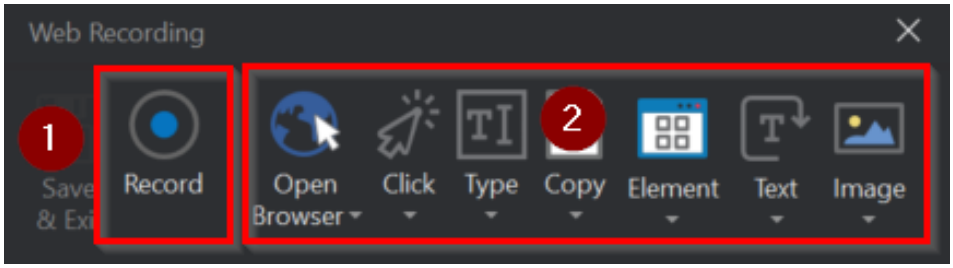

Attach Window ' Menu'
Indicate window on screen
Do
Click 'menu item Font...'
Word Wrap
Font...
Attach Window 'Font Dialog'
Indicate window on screen
Do
Type Into 'Edit'
Size:
55
8
"55"
Click 'Button'
OK
Cancel

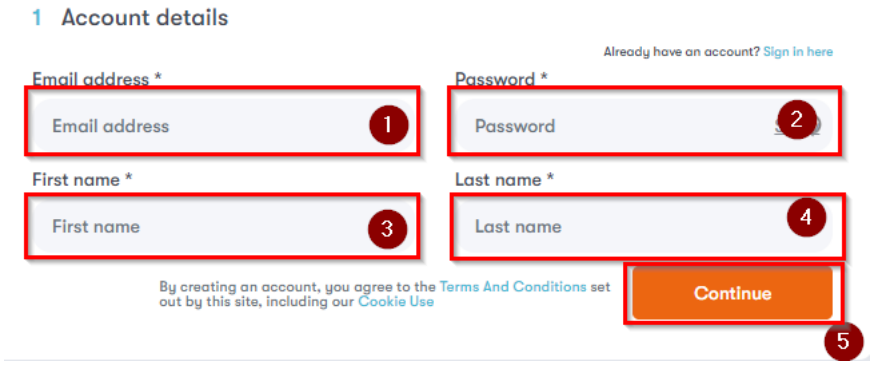

Type Into 'editable text'
1
2
Indicate on screen
Edit Selector
Open in UiExplorer
Change Informative Screenshot
Remove Informative Screenshot
Show Informative Screenshot (double click)
"UiPath"

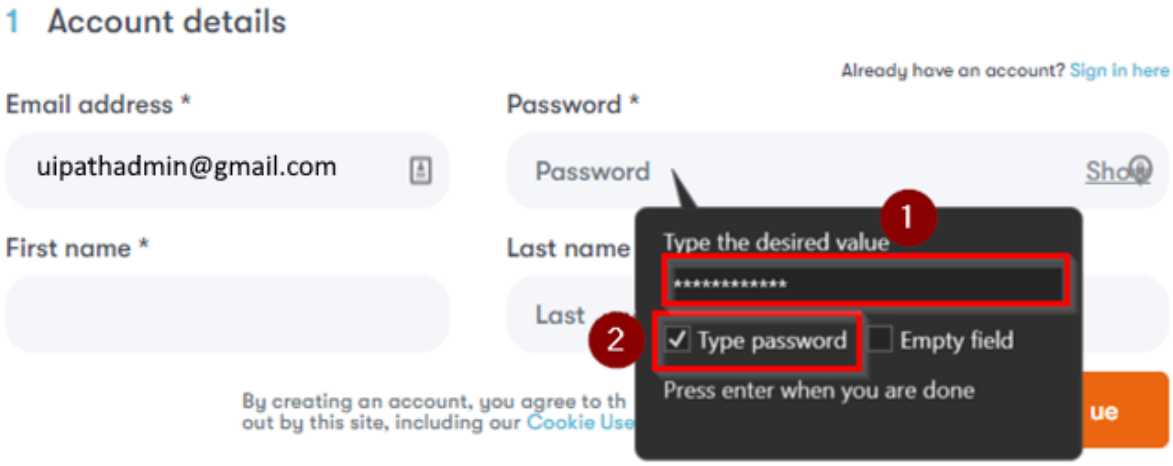

Selector Editor
Validate
Indicate Element
Repair
Highlight
Edit Attributes
app
notepad.exe
cls
Notepad
title
Untitled - Notepad
Edit Selector
<wnd app='notepad.exe' cls='Notepad' title='Untitled - Notepad' />
<wnd aaname='Text Editor' cls='Edit' />
<ctrl name='Text Editor' role='editable text' />
Open in UI Explorer
OK
Cancel

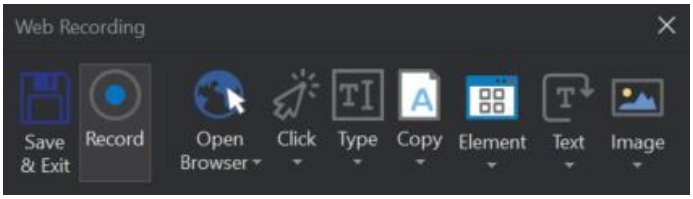

DesktopRecording
Desktop
Attach Window 'Untitled
Double-click to view
Attach Window ' Menu'
Double-click to view
Attach Window 'Font Dialo
Double-click to view

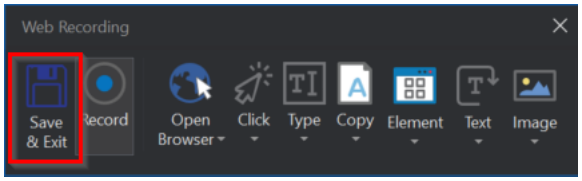

Manage Packages
Manage Entities
Recording
Screen Scraping
Data Scraping
User Events
UI Explorer
Basic
Desktop
Web
esktopRecording
Web_Recording *
1
2

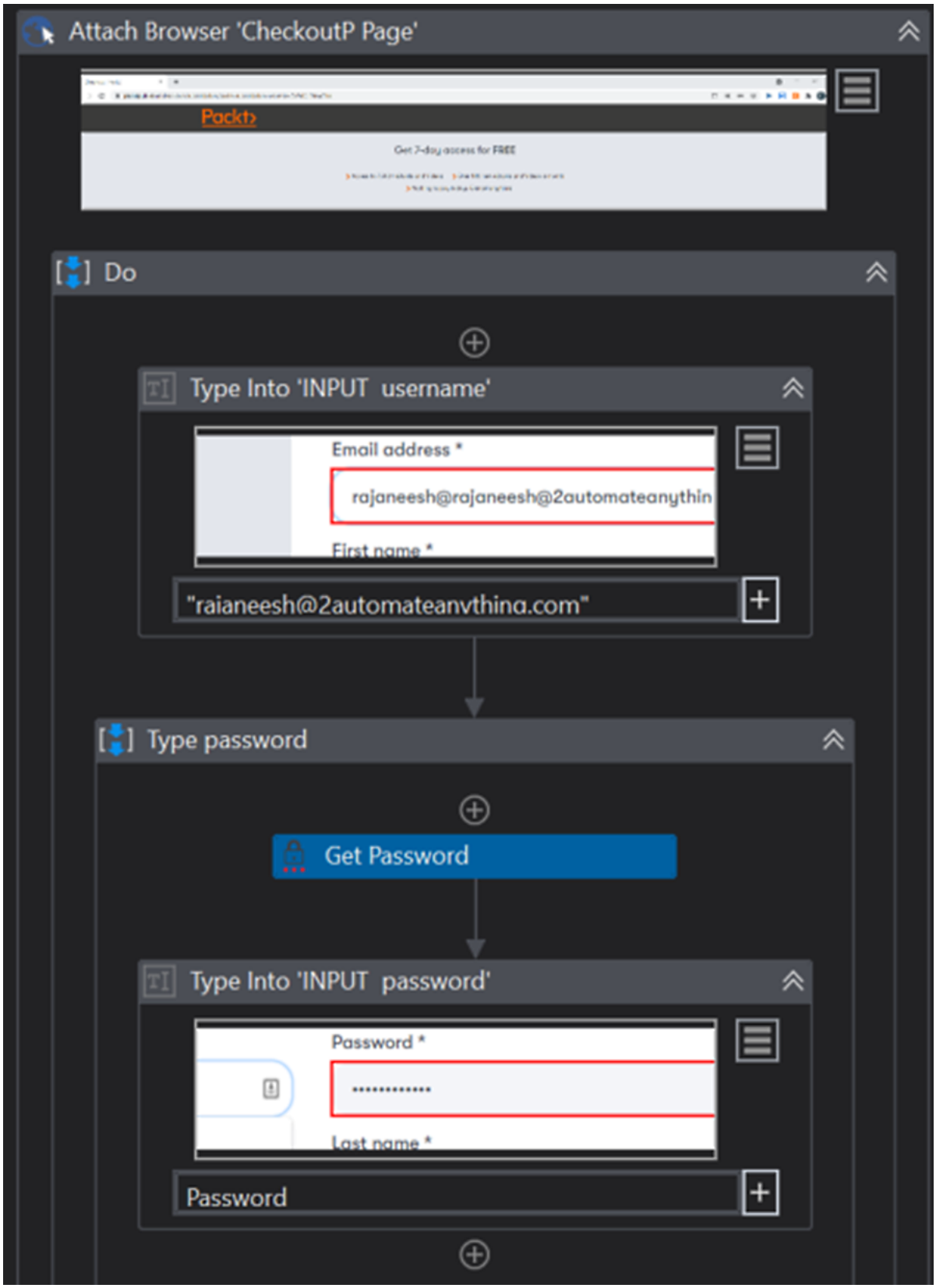

Web Recording
Save & Exit
Record
Open Browser
Click
Type
Copy
Element
Text
Image
1
2

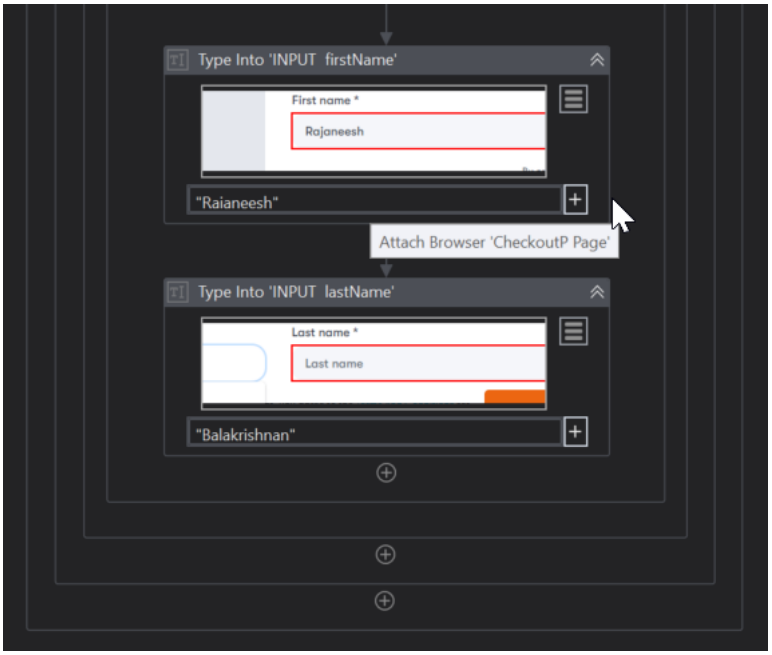

1 Account details
Already have an account? Sign in here
Email address *
Email address
Password *
Password
First name *
First name
Last name *
Last name
By creating an account, you agree to the Terms And Conditions set out by this site, including our Cookie Use
Continue
1
2
3
4
5

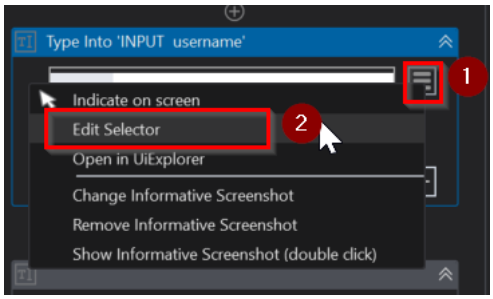

1 Account details
Already have an account? Sign in here
Email address *
uipathadmin@gmail.com
Password *
Password
Sho
First name *
Last name
Last
Type the desired value
1
Type password
Empty field
Press enter when you are done
2
By creating an account, you agree to th
out by this site, including our Cookie Use
ue

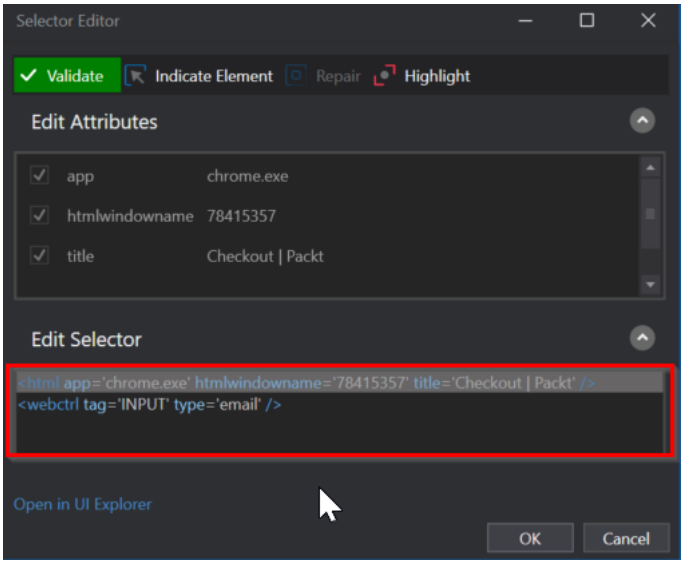

Web Recording
Save & Exit
Record
Open Browser
Click
Type
Copy
Element
Text
Image

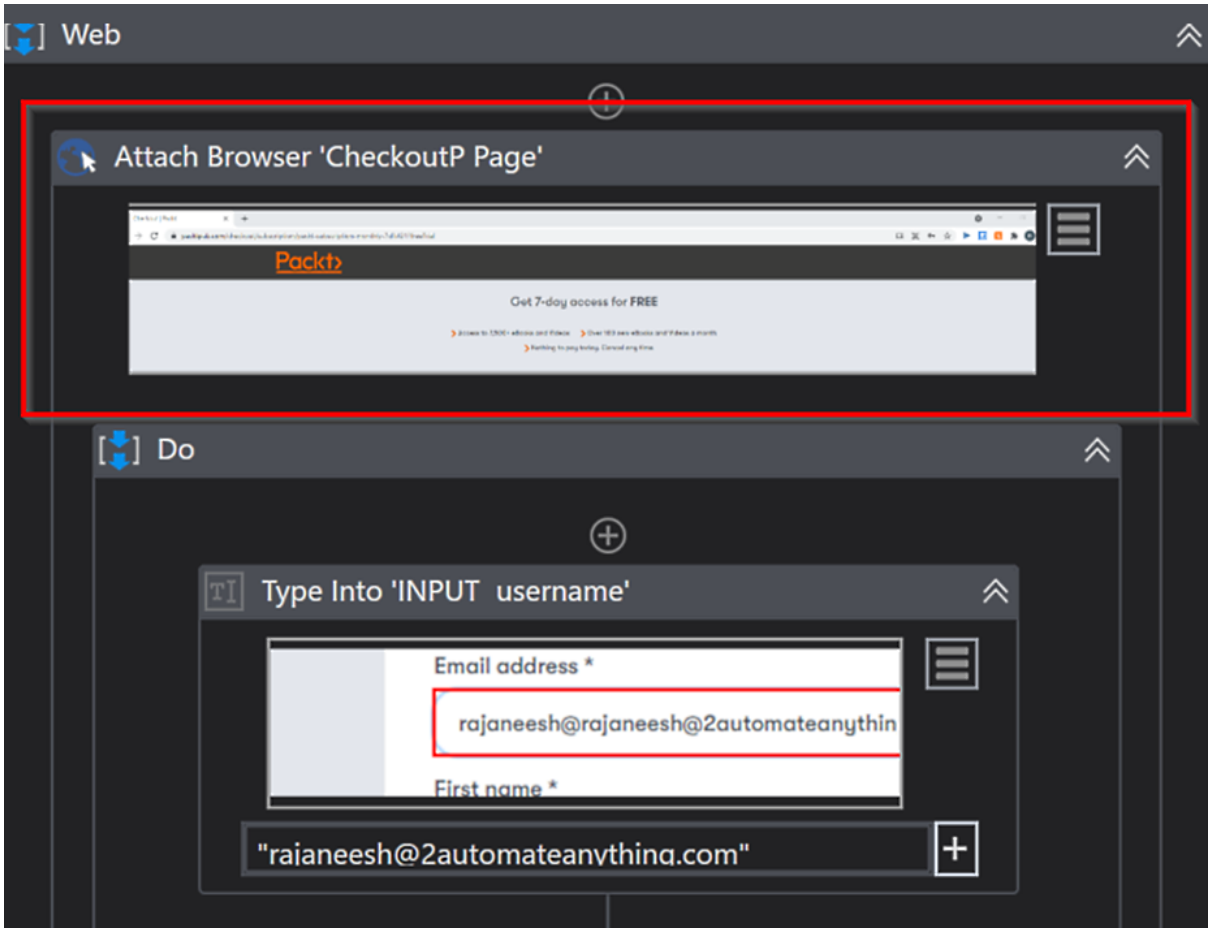

Web Recording
Save & Exit
Record
Open Browser
Click
Type
Copy
Element
Text
Image


Attach Browser 'CheckoutP Page'
Packt›
Get 7-day access for FREE
Do
Type Into 'INPUT username'
Email address *
rajaneesh@rajaneesh@2automateanythin
First name *
"raianeesh@2automateanvthina.com"
Type password
Get Password
Type Into 'INPUT password'
Password *
Last name *
Password

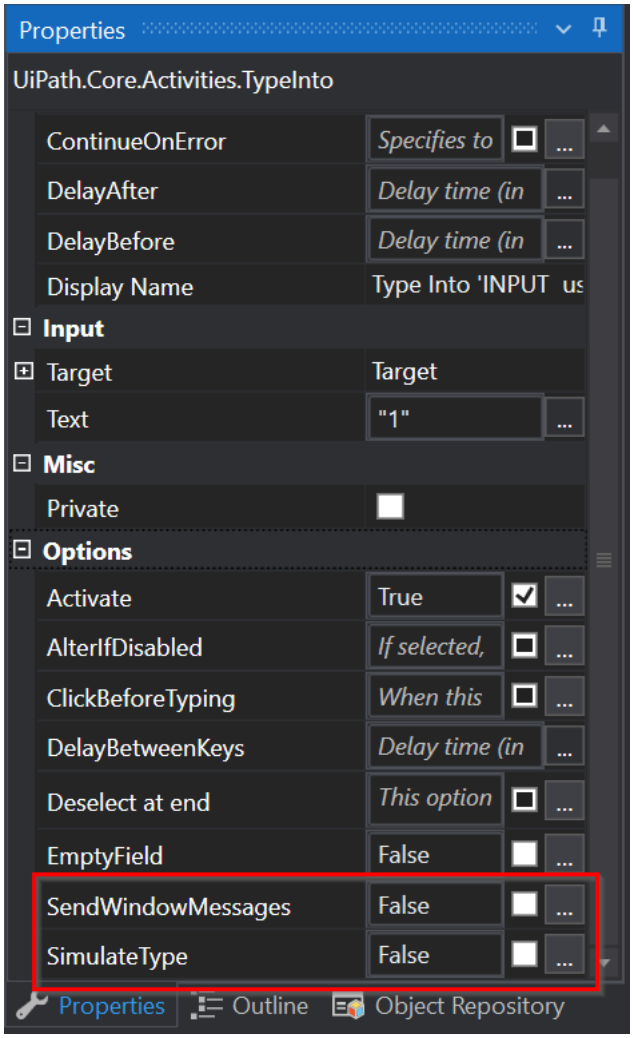

Type Into 'INPUT firstName'
First name *
Rajaneesh
"Raianeesh"
Attach Browser 'CheckoutP Page'
Type Into 'INPUT lastName'
Last name *
Last name
"Balakrishnan"

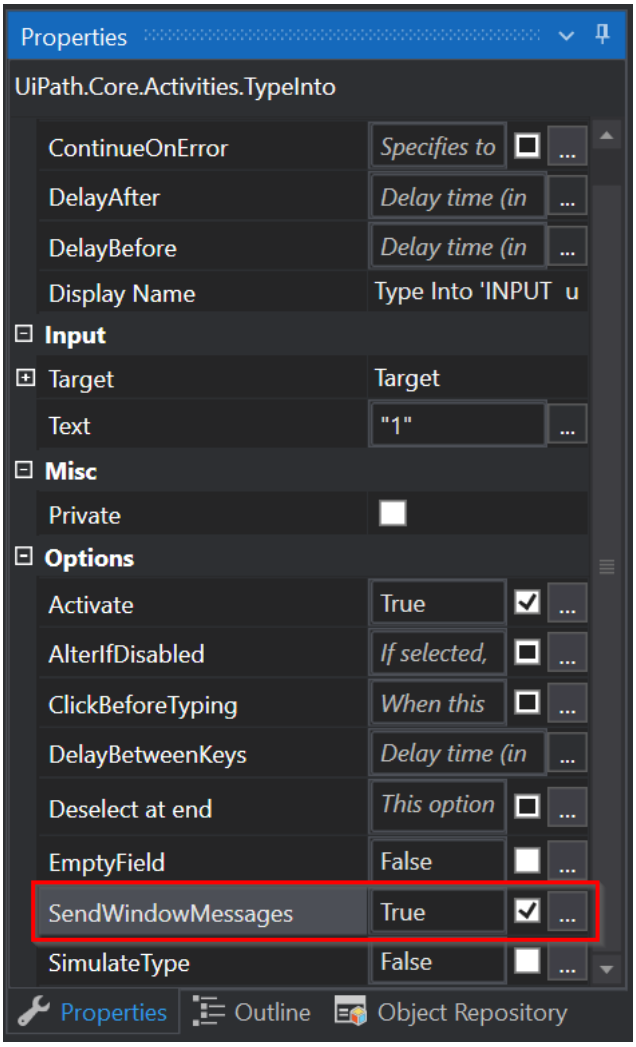

Type Into 'INPUT username'
1
Indicate on screen
Edit Selector
2
Open in UiExplorer
Change Informative Screenshot
Remove Informative Screenshot
Show Informative Screenshot (double click)

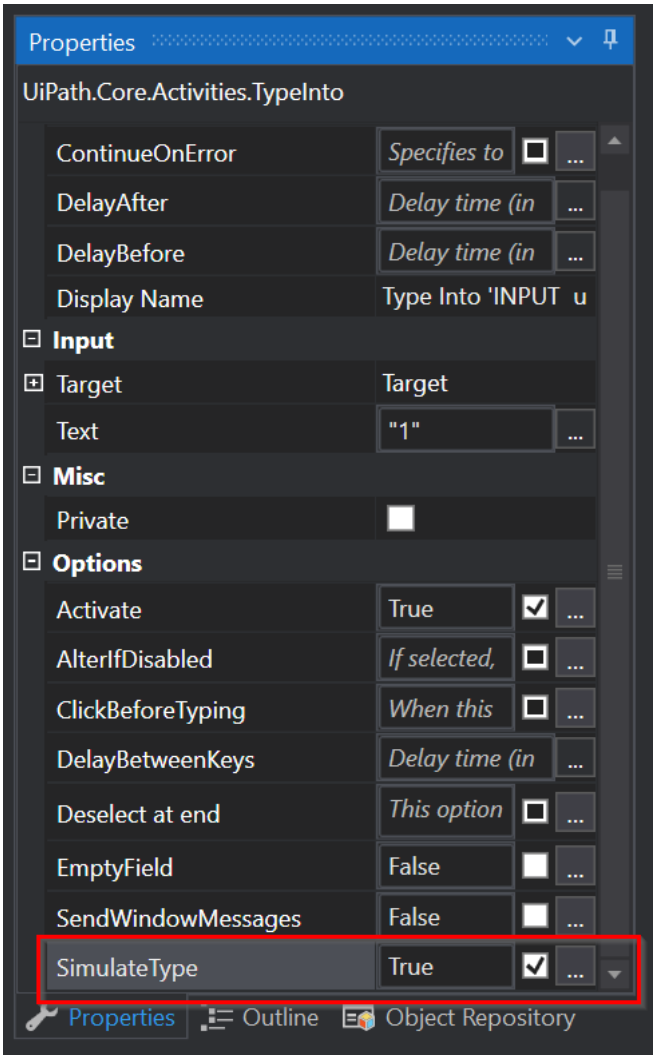

Selector Editor
Validate
Indicate Element
Repair
Highlight
Edit Attributes
app chrome.exe
htmlwindowname 78415357
title Checkout | Packt
Edit Selector
<html app='chrome.exe' htmlwindowname='78415357' title='Checkout | Packt' />
<webctrl tag='INPUT' type='email' />
Open in UI Explorer
OK
Cancel

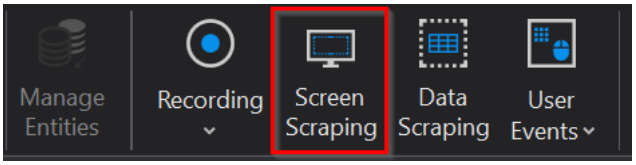

Web
Attach Browser 'CheckoutP Page'
Packt›
Get 7-day access for FREE
Do
Type Into 'INPUT username'
Email address *
rajaneesh@rajaneesh@2automateanythin
First name *
"rajaneesh@2automateanything.com"

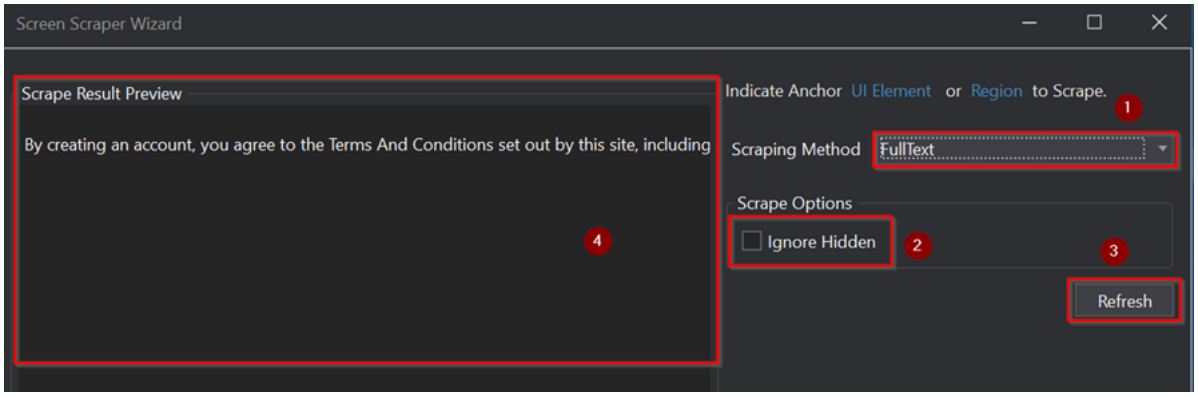
| Recording Type | Usage, Advantages, and Disadvantages |
|---|---|
| **Basic** | • Best suited for linear workflows where not many windows or web pages are involved.<br>• It is the slowest type of recording.<br>• Can automate desktop and web applications.<br>• **SimulateType** / **SimulateClick** is not enabled (**False**) by default. |
| **Desktop** | • Suitable for all types of desktop applications where multiple windows and web pages are involved.<br>• Generates partial selectors for each activity.<br>• It is faster than the **Basic** recording. |
| **Web** | • Best suited for recording web applications where multiple pages and actions are involved.<br>• Generates partial selectors for each activity (for example, Attach Browser).<br>• It is faster than the **Basic** recording.<br>• **SimulateType** / **SimulateClick** is enabled (**True**) by default. |
| **Image** | • Only use it if you want to record virtualized environments (such as Virtual Networking Computers, virtual machines, and Citrix) or SAP.<br>• It allows only image, text, and keyboard automation, and requires explicit positioning. |
| **Native Citrix** | • Only used in native Citrix automation projects.<br>• As a prerequisite, you need to install the UiPath Citrix extension on the client machine and the UiPath Remote Runtime component (Citrix XenApp) on the application servers.<br>• You can use activities such as **Click, Type Into, Get Text,** and **Extract Data**.<br>• Selectors are natively generated for Citrix application elements. |
| **Computer Vision** | • It uses computer vision neural networks to identify UI elements such as buttons, texts, and checkboxes.<br>• It does not use selectors.<br>• Used to record virtualized environments (such as VNC, virtual machines, Citrix, and remote desktops).<br>• Automating local applications where the other mentioned recording options are not reliable. |

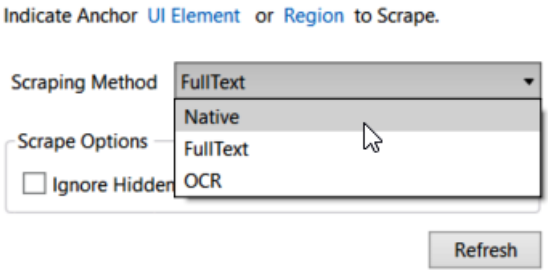

Properties
UiPath.Core.Activities.TypeInto
ContinueOnError
Specifies to
DelayAfter
Delay time (in
DelayBefore
Delay time (in
Display Name
Type Into 'INPUT us
Input
Target
Target
Text
"1"
Misc
Private
Options
Activate
True
AlterIfDisabled
If selected,
ClickBeforeTyping
When this
DelayBetweenKeys
Delay time (in
Deselect at end
This option
EmptyField
False
SendWindowMessages
False
SimulateType
False
Properties
Outline
Object Repository

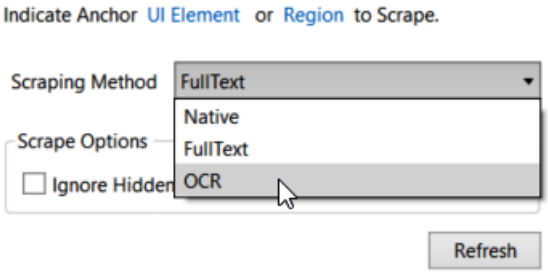

Properties
UiPath.Core.Activities.TypeInto
ContinueOnError
Specifies to
DelayAfter
Delay time (in
DelayBefore
Delay time (in
Display Name
Type Into 'INPUT u
Input
Target
Target
Text
"1"
Misc
Private
Options
Activate
True
AlterIfDisabled
If selected,
ClickBeforeTyping
When this
DelayBetweenKeys
Delay time (in
Deselect at end
This option
EmptyField
False
SendWindowMessages
True
SimulateType
False
Properties
Outline
Object Repository


Properties
UiPath.Core.Activities.TypeInto
ContinueOnError
Specifies to
DelayAfter
Delay time (in
DelayBefore
Delay time (in
Display Name
Type Into 'INPUT u
Input
Target
Target
Text
"1"
Misc
Private
Options
Activate
True
AlterIfDisabled
If selected,
ClickBeforeTyping
When this
DelayBetweenKeys
Delay time (in
Deselect at end
This option
EmptyField
False
SendWindowMessages
False
SimulateType
True
Properties
Outline
Object Repository

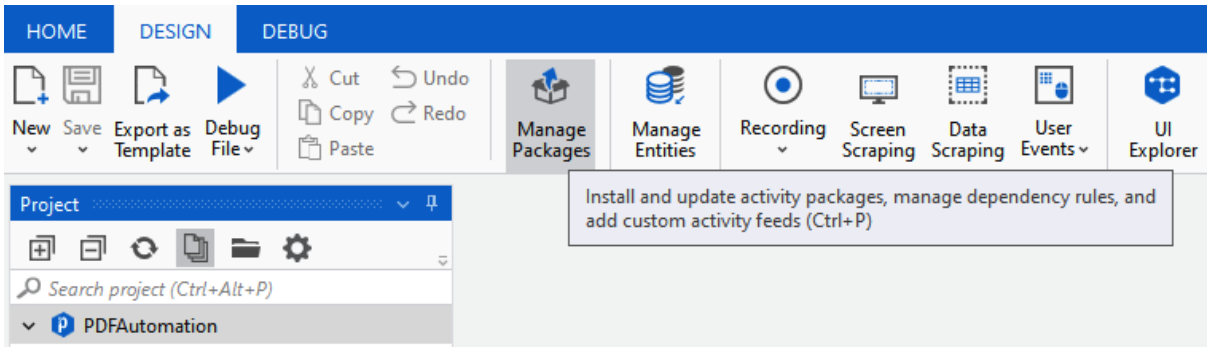

Manage Entities
Recording
Screen Scraping
Data Scraping
User Events

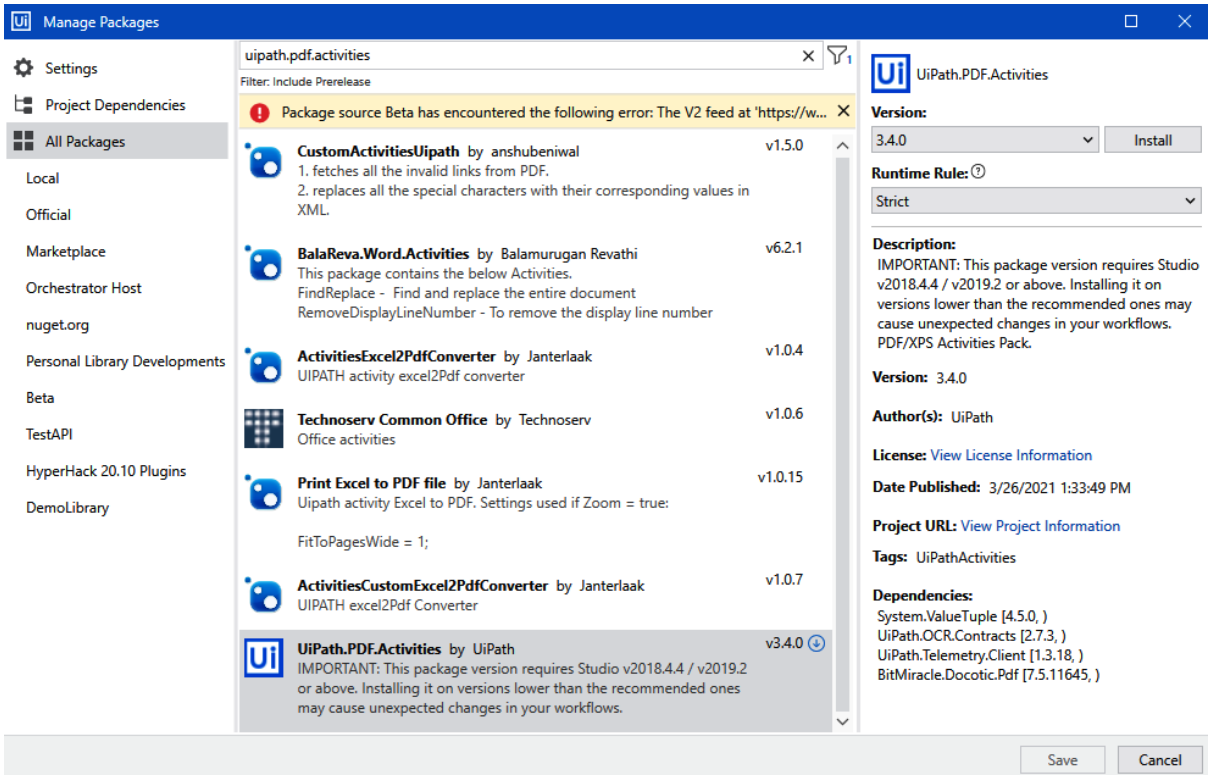

Screen Scraper Wizard
Scrape Result Preview
By creating an account, you agree to the Terms And Conditions set out by this site, including
4
Indicate Anchor UI Element or Region to Scrape.
1
Scraping Method
FullText
Scrape Options
Ignore Hidden
2
3
Refresh


Indicate Anchor UI Element or Region to Scrape.
Scraping Method
FullText
Native
FullText
OCR
Scrape Options
Ignore Hidden
Refresh


Indicate Anchor UI Element or Region to Scrape.
Scraping Method
FullText
Native
FullText
OCR
Scrape Options
Ignore Hidden
Refresh

# Chapter 11: Automating PDF Data Extraction

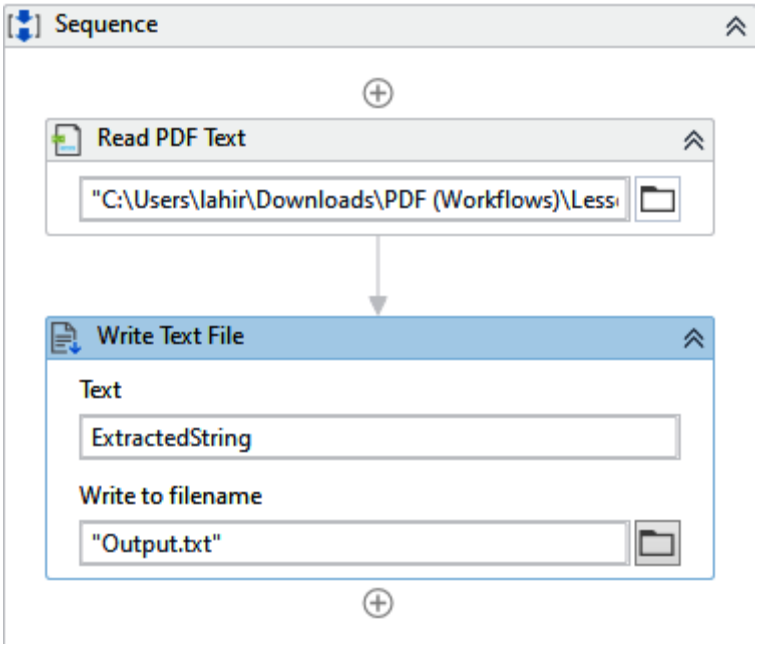


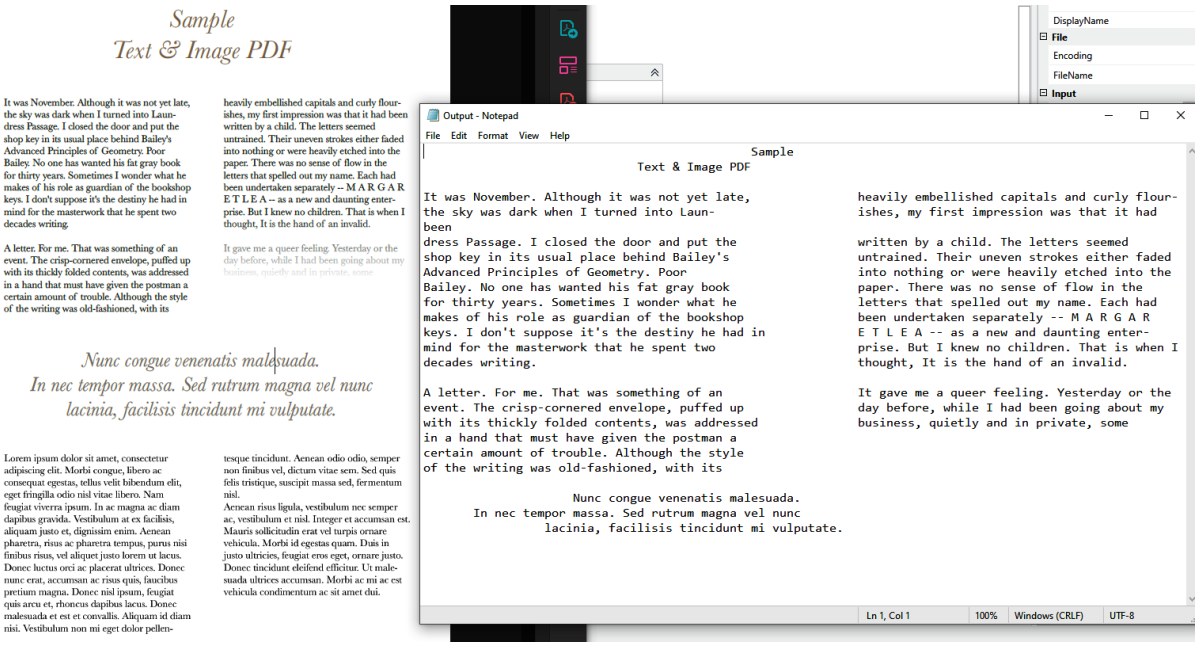




It was November. Although it was not yet late, the sky was dark when I turned into Laundress Passage. I closed the door and put the shop key in its usual place behind Bailey's Advanced Principles of Geometry. Poor Bailey. No one has wanted his fat gray book for thirty years. Sometimes I wonder what he makes of his role as guardian of the bookshop keys. I don't suppose it's the destiny he had in mind for the masterwork that he spent two decades writing.

A letter. For me. That was something of an event. The crisp-cornered envelope, puffed up with its thickly folded contents, was addressed in a hand that must have given the postman a certain amount of trouble. Although the style of the writing was old-fashioned, with its heavily embellished capitals and curly flourishes, my first impression was that it had been written by a child. The letters seemed untrained. Their uneven strokes either faded into nothing or were heavily etched into the paper. There was no sense of flow in the letters that spelled out my name. Each had been undertaken separately -- M A R G A R E T L E A -- as a new and daunting enterprise. But I knew no children. That is when I thought, It is the hand of an invalid.

It gave me a queer feeling. Yesterday or the day before, while I had been going about my business, quietly and in private, some


Sequence
Read PDF Text
"C:\Users\lahir\Downloads\PDF (Workflows)\Less
Write Text File
Text
ExtractedString
Write to filename
"Output.txt"


Sample
Text & Image PDF
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Nunc congue venenatis malesuada.
In nec tempor massa. Sed rutrum magna vel nunc lacinia, facilisis tincidunt mi vulputate.
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi congue, libero ac consequat egestas, tellus velit bibendum elit, eget fringilla odio nisl vitae libero. Nam feugiat viverra ipsum. In ac magna ac diam dapibus gravida. Vestibulum at ex facilisis, aliquam justo et, dignissim enim. Aenean pharetra, risus ac pharetra tempus, purus nisi finibus risus, vel aliquet justo lorem ut lacus. Donec luctus orci ac placerat ultrices. Donec nunc erat, accumsan ac risus quis, faucibus pretium magna. Donec nisl ipsum, feugiat quis arcu et, rhoncus dapibus lacus. Donec malesuada et est et convallis. Aliquam id diam nisi. Vestibulum non mi eget dolor pellen-
tesque tincidunt. Aenean odio odio, semper non finibus vel, dictum vitae sem. Sed quis felis tristique, suscipit massa sed, fermentum nisl.
Aenean risus ligula, vestibulum nec semper ac, vestibulum et nisl. Integer et accumsan est. Mauris sollicitudin erat vel turpis ornare vehicula. Morbi id egestas quam. Duis in justo ultricies, feugiat eros eget, ornare justo. Donec tincidunt eleifend efficitur. Ut male-suada ultrices accumsan. Morbi ac mi ac est vehicula condimentum ac sit amet dui.
DisplayName
File
Encoding
FileName
Input
Output - Notepad
File Edit Format View Help
Sample
Text & Image PDF
It was November. Although it was not yet late, the sky was dark when I turned into Laun-
been
dress Passage. I closed the door and put the shop key in its usual place behind Bailey's Advanced Principles of Geometry. Poor Bailey. No one has wanted his fat gray book for thirty years. Sometimes I wonder what he makes of his role as guardian of the bookshop keys. I don't suppose it's the destiny he had in mind for the masterwork that he spent two decades writing.
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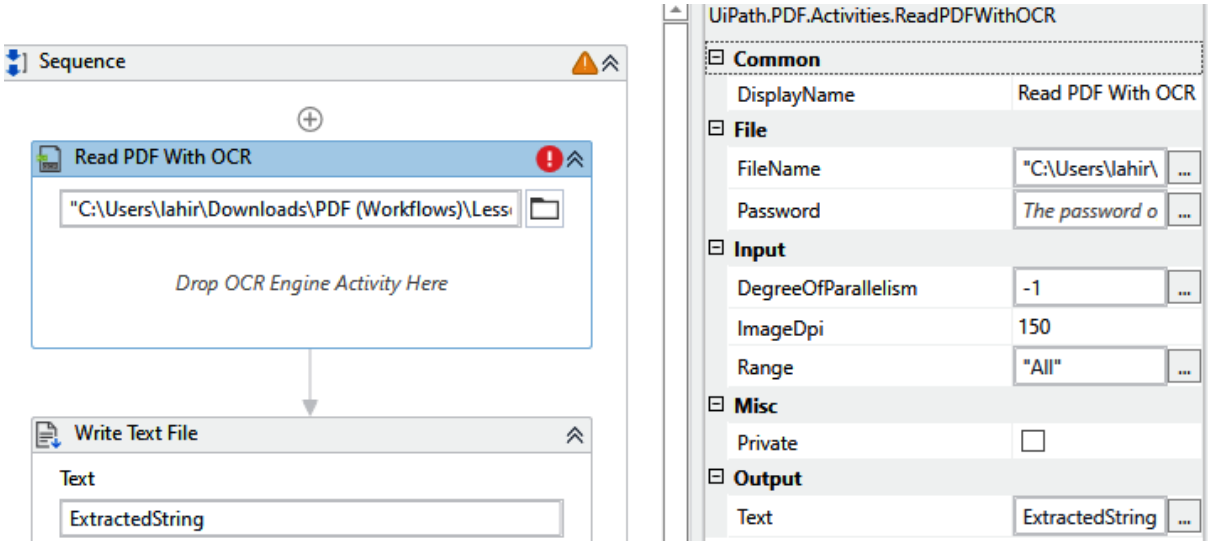
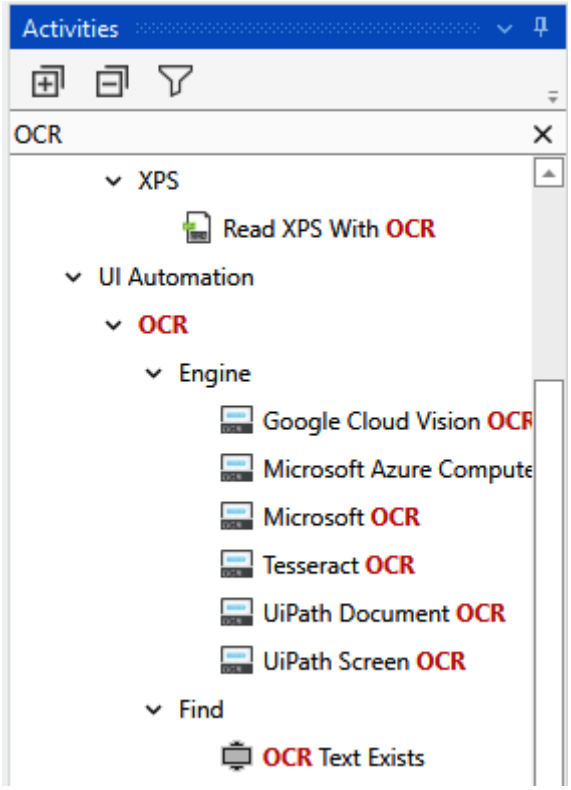
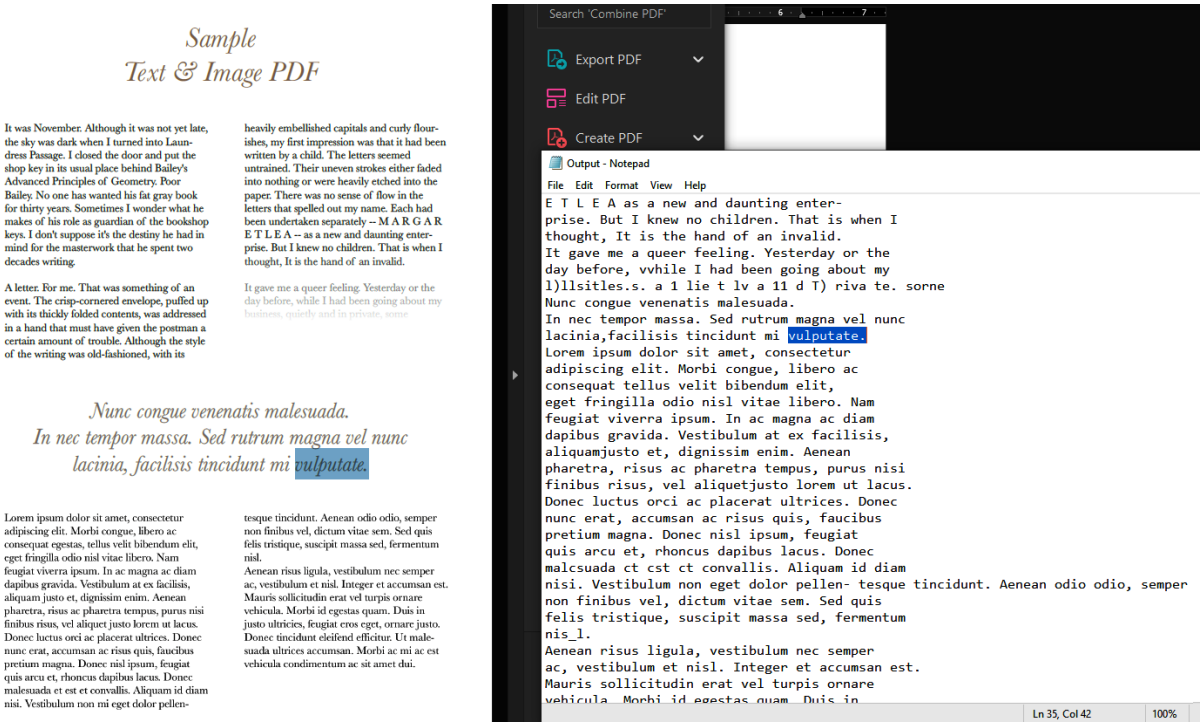
It gave me a queer feeling. Yesterday or the day before, while I had been going about my business, quietly and in private, some
Nunc congue venenatis malesuada.
In nec tempor massa. Sed rutrum magna vel nunc
lacinia, facilisis tincidunt mi vulputate.
Ln 1, Col 1
100%
Windows (CRLF)
UTF-8


Sequence
Read PDF With OCR
"C:\Users\lahir\Downloads\PDF (Workflows)\Less
Drop OCR Engine Activity Here
Write Text File
Text
ExtractedString
UiPath.PDF.Activities.ReadPDFWithOCR
Common
DisplayName
Read PDF With OCR
File
FileName
"C:\Users\lahir\
Password
The password o
Input
DegreeOfParallelism
-1
ImageDpi
150
Range
"All"
Misc
Private
Output
Text
ExtractedString


Activities
OCR
XPS
Read XPS With OCR
UI Automation
OCR
Engine
Google Cloud Vision OCR
Microsoft Azure Compute
Microsoft OCR
Tesseract OCR
UiPath Document OCR
UiPath Screen OCR
Find
OCR Text Exists


Sample
Text & Image PDF
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Nunc congue venenatis malesuada.
In nec tempor massa. Sed rutrum magna vel nunc lacinia, facilisis tincidunt mi vulputate.
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi congue, libero ac consequat egestas, tellus velit bibendum elit, eget fringilla odio nisl vitae libero. Nam feugiat viverra ipsum. In ac magna ac diam dapibus gravida. Vestibulum at ex facilisis, aliquam justo et, dignissim enim. Aenean pharetra, risus ac pharetra tempus, purus nisi finibus risus, vel aliquet justo lorem ut lacus. Donec luctus orci ac placerat ultrices. Donec nunc erat, accumsan ac risus quis, faucibus pretium magna. Donec nisl ipsum, feugiat quis arcu et, rhoncus dapibus lacus. Donec malesuada et est et convallis. Aliquam id diam nisi. Vestibulum non mi eget dolor pellen-
tesque tincidunt. Aenean odio odio, semper non finibus vel, dictum vitae sem. Sed quis felis tristique, suscipit massa sed, fermentum nisl.
Aenean risus ligula, vestibulum nec semper ac, vestibulum et nisl. Integer et accumsan est. Mauris sollicitudin erat vel turpis ornare vehicula. Morbi id egestas quam. Duis in justo ultricies, feugiat eros eget, ornare justo. Donec tincidunt eleifend efficitur. Ut male-suada ultrices accumsan. Morbi ac mi ac est vehicula condimentum ac sit amet dui.
Search 'Combine PDF'
Export PDF
Edit PDF
Create PDF
Output - Notepad
File Edit Format View Help
E T L E A as a new and daunting enter-
prise. But I knew no children. That is when I
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day before, vvhile I had been going about my
l)llsitles.s. a 1 lie t lv a 11 d T) riva te. sorne
Nunc congue venenatis malesuada.
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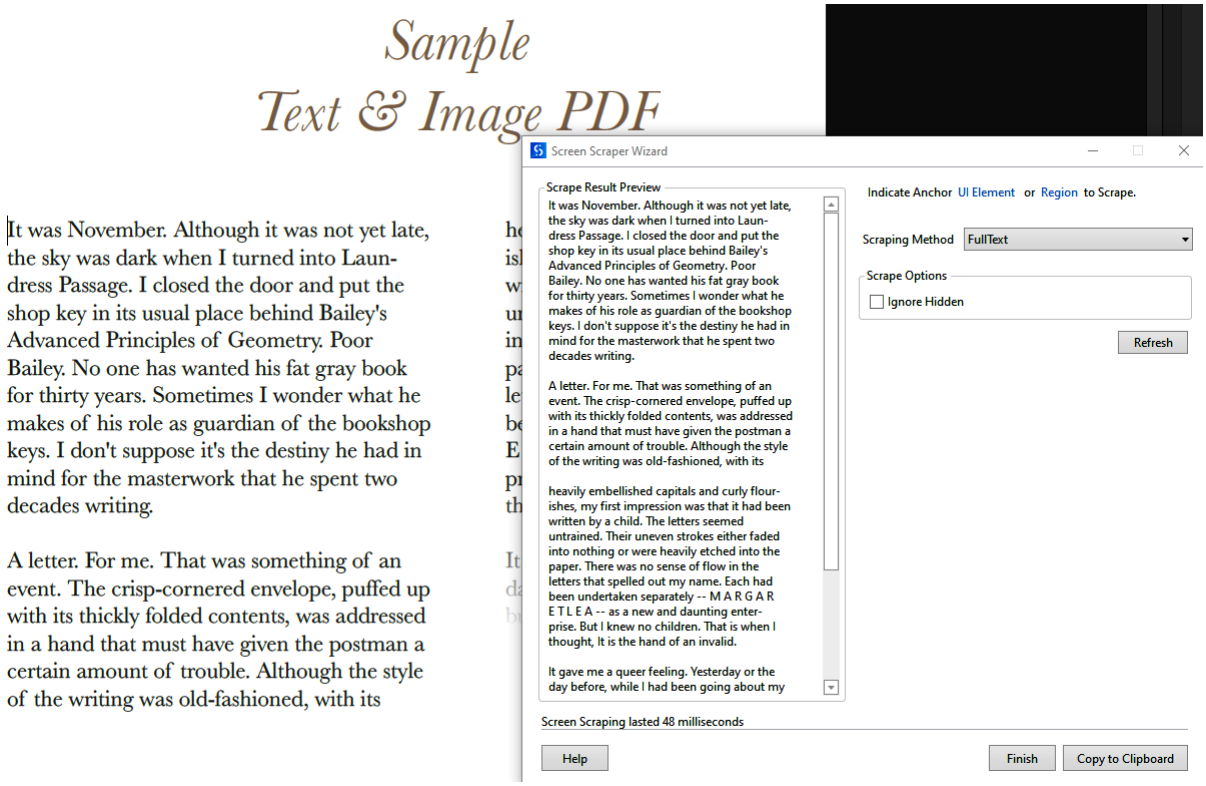
lacinia,facilisis tincidunt mi vulputate.
Lorem ipsum dolor sit amet, consectetur
adipiscing elit. Morbi congue, libero ac
consequat tellus velit bibendum elit,
eget fringilla odio nisl vitae libero. Nam
feugiat viverra ipsum. In ac magna ac diam
dapibus gravida. Vestibulum at ex facilisis,
aliquamjusto et, dignissim enim. Aenean
pharetra, risus ac pharetra tempus, purus nisi
finibus risus, vel aliquetjusto lorem ut lacus.
Donec luctus orci ac placerat ultrices. Donec
nunc erat, accumsan ac risus quis, faucibus
pretium magna. Donec nisl ipsum, feugiat
quis arcu et, rhoncus dapibus lacus. Donec
malcsuada ct cst ct convallis. Aliquam id diam
nisi. Vestibulum non eget dolor pellen- tesque tincidunt. Aenean odio odio, semper
non finibus vel, dictum vitae sem. Sed quis
felis tristique, suscipit massa sed, fermentum
nis_l.
Aenean risus ligula, vestibulum nec semper
ac, vestibulum et nisl. Integer et accumsan est.
Mauris sollicitudin erat vel turpis ornare
vehicula. Morbi id egestas quam. Duis in
Ln 35, Col 42
100%


Sample
Text & Image PDF
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Screen Scraper Wizard
Scrape Result Preview
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It gave me a queer feeling. Yesterday or the day before, while I had been going about my
Indicate Anchor UI Element or Region to Scrape.
Scraping Method FullText
Scrape Options
Ignore Hidden
Refresh
Screen Scraping lasted 48 milliseconds
Help
Finish
Copy to Clipboard

Screen Scraping

Attach Window 'TextandIm Acrobatsd'

Do

Get Full Text 'graphic It'

PAID

ThisWebHost LTD
337 Bath Road
Slough
Berkshire
SL1 5P
United Kingdom

# Invoice #38645

Invoice Date: 21st Sep 2016

Due Date: 28th Sep 2016

**Invoiced To**

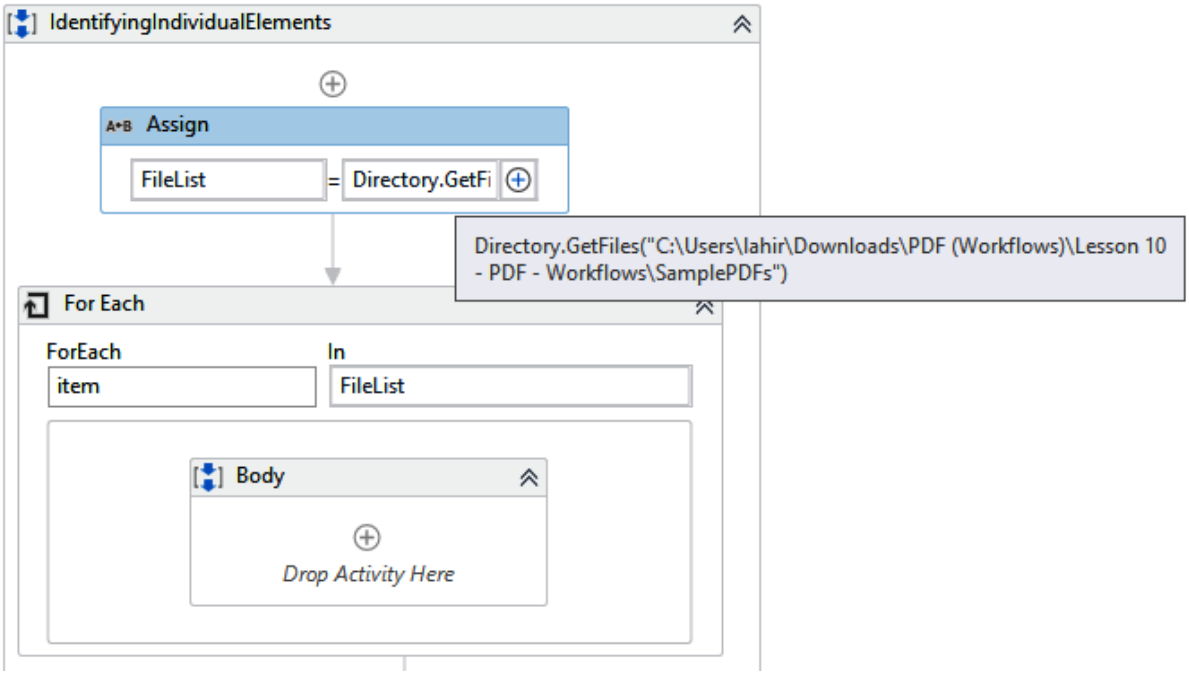
*Some Company LTD - Robotic Automations*
3216 Maple Court, California, MO 63101 USA

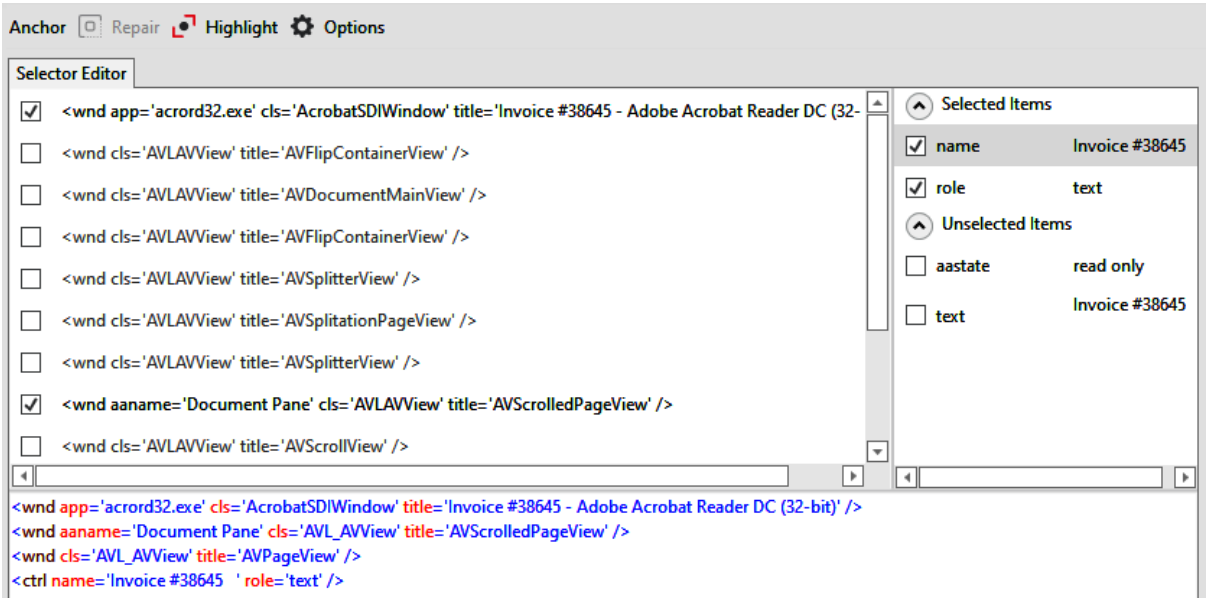
| Description | | Total |
|---|---|---|
| Starter Shared Hosting - (28/09/2016 - 27/10/2016) | | $30.00 USD |
| Hosting Location: United Kingdom (UK) | | |
| Late Fee (Added 02/10/2016) | | $10.00 USD |
| | **Sub Total** | **$40.00 USD** |
| | **Credit** | **$0.00 USD** |
| | **Grand Total** | **$40.00 USD** |

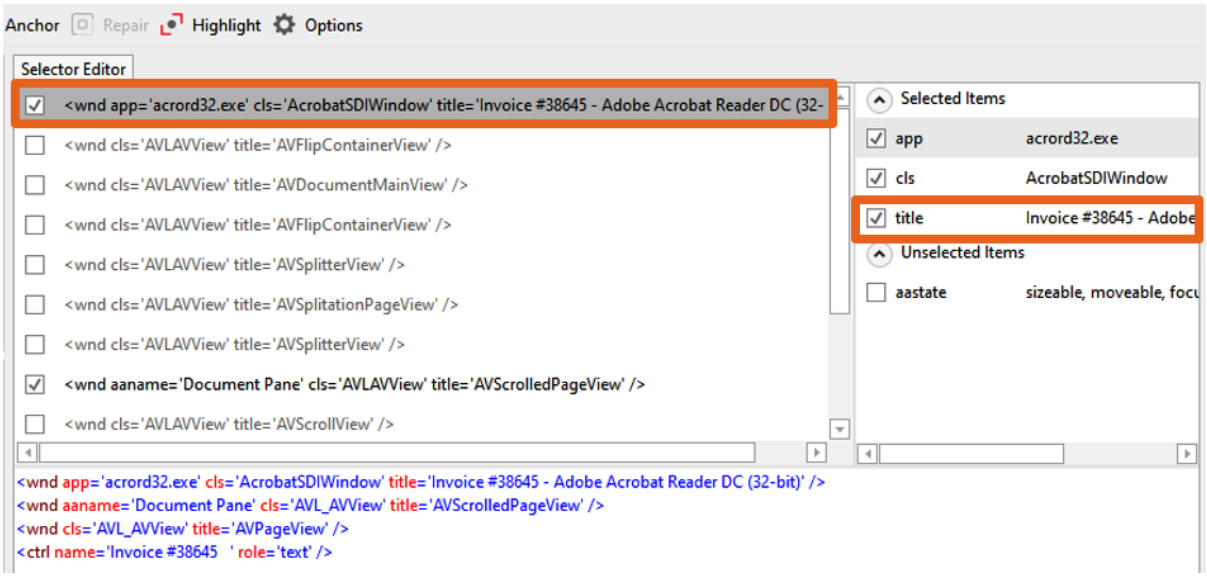
## Transactions

| Transaction Date | Gateway | Transaction ID | Amount |
|---|---|---|---|
| 4th Oct 2016 | Wire Transfer | 44M54677JH991194L | $40.00 USD |
| | | **Balance** | **$0.00 USD** |

PDF Generated on 4th Oct 2016


IdentifyingIndividualElements
Assign
FileList
=
Directory.GetFi
Directory.GetFiles("C:\Users\lahir\Downloads\PDF (Workflows)\Lesson 10 - PDF - Workflows\SamplePDFs")
For Each
ForEach
item
In
FileList
Body
Drop Activity Here


Anchor
Repair
Highlight
Options
Selector Editor
<wnd app='acrord32.exe' cls='AcrobatSDIWindow' title='Invoice #38645 - Adobe Acrobat Reader DC (32-
<wnd cls='AVLAVView' title='AVFlipContainerView' />
<wnd cls='AVLAVView' title='AVDocumentMainView' />
<wnd cls='AVLAVView' title='AVFlipContainerView' />
<wnd cls='AVLAVView' title='AVSplitterView' />
<wnd cls='AVLAVView' title='AVSplitationPageView' />
<wnd cls='AVLAVView' title='AVSplitterView' />
<wnd aaname='Document Pane' cls='AVLAVView' title='AVScrolledPageView' />
<wnd cls='AVLAVView' title='AVScrollView' />
Selected Items
name
Invoice #38645
role
text
Unselected Items
aastate
read only
text
Invoice #38645
<wnd app='acrord32.exe' cls='AcrobatSDIWindow' title='Invoice #38645 - Adobe Acrobat Reader DC (32-bit)' />
<wnd aaname='Document Pane' cls='AVL_AVView' title='AVScrolledPageView' />
<wnd cls='AVL_AVView' title='AVPageView' />
<ctrl name='Invoice #38645 ' role='text' />




```
<wnd app='acrord32.exe' cls='AcrobatSDIWindow' />
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```

```
<wnd app='acrord32.exe' cls='AcrobatSDIWindow' title='Invoice #38645 - Adobe Acrobat Reader DC (32-bit)' />
<wnd aaname='Document Pane' cls='AVL_AVView' title='AVScrolledPageView' />
<wnd cls='AVL_AVView' title='AVPageView' />
<ctrl name='$40.00 USD  ' role='text' />
```

```
<wnd app='acrord32.exe' cls='AcrobatSDIWindow' title='*- Adobe Acrobat Reader DC (32-bit)' />
<wnd aaname='Document Pane' cls='AVL_AVView' title='AVScrolledPageView' />
<wnd cls='AVL_AVView' title='AVPageView' />
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```
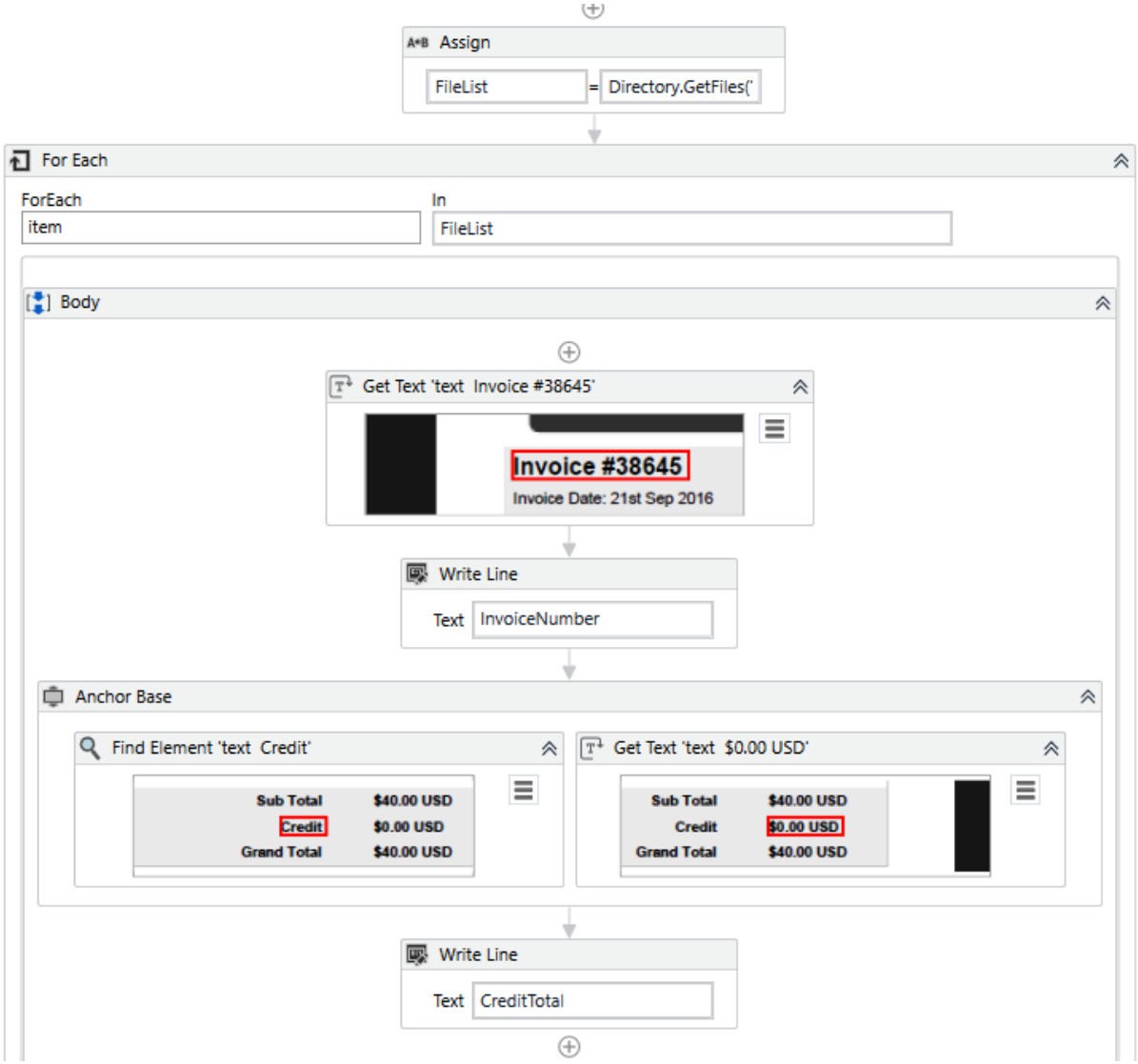
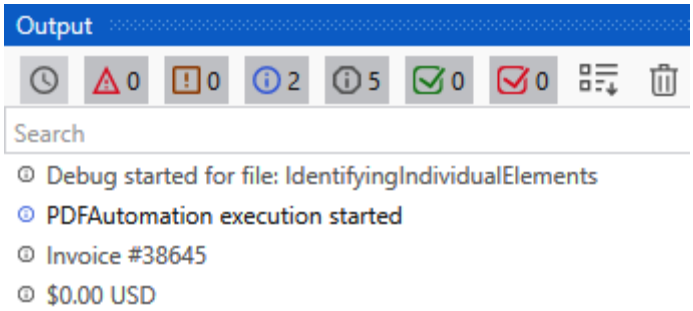
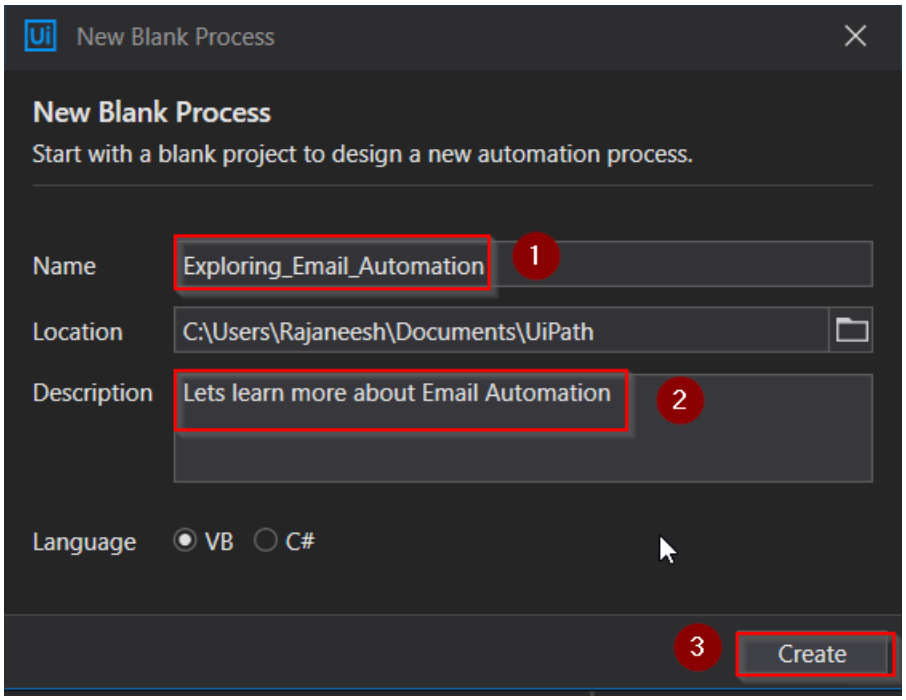
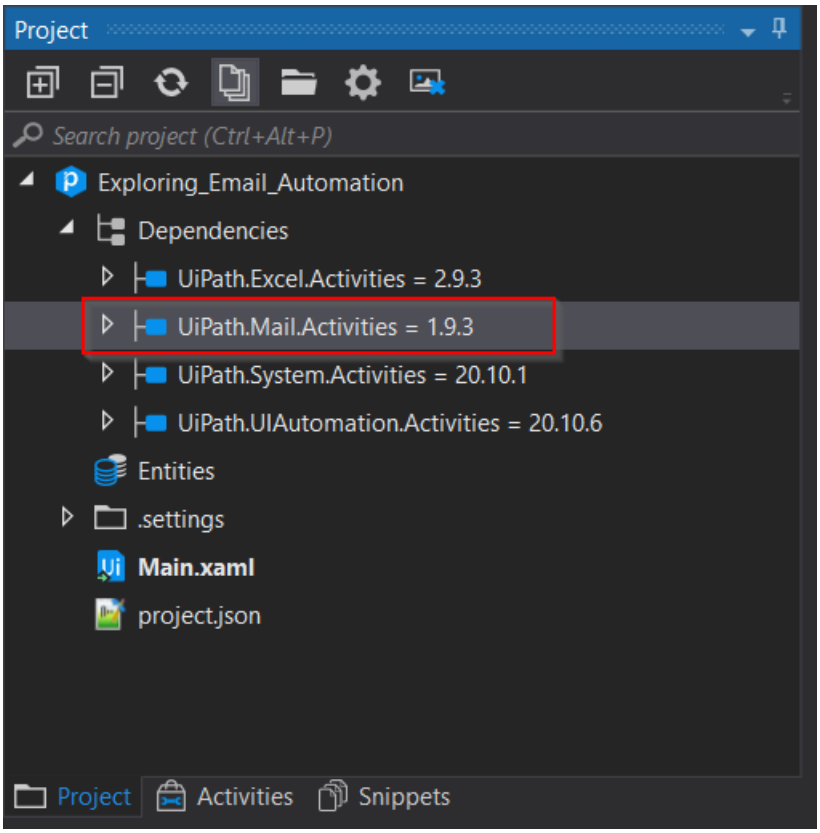
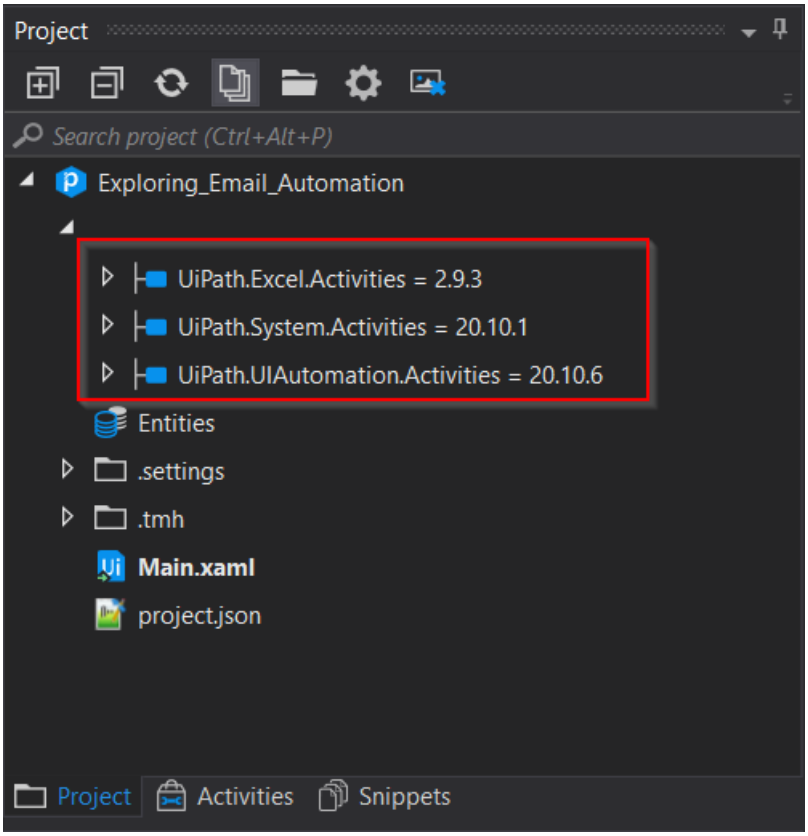


Assign
FileList
=
Directory.GetFiles('
For Each
ForEach
item
In
FileList
Body
Get Text 'text Invoice #38645'
Invoice #38645
Invoice Date: 21st Sep 2016
Write Line
Text
InvoiceNumber
Anchor Base
Find Element 'text Credit'
Sub Total
$40.00 USD
Credit
$0.00 USD
Grand Total
$40.00 USD
Get Text 'text $0.00 USD'
Sub Total
$40.00 USD
Credit
$0.00 USD
Grand Total
$40.00 USD
Write Line
Text
CreditTotal

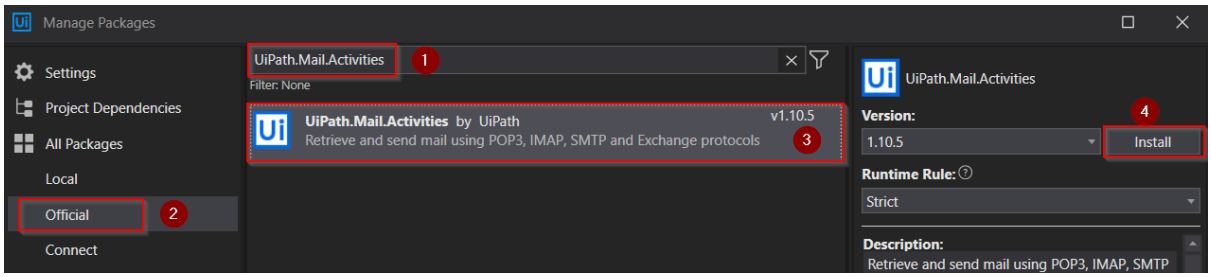

Output
0
0
2
5
0
0
Search
Debug started for file: IdentifyingIndividualElements
PDFAutomation execution started
Invoice #38645
$0.00 USD

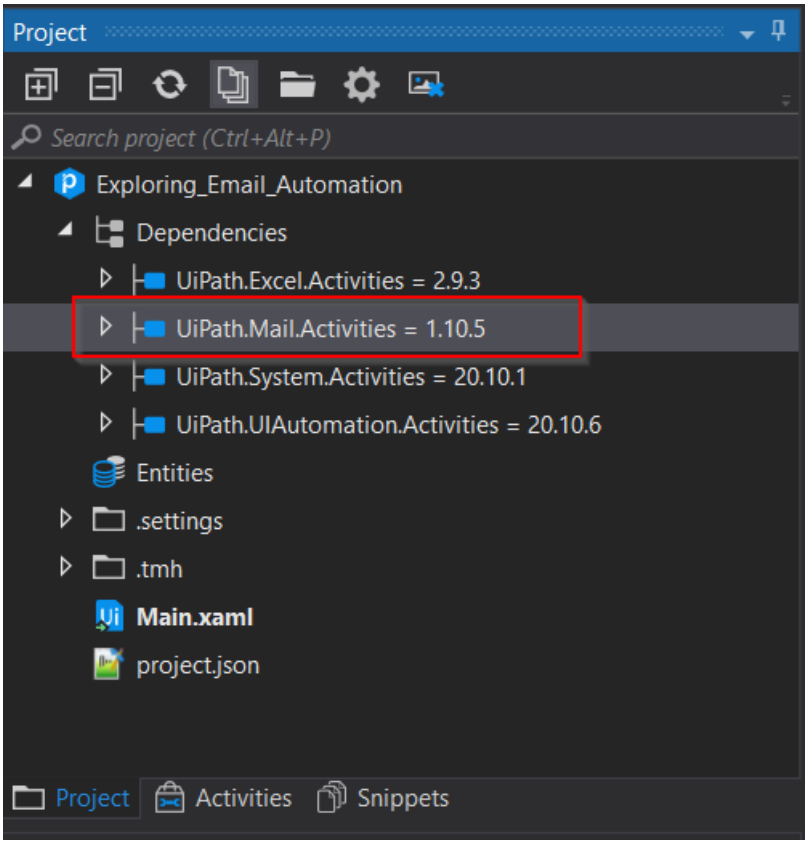
# Chapter 12: Exploring UiPath Email Automation

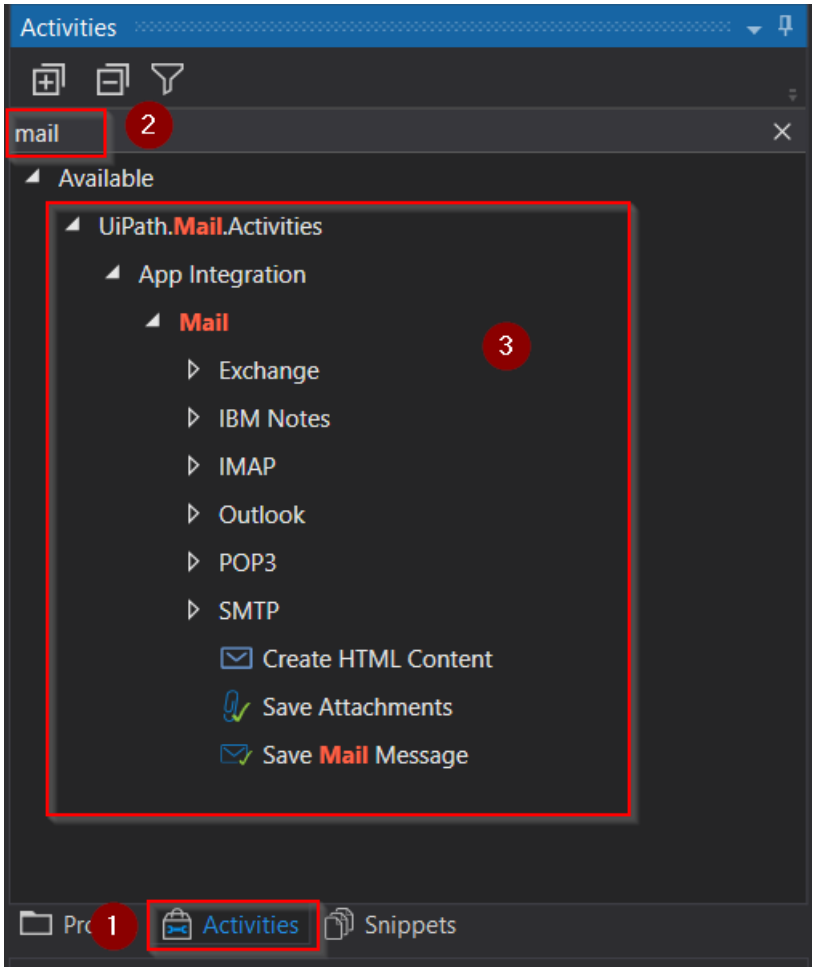


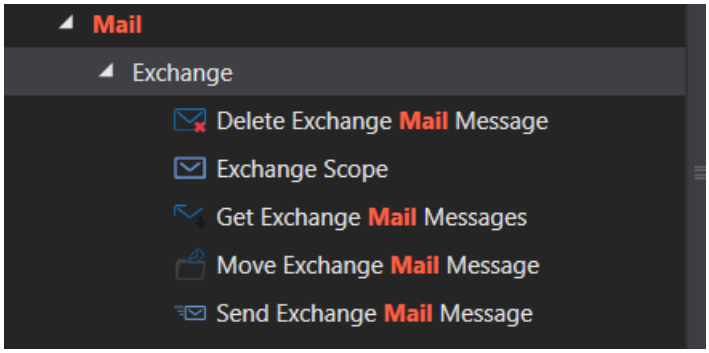



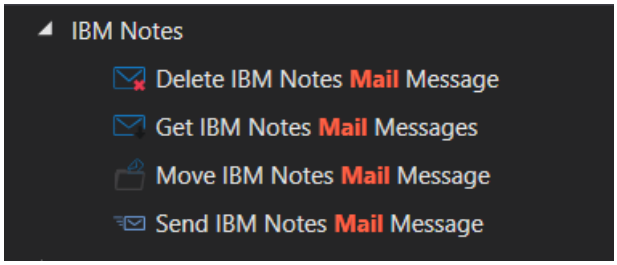

Project
Search project (Ctrl+Alt+P)
Exploring_Email_Automation
UiPath.Excel.Activities = 2.9.3
UiPath.System.Activities = 20.10.1
UiPath.UIAutomation.Activities = 20.10.6
Entities
.settings
.tmh
Main.xaml
project.json
Project
Activities
Snippets

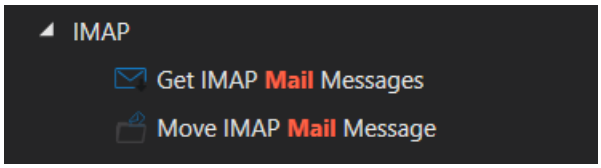

Manage Packages
Settings
Project Dependencies
All Packages
Local
Official
2
Connect
UiPath.Mail.Activities
1
Filter: None
UiPath.Mail.Activities by UiPath
v1.10.5
Retrieve and send mail using POP3, IMAP, SMTP and Exchange protocols
3
UiPath.Mail.Activities
Version:
4
1.10.5
Install
Runtime Rule:
Strict
Description:
Retrieve and send mail using POP3, IMAP, SMTP

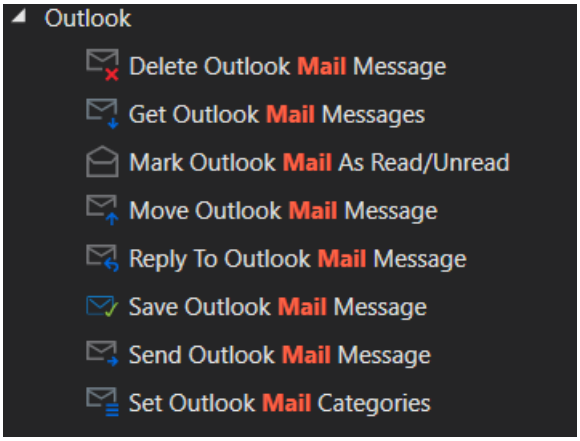

Project
Search project (Ctrl+Alt+P)
Exploring_Email_Automation
Dependencies
UiPath.Excel.Activities = 2.9.3
UiPath.Mail.Activities = 1.10.5
UiPath.System.Activities = 20.10.1
UiPath.UIAutomation.Activities = 20.10.6
Entities
.settings
.tmh
Main.xaml
project.json
Project
Activities
Snippets

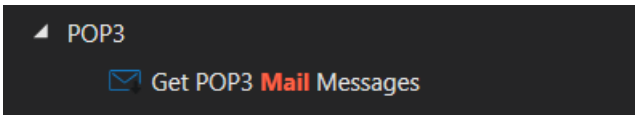

Activities
mail
2
Available
UiPath.Mail.Activities
App Integration
Mail
3
Exchange
IBM Notes
IMAP
Outlook
POP3
SMTP
Create HTML Content
Save Attachments
Save Mail Message
1
Activities
Snippets

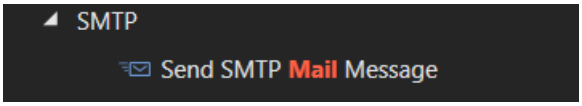

Mail
Exchange
Delete Exchange Mail Message
Exchange Scope
Get Exchange Mail Messages
Move Exchange Mail Message
Send Exchange Mail Message

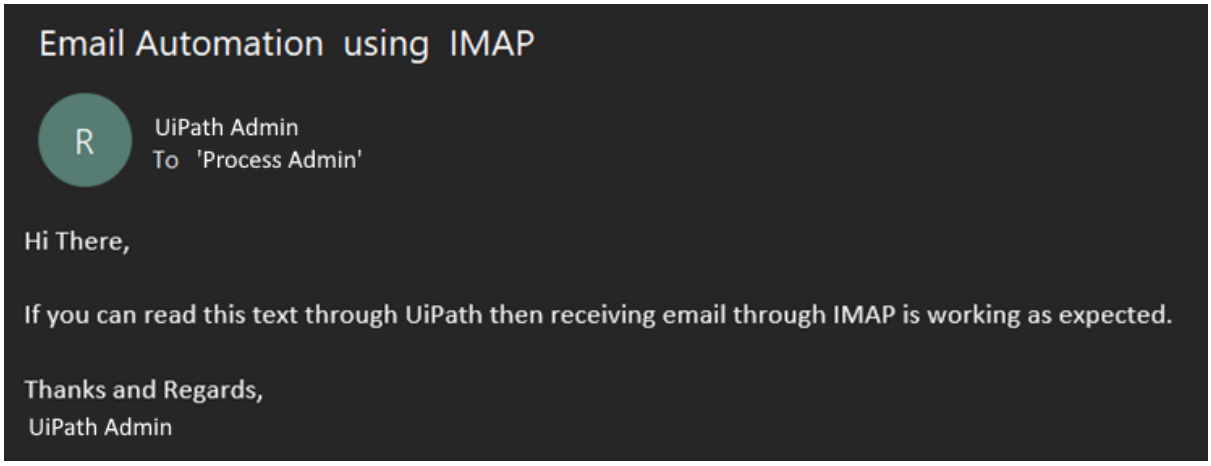

IBM Notes
Delete IBM Notes Mail Message
Get IBM Notes Mail Messages
Move IBM Notes Mail Message
Send IBM Notes Mail Message

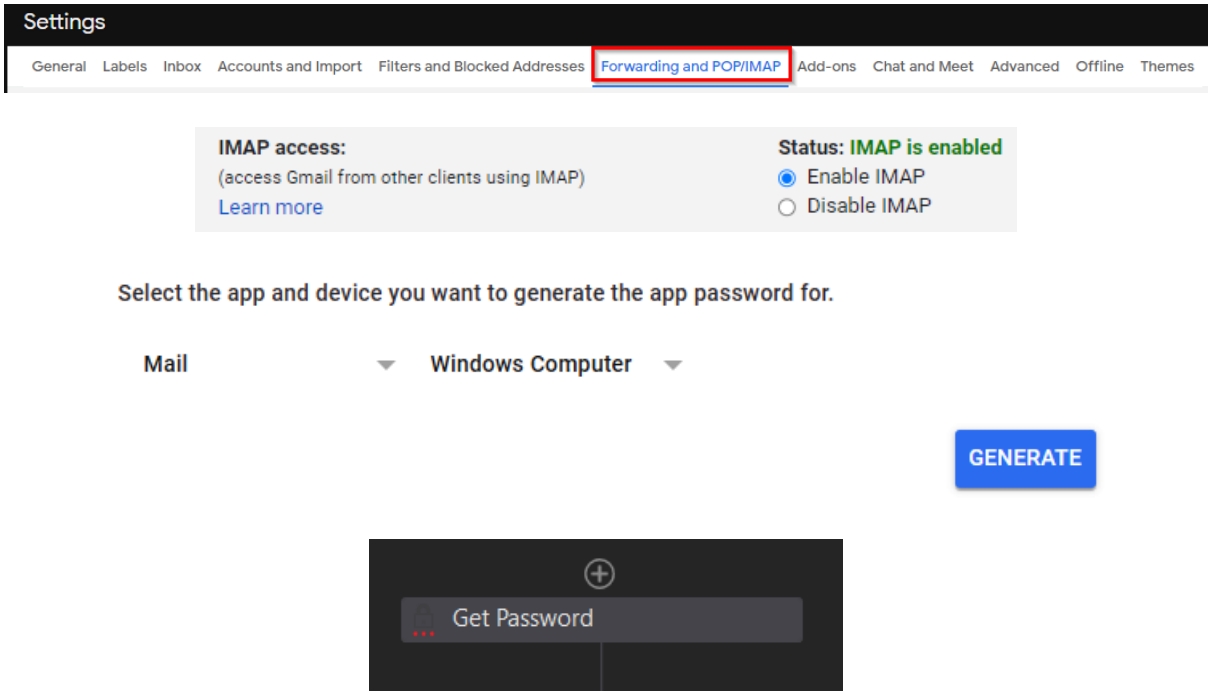

IMAP
Get IMAP Mail Messages
Move IMAP Mail Message


Outlook
Delete Outlook Mail Message
Get Outlook Mail Messages
Mark Outlook Mail As Read/Unread
Move Outlook Mail Message
Reply To Outlook Mail Message
Save Outlook Mail Message
Send Outlook Mail Message
Set Outlook Mail Categories


POP3
Get POP3 Mail Messages


SMTP
Send SMTP Mail Message

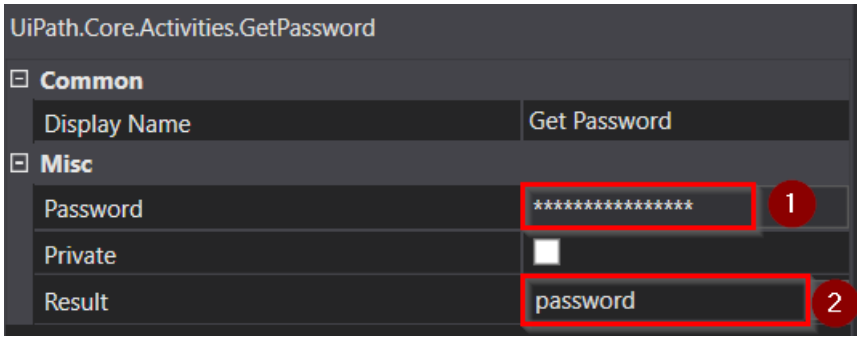


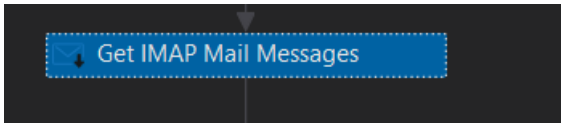



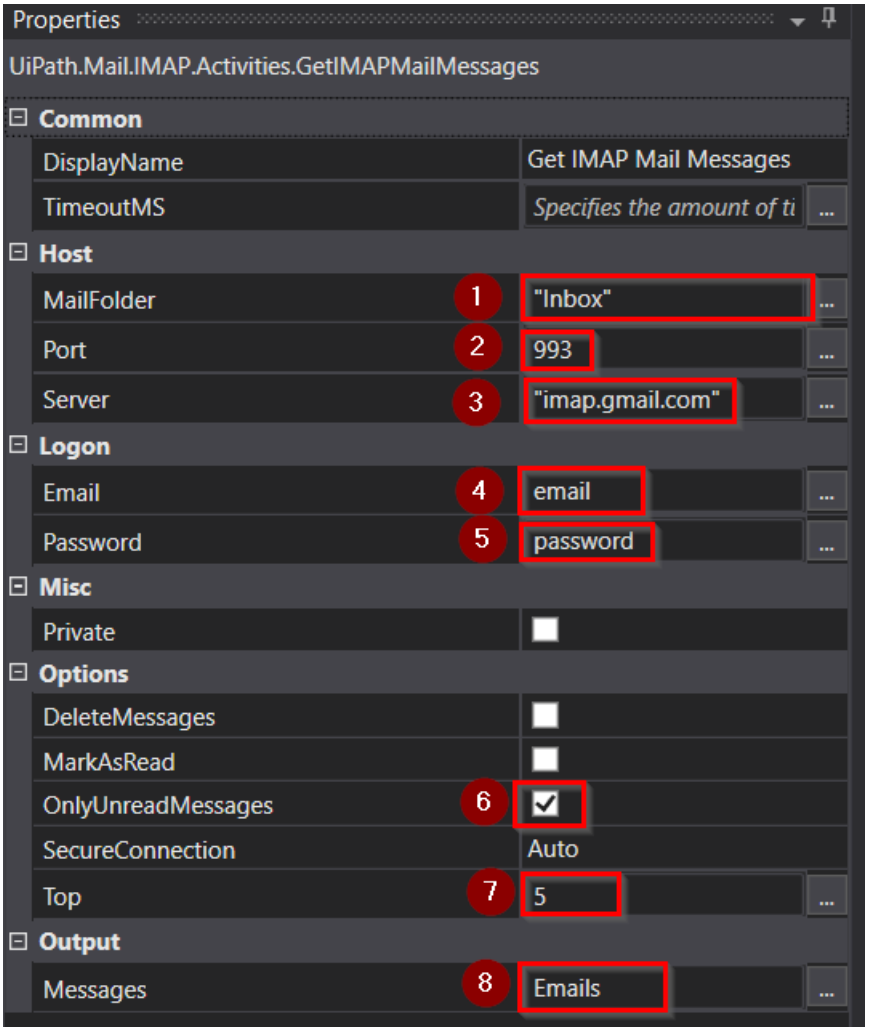


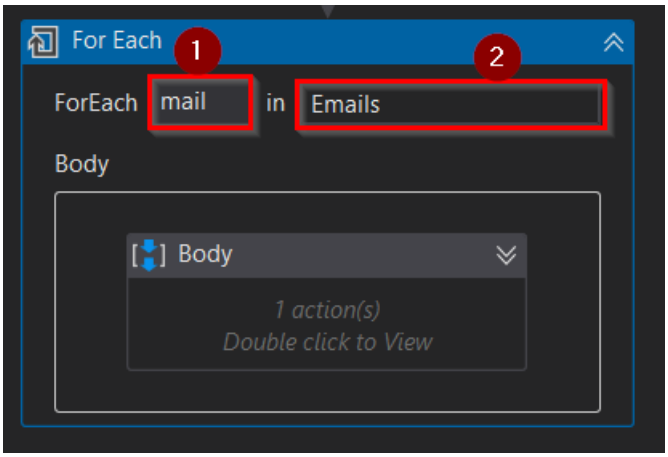


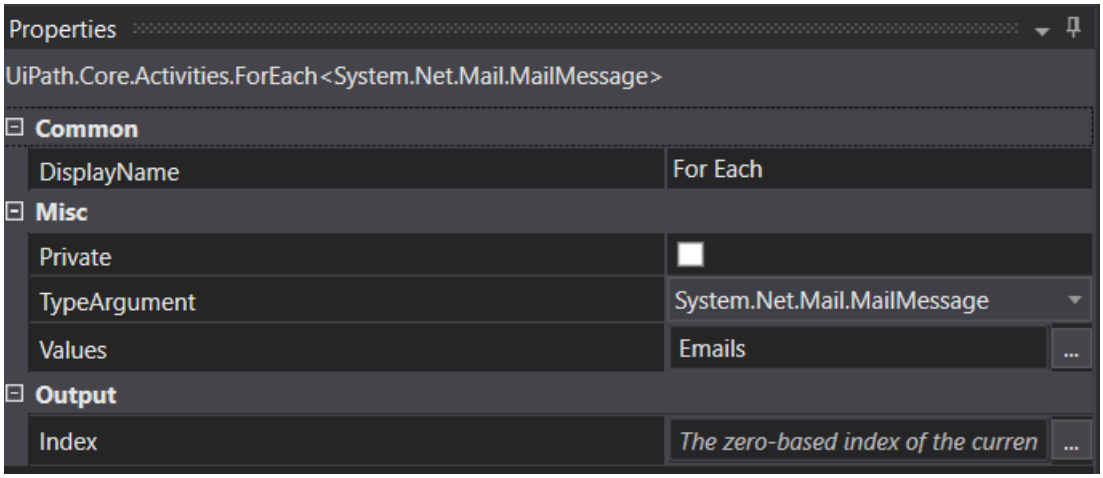
| Name | Variable type | Scope | Default |
|---|---|---|---|
| email | String | Sequence | "processadminhr@gmail.com" |
| password | String | Sequence | *Enter a VB expression* |
| Emails | List<MailMessage> | Sequence | *Enter a VB expression* |

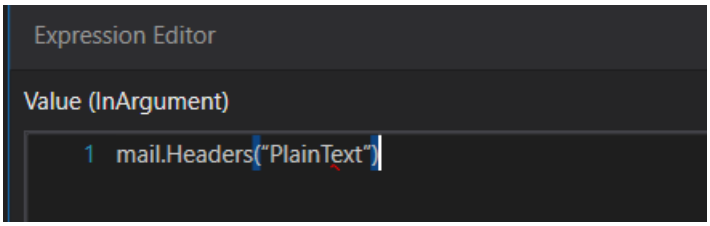


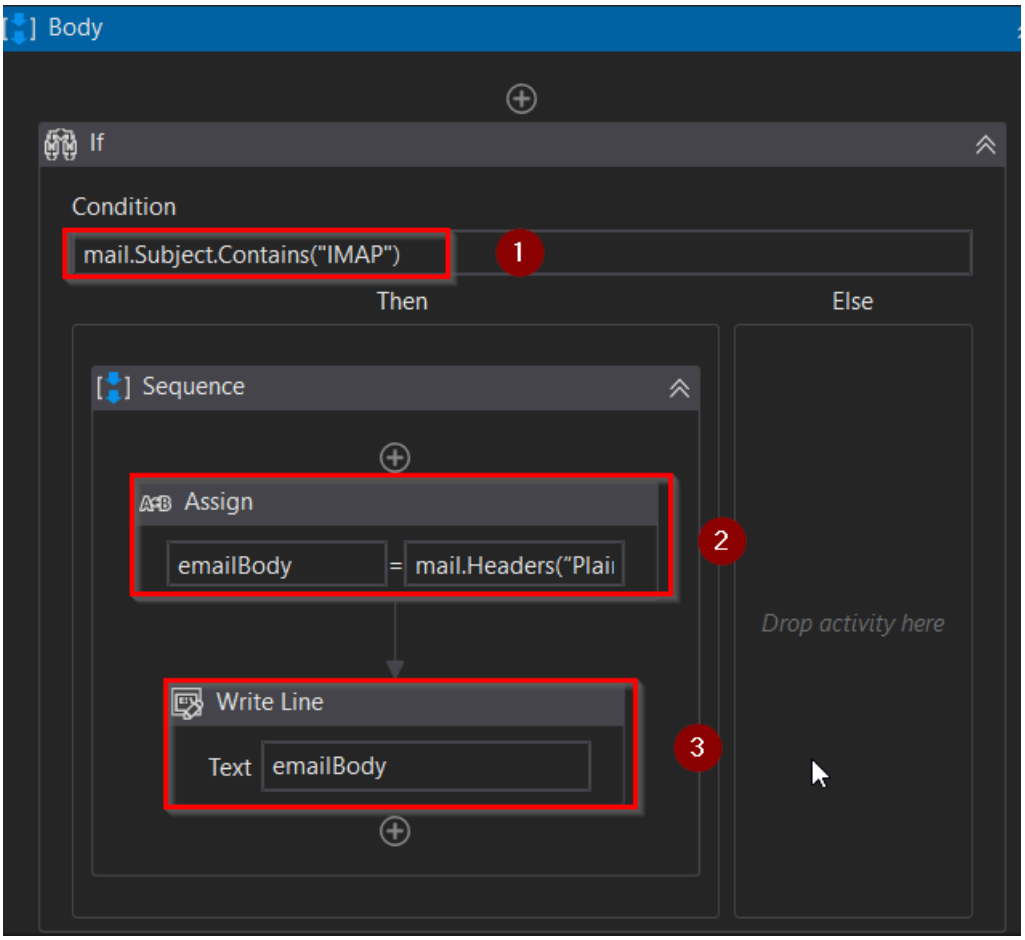

Get IMAP Mail Messages

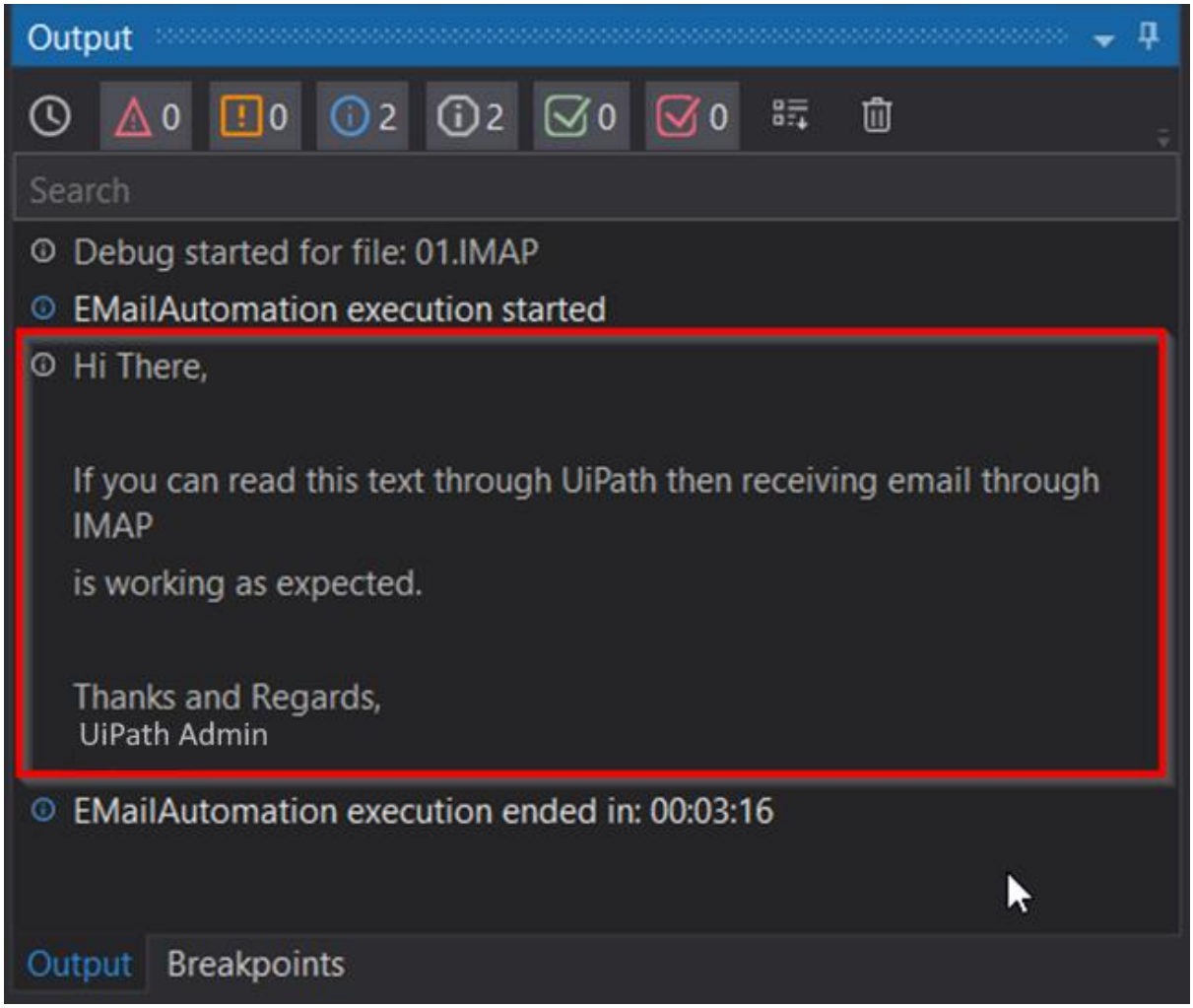

Properties
UiPath.Mail.IMAP.Activities.GetIMAPMailMessages
Common
DisplayName
Get IMAP Mail Messages
TimeoutMS
Specifies the amount of ti
Host
MailFolder
1
"Inbox"
Port
2
993
Server
3
"imap.gmail.com"
Logon
Email
4
email
Password
5
password
Misc
Private
Options
DeleteMessages
MarkAsRead
OnlyUnreadMessages
6
SecureConnection
Auto
Top
7
5
Output
Messages
8
Emails

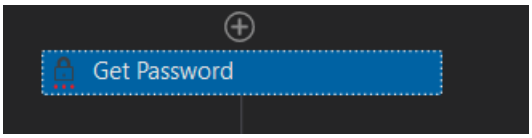

For Each
1
2
ForEach
mail
in
Emails
Body
Body
1 action(s)
Double click to View

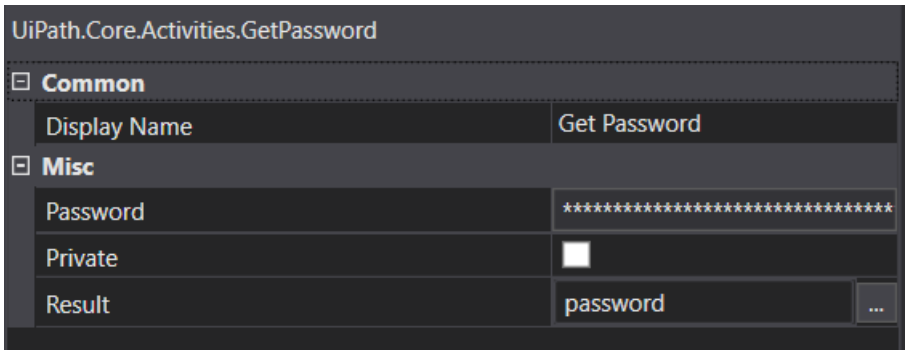

Properties
UiPath.Core.Activities.ForEach<System.Net.Mail.MailMessage>
Common
DisplayName
For Each
Misc
Private
TypeArgument
System.Net.Mail.MailMessage
Values
Emails
Output
Index
The zero-based index of the curren


Expression Editor
Value (InArgument)
1 mail.Headers("PlainText")


Body
If
Condition
mail.Subject.Contains("IMAP")
1
Then
Else
Sequence
Assign
emailBody
= mail.Headers("Plai
2
Drop activity here
Write Line
Text
emailBody
3

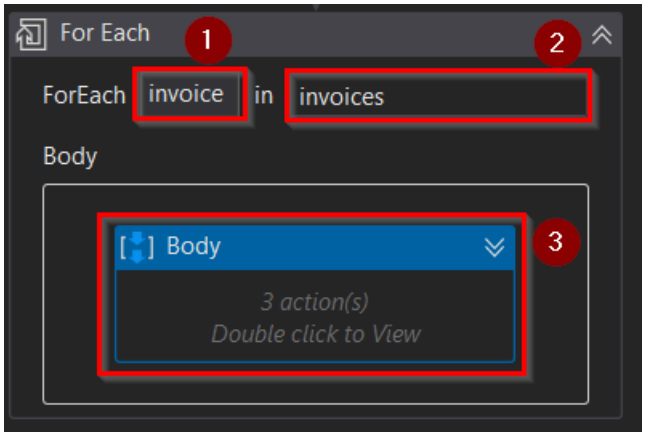


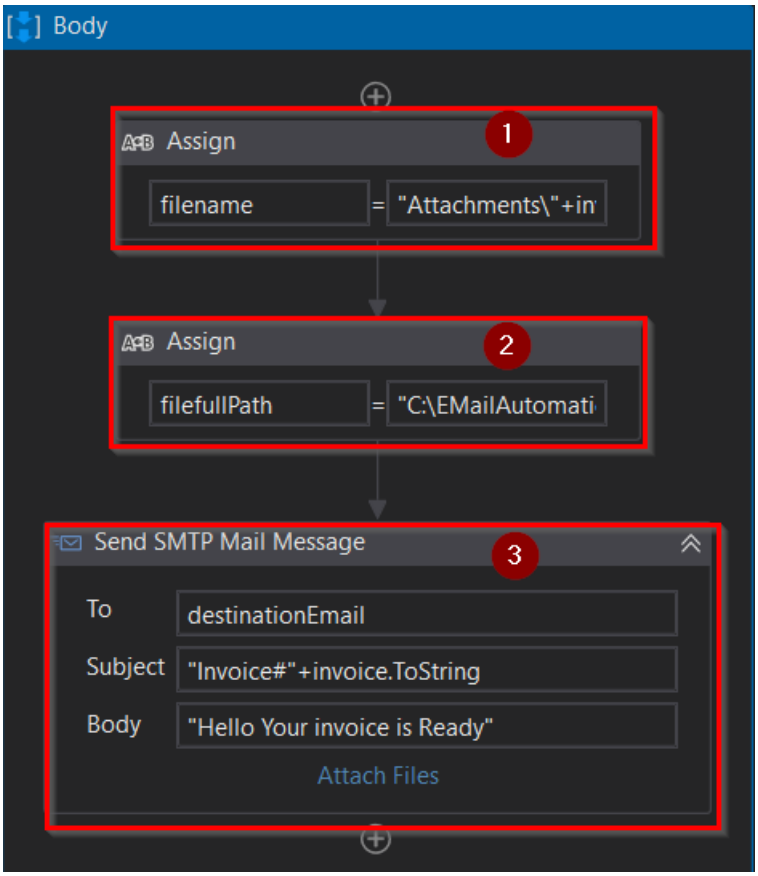



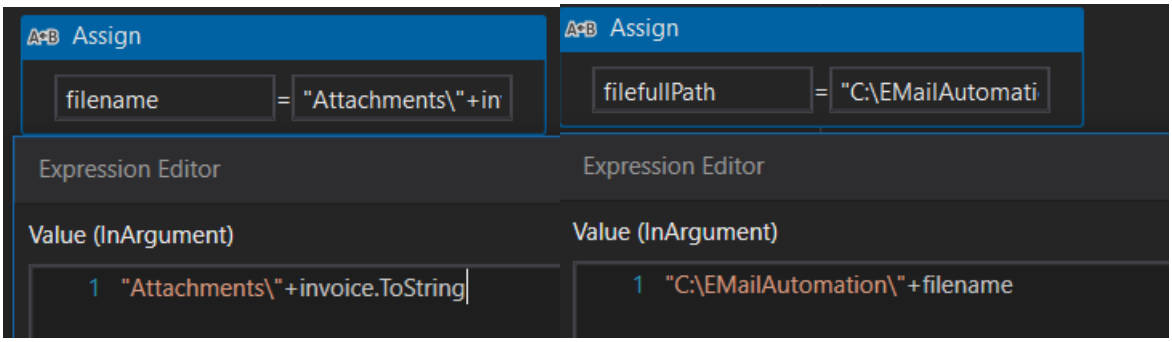



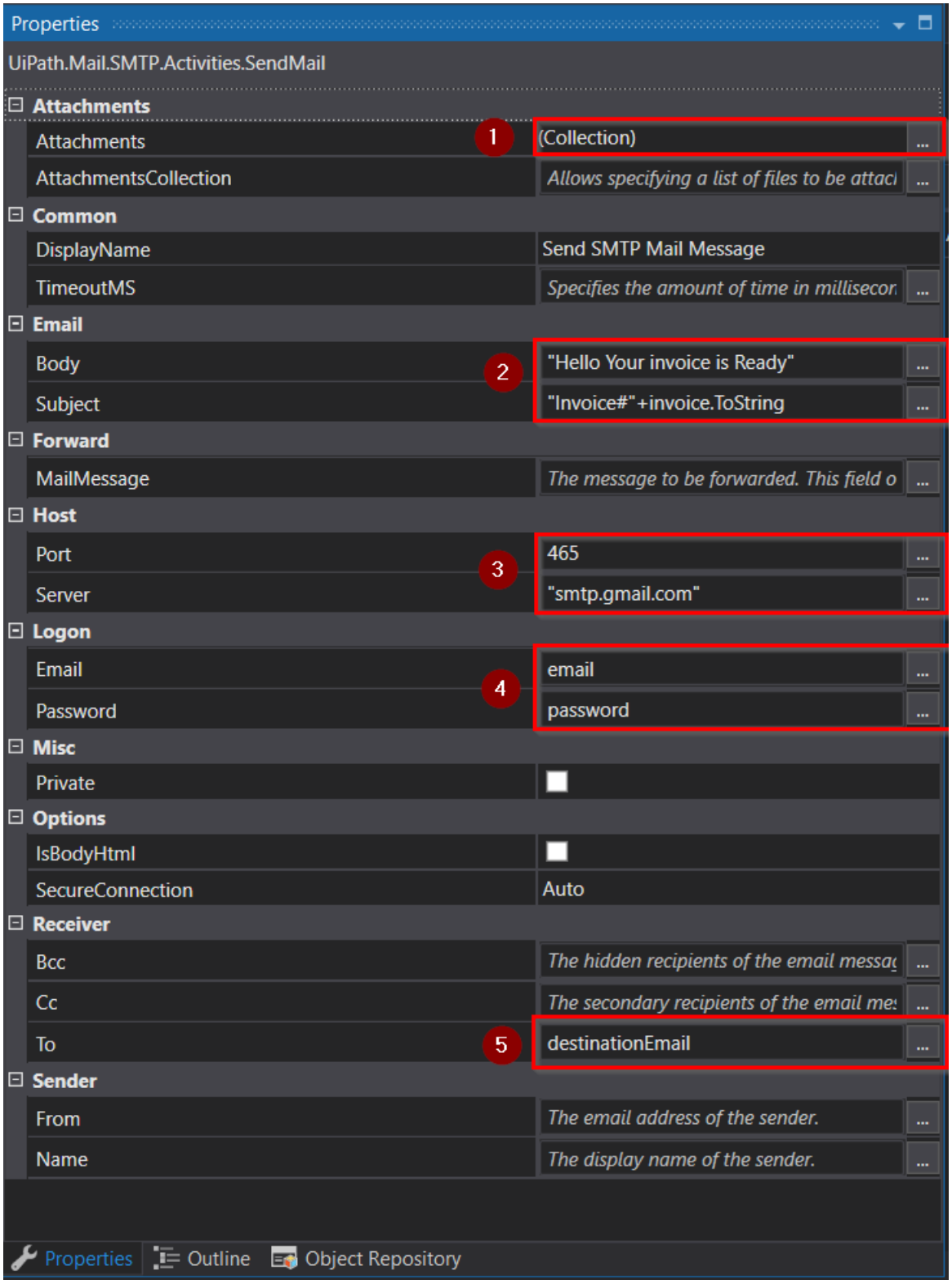

| Name | Date modified | Type | Size |
|---|---|---|---|
| Invoice1.pdf | 20/03/2021 7:54 PM | Adobe Acrobat D... | 359 KB |
| Invoice2.pdf | 20/03/2021 7:54 PM | Adobe Acrobat D... | 43 KB |

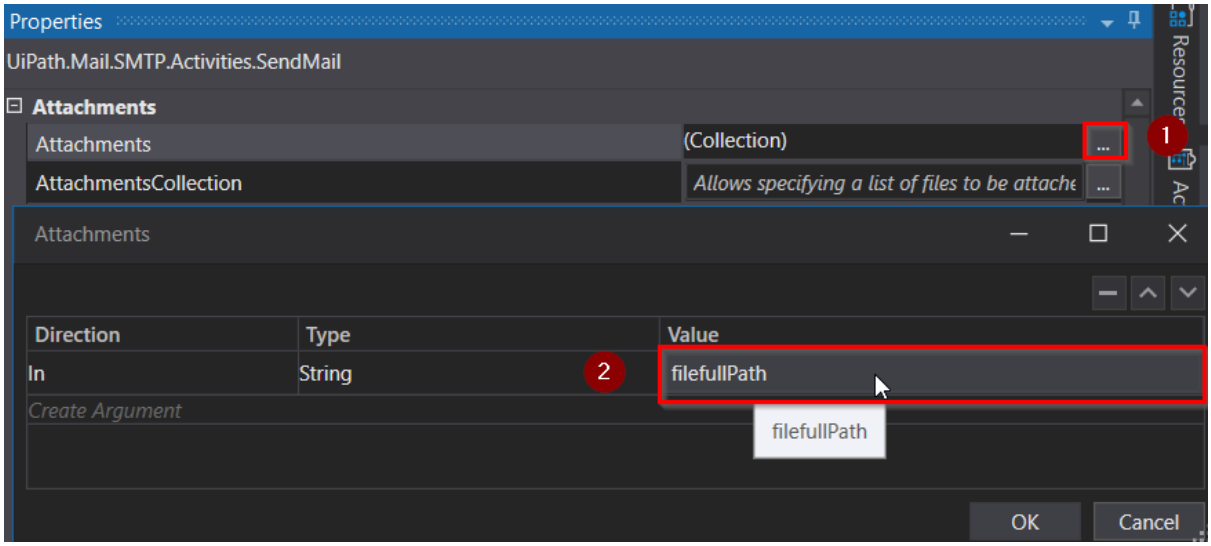
| Name | Variable type | Scope | Default |
|---|---|---|---|
| invoices | String[] | _02_SMTPEmailMessages | {"Invoice1.pdf","Invoice2.pdf"} |

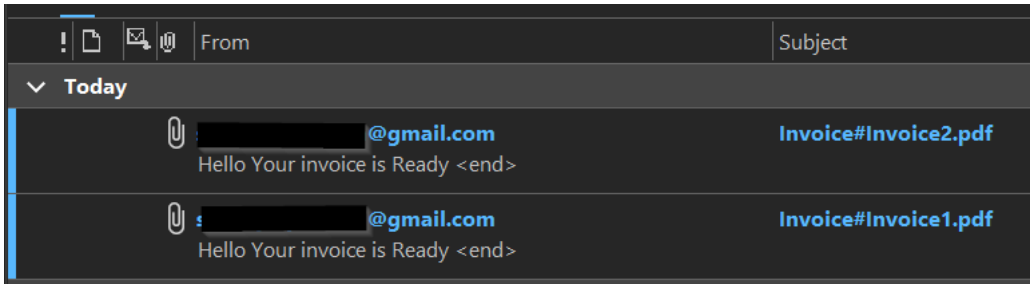


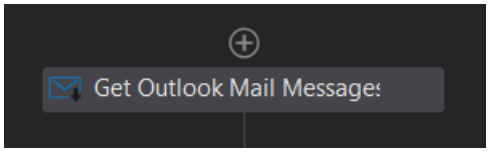



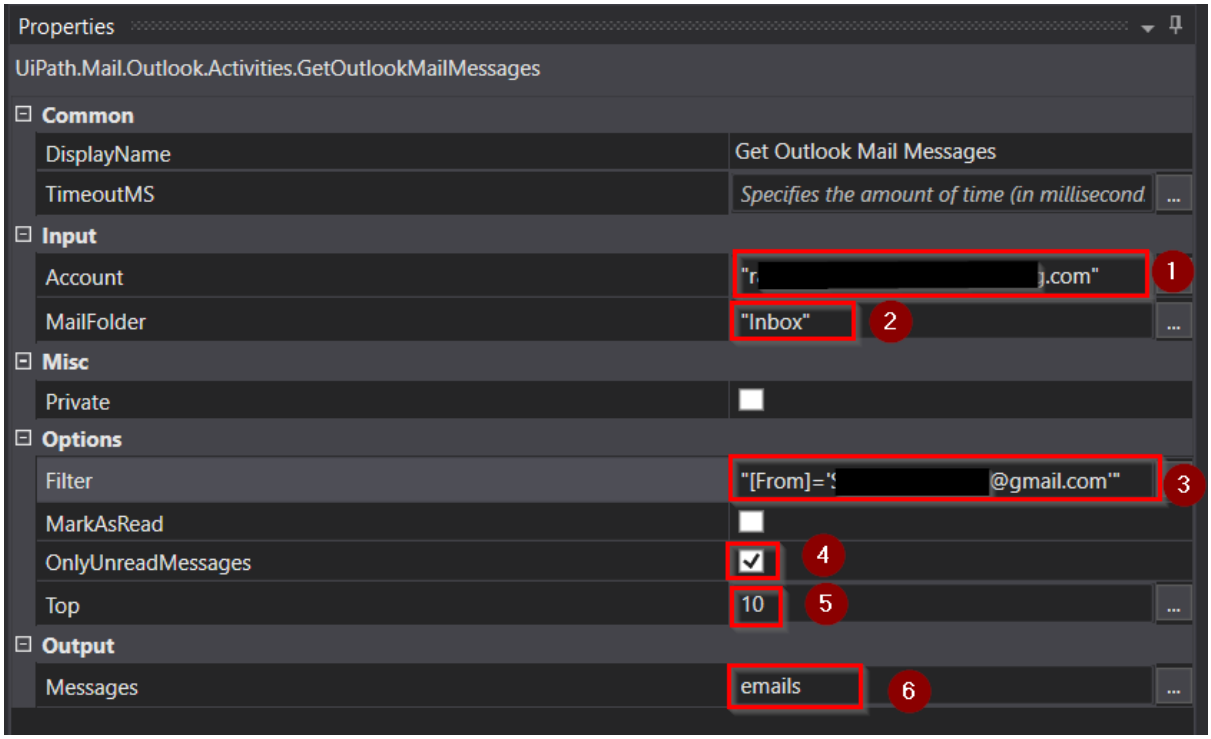



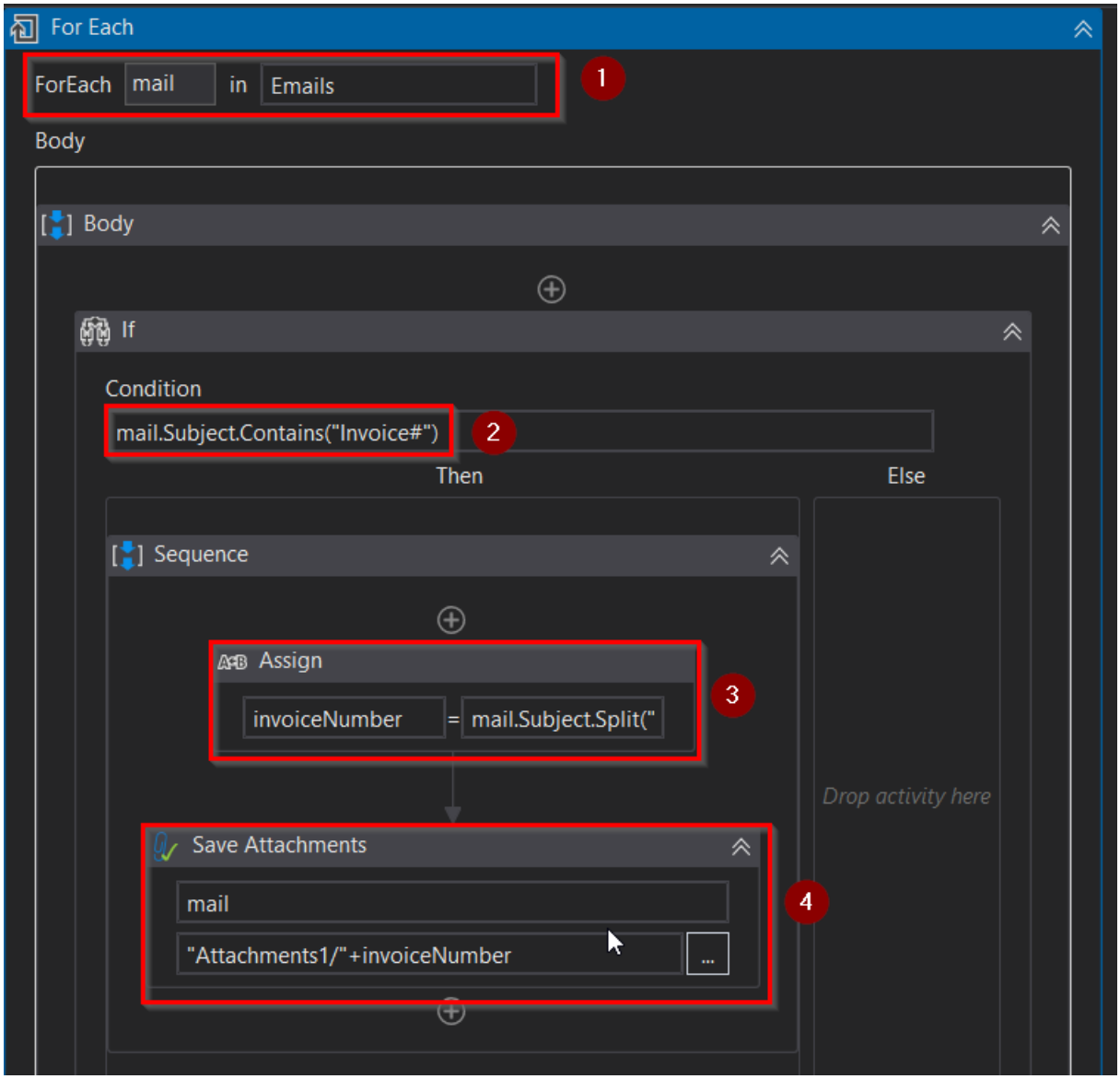

Properties
UiPath.Mail.SMTP.Activities.SendMail
Attachments
Attachments
(Collection)
AttachmentsCollection
Allows specifying a list of files to be attac
Common
DisplayName
Send SMTP Mail Message
TimeoutMS
Specifies the amount of time in millisecor
Email
Body
"Hello Your invoice is Ready"
Subject
"Invoice#"+invoice.ToString
Forward
MailMessage
The message to be forwarded. This field o
Host
Port
465
Server
"smtp.gmail.com"
Logon
Email
email
Password
password
Misc
Private
Options
IsBodyHtml
SecureConnection
Auto
Receiver
Bcc
The hidden recipients of the email messa
Cc
The secondary recipients of the email me
To
destinationEmail
Sender
From
The email address of the sender.
Name
The display name of the sender.
1
2
3
4
5
Properties
Outline
Object Repository

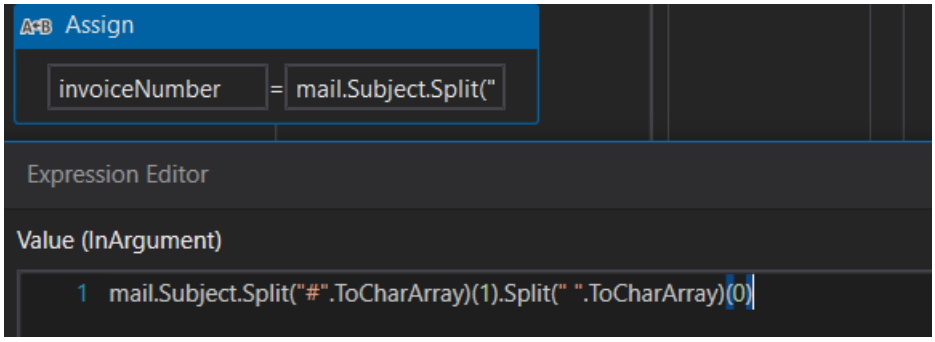

Properties
UiPath.Mail.SMTP.Activities.SendMail
Attachments
Attachments
(Collection)
AttachmentsCollection
Allows specifying a list of files to be attache
Attachments
Direction
Type
Value
In
String
filefullPath
Create Argument
filefullPath
OK
Cancel
1
2

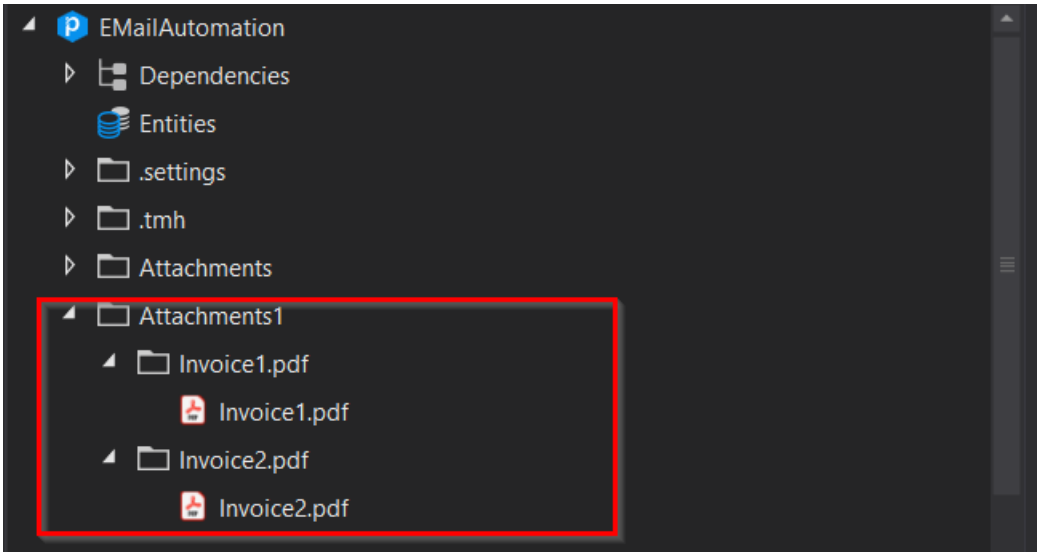

From
Subject
Today
@gmail.com
Invoice#Invoice2.pdf
Hello Your invoice is Ready <end>
@gmail.com
Invoice#Invoice1.pdf
Hello Your invoice is Ready <end>


Get Outlook Mail Message

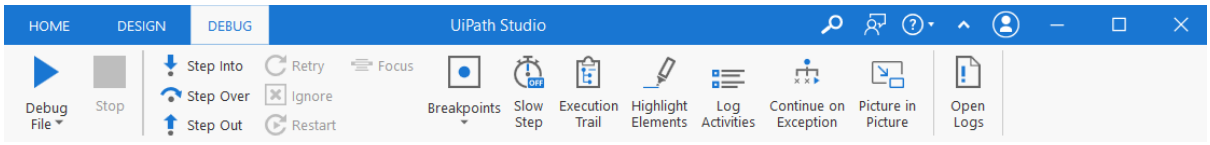

Properties
UiPath.Mail.Outlook.Activities.GetOutlookMailMessages
Common
DisplayName
Get Outlook Mail Messages
TimeoutMS
Specifies the amount of time (in millisecond
Input
Account
.com"
MailFolder
"Inbox"
Misc
Private
Options
Filter
"[From]='
@gmail.com'"
MarkAsRead
OnlyUnreadMessages
Top
10
Output
Messages
emails
1
2
3
4
5
6

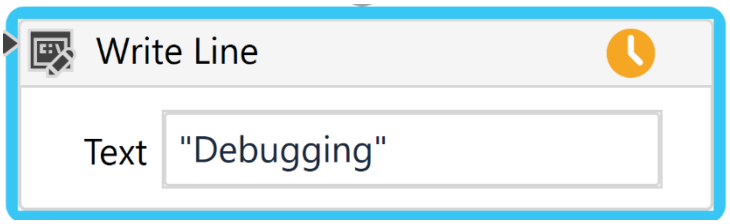

For Each
ForEach mail in Emails
1
Body
Body
If
Condition
mail.Subject.Contains("Invoice#")
2
Then
Else
Sequence
Assign
invoiceNumber = mail.Subject.Split("
3
Drop activity here
Save Attachments
mail
"Attachments1/"+invoiceNumber
...
4

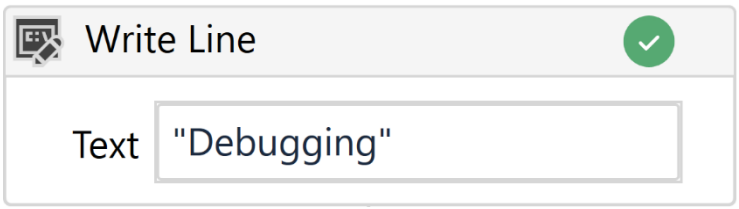

Assign
invoiceNumber = mail.Subject.Split("
Expression Editor
Value (InArgument)
1 mail.Subject.Split("#".ToCharArray)(1).Split(" ".ToCharArray)(0)

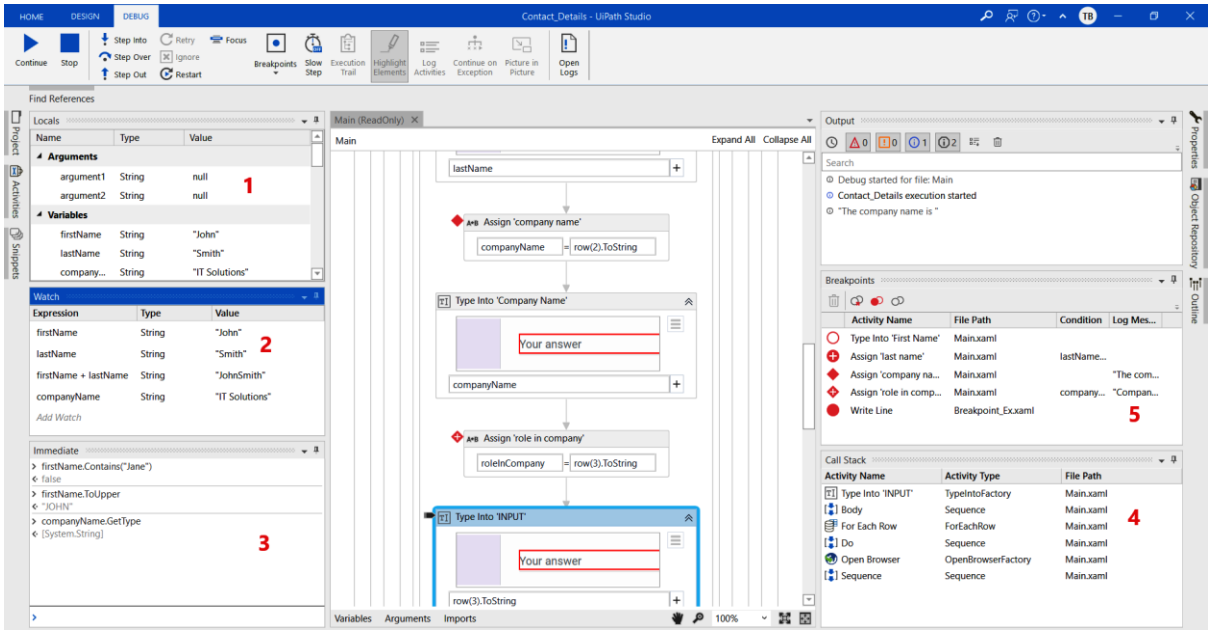

EMailAutomation
Dependencies
Entities
.settings
.tmh
Attachments
Attachments1
Invoice1.pdf
Invoice1.pdf
Invoice2.pdf
Invoice2.pdf

# Chapter 13: Debugging



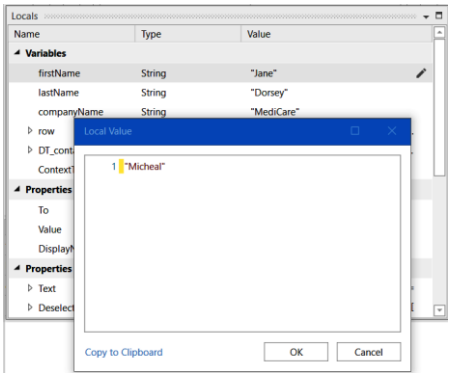



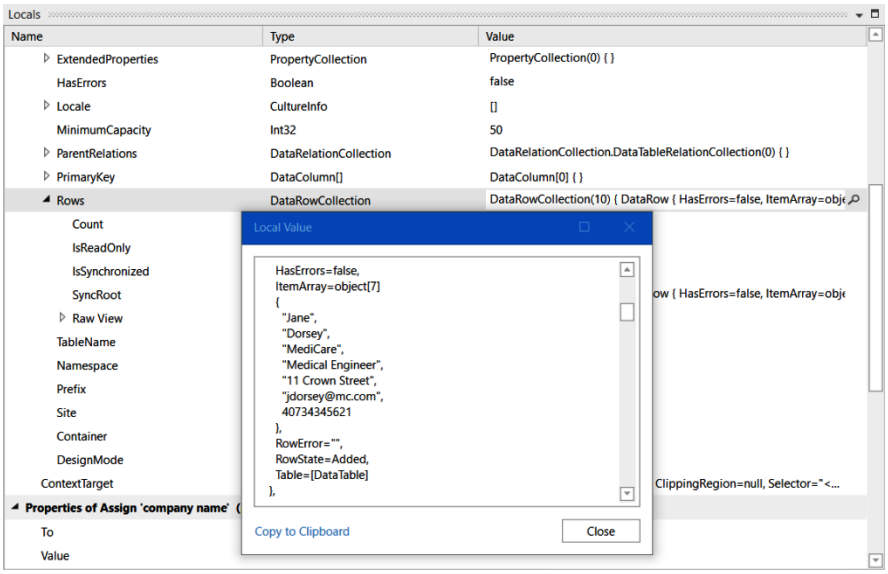



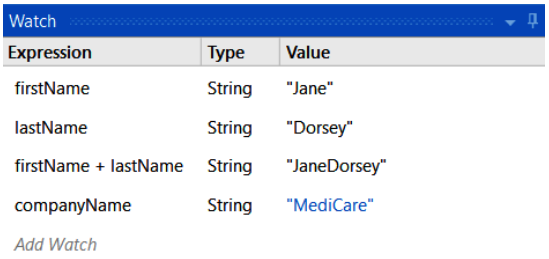


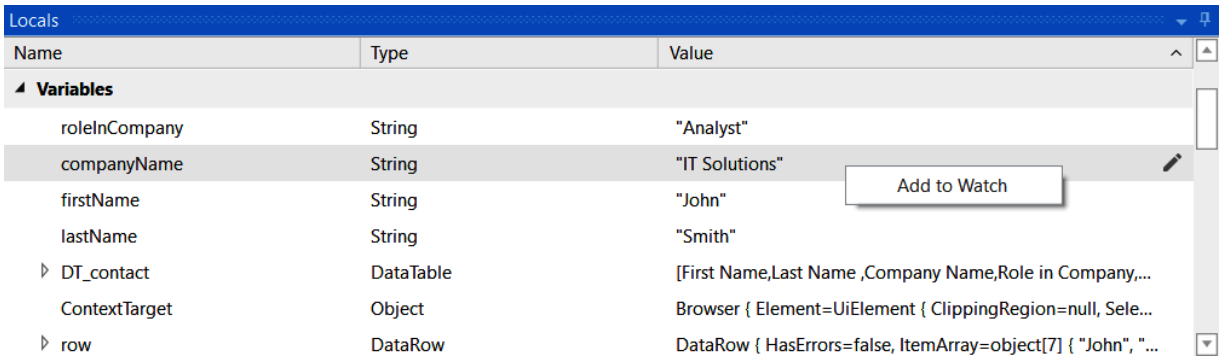
Locals

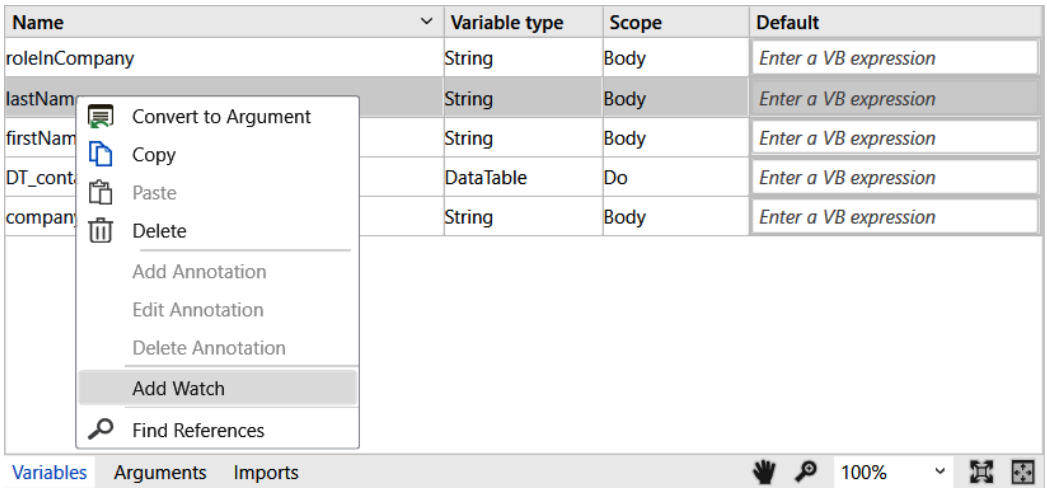
| Name | Type | Value |
|---|---|---|
| **Variables** | | |
| firstName | String | "Jane" |
| lastName | String | "Dorsey" |
| companyName | String | "MediCare" |
| row | DataRow | DataRow { HasErrors=false, ItemArray=object[7] { "Jane", "Dorsey", "MediCa... |
| DT_contact | DataTable | [First Name,Last Name ,Company Name,Role in Company,Address,Email,Pho... |
| ContextTarget | Object | Browser { Element=UiElement { ClippingRegion=null, Selector="<html app... |
| **Properties of Assign 'company name' (previous)** | | |
| To | OutArgument | "MediCare" |
| Value | InArgument | "MediCare" |
| DisplayName | String | "Assign 'company name' " |
| **Properties of Type Into 'INPUT' (current)** | | |
| Text | InArgument<String> | InArgument<string> { ArgumentType=[System.String], Direction=In, Evaluatio |
| DeselectAfter | InArgument<Boolean> | InArgument<bool> { ArgumentType=[System.Boolean], Direction=In, Evaluati |
| SimulateType | InArgument<Boolean> | InArgument<bool> { ArgumentType=[System.Boolean], Direction=In, Evaluati |
| SendWindowMessages | InArgument<Boolean> | InArgument<bool> { ArgumentType=[System.Boolean], Direction=In, Evaluati |
| AlterIfDisabled | InArgument<Boolean> | InArgument<bool> { ArgumentType=[System.Boolean], Direction=In, Evaluati |
| DelayMS | InArgument<Int32> | InArgument<int> { ArgumentType=[System.Int32], Direction=In, EvaluationOrc |
| DelayBefore | InArgument<Int32> | InArgument<int> { ArgumentType=[System.Int32], Direction=In, EvaluationOrc |
| DelayBetweenKeys | InArgument<Int32> | InArgument<int> { ArgumentType=[System.Int32], Direction=In, EvaluationOrc |

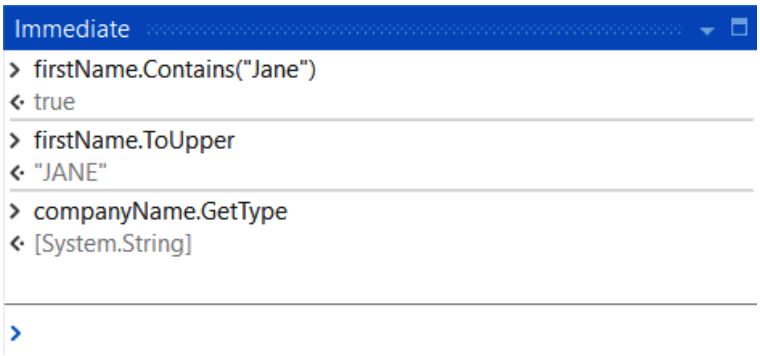


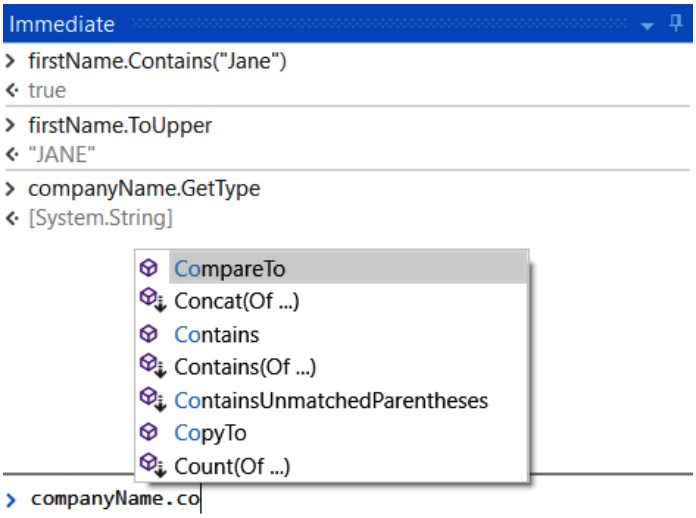



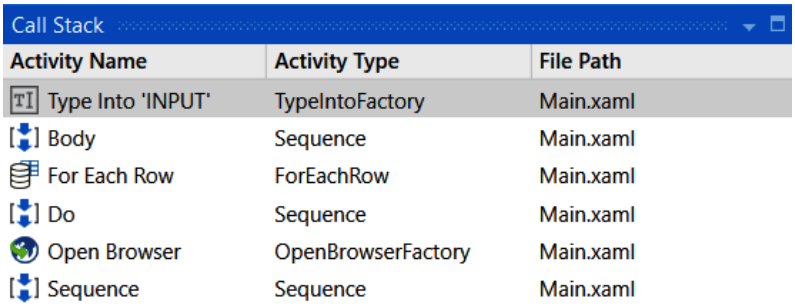

Watch
Expression
Type
Value
firstName
String
"Jane"
lastName
String
"Dorsey"
firstName + lastName
String
"JaneDorsey"
companyName
String
"MediCare"
Add Watch

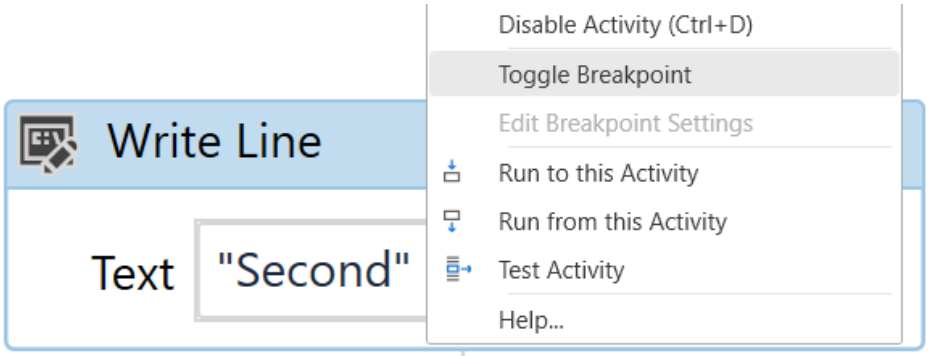

Locals
Name
Type
Value
Variables
roleInCompany
String
"Analyst"
companyName
String
"IT Solutions"
Add to Watch
firstName
String
"John"
lastName
String
"Smith"
DT_contact
DataTable
[First Name,Last Name ,Company Name,Role in Company,...
ContextTarget
Object
Browser { Element=UiElement { ClippingRegion=null, Sele...
row
DataRow
DataRow { HasErrors=false, ItemArray=object[7] { "John", "...

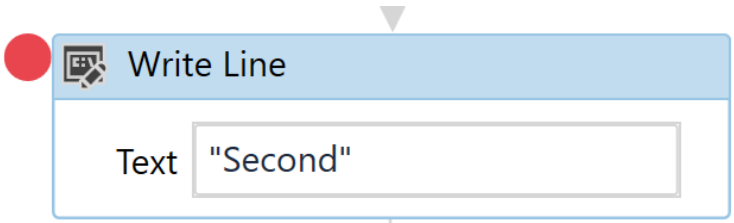

Name
Variable type
Scope
Default
roleInCompany
String
Body
Enter a VB expression
lastNam
String
Body
Enter a VB expression
firstNam
String
Body
Enter a VB expression
DT_cont
DataTable
Do
Enter a VB expression
compan
String
Body
Enter a VB expression
Convert to Argument
Copy
Paste
Delete
Add Annotation
Edit Annotation
Delete Annotation
Add Watch
Find References
Variables
Arguments
Imports
100%

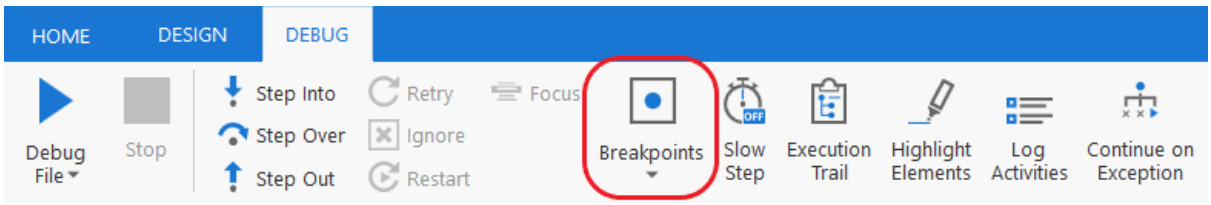

Immediate
firstName.Contains("Jane")
true
firstName.ToUpper
"JANE"
companyName.GetType
[System.String]

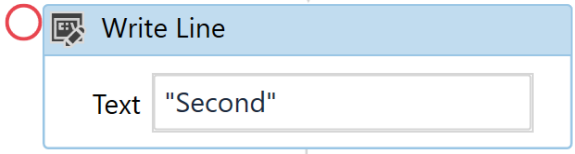

Immediate
firstName.Contains("Jane")
true
firstName.ToUpper
"JANE"
companyName.GetType
[System.String]
CompareTo
Concat(Of ...)
Contains
Contains(Of ...)
ContainsUnmatchedParentheses
CopyTo
Count(Of ...)
companyName.co

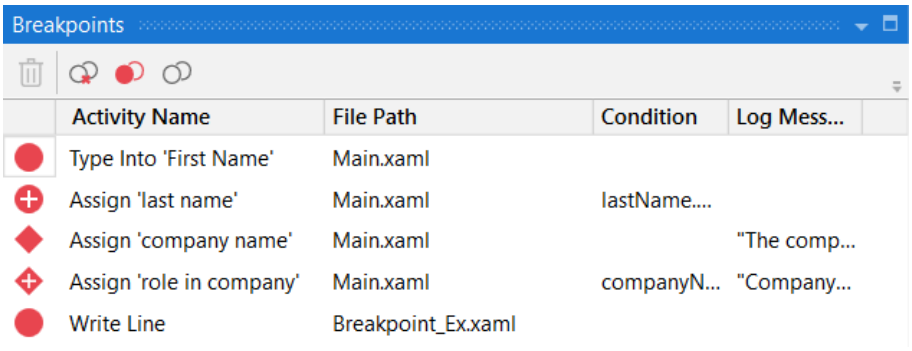

Call Stack
Activity Name
Activity Type
File Path
Type Into 'INPUT'
TypeIntoFactory
Main.xaml
Body
Sequence
Main.xaml
For Each Row
ForEachRow
Main.xaml
Do
Sequence
Main.xaml
Open Browser
OpenBrowserFactory
Main.xaml
Sequence
Sequence
Main.xaml

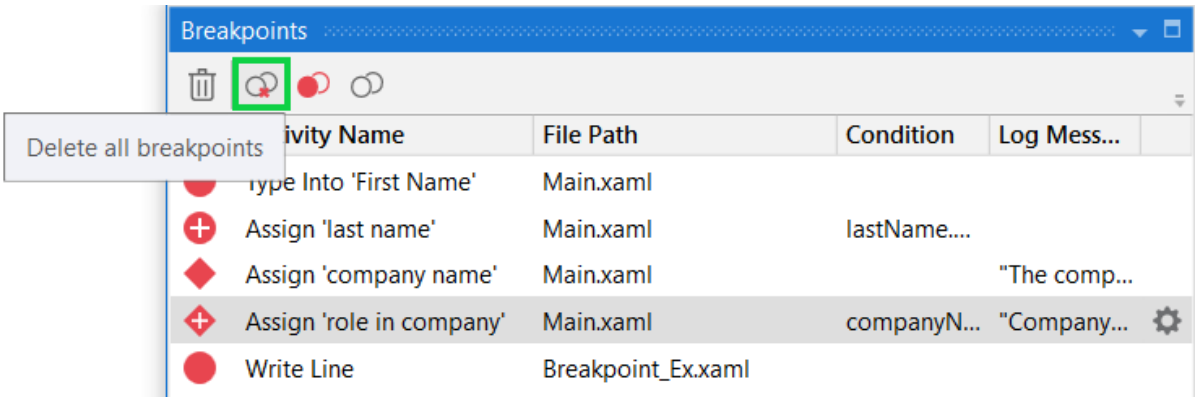

Write Line
Text
"Second"
Disable Activity (Ctrl+D)
Toggle Breakpoint
Edit Breakpoint Settings
Run to this Activity
Run from this Activity
Test Activity
Help...

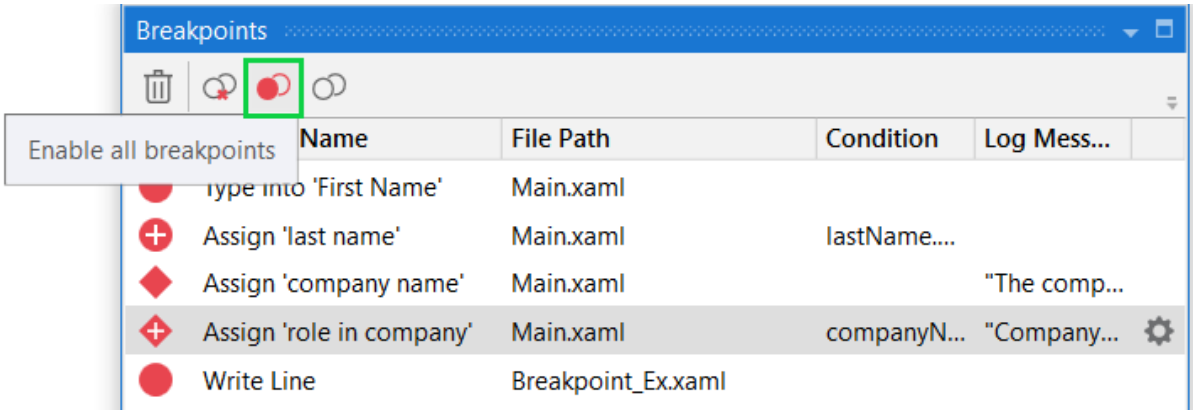

Write Line
Text
"Second"

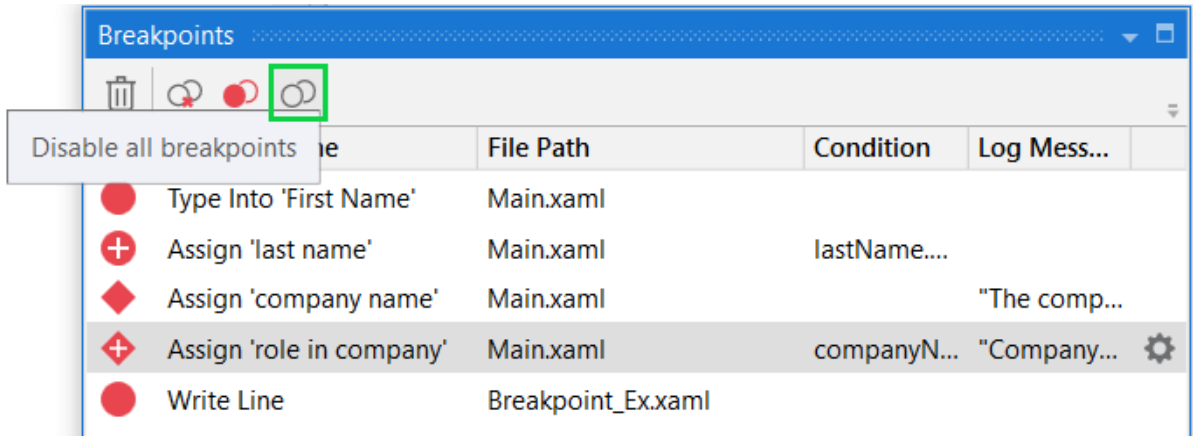

HOME
DESIGN
DEBUG
Debug File
Stop
Step Into
Step Over
Step Out
Retry
Ignore
Restart
Focus
Breakpoints
Slow Step
Execution Trail
Highlight Elements
Log Activities
Continue on Exception

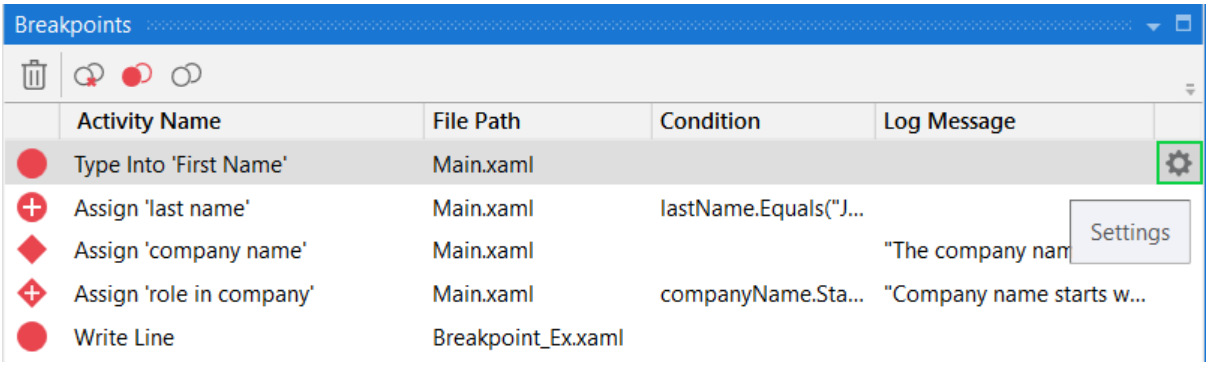

Write Line
Text
"Second"

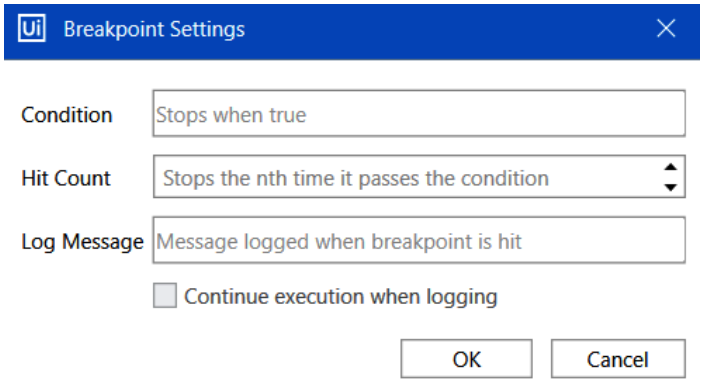

Breakpoints
Activity Name
File Path
Condition
Log Mess...
Type Into 'First Name'
Main.xaml
Assign 'last name'
Main.xaml
lastName....
Assign 'company name'
Main.xaml
"The comp...
Assign 'role in company'
Main.xaml
companyN...
"Company...
Write Line
Breakpoint_Ex.xaml

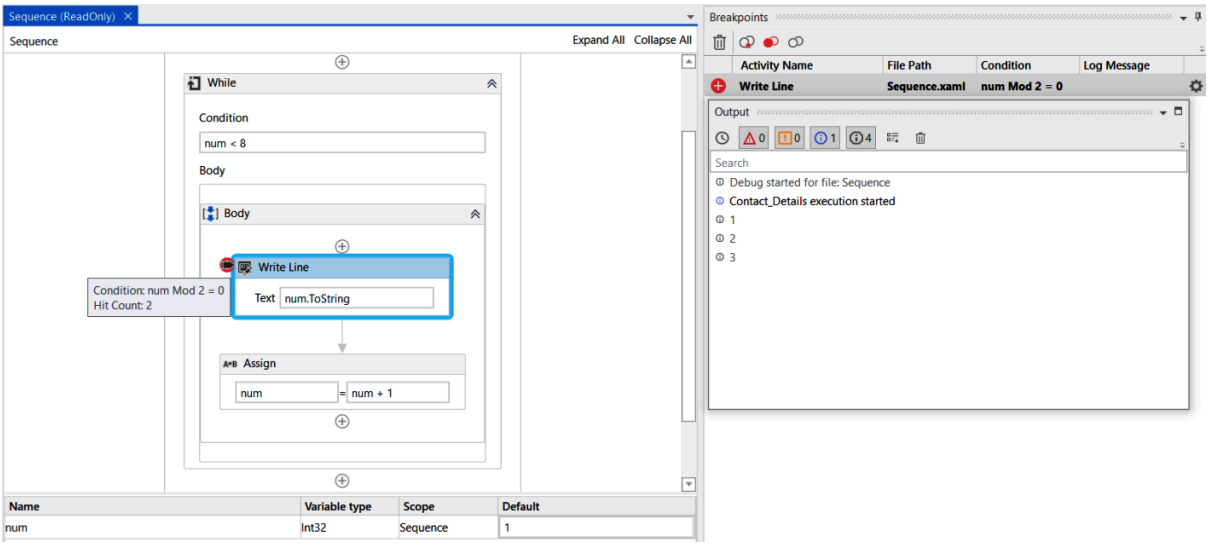

Breakpoints
Delete all breakpoints
File Path
Condition
Log Mess...
Main.xaml
Assign 'last name'
Main.xaml
lastName....
Assign 'company name'
Main.xaml
"The comp...
Assign 'role in company'
Main.xaml
companyN...
"Company...
Write Line
Breakpoint_Ex.xaml

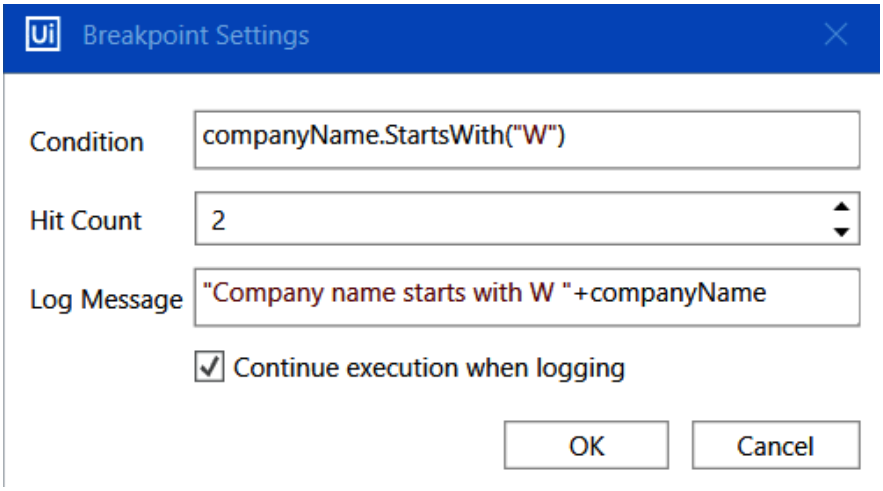

Breakpoints
Enable all breakpoints
Name
File Path
Condition
Log Mess...
Type Into 'First Name'
Main.xaml
Assign 'last name'
Main.xaml
lastName....
Assign 'company name'
Main.xaml
"The comp...
Assign 'role in company'
Main.xaml
companyN...
"Company...
Write Line
Breakpoint_Ex.xaml

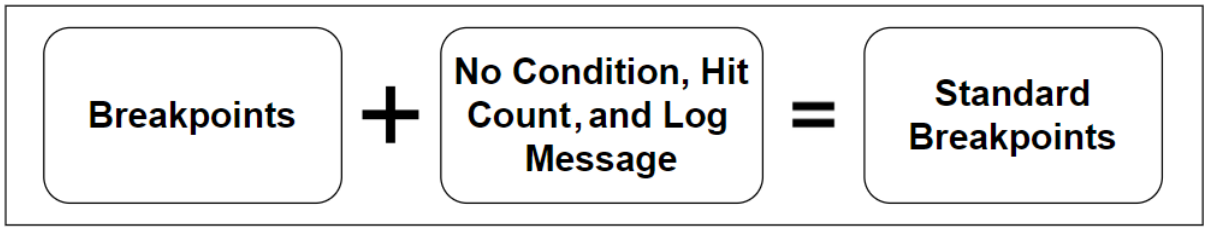

Breakpoints
Disable all breakpoints
File Path
Condition
Log Mess...
Type Into 'First Name'
Main.xaml
Assign 'last name'
Main.xaml
lastName....
Assign 'company name'
Main.xaml
"The comp...
Assign 'role in company'
Main.xaml
companyN...
"Company...
Write Line
Breakpoint_Ex.xaml

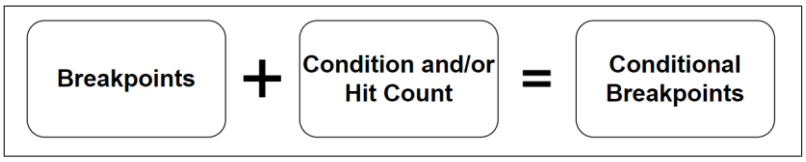

Breakpoints
Activity Name
File Path
Condition
Log Message
Type Into 'First Name'
Main.xaml
Assign 'last name'
Main.xaml
lastName.Equals("J...
Assign 'company name'
Main.xaml
"The company nam
Assign 'role in company'
Main.xaml
companyName.Sta...
"Company name starts w...
Write Line
Breakpoint_Ex.xaml
Settings


Breakpoint Settings
Condition
Stops when true
Hit Count
Stops the nth time it passes the condition
Log Message
Message logged when breakpoint is hit
Continue execution when logging
OK
Cancel

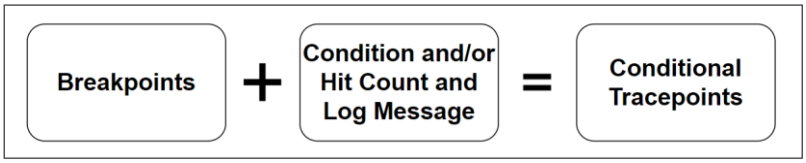

Sequence (ReadOnly)
Sequence
Expand All
Collapse All
While
Condition
num < 8
Body
Body
Write Line
Text
num.ToString
Condition: num Mod 2 = 0
Hit Count: 2
Assign
num
= num + 1
Name
Variable type
Scope
Default
num
Int32
Sequence
1
Breakpoints
Activity Name
File Path
Condition
Log Message
Write Line
Sequence.xaml
num Mod 2 = 0
Output
Search
Debug started for file: Sequence
Contact_Details execution started
1
2
3


Breakpoint Settings
Condition
companyName.StartsWith("W")
Hit Count
2
Log Message
"Company name starts with W "+companyName
Continue execution when logging
OK
Cancel

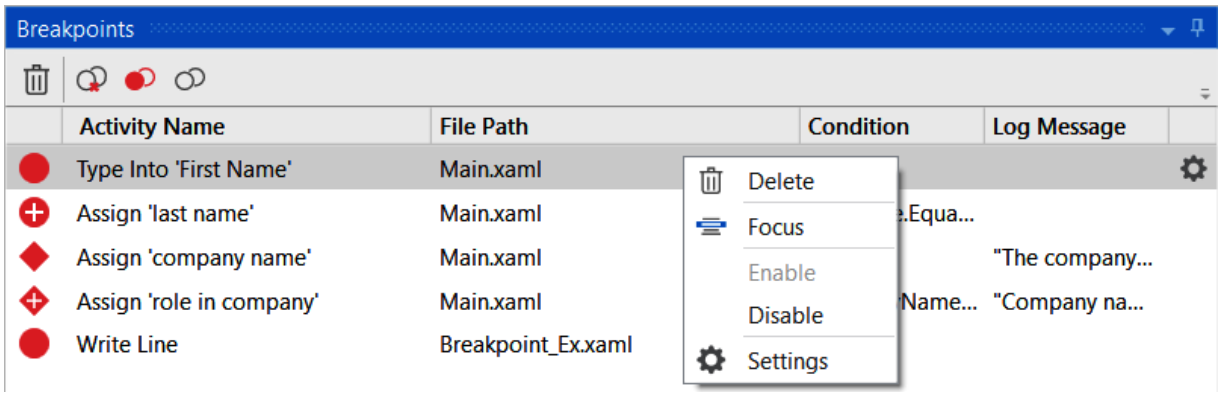

Breakpoints
+
No Condition, Hit Count, and Log Message
=
Standard Breakpoints


Breakpoints
+
Condition and/or Hit Count
=
Conditional Breakpoints

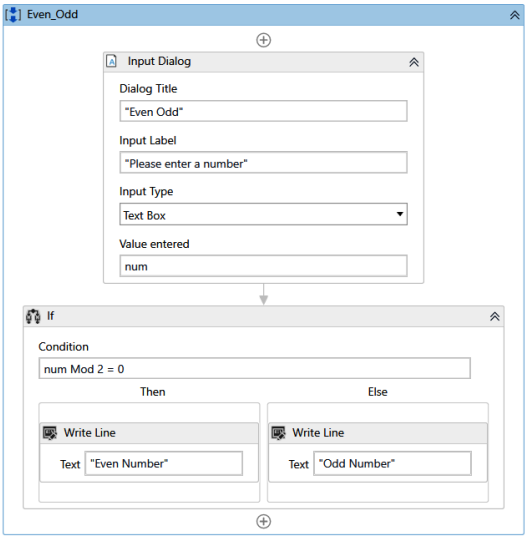
Breakpoints
+
Log Message
=
Tracepoints

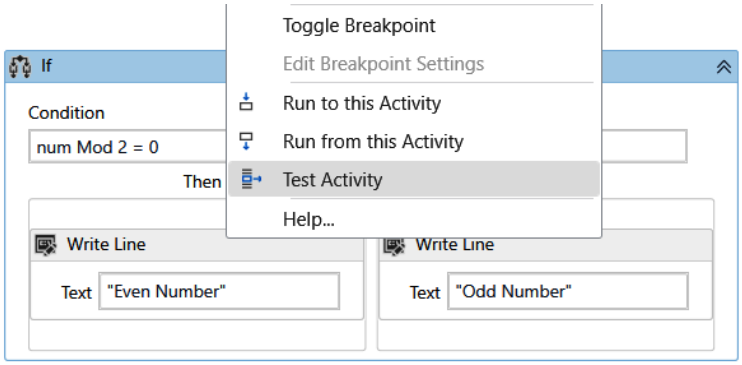


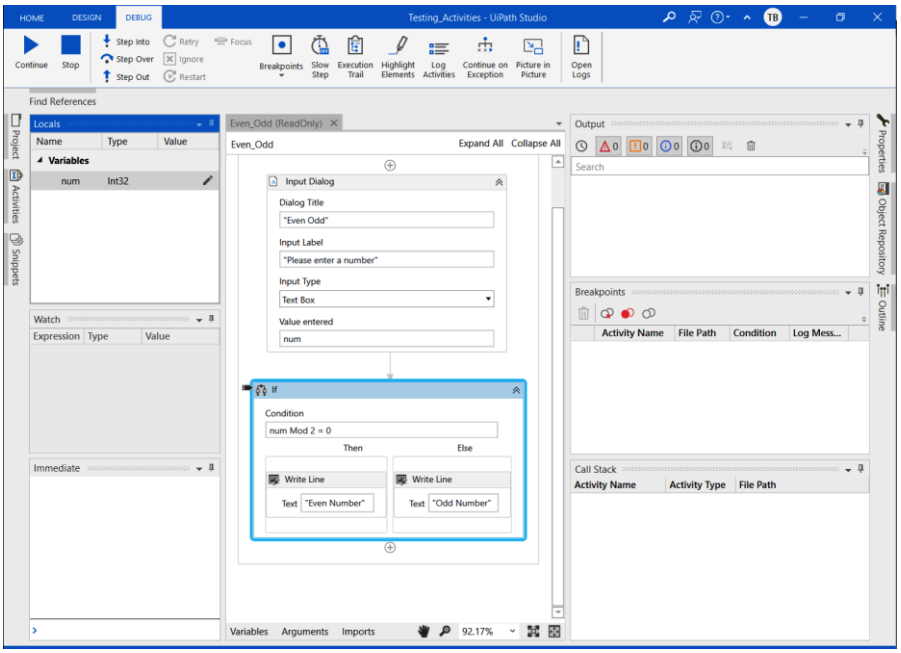

| Icons | Breakpoint |
|---|---|
| | Enabled Breakpoint |
| | Disabled Breakpoint |
| | Enabled Conditional Breakpoint |
| | Disabled Conditional Breakpoint |
| | Enabled Tracepoint |
| | Disabled Tracepoint |
| | Enabled Conditional Tracepoint |
| | Disabled Conditional Tracepoint |

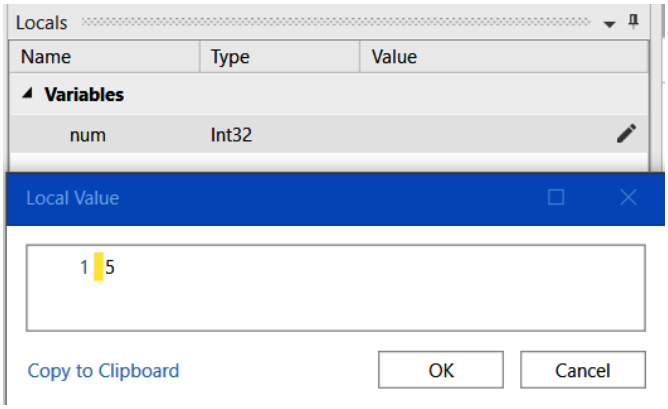


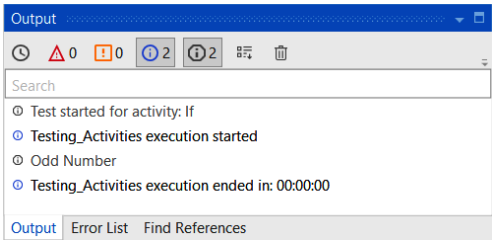

| Name | Variable type | Scope | Default |
|---|---|---|---|
| num | Int32 | Even_Odd | *Enter a VB expression* |

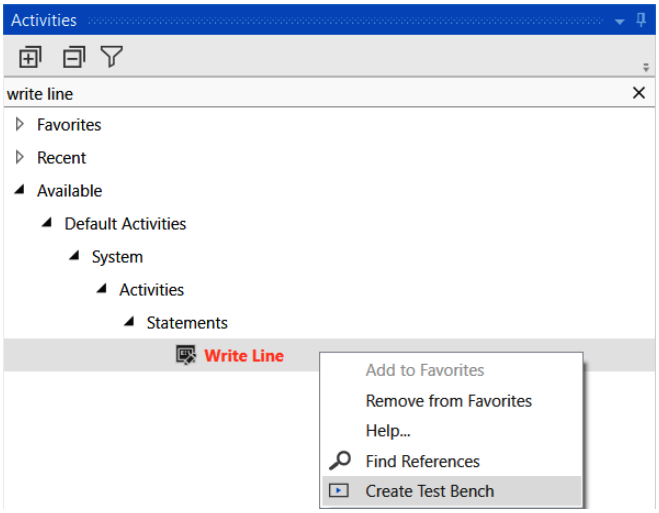

Even_Odd
Input Dialog
Dialog Title
"Even Odd"
Input Label
"Please enter a number"
Input Type
Text Box
Value entered
num
If
Condition
num Mod 2 = 0
Then
Else
Write Line
Text
"Even Number"
Write Line
Text
"Odd Number"

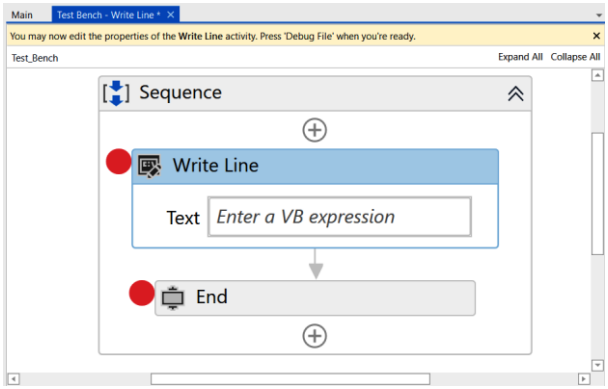

Toggle Breakpoint
Edit Breakpoint Settings
Run to this Activity
Run from this Activity
Test Activity
Help...
If
Condition
num Mod 2 = 0
Then
Write Line
Text "Even Number"
Write Line
Text "Odd Number"

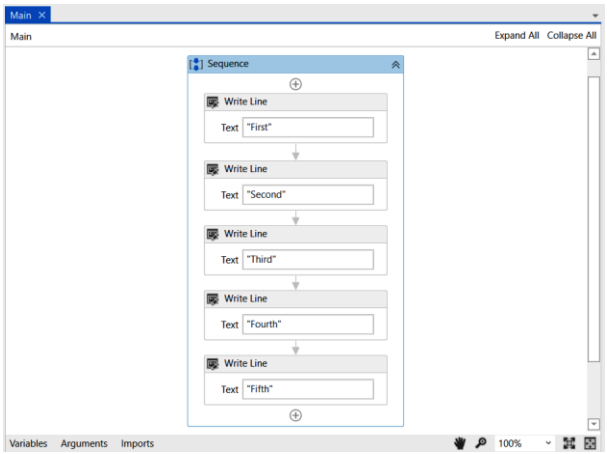

Testing_Activities - UiPath Studio
Locals
Even_Odd (ReadOnly)
Output
Input Dialog
Dialog Title
"Even Odd"
Input Label
"Please enter a number"
Input Type
Text Box
Value entered
num
If
Condition
num Mod 2 = 0
Then
Else
Write Line
Text "Even Number"
Write Line
Text "Odd Number"
Breakpoints
Call Stack

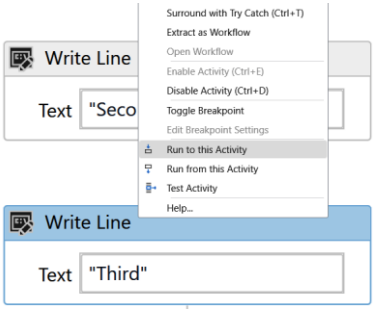

Locals
Name
Type
Value
Variables
num
Int32
Local Value
1 5
Copy to Clipboard
OK
Cancel

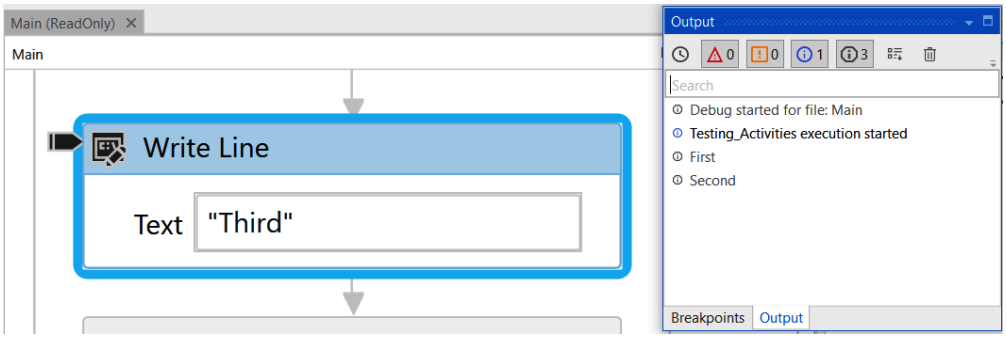

Output
Search
Test started for activity: If
Testing_Activities execution started
Odd Number
Testing_Activities execution ended in: 00:00:00
Output
Error List
Find References

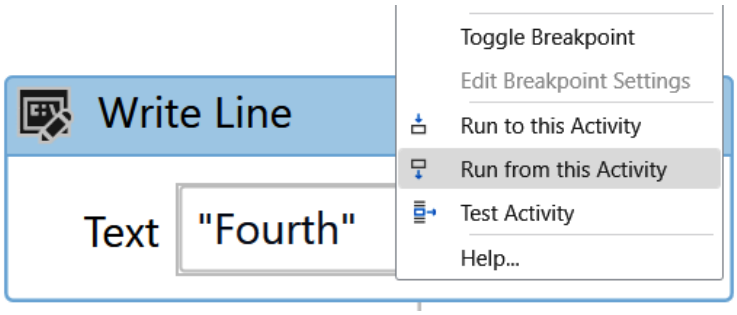

Activities
write line
Favorites
Recent
Available
Default Activities
System
Activities
Statements
Write Line
Add to Favorites
Remove from Favorites
Help...
Find References
Create Test Bench

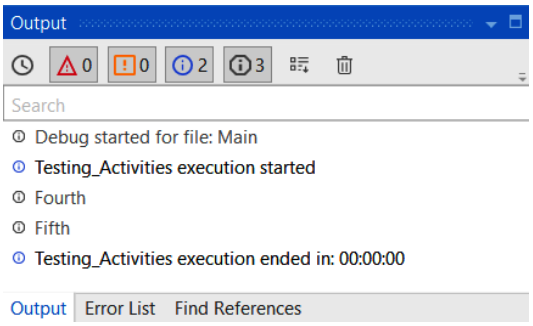

Main
Test Bench - Write Line *
You may now edit the properties of the Write Line activity. Press 'Debug File' when you're ready.
Test_Bench
Expand All
Collapse All
Sequence
Write Line
Text
Enter a VB expression
End


Main
Main
Expand All
Collapse All
Sequence
Write Line
Text "First"
Write Line
Text "Second"
Write Line
Text "Third"
Write Line
Text "Fourth"
Write Line
Text "Fifth"
Variables
Arguments
Imports
100%

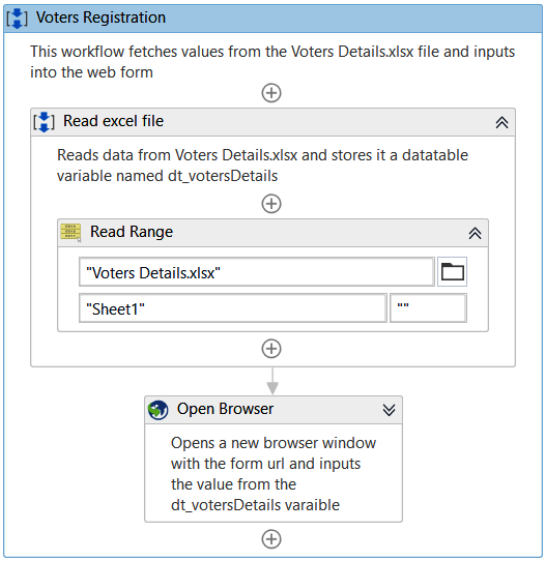

Write Line
Text "Seco
Surround with Try Catch (Ctrl+T)
Extract as Workflow
Open Workflow
Enable Activity (Ctrl+E)
Disable Activity (Ctrl+D)
Toggle Breakpoint
Edit Breakpoint Settings
Run to this Activity
Run from this Activity
Test Activity
Help...
Write Line
Text "Third"

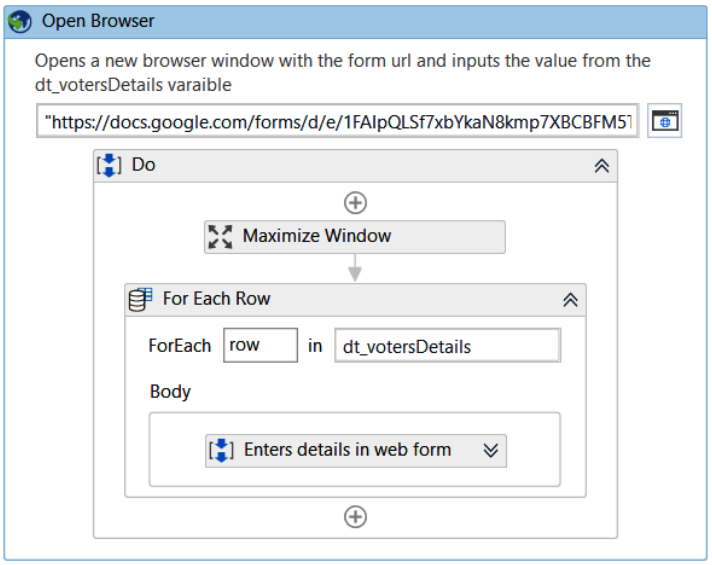


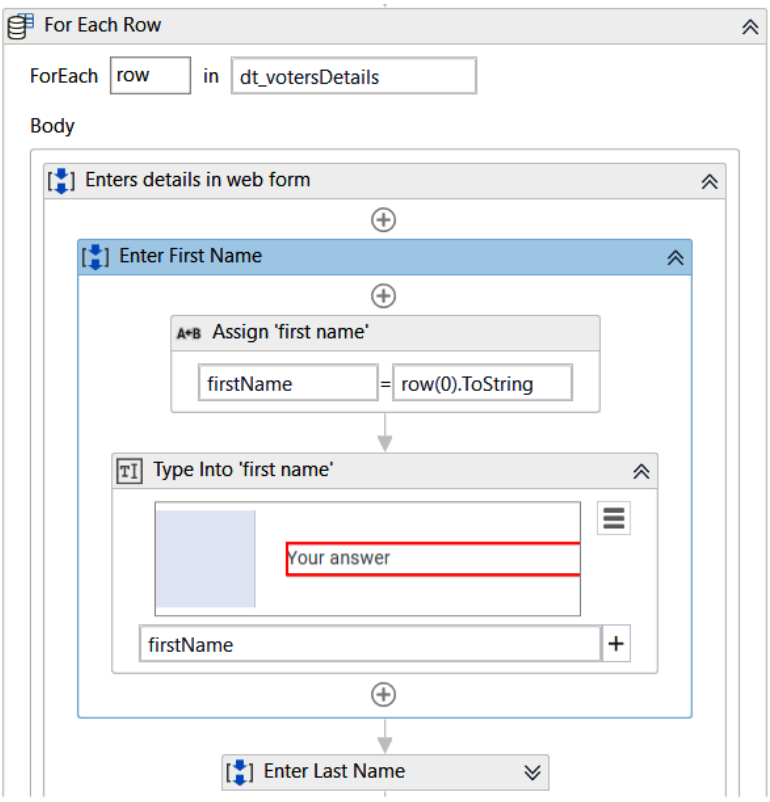




| First Name | Last Name | Email | Age | State |
|---|---|---|---|---|
| Marie | Kenny | marie.kenny@ui.com | 28 | Maharashtra |
| Lloyd | Wong | lloyd.wong@ri.com | 37 | Karnataka |




Open Browser
Opens a new browser window with the form url and inputs the value from the dt_votersDetails varaible
"https://docs.google.com/forms/d/e/1FAIpQLSf7xbYkaN8kmp7XBCBFM5
Do
Maximize Window
For Each Row
ForEach row in dt_votersDetails
Body
Enters details in web form


For Each Row
ForEach row in dt_votersDetails
Body
Enters details in web form
Enter First Name
Assign 'first name'
firstName = row(0).ToString
Type Into 'first name'
Your answer
firstName
Enter Last Name

# Voter Registration

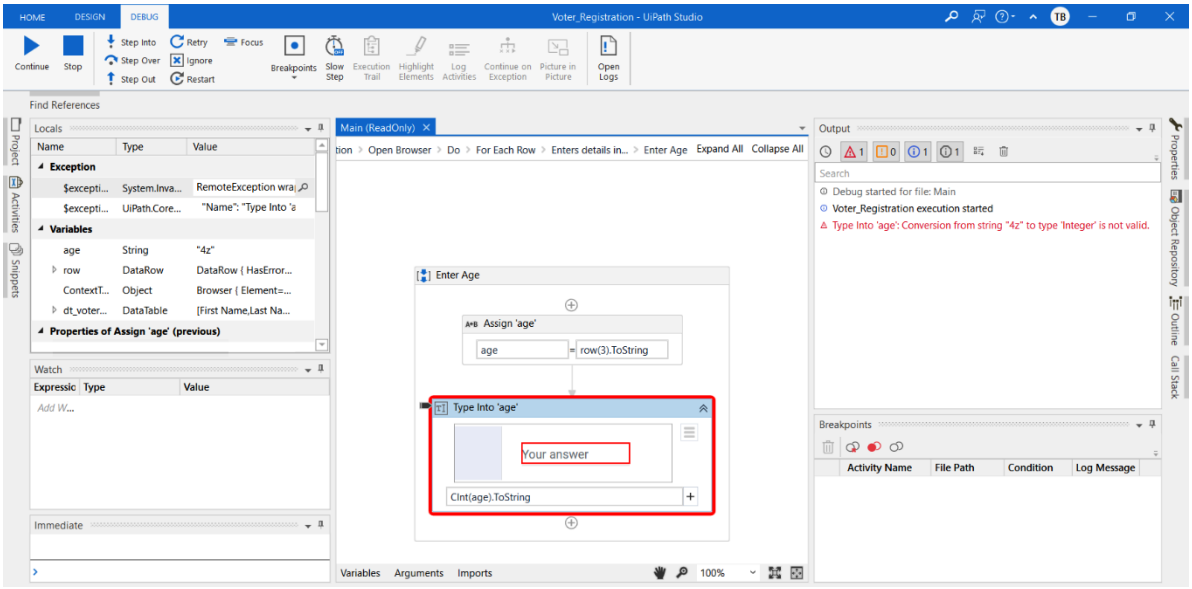
* Required

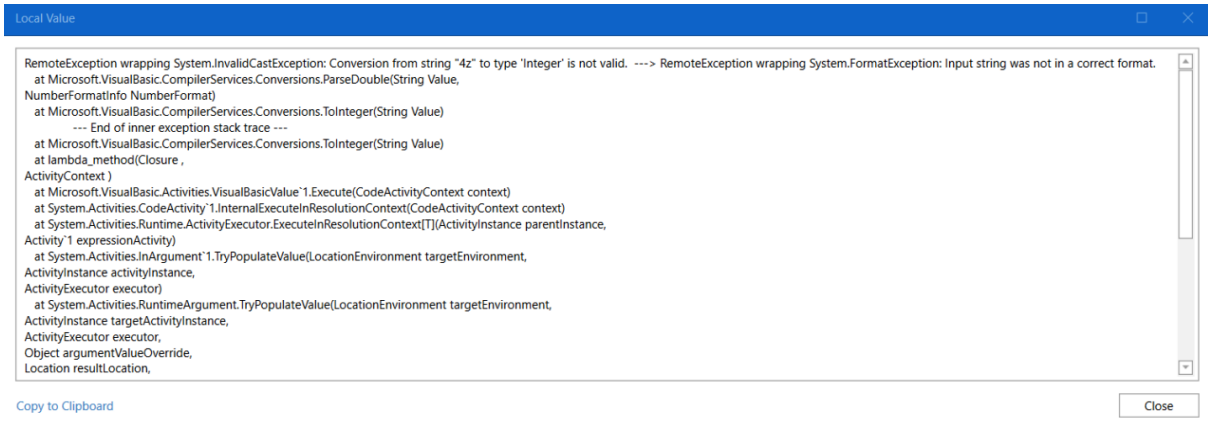
First Name *

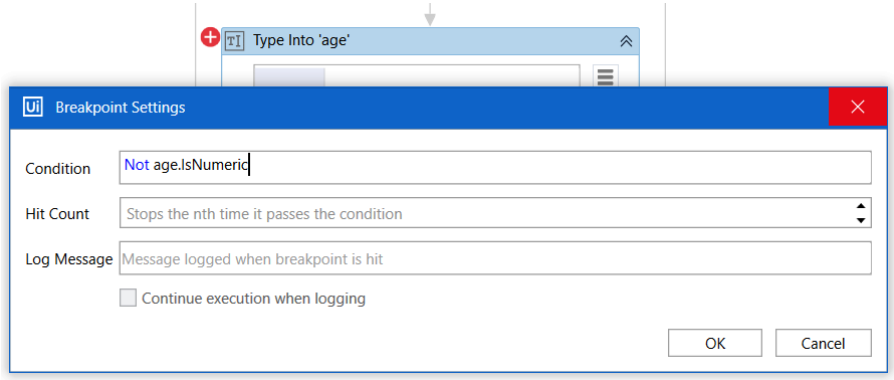
Your answer

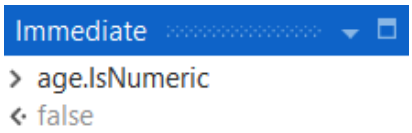
Last Name *

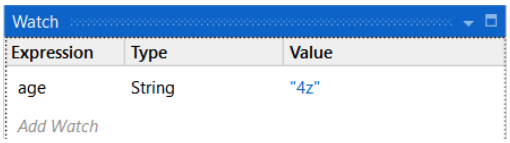
Your answer

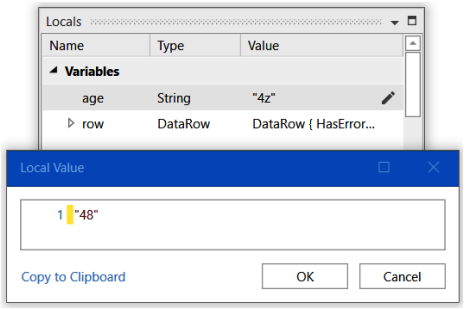



Local Value
RemoteException wrapping System.InvalidCastException: Conversion from string "4z" to type 'Integer' is not valid. ---> RemoteException wrapping System.FormatException: Input string was not in a correct format.
at Microsoft.VisualBasic.CompilerServices.Conversions.ParseDouble(String Value,
NumberFormatInfo NumberFormat)
at Microsoft.VisualBasic.CompilerServices.Conversions.ToInteger(String Value)
--- End of inner exception stack trace ---
at Microsoft.VisualBasic.CompilerServices.Conversions.ToInteger(String Value)
at lambda_method(Closure ,
ActivityContext )
at Microsoft.VisualBasic.Activities.VisualBasicValue`1.Execute(CodeActivityContext context)
at System.Activities.CodeActivity`1.InternalExecuteInResolutionContext(CodeActivityContext context)
at System.Activities.Runtime.ActivityExecutor.ExecuteInResolutionContext[T](ActivityInstance parentInstance,
Activity`1 expressionActivity)
at System.Activities.InArgument`1.TryPopulateValue(LocationEnvironment targetEnvironment,
ActivityInstance activityInstance,
ActivityExecutor executor)
at System.Activities.RuntimeArgument.TryPopulateValue(LocationEnvironment targetEnvironment,
ActivityInstance targetActivityInstance,
ActivityExecutor executor,
Object argumentValueOverride,
Location resultLocation,
Copy to Clipboard
Close

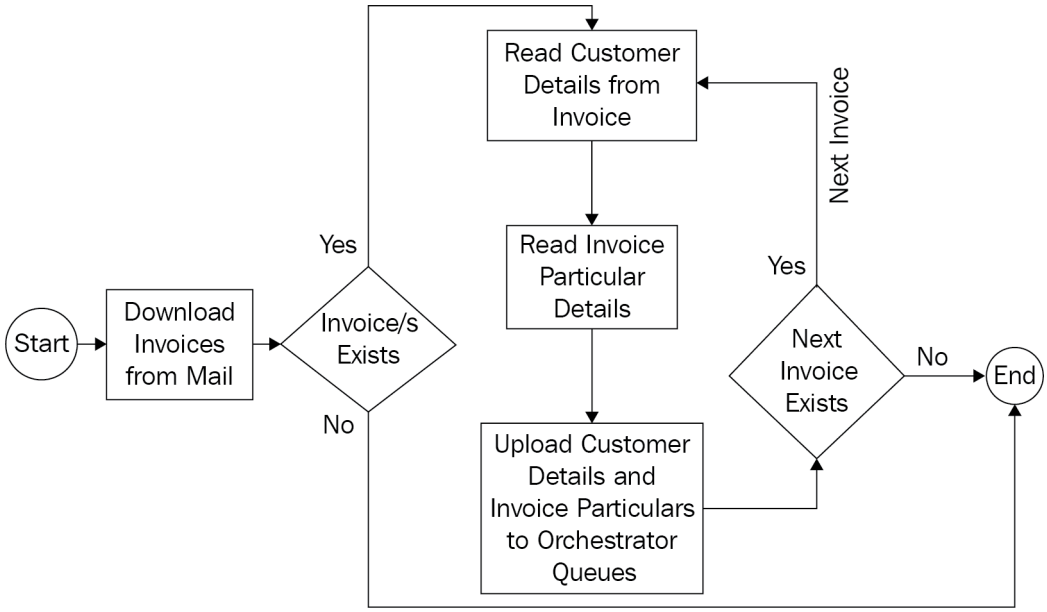

Type Into 'age'
Breakpoint Settings
Condition
Not age.IsNumeric
Hit Count
Stops the nth time it passes the condition
Log Message
Message logged when breakpoint is hit
Continue execution when logging
OK
Cancel

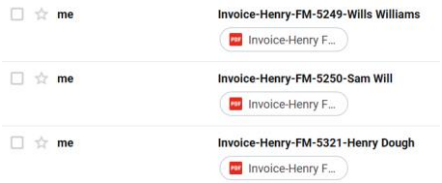

Immediate
age.IsNumeric
false

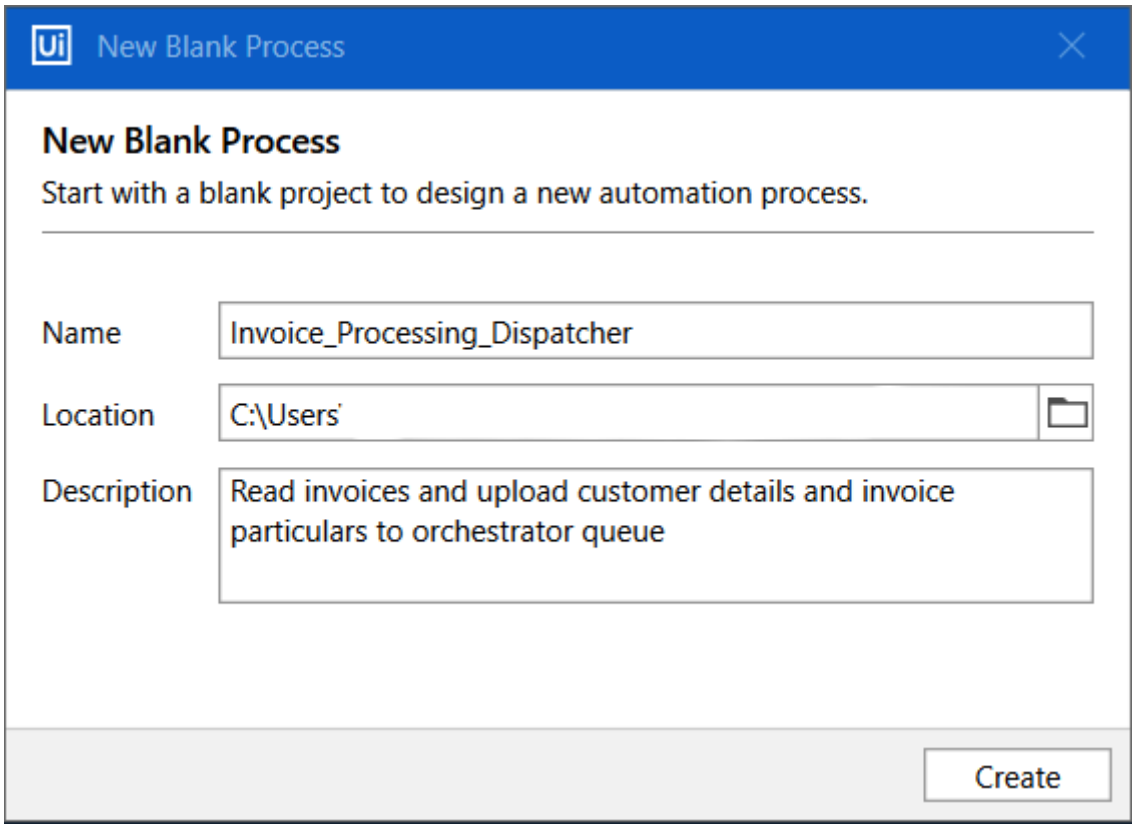

Watch
Expression
Type
Value
age
String
"4z"
Add Watch

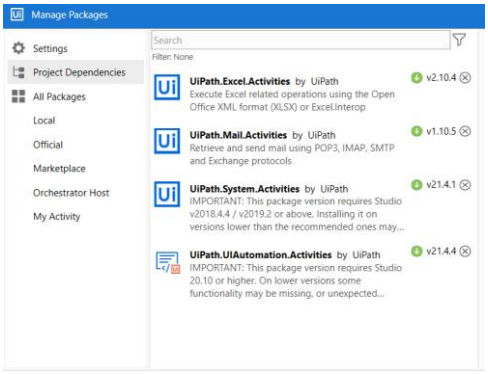

Locals
Name
Type
Value
Variables
age
String
"4z"
row
DataRow
DataRow { HasError...
Local Value
1 "48"
Copy to Clipboard
OK
Cancel

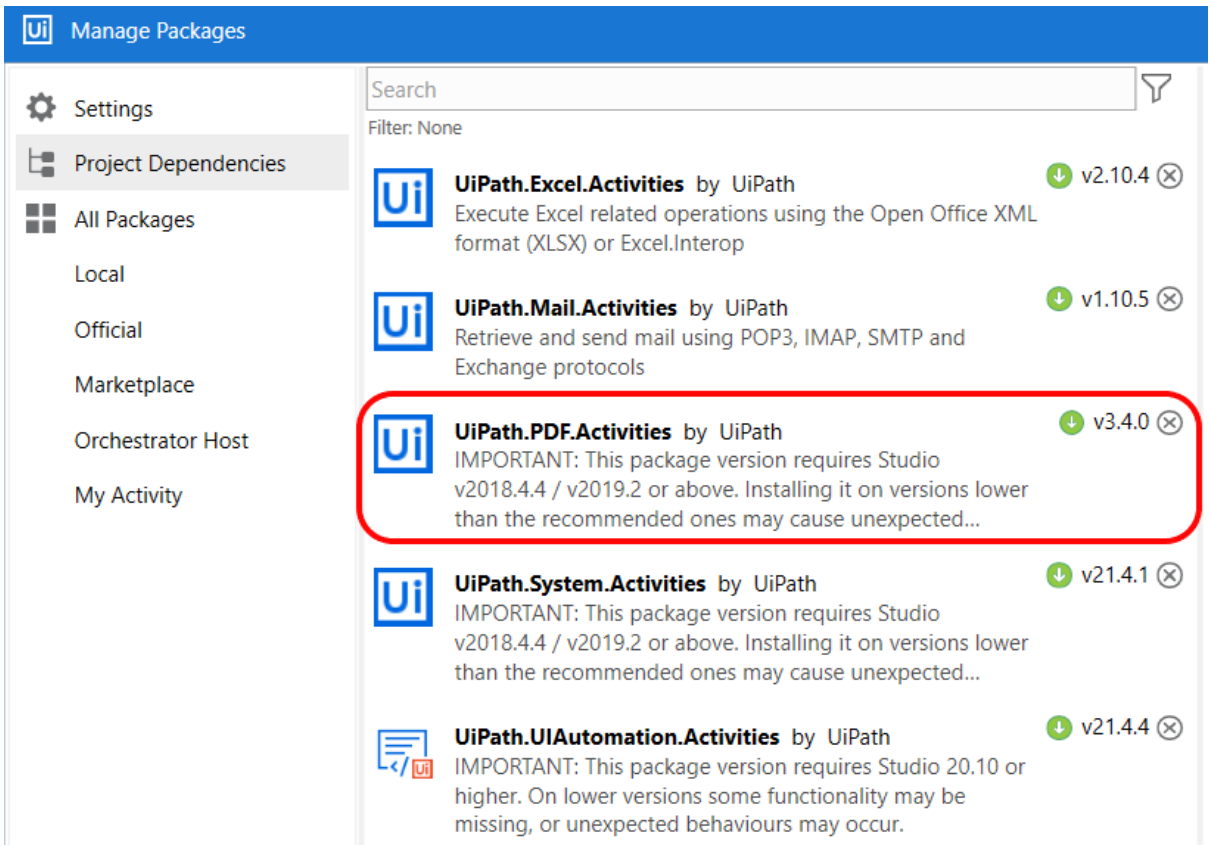
# Chapter 14: Invoice Processing – Dispatcher

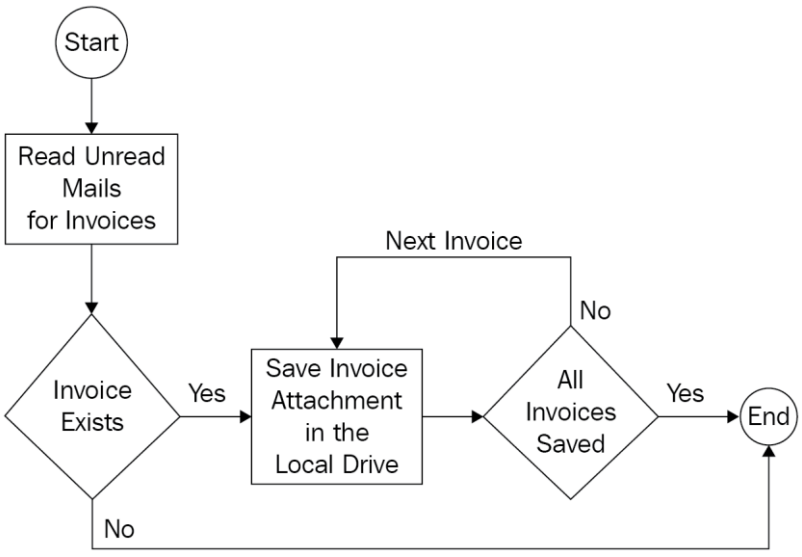


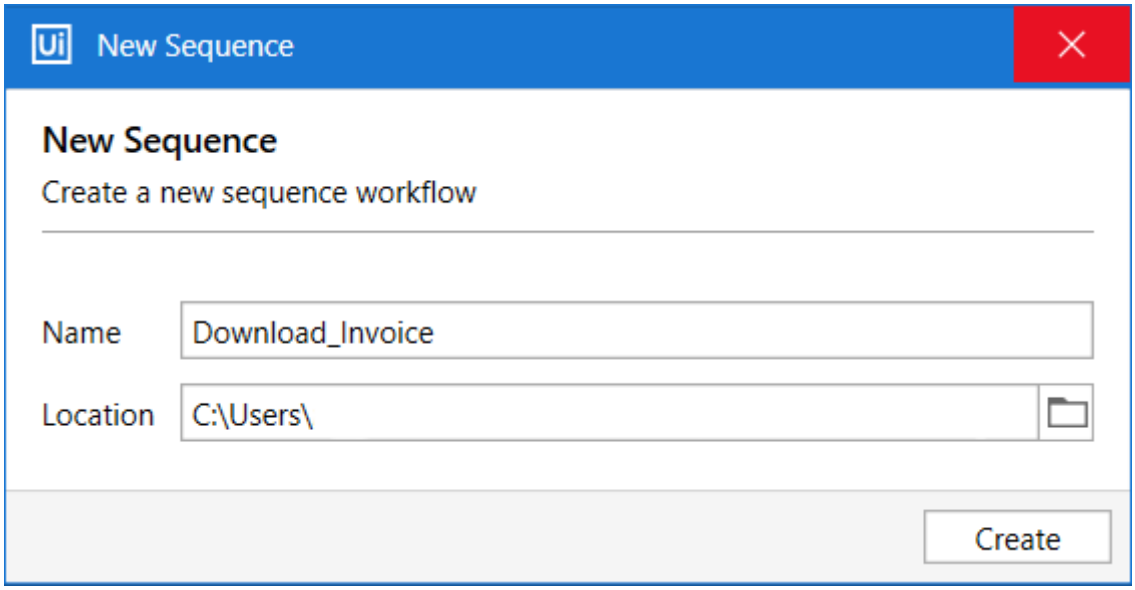




Manage Packages
Settings
Project Dependencies
All Packages
Local
Official
Marketplace
Orchestrator Host
My Activity
Search
Filter: None
UiPath.Excel.Activities by UiPath
Execute Excel related operations using the Open Office XML format (XLSX) or Excel.Interop
v2.10.4
UiPath.Mail.Activities by UiPath
Retrieve and send mail using POP3, IMAP, SMTP and Exchange protocols
v1.10.5
UiPath.System.Activities by UiPath
IMPORTANT: This package version requires Studio v2018.4.4 / v2019.2 or above. Installing it on versions lower than the recommended ones may...
v21.4.1
UiPath.UIAutomation.Activities by UiPath
IMPORTANT: This package version requires Studio 20.10 or higher. On lower versions some functionality may be missing, or unexpected...
v21.4.4


Manage Packages
Settings
Project Dependencies
All Packages
Local
Official
Marketplace
Orchestrator Host
My Activity
Search
Filter: None
UiPath.Excel.Activities by UiPath
Execute Excel related operations using the Open Office XML format (XLSX) or Excel.Interop
v2.10.4
UiPath.Mail.Activities by UiPath
Retrieve and send mail using POP3, IMAP, SMTP and Exchange protocols
v1.10.5
UiPath.PDF.Activities by UiPath
IMPORTANT: This package version requires Studio v2018.4.4 / v2019.2 or above. Installing it on versions lower than the recommended ones may cause unexpected...
v3.4.0
UiPath.System.Activities by UiPath
IMPORTANT: This package version requires Studio v2018.4.4 / v2019.2 or above. Installing it on versions lower than the recommended ones may cause unexpected...
v21.4.1
UiPath.UIAutomation.Activities by UiPath
IMPORTANT: This package version requires Studio 20.10 or higher. On lower versions some functionality may be missing, or unexpected behaviours may occur.
v21.4.4


Start
Read Unread Mails for Invoices
Invoice Exists
Yes
No
Save Invoice Attachment in the Local Drive
Next Invoice
All Invoices Saved
No
Yes
End




Assets / **Add Asset**

**Asset name ***

Mail Credential

**Type**

Credential

**Description**

Gmail email id and password

**Credential Store**

Orchestrator Database

Global Value

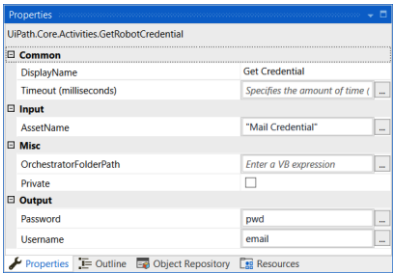
**Username ***

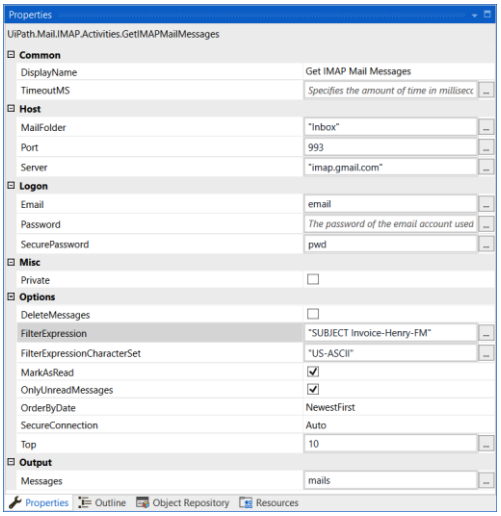
@gmail.com

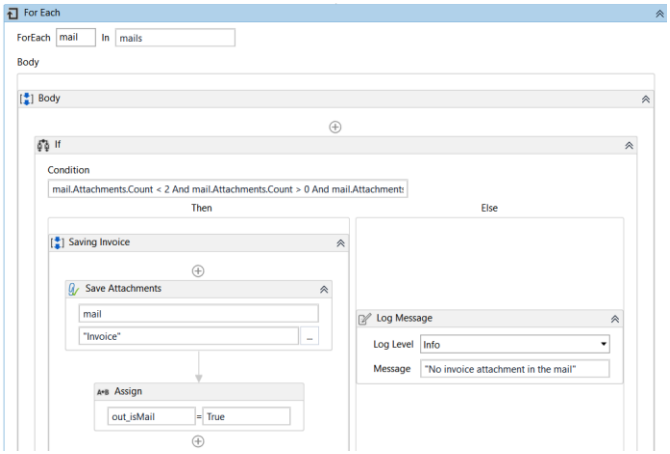
**Password ***

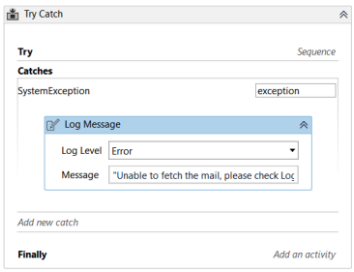
••••••••••

When the global value is enabled every user will receive it, unless specifically overriden in the table below.



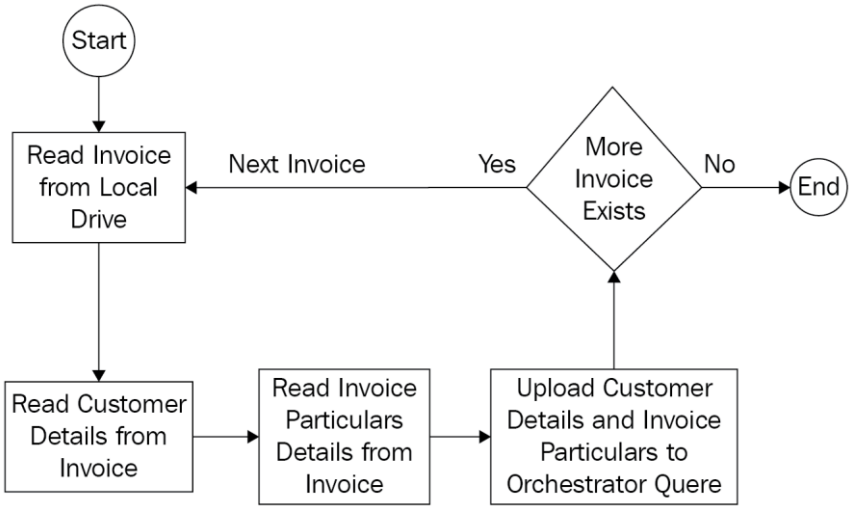



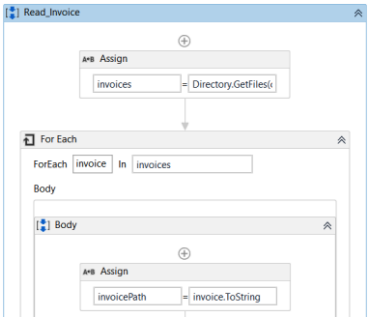



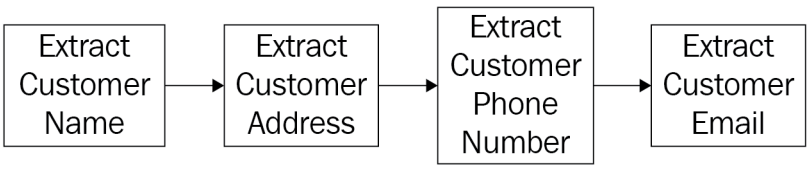




| Name | Variable type | Scope | Default |
|---|---|---|---|
| pwd | SecureString | Download_Invoice | *Enter a VB expression* |
| email | String | Download_Invoice | *Enter a VB expression* |
| mails | List<MailMessage> | Download_Invoice | *Enter a VB expression* |

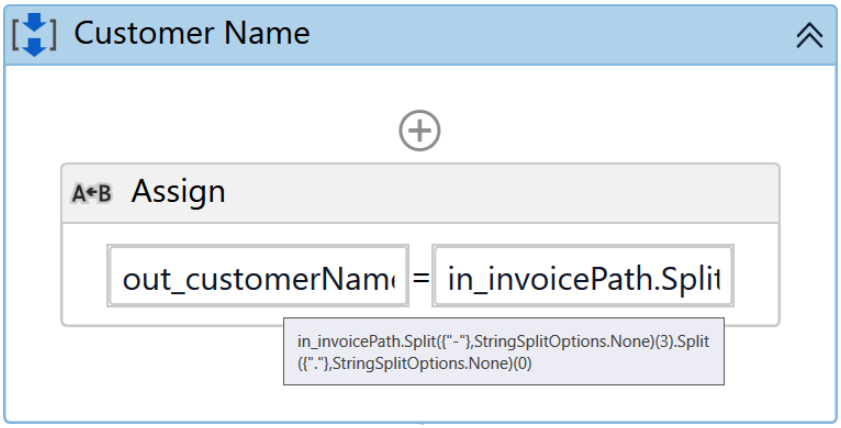
| Name | Direction | Argument type | Default value |
|---|---|---|---|
| out_isMail | Out | Boolean | *Default value not supported* |

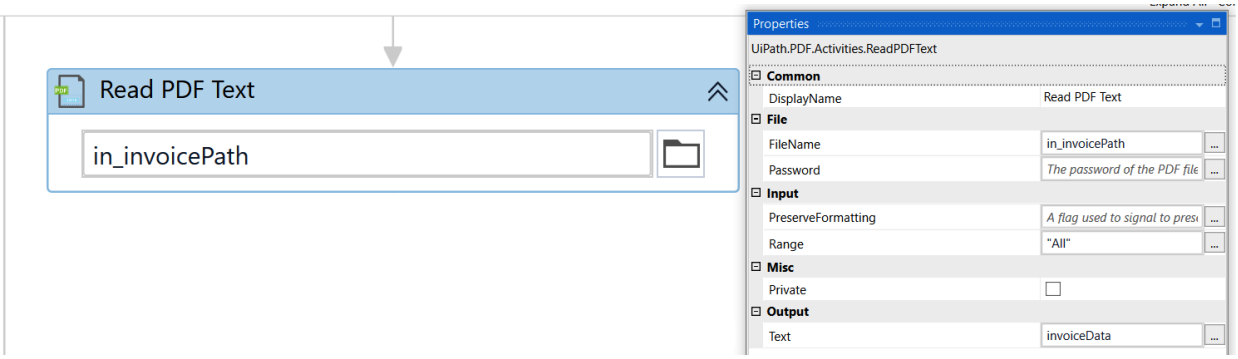


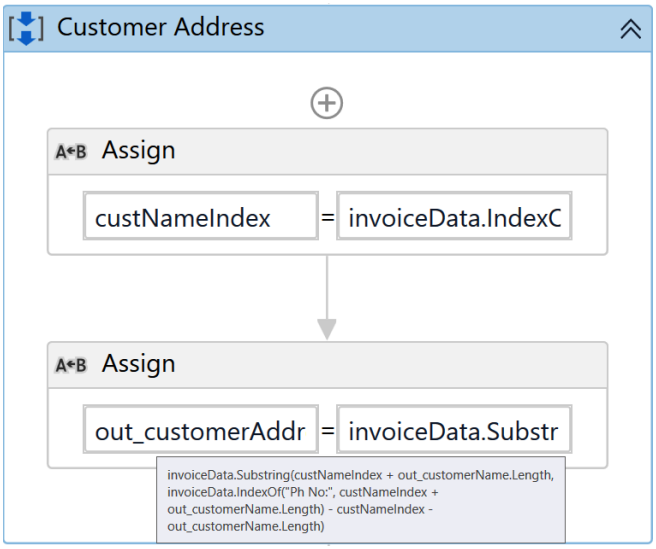



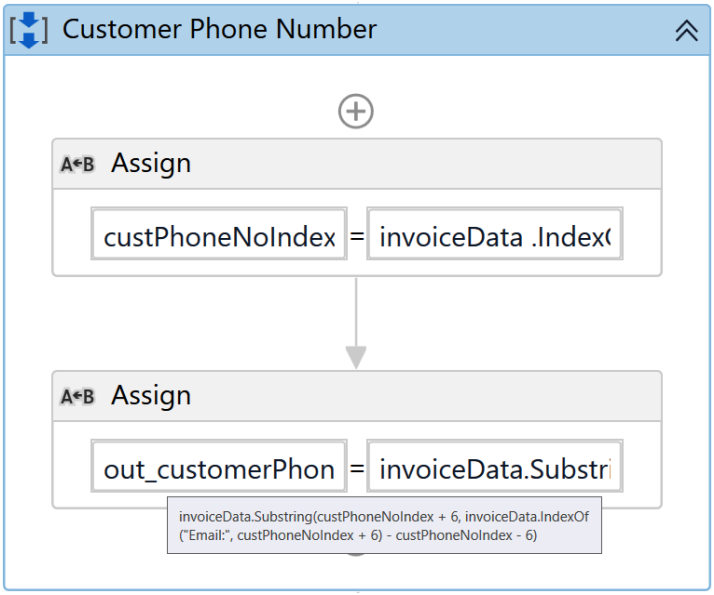



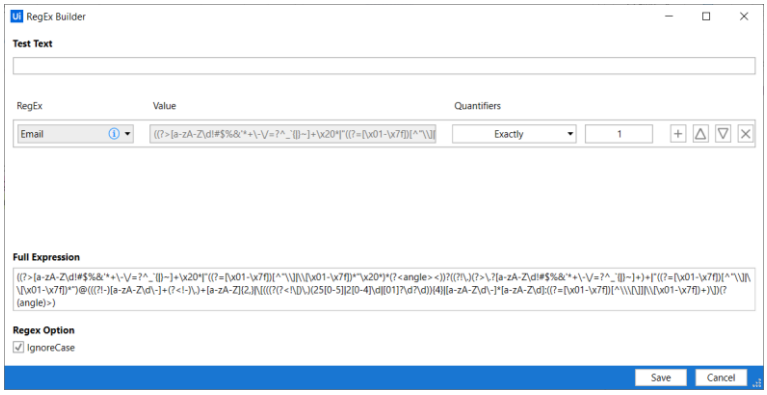

| Name | Direction | Argument type | Default value |
|---|---|---|---|
| out_customerPhoneNo | Out | String | *Default value not supported* |
| out_customerName | Out | String | *Default value not supported* |
| out_customerEmail | Out | String | *Default value not supported* |
| out_customerAddress | Out | String | *Default value not supported* |
| in_invoicePath | In | String | *Enter a VB expression* |

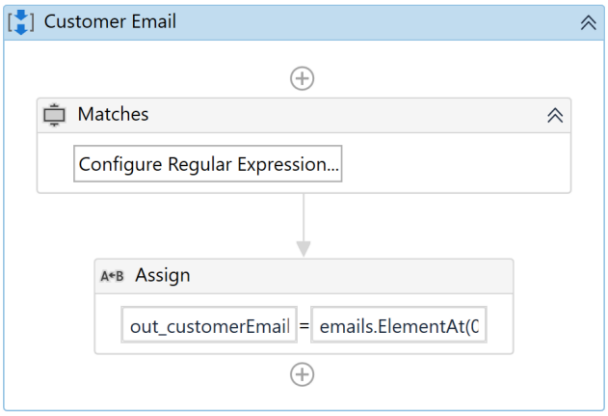

Customer Name
Assign
out_customerNam
=
in_invoicePath.Split
in_invoicePath.Split({"-"},StringSplitOptions.None)(3).Split({"."},StringSplitOptions.None)(0)

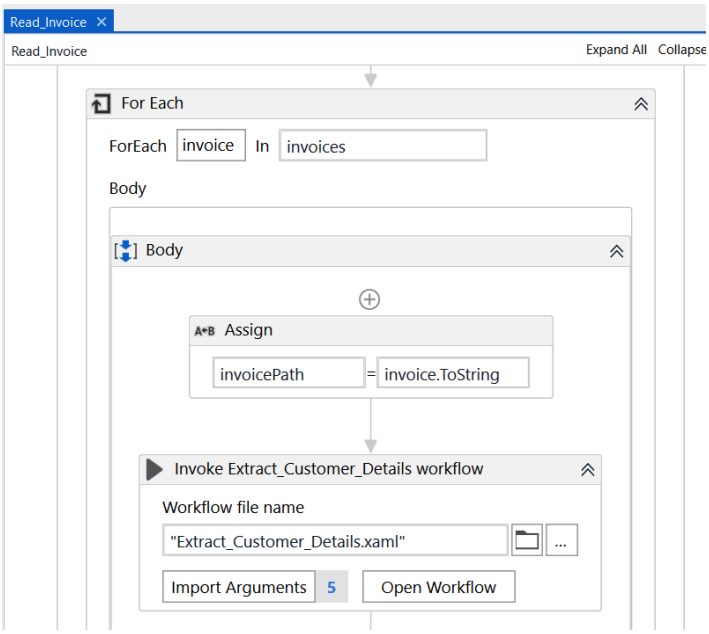

Read PDF Text
in_invoicePath
Properties
UiPath.PDF.Activities.ReadPDFText
Common
DisplayName
Read PDF Text
File
FileName
in_invoicePath
Password
The password of the PDF file
Input
PreserveFormatting
A flag used to signal to pres
Range
"All"
Misc
Private
Output
Text
invoiceData

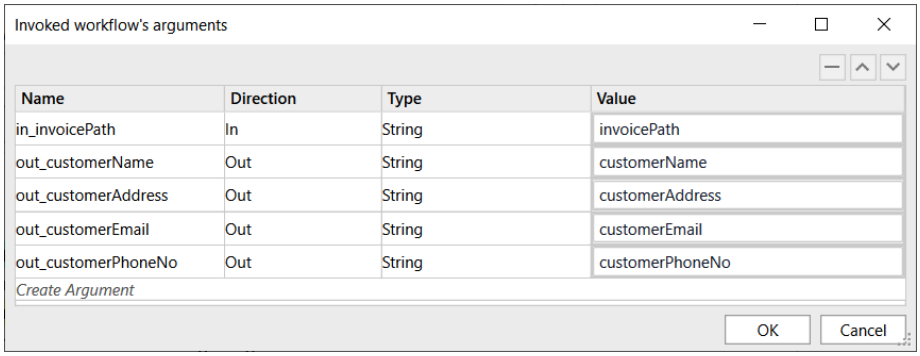

Customer Address
Assign
custNameIndex
=
invoiceData.IndexC
Assign
out_customerAddr
=
invoiceData.Substr
invoiceData.Substring(custNameIndex + out_customerName.Length, invoiceData.IndexOf("Ph No:", custNameIndex + out_customerName.Length) - custNameIndex - out_customerName.Length)

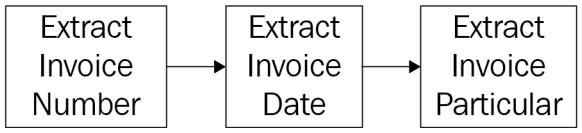

Customer Phone Number
Assign
custPhoneNoIndex
=
invoiceData .Index(
Assign
out_customerPhon
=
invoiceData.Substri
invoiceData.Substring(custPhoneNoIndex + 6, invoiceData.IndexOf
("Email:", custPhoneNoIndex + 6) - custPhoneNoIndex - 6)


RegEx Builder
Test Text
RegEx
Value
Quantifiers
Email
Exactly
1
Full Expression
Regex Option
IgnoreCase
Save
Cancel

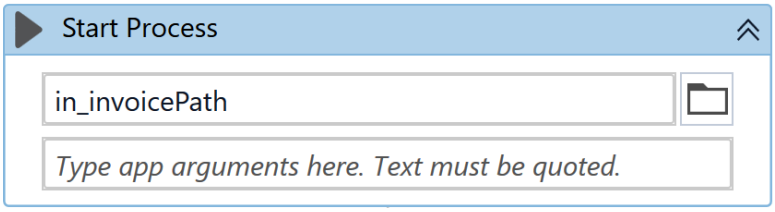

Customer Email
Matches
Configure Regular Expression...
Assign
out_customerEmail
=
emails.ElementAt(C

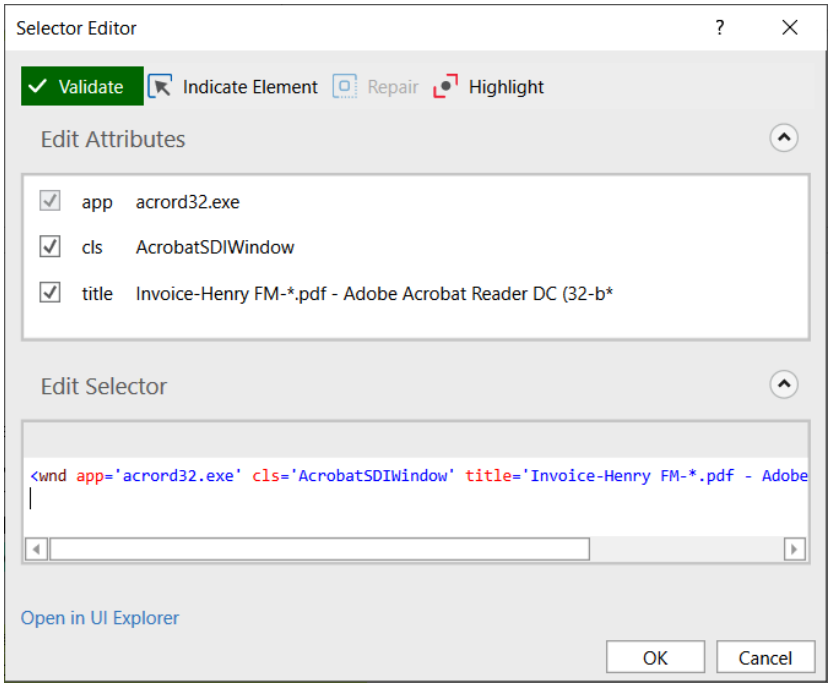



| Name | Direction | Argument type | Default value |
|---|---|---|---|
| out_invoiceNumber | Out | String | *Default value not supported* |
| out_invoiceDate | Out | String | *Default value not supported* |
| out_dt_invoiceParticulars | Out | DataTable | *Default value not supported* |
| in_invoicePath | In | String | *Enter a VB expression* |

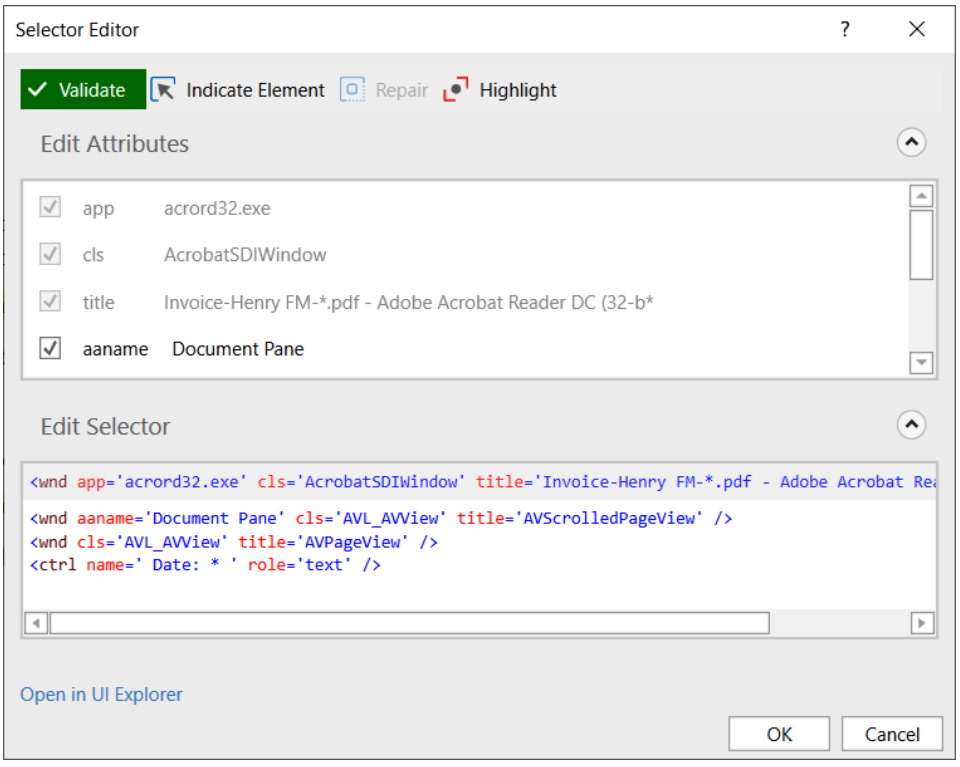


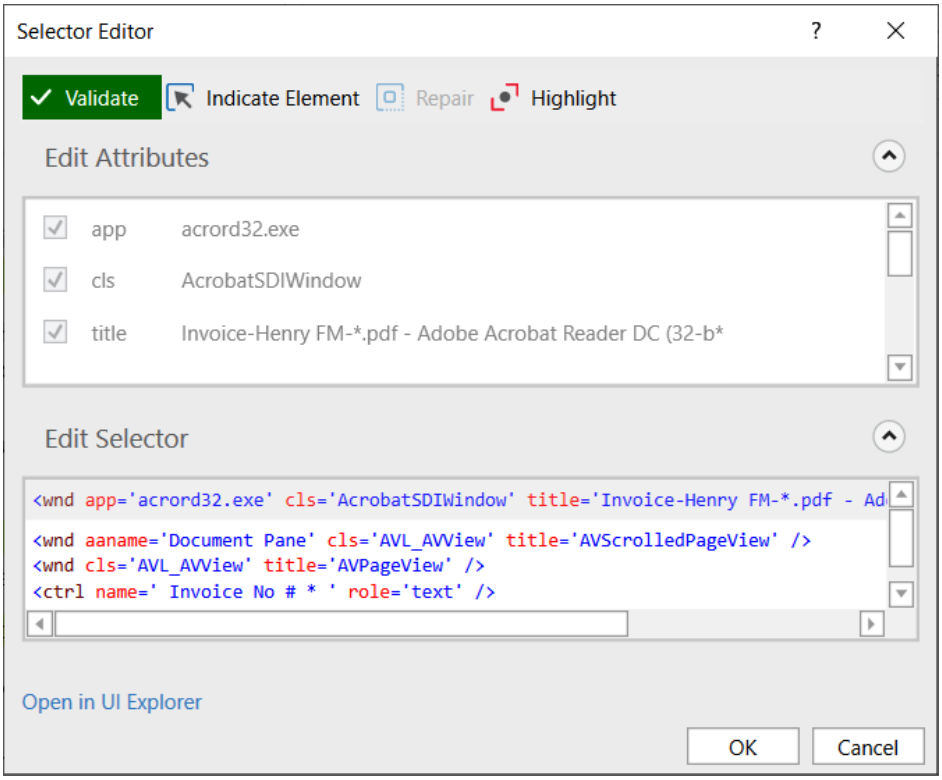


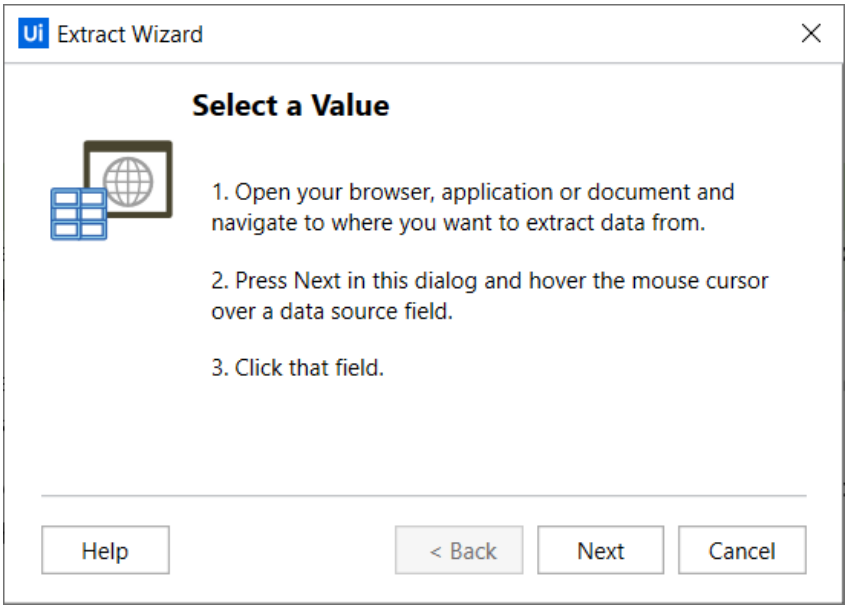

**Henry's Food Mart**
4628 Hillside Drive, Lafayette, Louisiana, 70506

**INVOICE**

Date: 16/07/2021
Invoice No # 5321






| Qty | Description | Unit Price | Line Total |
|---|---|---|---|
| 2 | Avocado and chickpea pasta | 10.00 | 20.00 |
| 5 | Avocado and grapefruit bagel | 8.00 | 40.00 |
| 1 | Apricot and date crumble | 10.00 | 10.00 |
| 1 | Cheddar cheese and jujube salad | 15.00 | 15.00 |
| 1 | Mascarpone and mulberry salad | 20.00 | 20.00 |
| | | Subtotal | 105.00 |
| | | Shipping | 2.00 |
| | | Total | $107.00 |

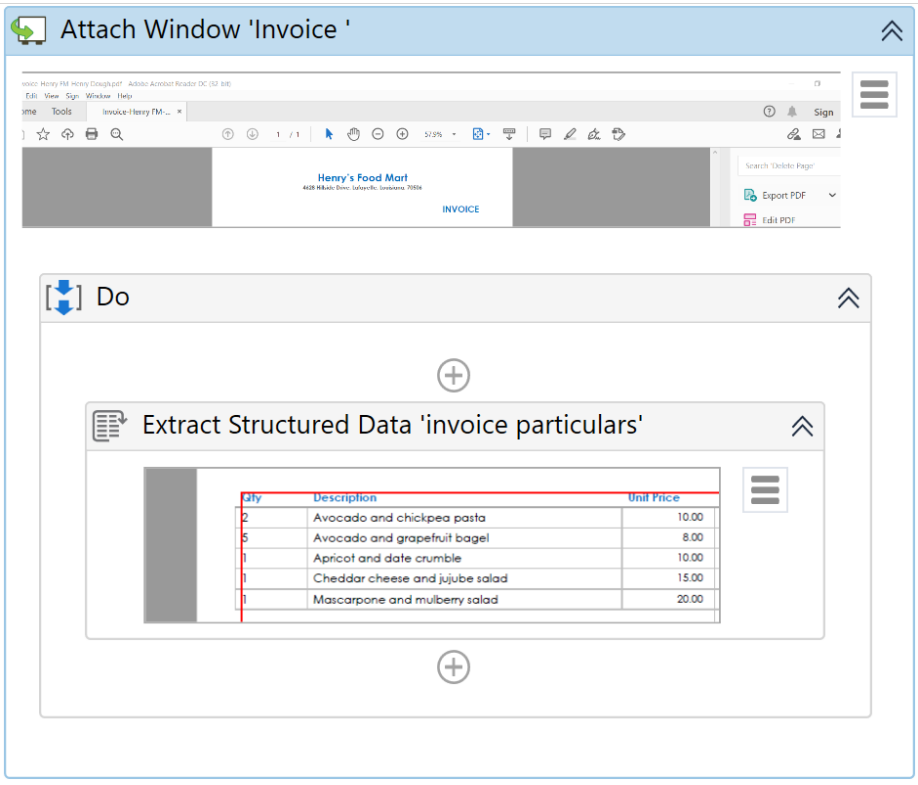
Extract Wizard

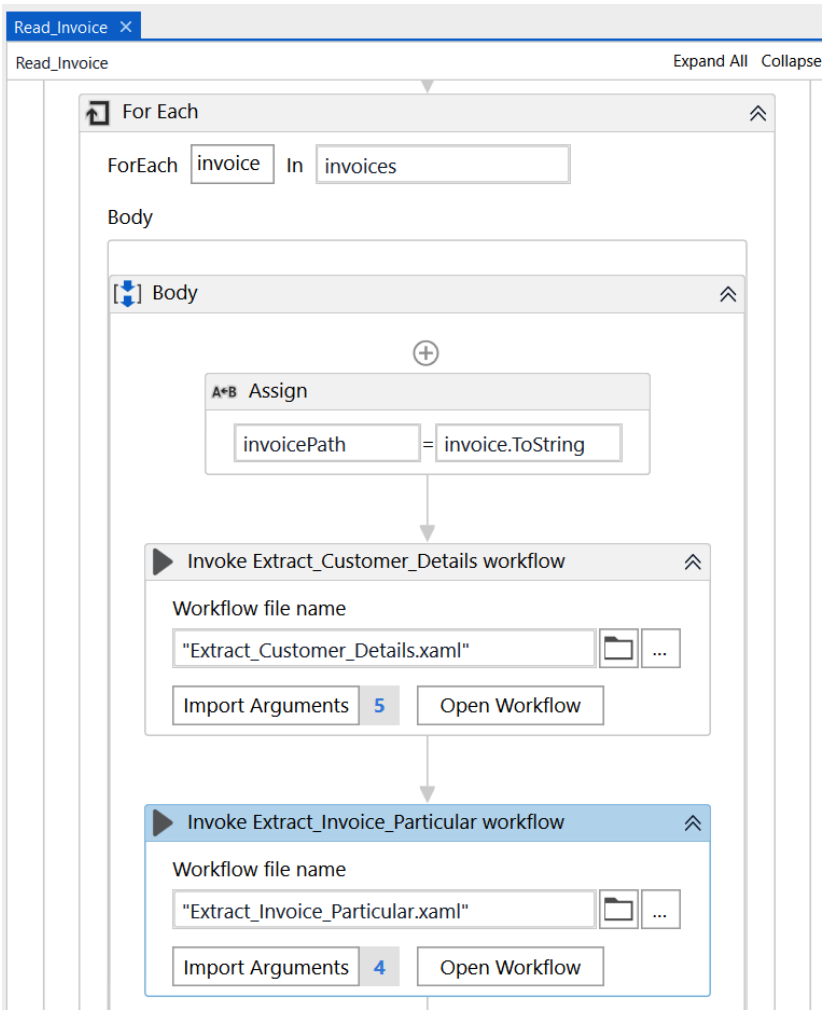
**Preview Data**

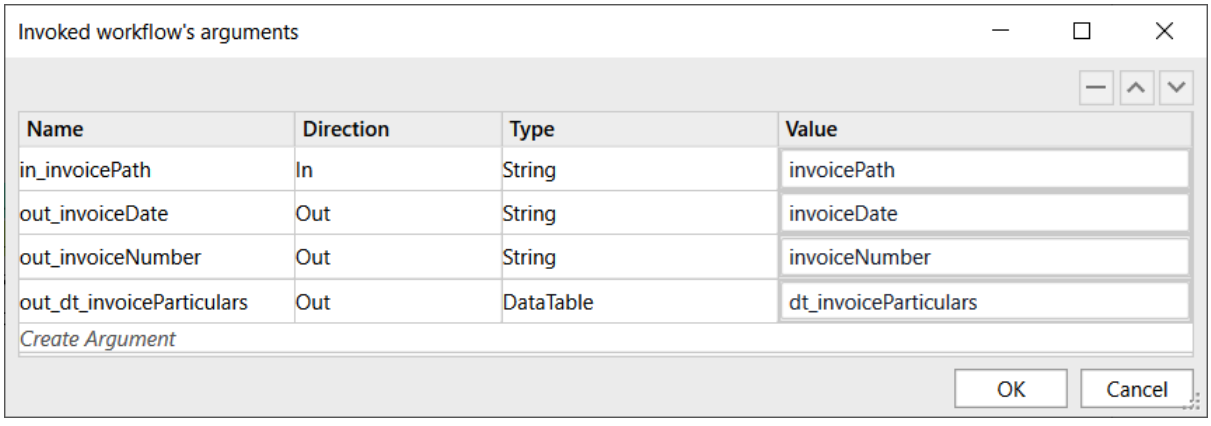
| Qty | Description | Unit Price | Line Total | |
|---|---|---|---|---|
| 2 | Avocado and chickpea pasta | 10.00 | 20.00 | |
| 5 | Avocado and grapefruit bagel | 8.00 | 40.00 | |
| 1 | Apricot and date crumble | 10.00 | 10.00 | |
| 1 | Cheddar cheese and jujube salad | 15.00 | 15.00 | |
| 1 | Mascarpone and mulberry salad | 20.00 | 20.00 | |
| | | Subtotal | 105.00 | |
| | | Shipping | 2.00 | |
| | | Total | $107.00 | |

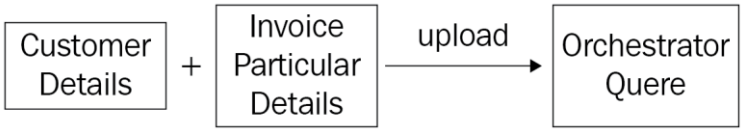
Edit Data Definition | Maximum number of results (0 for all) 0

Help | < Back | Finish | Cancel




Read_Invoice
Read_Invoice
Expand All
Collapse
For Each
ForEach
invoice
In
invoices
Body
Body
Assign
invoicePath
=
invoice.ToString
Invoke Extract_Customer_Details workflow
Workflow file name
"Extract_Customer_Details.xaml"
...
Import Arguments
5
Open Workflow
Invoke Extract_Invoice_Particular workflow
Workflow file name
"Extract_Invoice_Particular.xaml"
...
Import Arguments
4
Open Workflow


Invoked workflow's arguments
Name
Direction
Type
Value
in_invoicePath
In
String
invoicePath
out_invoiceDate
Out
String
invoiceDate
out_invoiceNumber
Out
String
invoiceNumber
out_dt_invoiceParticulars
Out
DataTable
dt_invoiceParticulars
Create Argument
OK
Cancel


Customer Details
+
Invoice Particular Details
upload
Orchestrator Quere

Queues / Create Queue

## Create Queue

Name *

HenryFoodMartInvoice

Description

uploading customer's details and invoice particul...

Unique Reference

○ Yes ◉ No

Auto Retry

◉ Yes ○ No

Max # of retries

1

## Schema Definitions

Specific Data JSON Schema

Browse

Output Data JSON Schema

Browse

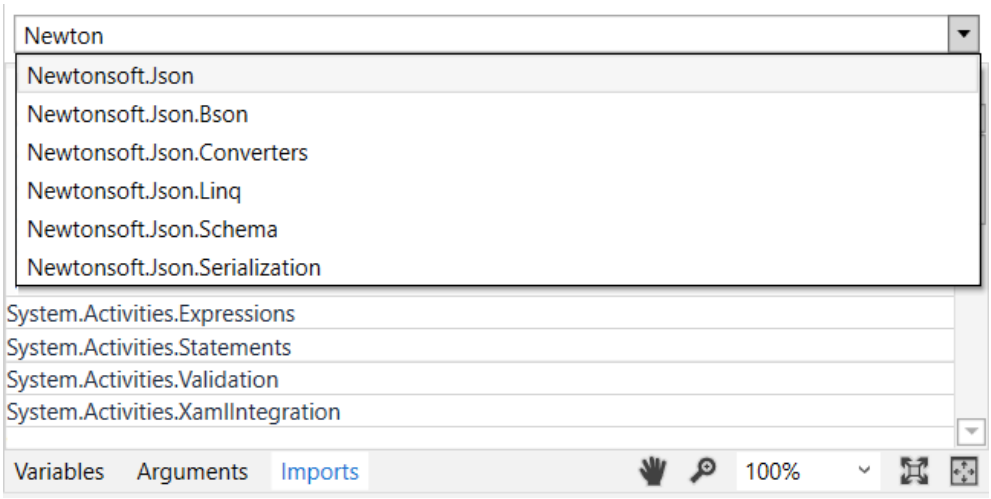
Analytics Data JSON Schema

Browse

## SLA Predictions

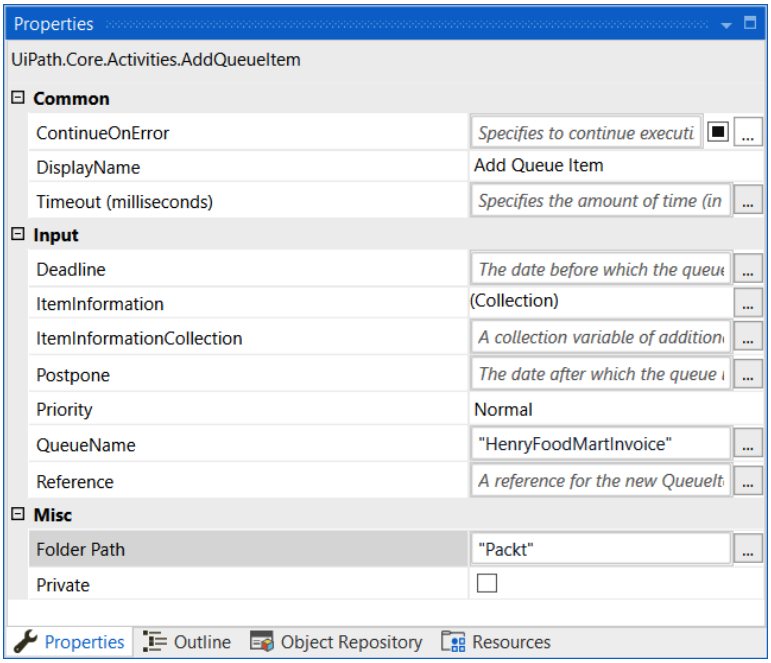
Enable SLA for this queue

Cancel Add

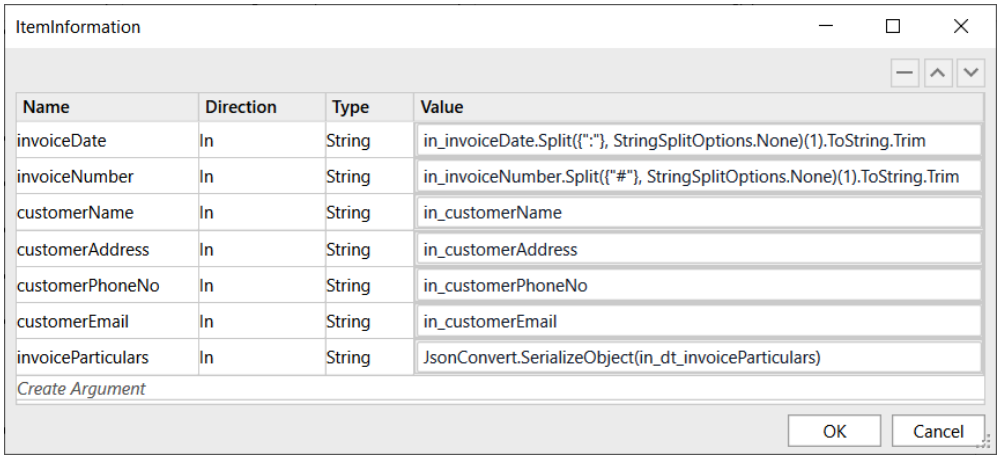


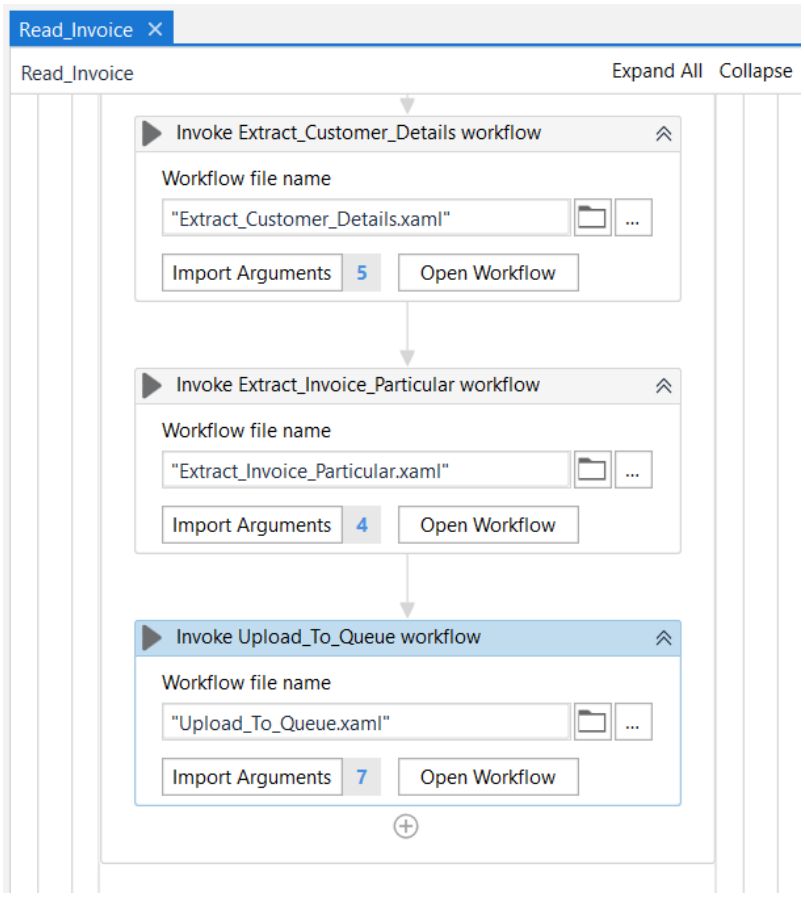

| Name | Direction | Argument type | Default value |
|---|---|---|---|
| in_invoiceDate | In | String | *Enter a VB expression* |
| in_invoiceNumber | In | String | *Enter a VB expression* |
| in_customerName | In | String | *Enter a VB expression* |
| in_customerAddress | In | String | *Enter a VB expression* |
| in_customerPhoneNo | In | String | *Enter a VB expression* |
| in_customerEmail | In | String | *Enter a VB expression* |
| in_dt_invoiceParticulars | In | DataTable | *Enter a VB expression* |
| *Create Argument* | | | |

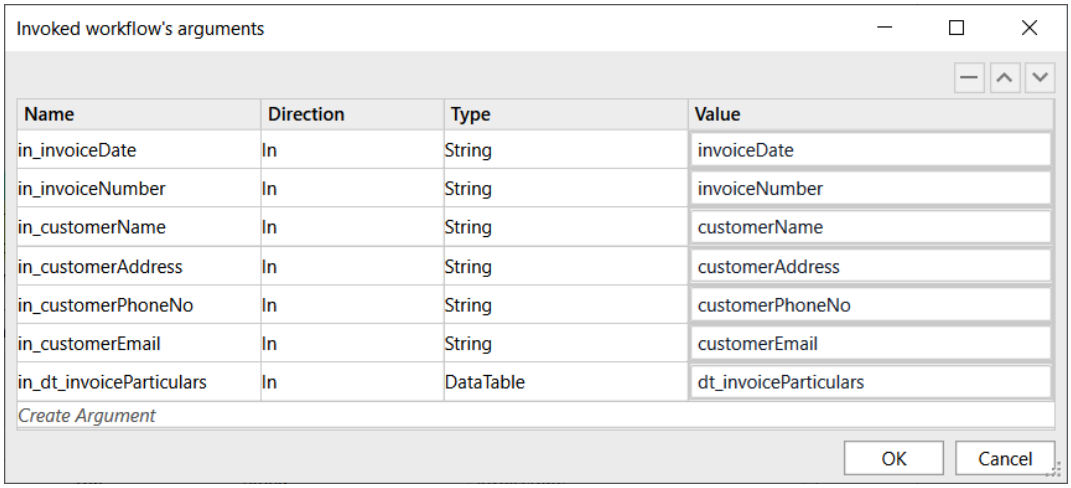
Variables Arguments Imports 100%

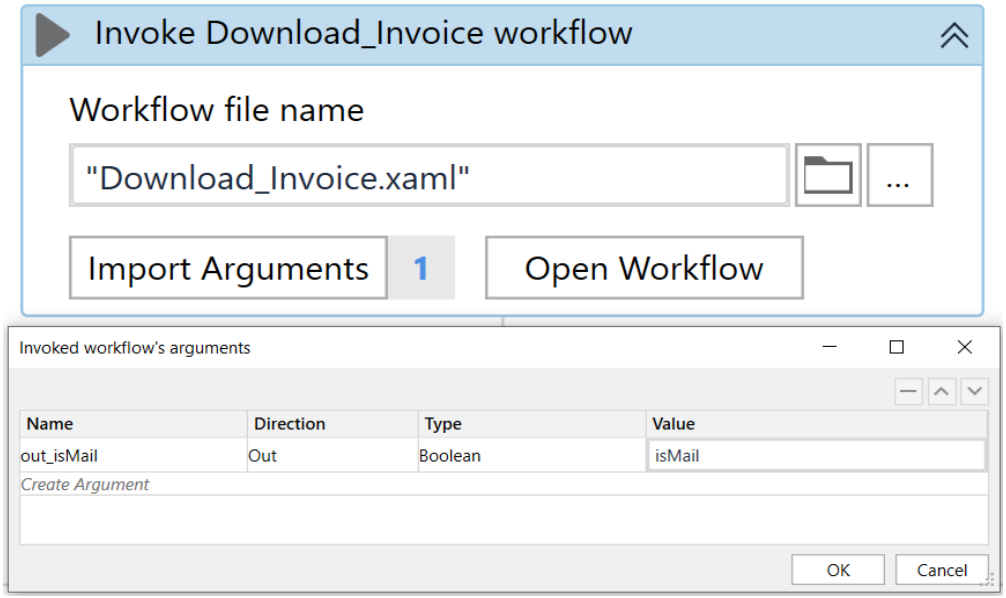

Properties
UiPath.Core.Activities.AddQueueItem
Common
ContinueOnError
Specifies to continue executi
DisplayName
Add Queue Item
Timeout (milliseconds)
Specifies the amount of time (in
Input
Deadline
The date before which the queue
ItemInformation
(Collection)
ItemInformationCollection
A collection variable of addition
Postpone
The date after which the queue
Priority
Normal
QueueName
"HenryFoodMartInvoice"
Reference
A reference for the new QueueIt
Misc
Folder Path
"Packt"
Private
Properties
Outline
Object Repository
Resources

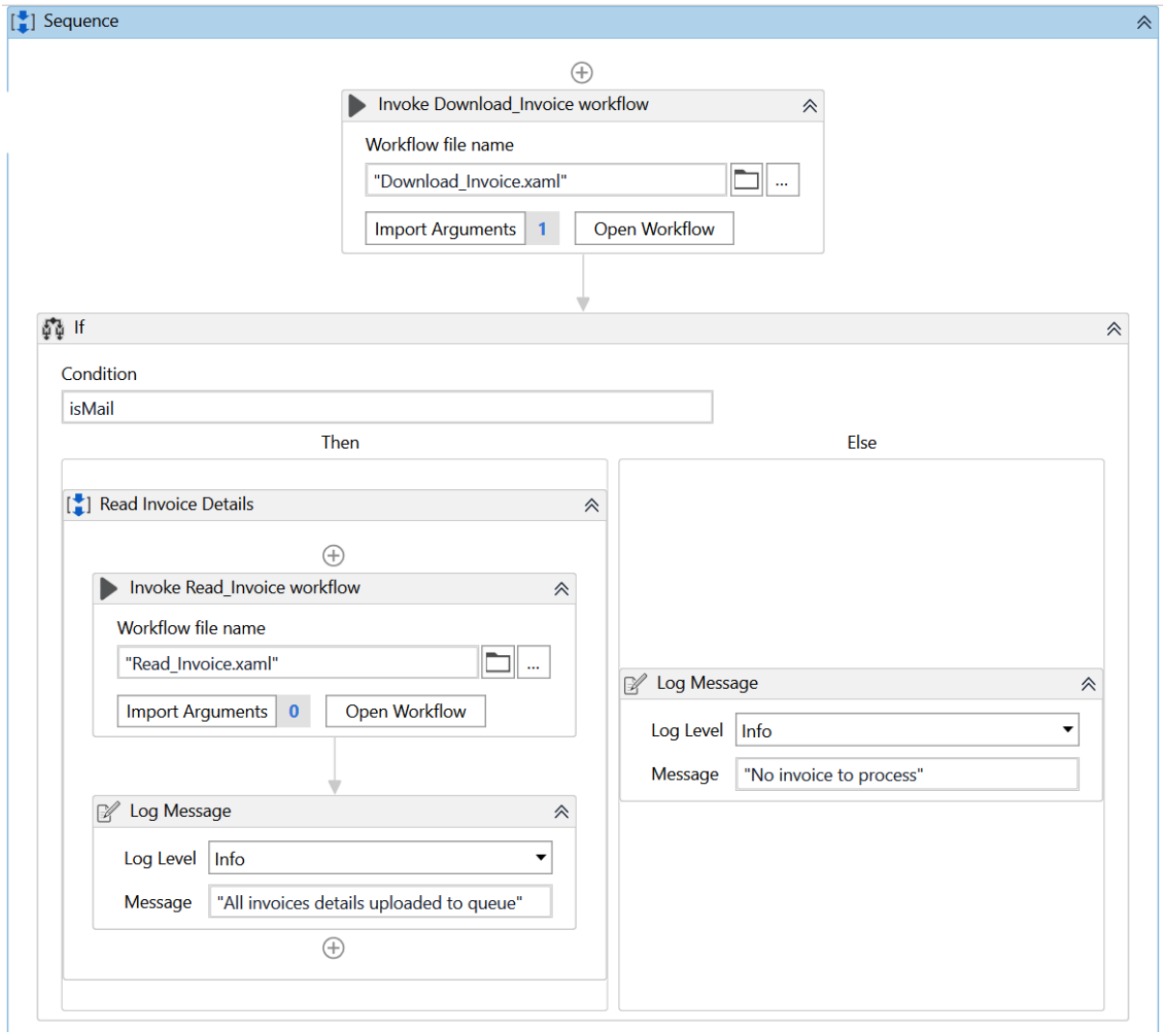
Input
Deadline
The date before which the queue
ItemInformation
(Collection)
ItemInformationCollection
A collection variable of addition
Postpone
The date after which the queue
Priority
Normal
QueueName
"HenryFoodMartInvoice"

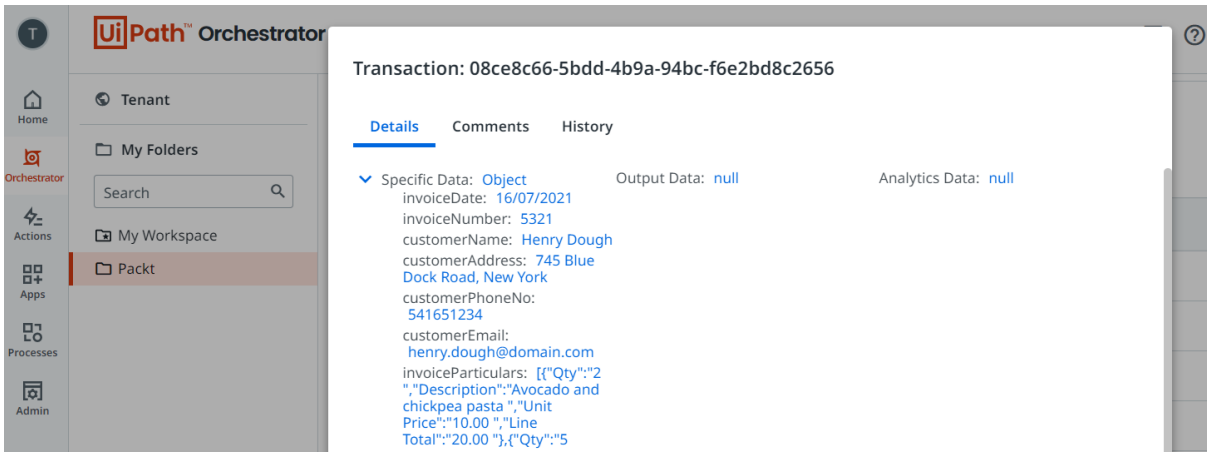

ItemInformation
Name
Direction
Type
Value
invoiceDate
In
String
in_invoiceDate.Split({":"}, StringSplitOptions.None)(1).ToString.Trim
invoiceNumber
In
String
in_invoiceNumber.Split({"#"}, StringSplitOptions.None)(1).ToString.Trim
customerName
In
String
in_customerName
customerAddress
In
String
in_customerAddress
customerPhoneNo
In
String
in_customerPhoneNo
customerEmail
In
String
in_customerEmail
invoiceParticulars
In
String
JsonConvert.SerializeObject(in_dt_invoiceParticulars)
Create Argument
OK
Cancel


Read_Invoice
Read_Invoice
Expand All
Collapse
Invoke Extract_Customer_Details workflow
Workflow file name
"Extract_Customer_Details.xaml"
Import Arguments
5
Open Workflow
Invoke Extract_Invoice_Particular workflow
Workflow file name
"Extract_Invoice_Particular.xaml"
Import Arguments
4
Open Workflow
Invoke Upload_To_Queue workflow
Workflow file name
"Upload_To_Queue.xaml"
Import Arguments
7
Open Workflow

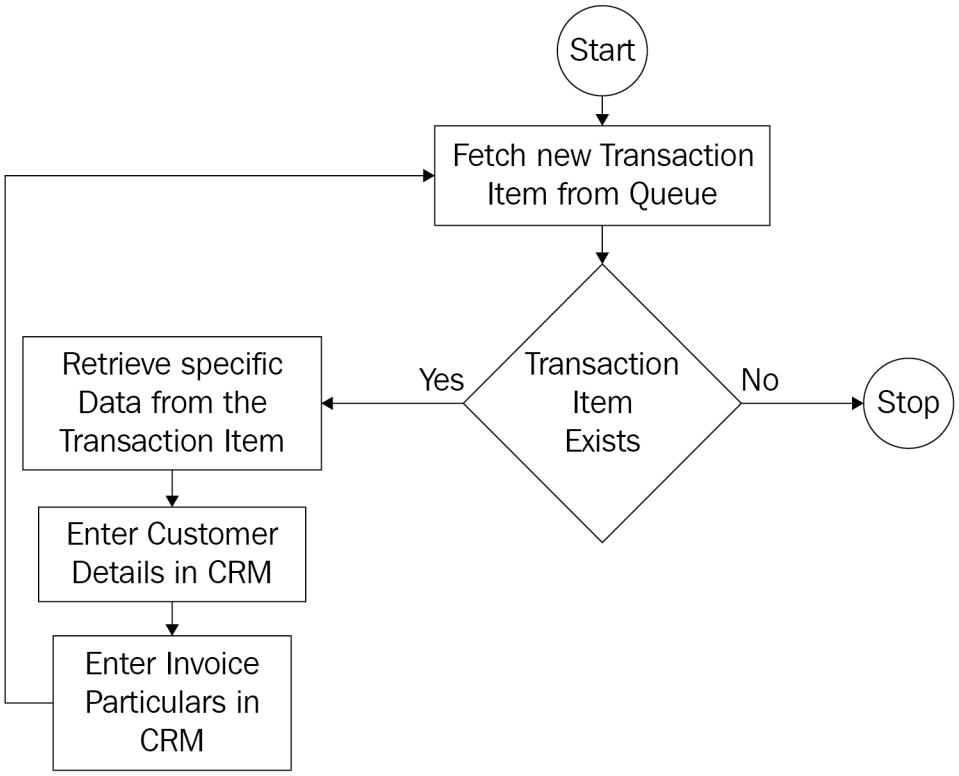

Invoked workflow's arguments
Name
Direction
Type
Value
in_invoiceDate
In
String
invoiceDate
in_invoiceNumber
In
String
invoiceNumber
in_customerName
In
String
customerName
in_customerAddress
In
String
customerAddress
in_customerPhoneNo
In
String
customerPhoneNo
in_customerEmail
In
String
customerEmail
in_dt_invoiceParticulars
In
DataTable
dt_invoiceParticulars
Create Argument
OK
Cancel

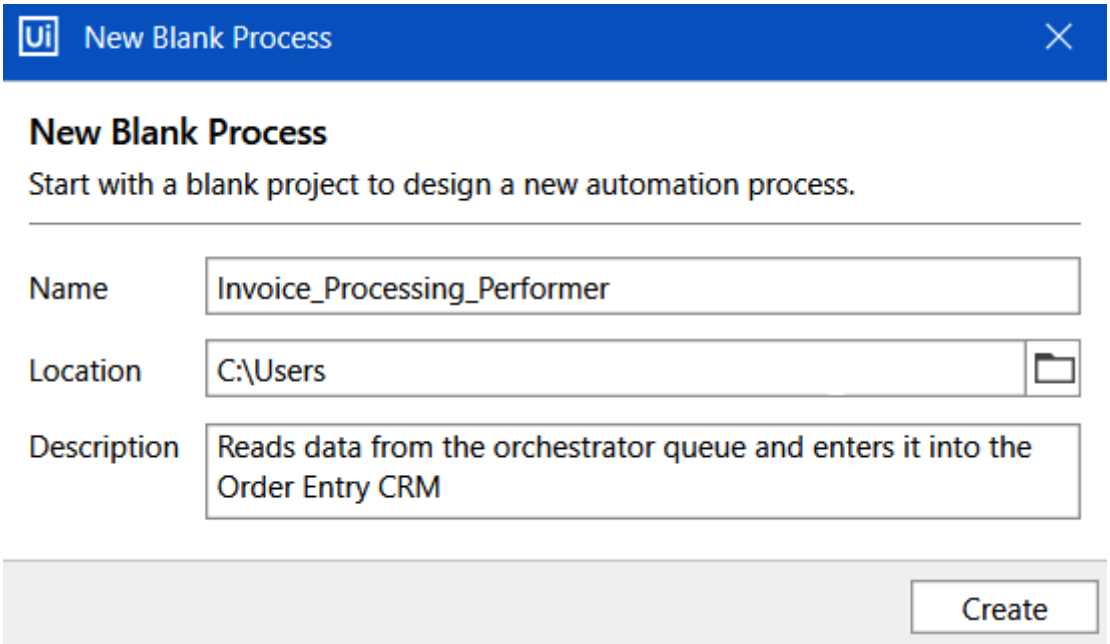

Invoke Download_Invoice workflow
Workflow file name
"Download_Invoice.xaml"
...
Import Arguments
1
Open Workflow
Invoked workflow's arguments
Name
Direction
Type
Value
out_isMail
Out
Boolean
isMail
Create Argument
OK
Cancel

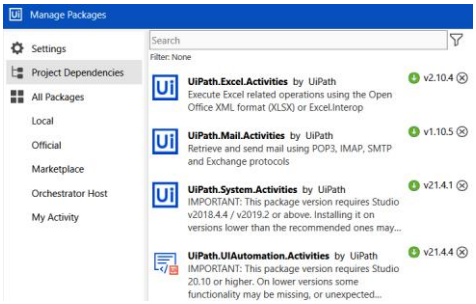

Sequence
Invoke Download_Invoice workflow
Workflow file name
"Download_Invoice.xaml"
Import Arguments
1
Open Workflow
If
Condition
isMail
Then
Else
Read Invoice Details
Invoke Read_Invoice workflow
Workflow file name
"Read_Invoice.xaml"
Import Arguments
0
Open Workflow
Log Message
Log Level
Info
Message
"All invoices details uploaded to queue"
Log Message
Log Level
Info
Message
"No invoice to process"

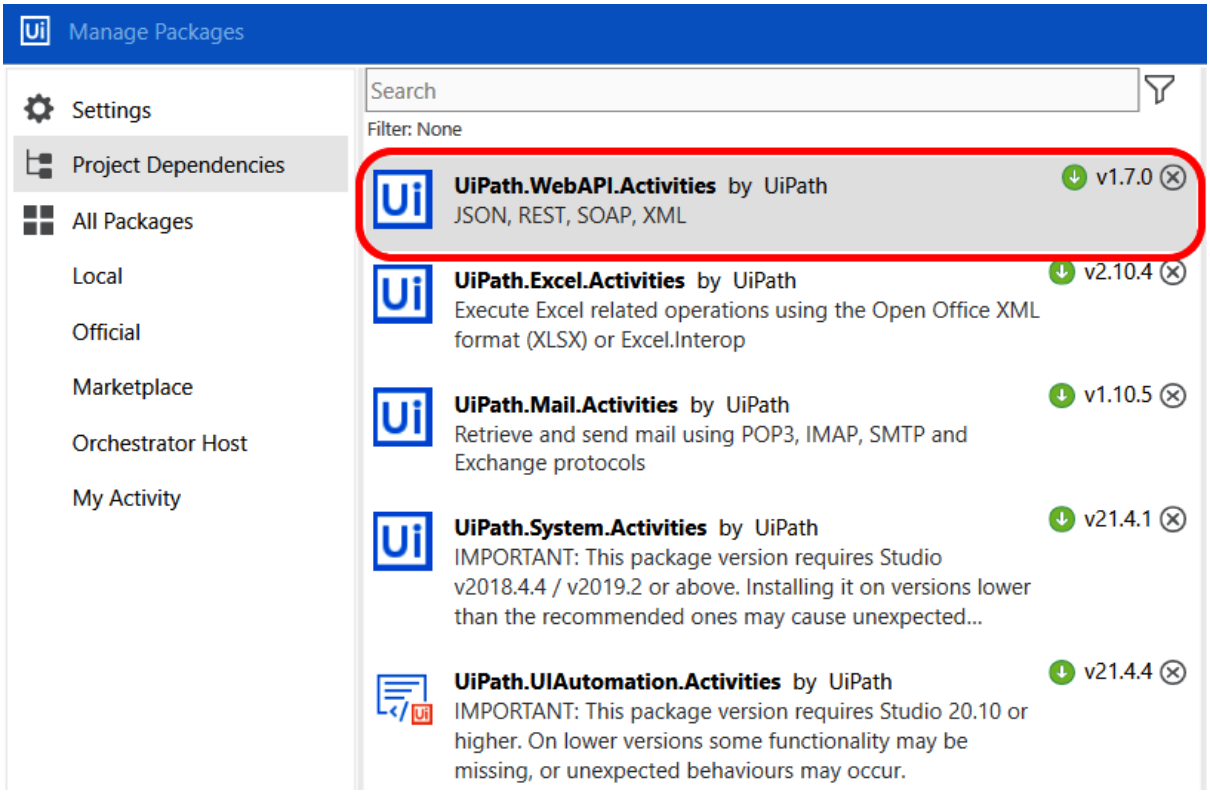

UiPath Orchestrator
Tenant
My Folders
Search
My Workspace
Packt
Home
Orchestrator
Actions
Apps
Processes
Admin
Transaction: 08ce8c66-5bdd-4b9a-94bc-f6e2bd8c2656
Details
Comments
History
Specific Data: Object
Output Data: null
Analytics Data: null
invoiceDate: 16/07/2021
invoiceNumber: 5321
customerName: Henry Dough
customerAddress: 745 Blue Dock Road, New York
customerPhoneNo: 541651234
customerEmail: henry.dough@domain.com
invoiceParticulars: [{"Qty":"2","Description":"Avocado and chickpea pasta ","Unit Price":"10.00 ","Line Total":"20.00 "},{"Qty":"5

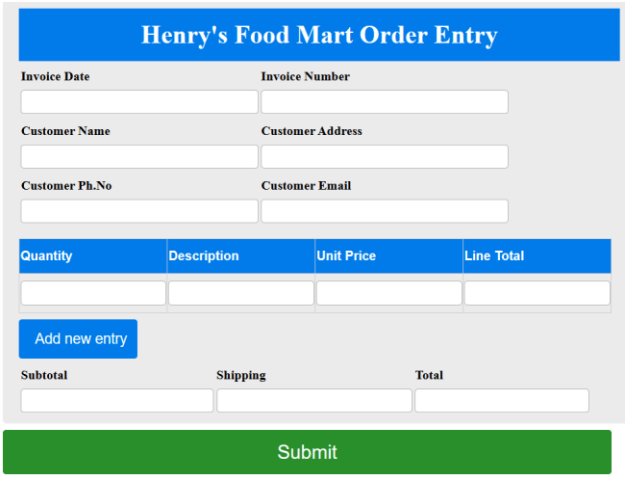
# Chapter 15: Invoice Processing -Performer

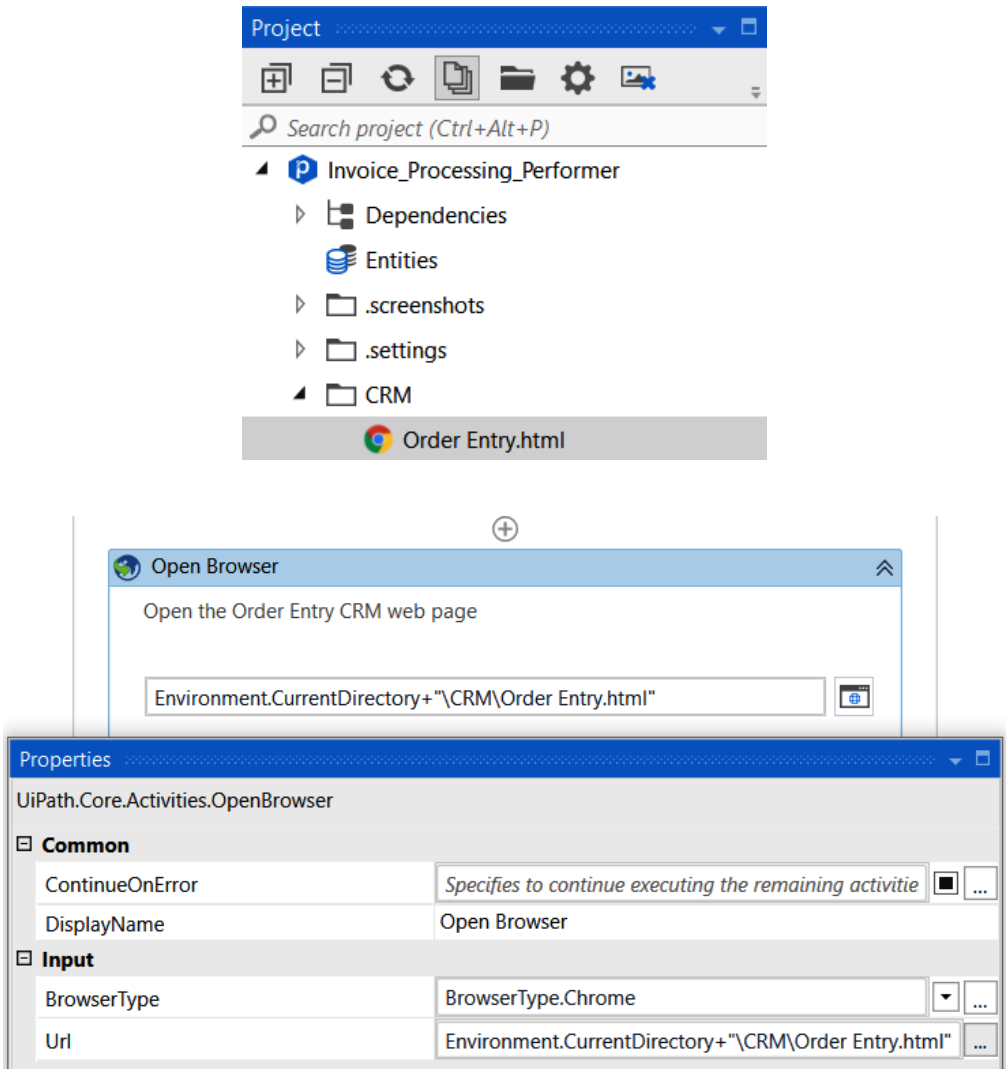


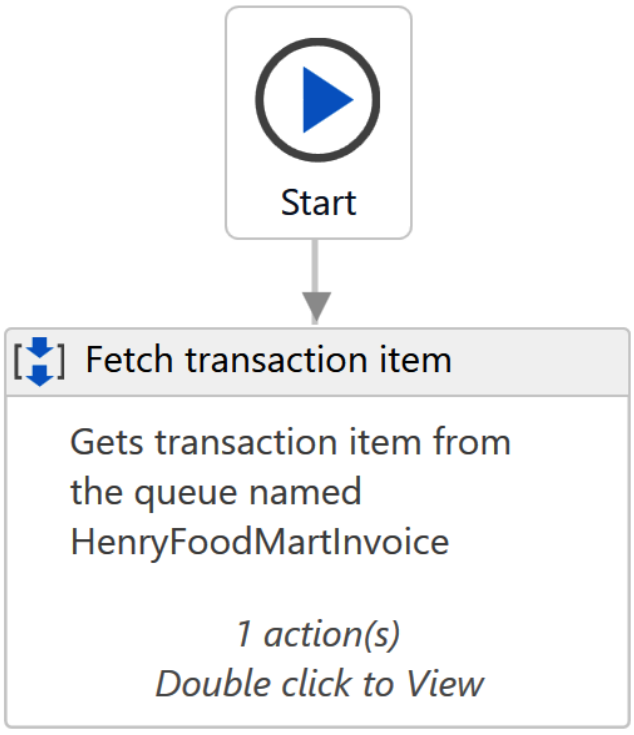



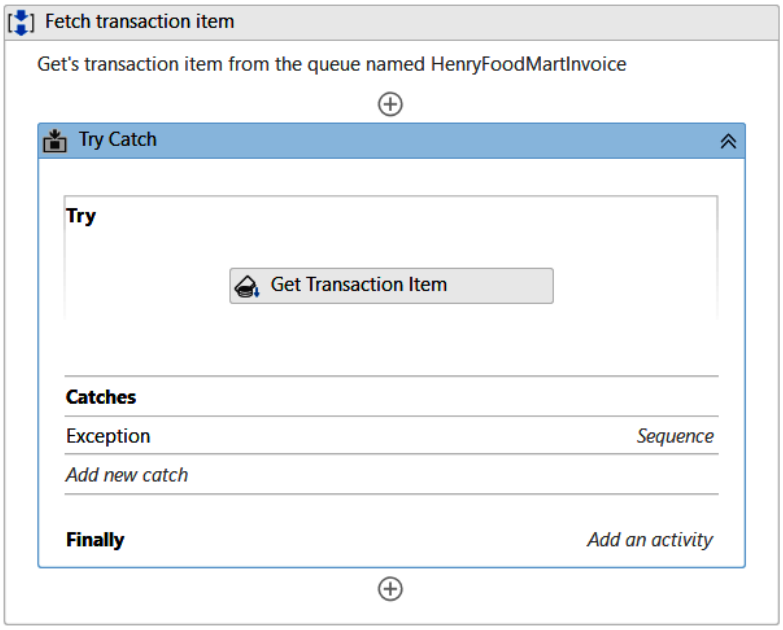

Manage Packages
Settings
Project Dependencies
All Packages
Local
Official
Marketplace
Orchestrator Host
My Activity
Search
Filter: None
UiPath.Excel.Activities by UiPath
Execute Excel related operations using the Open Office XML format (XLSX) or Excel.Interop
v2.10.4
UiPath.Mail.Activities by UiPath
Retrieve and send mail using POP3, IMAP, SMTP and Exchange protocols
v1.10.5
UiPath.System.Activities by UiPath
IMPORTANT: This package version requires Studio v2018.4.4 / v2019.2 or above. Installing it on versions lower than the recommended ones may...
v21.4.1
UiPath.UIAutomation.Activities by UiPath
IMPORTANT: This package version requires Studio 20.10 or higher. On lower versions some functionality may be missing, or unexpected...
v21.4.4

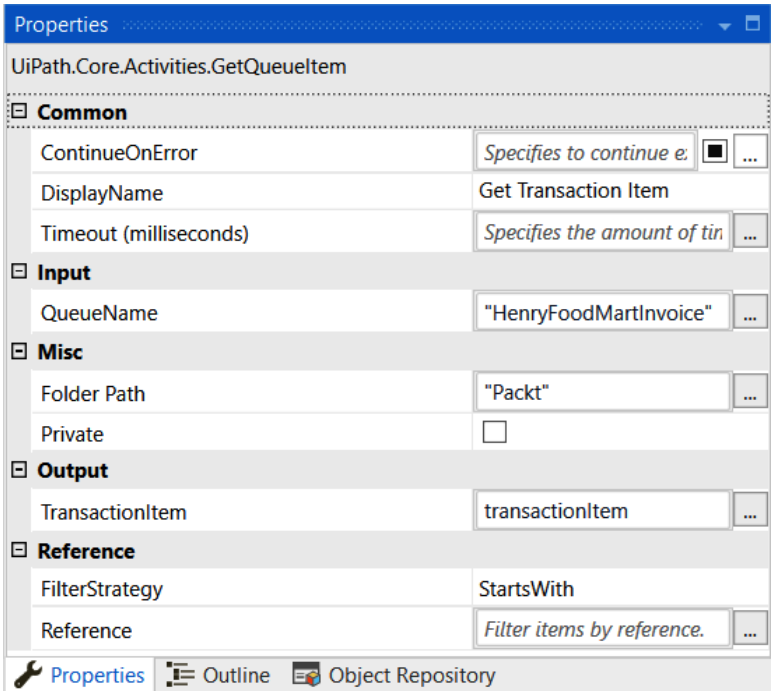

Manage Packages
Settings
Project Dependencies
All Packages
Local
Official
Marketplace
Orchestrator Host
My Activity
Search
Filter: None
UiPath.WebAPI.Activities by UiPath
JSON, REST, SOAP, XML
v1.7.0
UiPath.Excel.Activities by UiPath
Execute Excel related operations using the Open Office XML format (XLSX) or Excel.Interop
v2.10.4
UiPath.Mail.Activities by UiPath
Retrieve and send mail using POP3, IMAP, SMTP and Exchange protocols
v1.10.5
UiPath.System.Activities by UiPath
IMPORTANT: This package version requires Studio v2018.4.4 / v2019.2 or above. Installing it on versions lower than the recommended ones may cause unexpected...
v21.4.1
UiPath.UIAutomation.Activities by UiPath
IMPORTANT: This package version requires Studio 20.10 or higher. On lower versions some functionality may be missing, or unexpected behaviours may occur.
v21.4.4

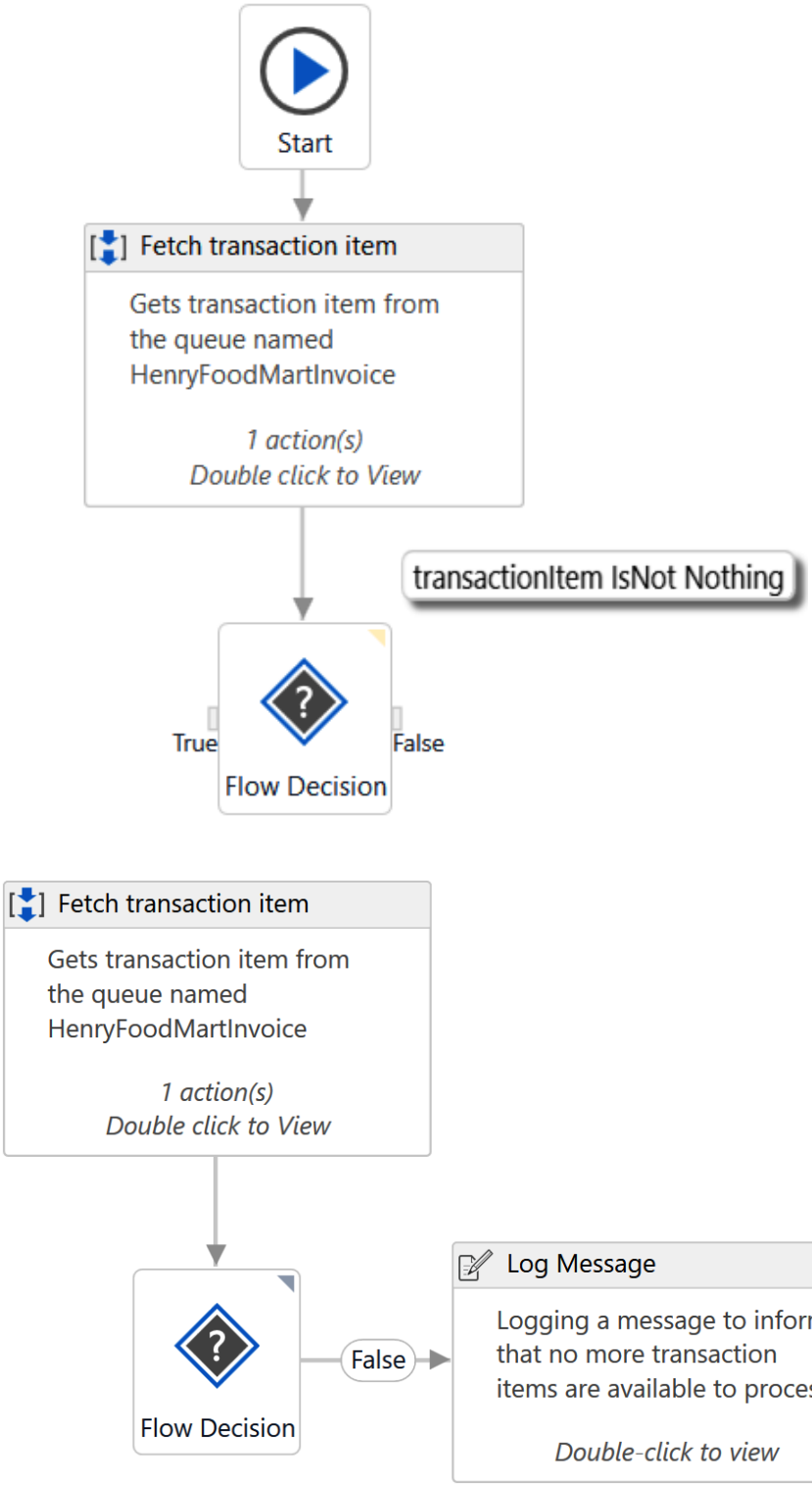

Henry's Food Mart Order Entry
Invoice Date
Invoice Number
Customer Name
Customer Address
Customer Ph.No
Customer Email
Quantity
Description
Unit Price
Line Total
Add new entry
Subtotal
Shipping
Total
Submit

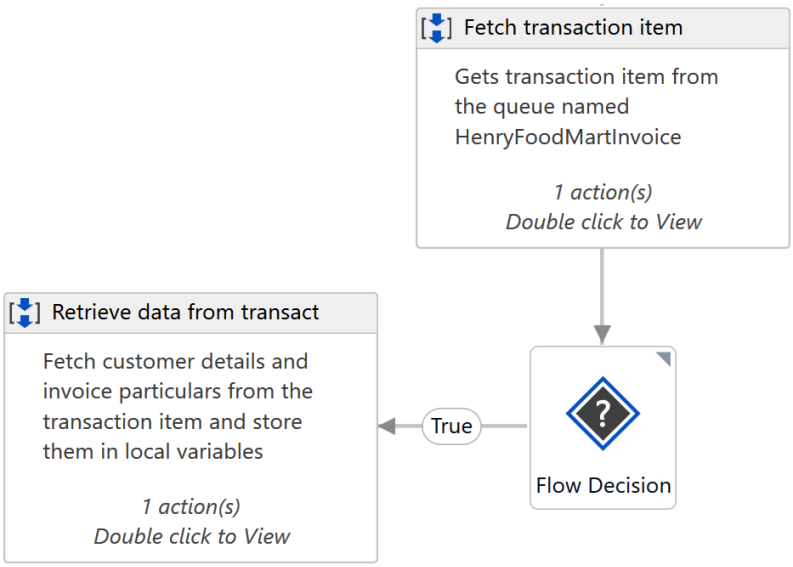

Project
Search project (Ctrl+Alt+P)
Invoice_Processing_Performer
Dependencies
Entities
.screenshots
.settings
CRM
Order Entry.html
Open Browser
Open the Order Entry CRM web page
Environment.CurrentDirectory+"\CRM\Order Entry.html"
Properties
UiPath.Core.Activities.OpenBrowser
Common
ContinueOnError
Specifies to continue executing the remaining activitie
DisplayName
Open Browser
Input
BrowserType
BrowserType.Chrome
Url
Environment.CurrentDirectory+"\CRM\Order Entry.html"

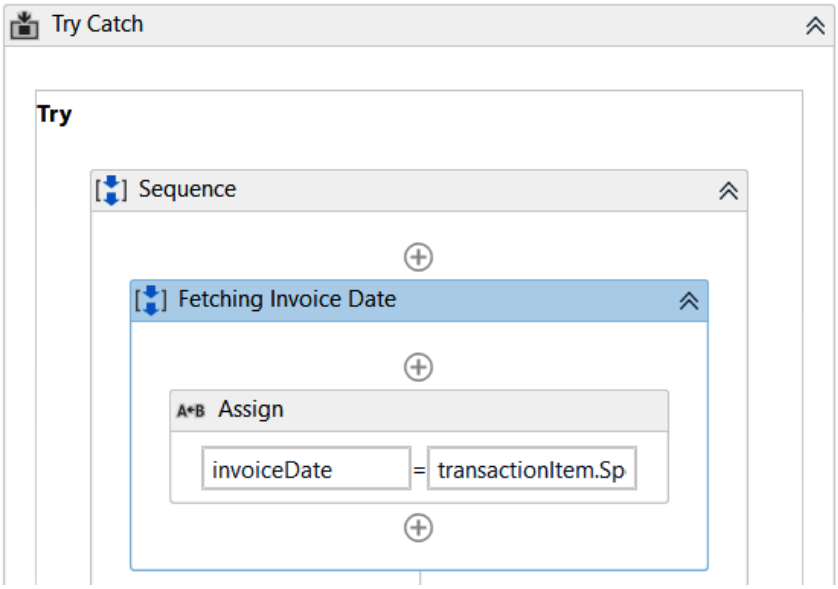

Start
Fetch transaction item
Gets transaction item from the queue named HenryFoodMartInvoice
1 action(s)
Double click to View

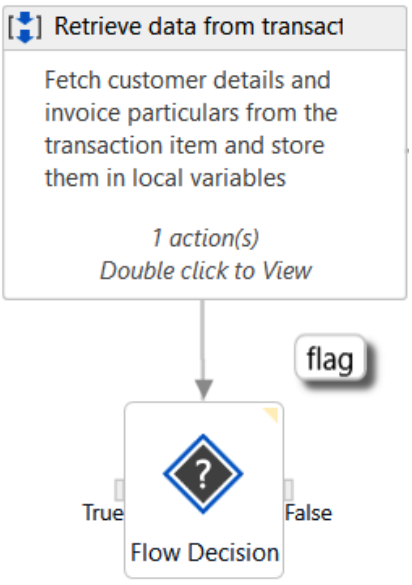

Fetch transaction item
Get's transaction item from the queue named HenryFoodMartInvoice
Try Catch
Try
Get Transaction Item
Catches
Exception
Sequence
Add new catch
Finally
Add an activity


Properties
UiPath.Core.Activities.GetQueueItem
Common
ContinueOnError
Specifies to continue e
DisplayName
Get Transaction Item
Timeout (milliseconds)
Specifies the amount of tin
Input
QueueName
"HenryFoodMartInvoice"
Misc
Folder Path
"Packt"
Private
Output
TransactionItem
transactionItem
Reference
FilterStrategy
StartsWith
Reference
Filter items by reference.
Properties
Outline
Object Repository


Start
Fetch transaction item
Gets transaction item from the queue named HenryFoodMartInvoice
1 action(s)
Double click to View
transactionItem IsNot Nothing
True
False
Flow Decision
Fetch transaction item
Gets transaction item from the queue named HenryFoodMartInvoice
1 action(s)
Double click to View
Flow Decision
False
Log Message
Logging a message to inform that no more transaction items are available to process
Double-click to view

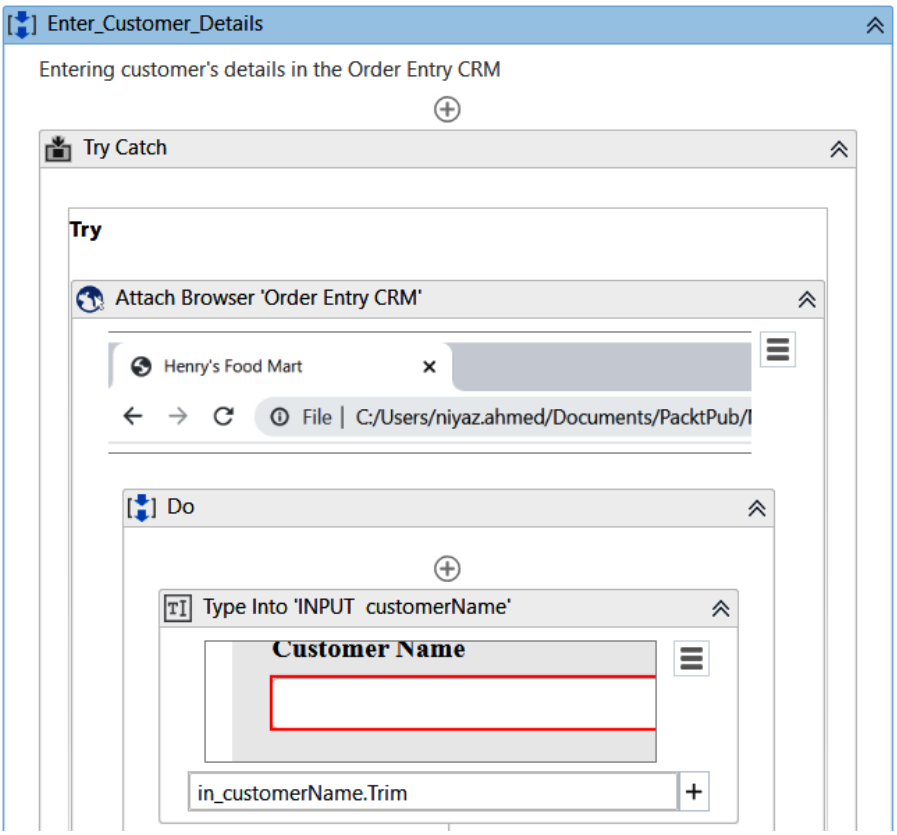

Fetch transaction item
Gets transaction item from the queue named HenryFoodMartInvoice
1 action(s)
Double click to View
Retrieve data from transact
Fetch customer details and invoice particulars from the transaction item and store them in local variables
1 action(s)
Double click to View
True
Flow Decision

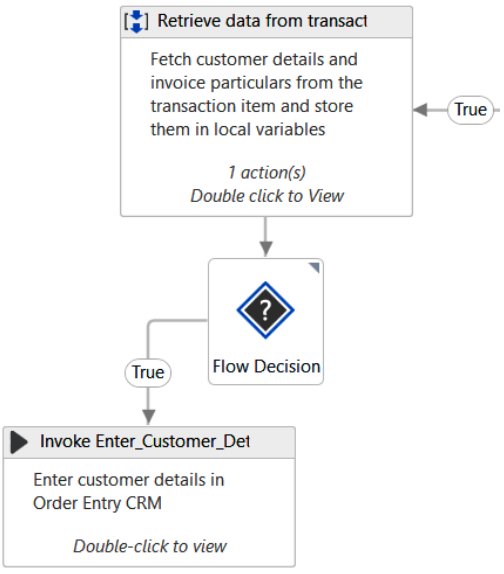

Try Catch
Try
Sequence
Fetching Invoice Date
Assign
invoiceDate
=
transactionItem.Sp

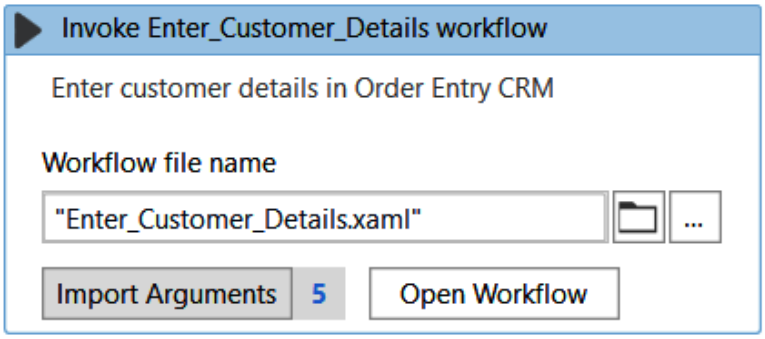

Retrieve data from transact
Fetch customer details and invoice particulars from the transaction item and store them in local variables
1 action(s)
Double click to View
flag
True
False
Flow Decision

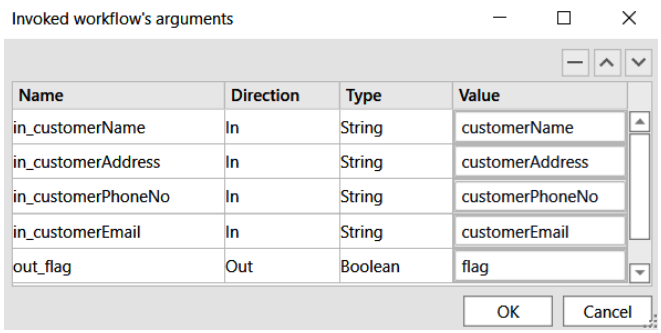
| Name | Direction | Argument type | Default value |
|---|---|---|---|
| in_customerName | In | String | *Enter a VB expression* |
| in_customerAddress | In | String | *Enter a VB expression* |
| in_customerPhoneNo | In | String | *Enter a VB expression* |
| in_customerEmail | In | String | *Enter a VB expression* |
| out_flag | Out | Boolean | *Default value not supported* |

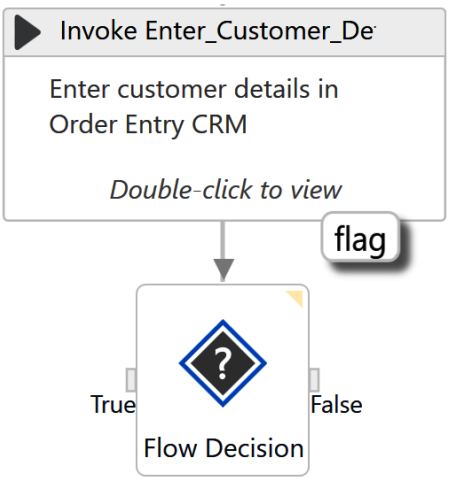
Variables Arguments Imports 100%



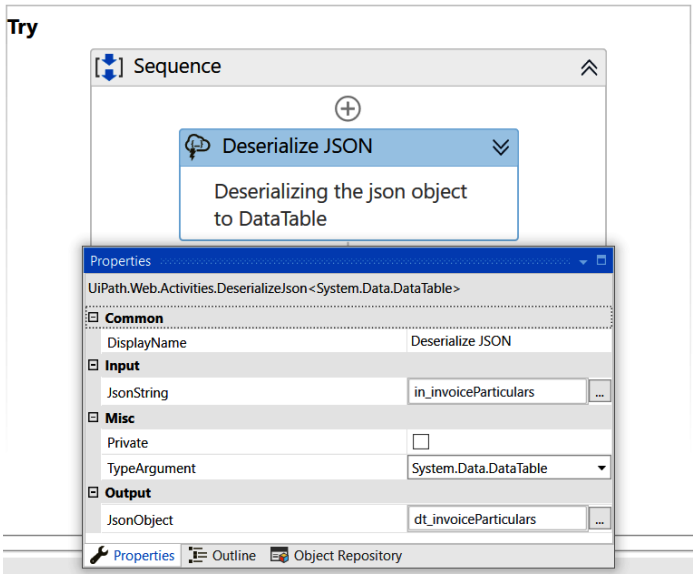


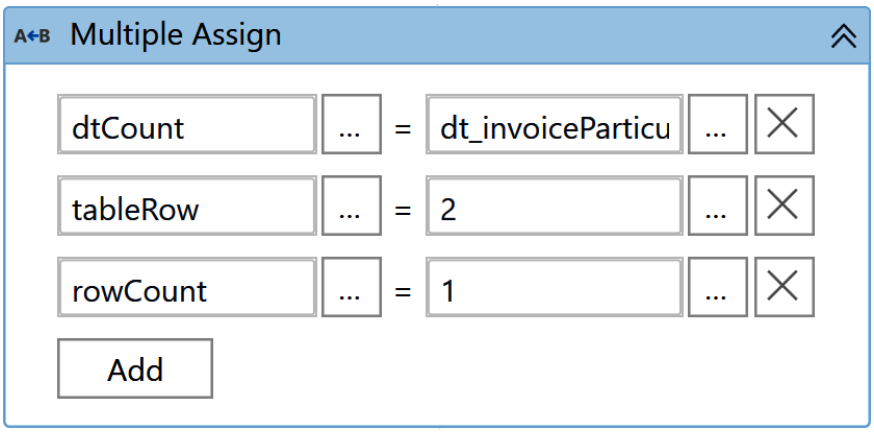



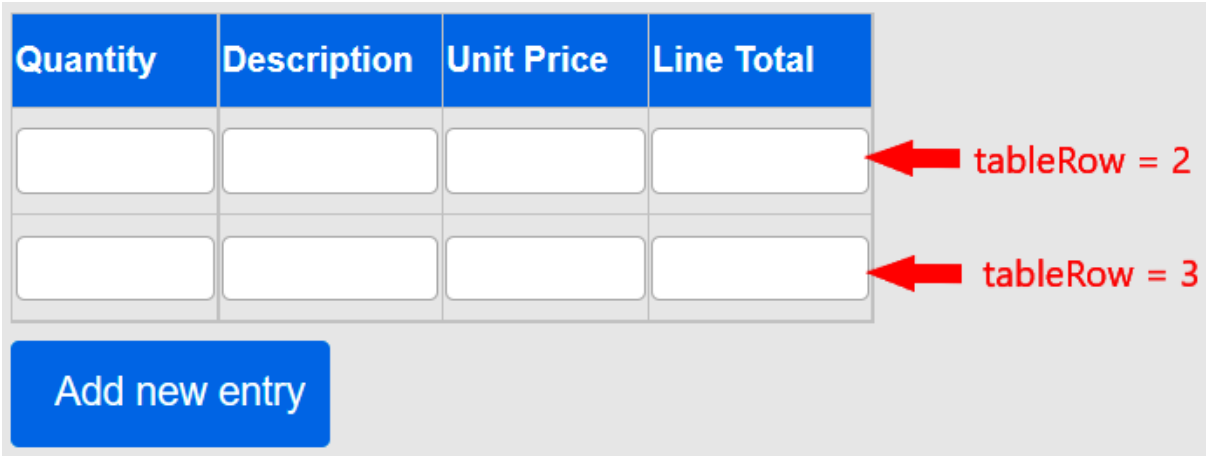



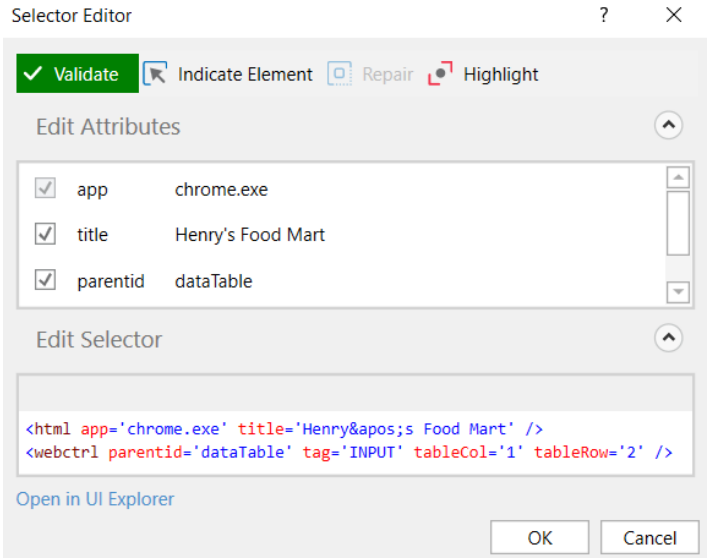

| Name | Direction | Argument type | Default value |
|---|---|---|---|
| in_invoiceDate | In | String | *Enter a VB expression* |
| in_invoiceNumber | In | String | *Enter a VB expression* |
| in_invoiceParticulars | In | String | *Enter a VB expression* |
| out_flag | Out | Boolean | *Default value not supported* |

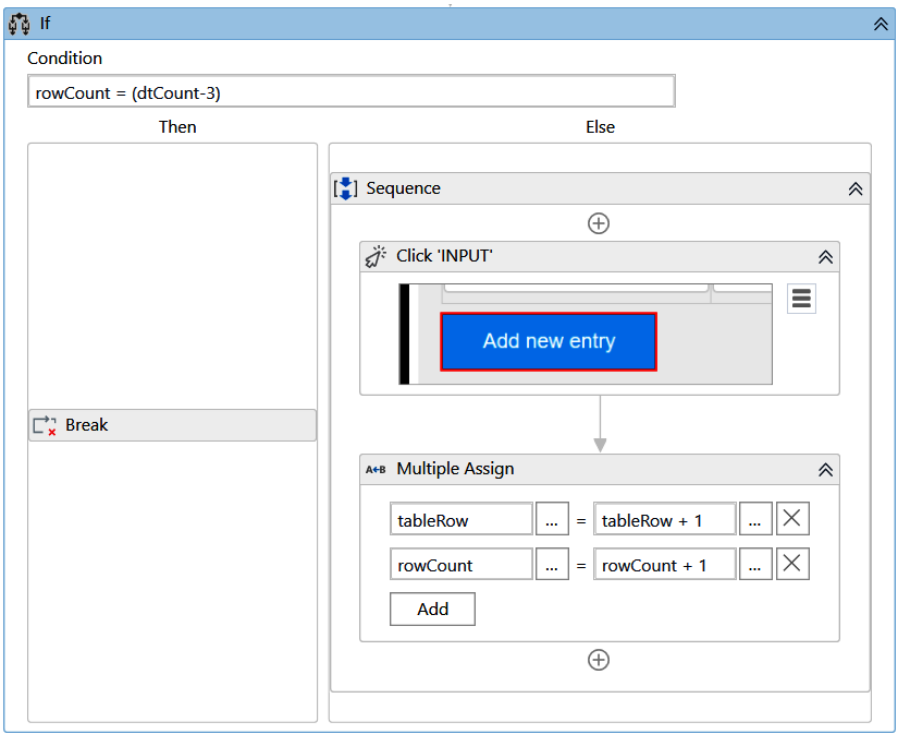
Variables Arguments Imports 100%

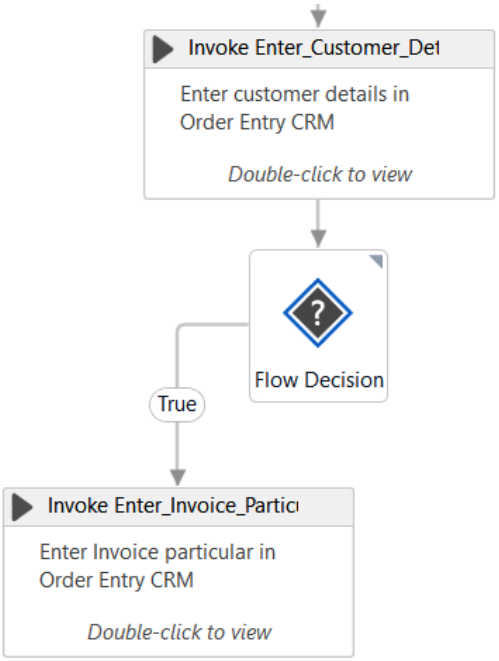

Try
Sequence
Deserialize JSON
Deserializing the json object to DataTable
Properties
UiPath.Web.Activities.DeserializeJson<System.Data.DataTable>
Common
DisplayName
Deserialize JSON
Input
JsonString
in_invoiceParticulars
Misc
Private
TypeArgument
System.Data.DataTable
Output
JsonObject
dt_invoiceParticulars
Properties
Outline
Object Repository

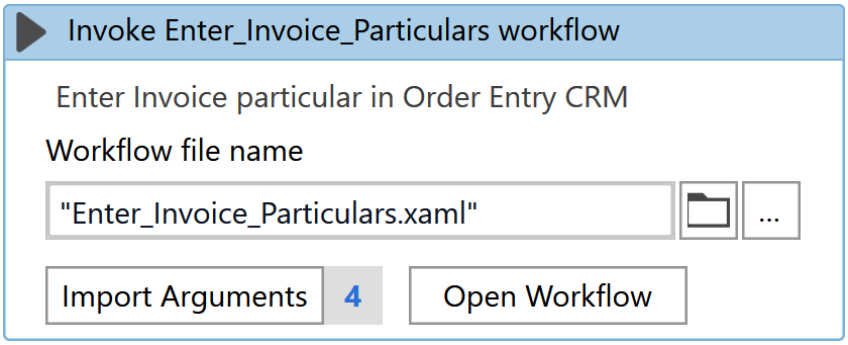

Multiple Assign
dtCount
=
dt_invoiceParticu
tableRow
=
2
rowCount
=
1
Add

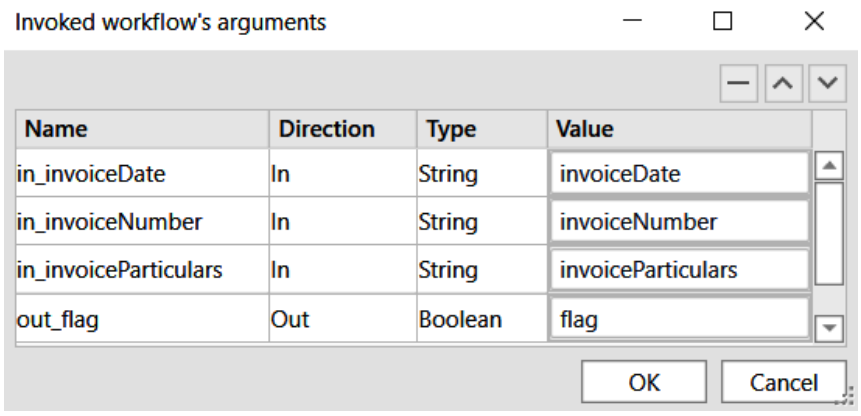

Quantity
Description
Unit Price
Line Total
tableRow = 2
tableRow = 3
Add new entry

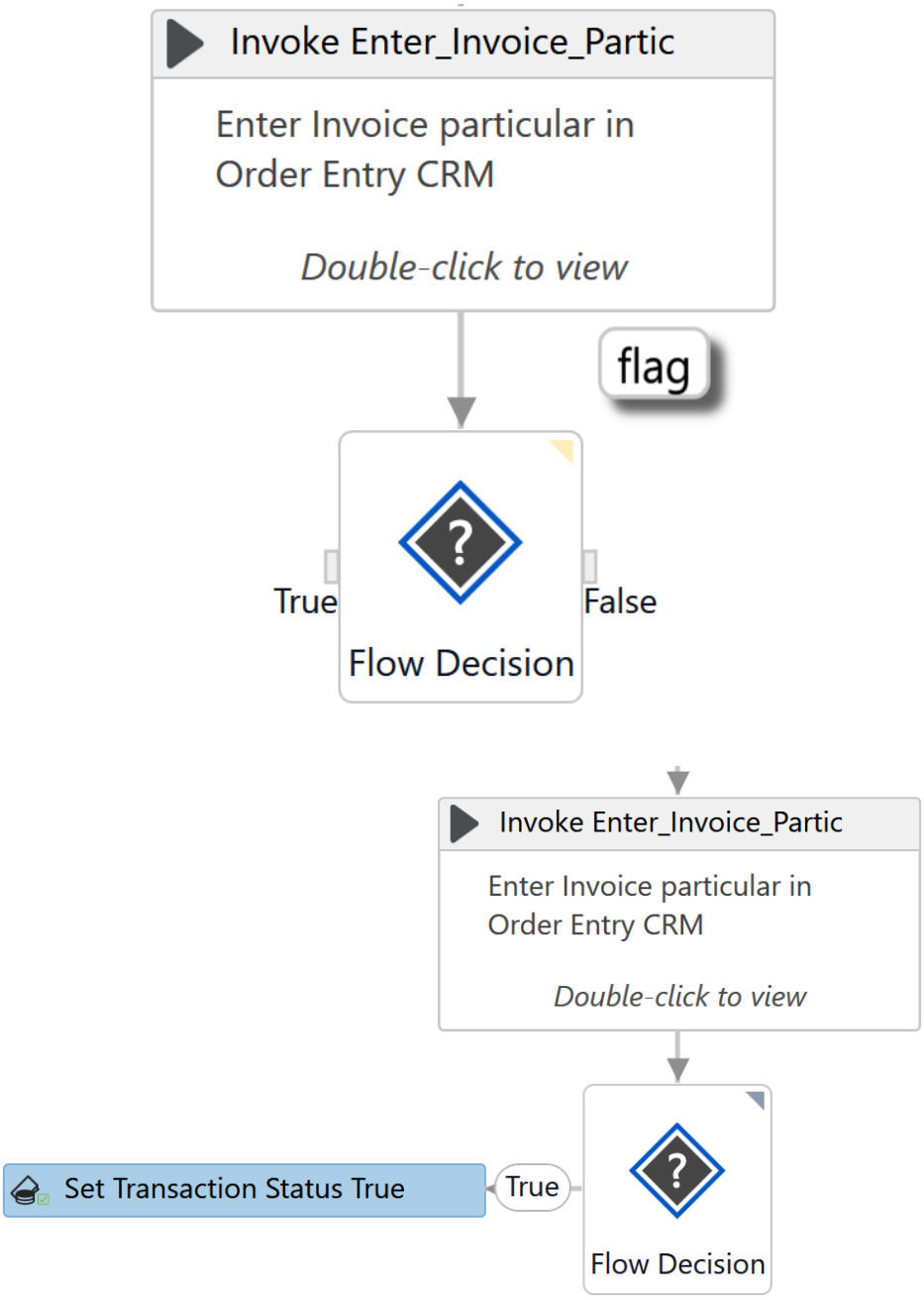

Selector Editor
Validate
Indicate Element
Repair
Highlight
Edit Attributes
app chrome.exe
title Henry's Food Mart
parentid dataTable
Edit Selector
<html app='chrome.exe' title='Henry's Food Mart' />
<webctrl parentid='dataTable' tag='INPUT' tableCol='1' tableRow='2' />
Open in UI Explorer
OK
Cancel

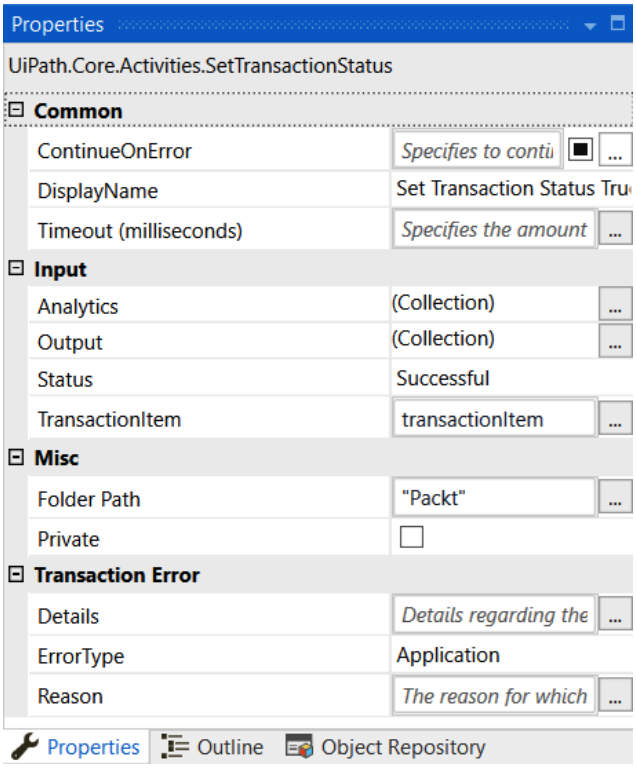

If
Condition
rowCount = (dtCount-3)
Then
Else
Break
Sequence
Click 'INPUT'
Add new entry
Multiple Assign
tableRow
tableRow + 1
rowCount
rowCount + 1
Add

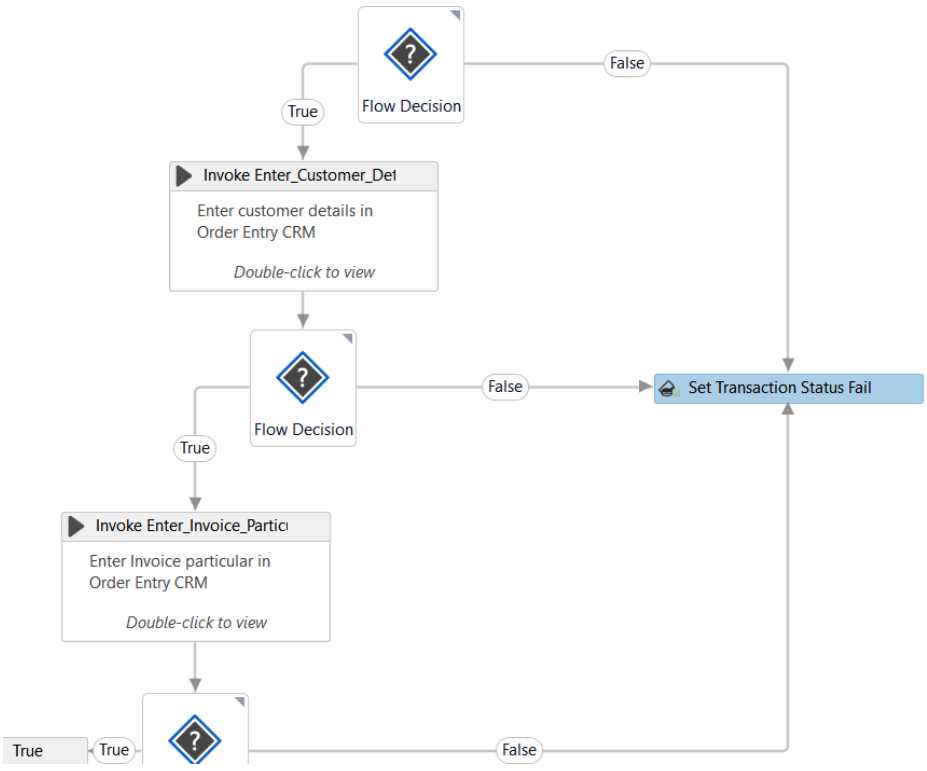

Invoke Enter_Customer_Det
Enter customer details in Order Entry CRM
Double-click to view
Flow Decision
True
Invoke Enter_Invoice_Partic
Enter Invoice particular in Order Entry CRM
Double-click to view

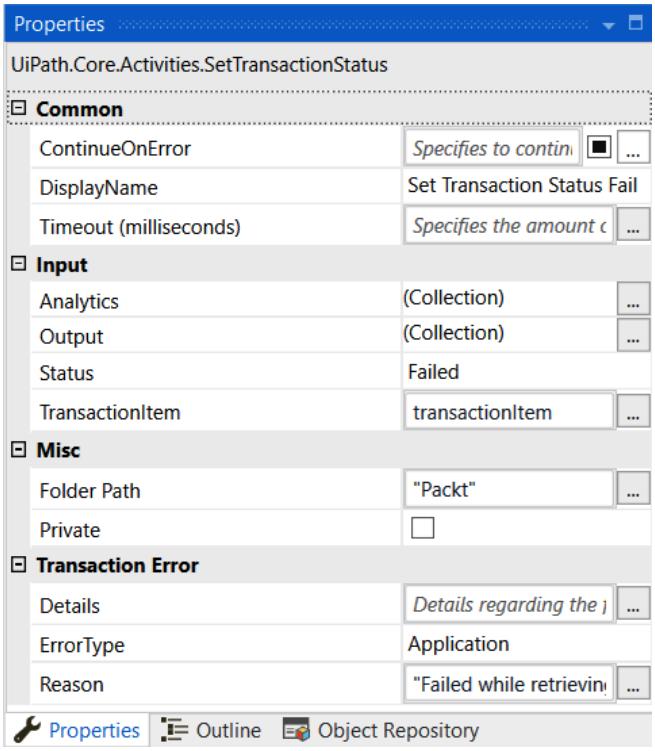

Invoke Enter_Invoice_Particulars workflow
Enter Invoice particular in Order Entry CRM
Workflow file name
"Enter_Invoice_Particulars.xaml"
...
Import Arguments
4
Open Workflow


Invoked workflow's arguments
Name
Direction
Type
Value
in_invoiceDate
In
String
invoiceDate
in_invoiceNumber
In
String
invoiceNumber
in_invoiceParticulars
In
String
invoiceParticulars
out_flag
Out
Boolean
flag
OK
Cancel

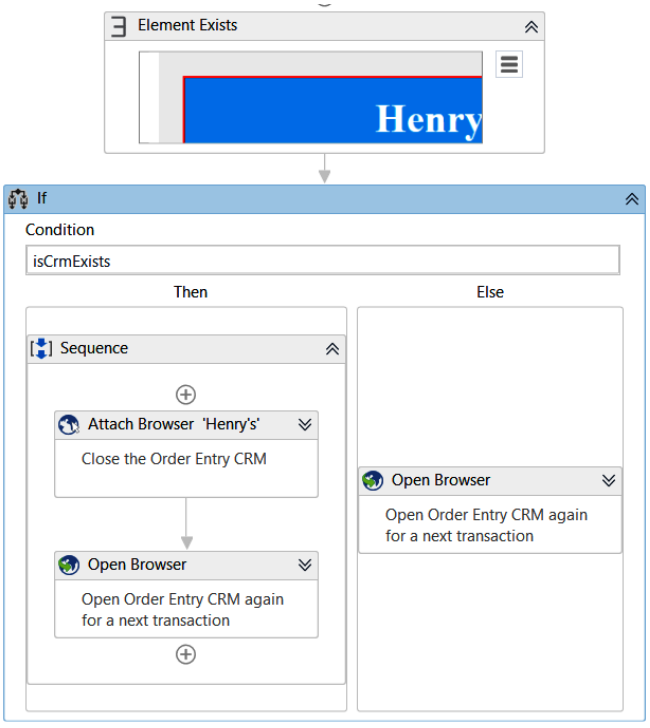

Invoke Enter_Invoice_Partic
Enter Invoice particular in Order Entry CRM
Double-click to view
flag
True
False
Flow Decision
Invoke Enter_Invoice_Partic
Enter Invoice particular in Order Entry CRM
Double-click to view
Set Transaction Status True
True
Flow Decision

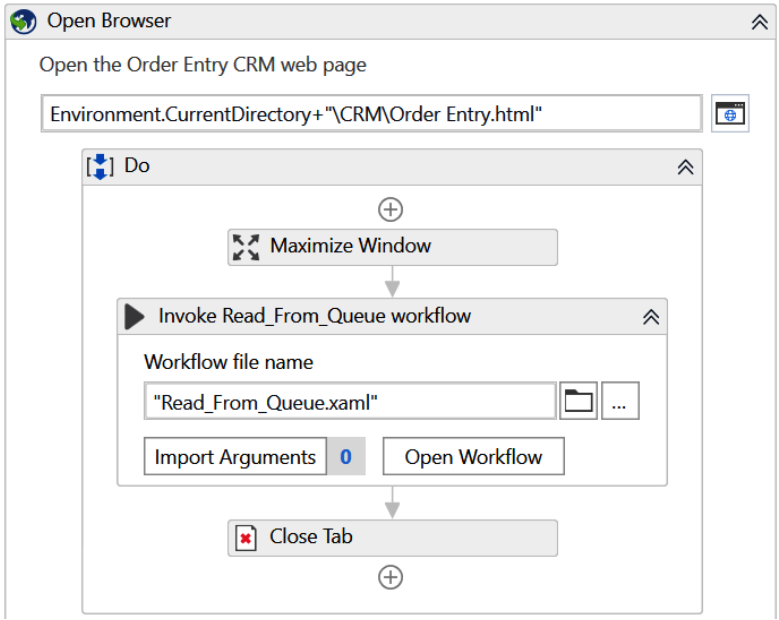

Properties
UiPath.Core.Activities.SetTransactionStatus
Common
ContinueOnError
Specifies to conti
DisplayName
Set Transaction Status Tru
Timeout (milliseconds)
Specifies the amount
Input
Analytics
(Collection)
Output
(Collection)
Status
Successful
TransactionItem
transactionItem
Misc
Folder Path
"Packt"
Private
Transaction Error
Details
Details regarding the
ErrorType
Application
Reason
The reason for which
Properties
Outline
Object Repository


Flow Decision
False
True
Invoke Enter_Customer_Det
Enter customer details in
Order Entry CRM
Double-click to view
Flow Decision
False
Set Transaction Status Fail
True
Invoke Enter_Invoice_Partic
Enter Invoice particular in
Order Entry CRM
Double-click to view
True
True
False


Properties
UiPath.Core.Activities.SetTransactionStatus
Common
ContinueOnError
Specifies to contin
DisplayName
Set Transaction Status Fail
Timeout (milliseconds)
Specifies the amount c
Input
Analytics
(Collection)
Output
(Collection)
Status
Failed
TransactionItem
transactionItem
Misc
Folder Path
"Packt"
Private
Transaction Error
Details
Details regarding the
ErrorType
Application
Reason
"Failed while retrievin
Properties
Outline
Object Repository

Henry's Food Mart Order Entry


Element Exists
Henry
If
Condition
isCrmExists
Then
Else
Sequence
Attach Browser 'Henry's'
Close the Order Entry CRM
Open Browser
Open Order Entry CRM again
for a next transaction
Open Browser
Open Order Entry CRM again
for a next transaction




Queues / **Transactions: HenryFoodMartInvoice**

Search

Columns

0 rows selected

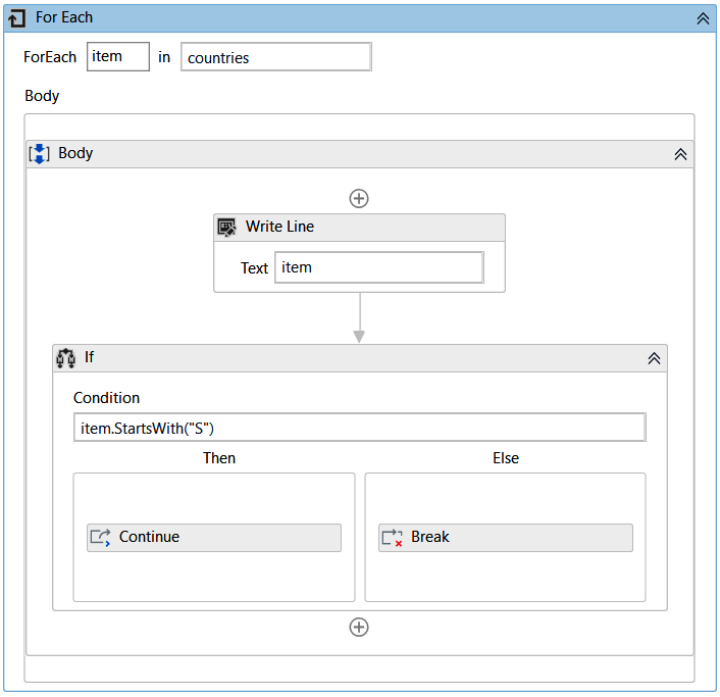
| Status | Reference | Revision | Priority |
|---|---|---|---|
| Successful | | None | Normal |
| Successful | | None | Normal |
| Successful | | None | Normal |
| Successful | | None | Normal |

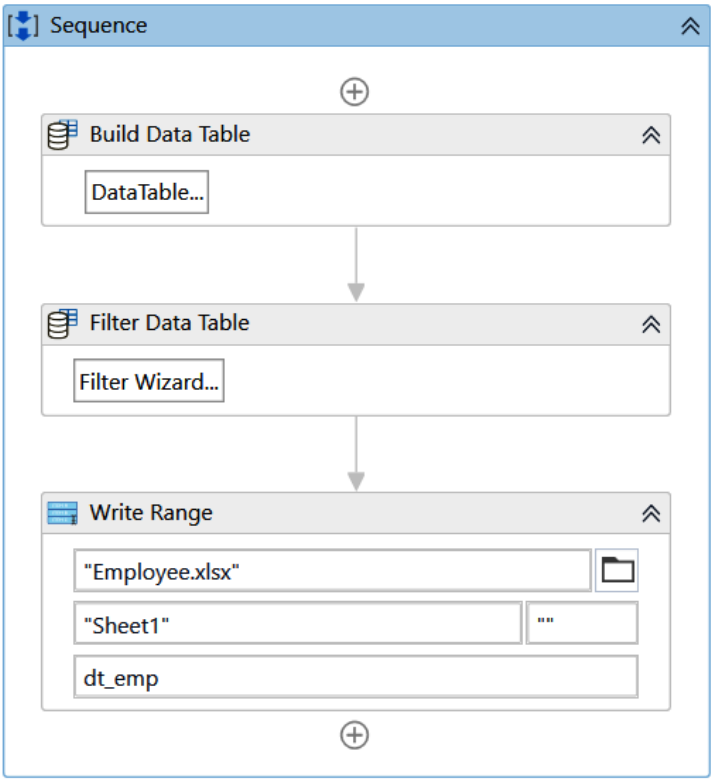
# Chapter 16: How to Prepare and What to Expect

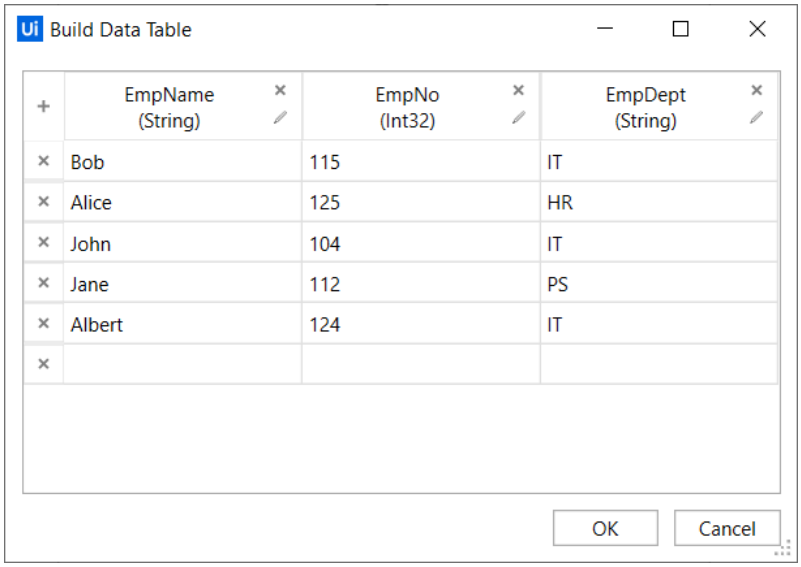
*No Images...*

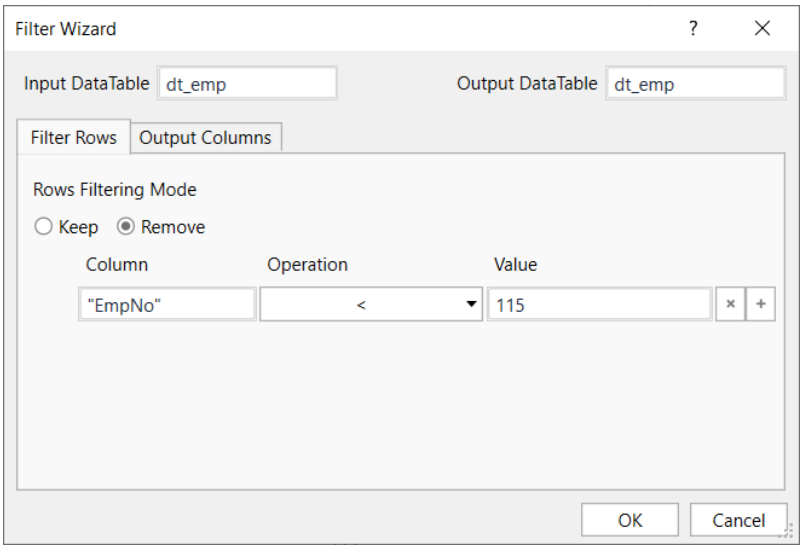
# Chapter 17: Mock Exam 1

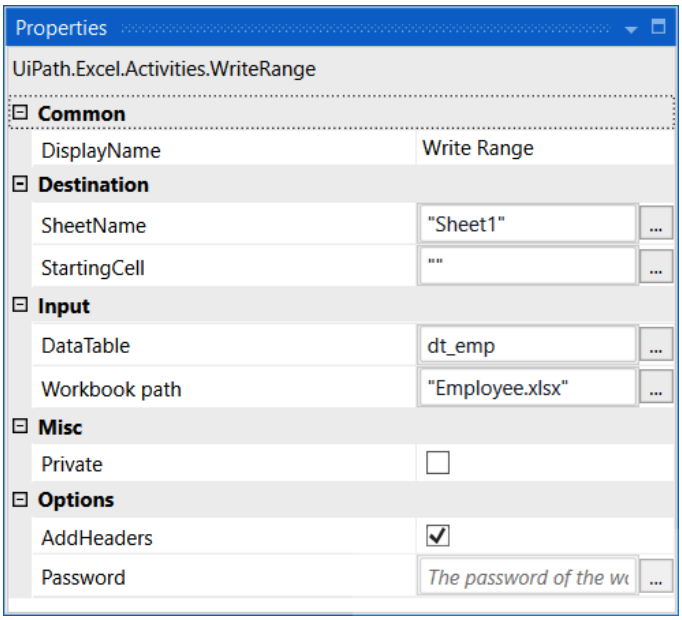
| Name | Variable type | Scope | Default |
|---|---|---|---|
| countries | String[] | Sequence | {"India","Dubai","Singapore","Nepal","Sweden","Maldives"} |




Build Data Table
EmpName (String)
EmpNo (Int32)
EmpDept (String)
Bob
115
IT
Alice
125
HR
John
104
IT
Jane
112
PS
Albert
124
IT
OK
Cancel


Filter Wizard
Input DataTable
dt_emp
Output DataTable
dt_emp
Filter Rows
Output Columns
Rows Filtering Mode
Keep
Remove
Column
Operation
Value
"EmpNo"
<
115
OK
Cancel


Properties
UiPath.Excel.Activities.WriteRange
Common
DisplayName
Write Range
Destination
SheetName
"Sheet1"
StartingCell
""
Input
DataTable
dt_emp
Workbook path
"Employee.xlsx"
Misc
Private
Options
AddHeaders
Password
The password of the wo

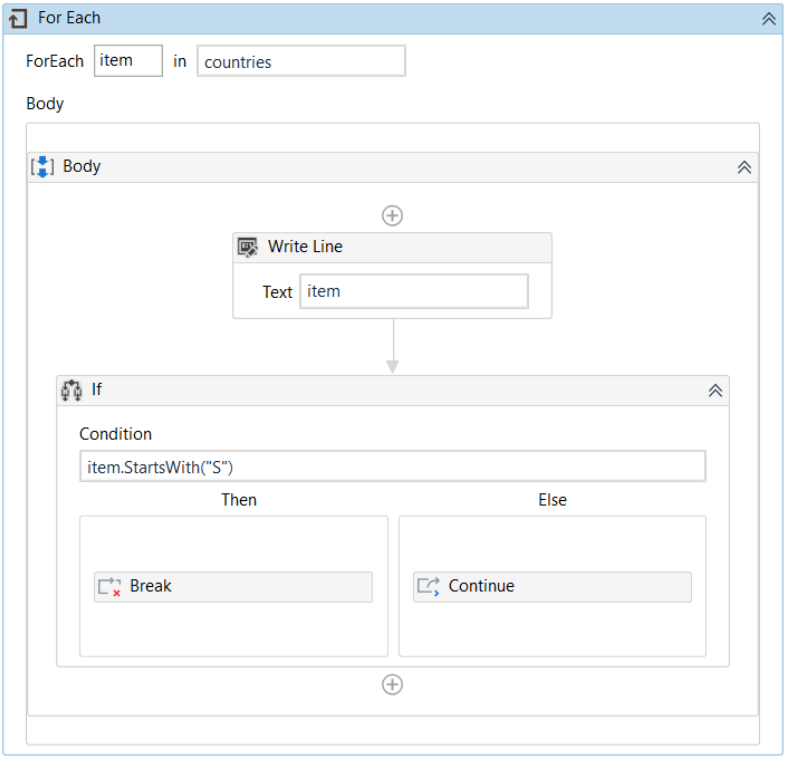
| EmpName | EmpNo | EmpDept |
|---|---|---|
| Bob | 115 | IT |
| Alice | 125 | HR |
| Albert | 124 | IT |

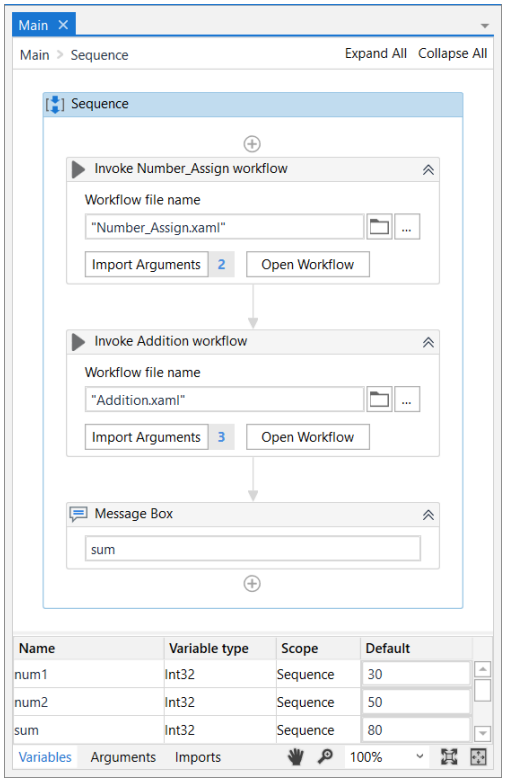
| EmpName | EmpNo | EmpDept |
|---|---|---|
| Bob | 115 | IT |
| Alice | 125 | HR |
| Albert | 124 | IT |
| Jane | 112 | PS |
| Albert | 124 | IT |

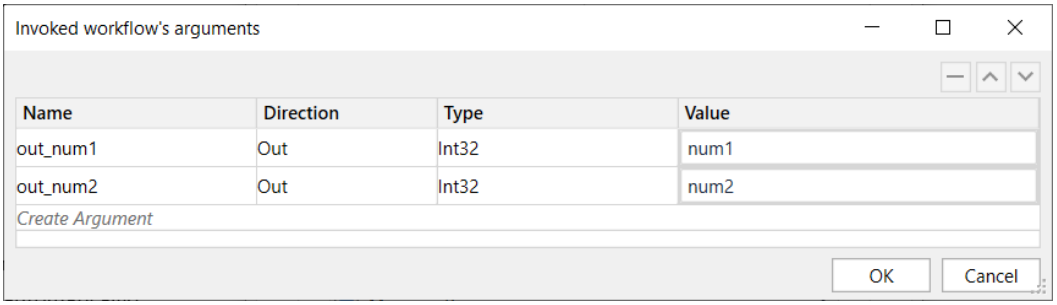
| EmpName | EmpNo | EmpDept |
|---|---|---|
| Alice | 125 | HR |
| Albert | 124 | IT |

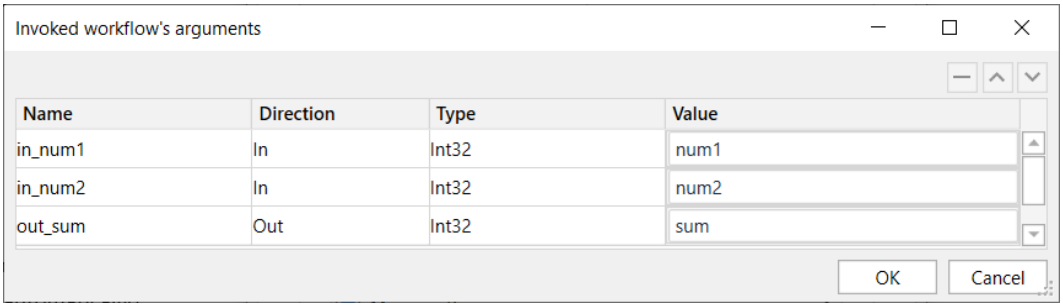
# Chapter 18: Mock Exam 2

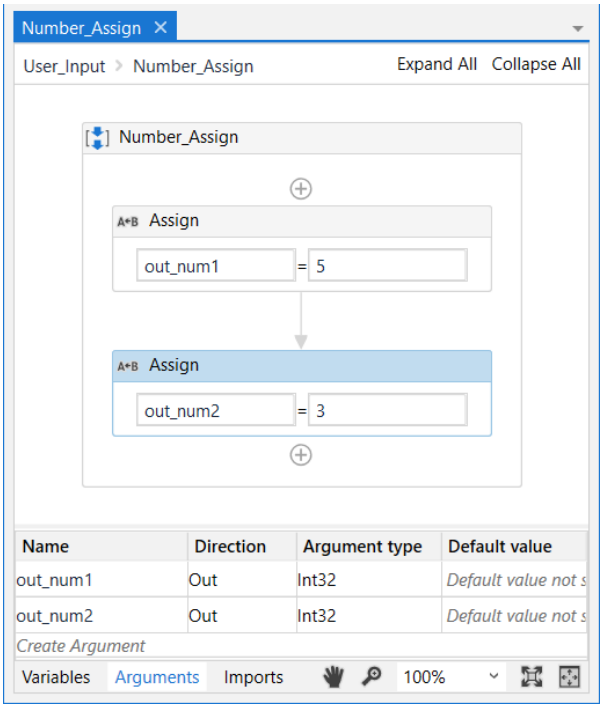
| Name | Variable type | Scope | Default |
|---|---|---|---|
| countries | String[] | Sequence | {"India","Dubai","Singapore","Nepal","Sweden","Maldives"} |

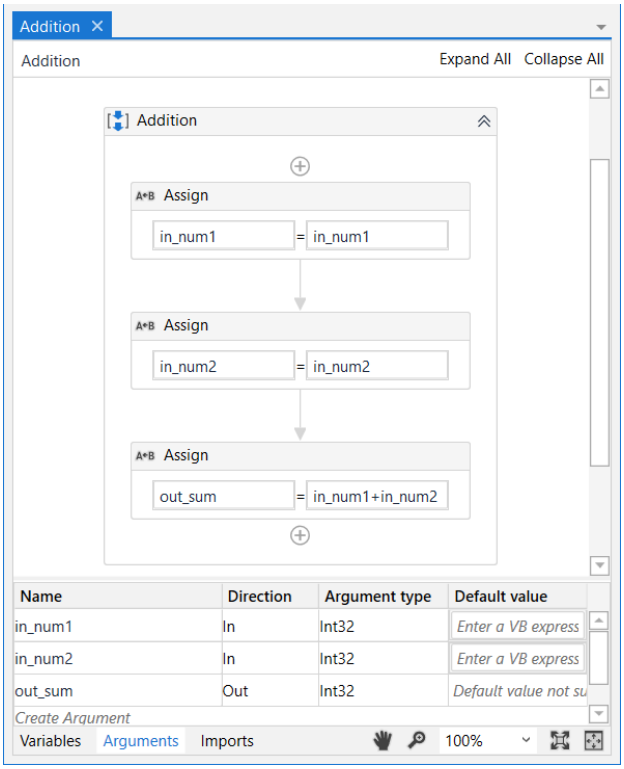


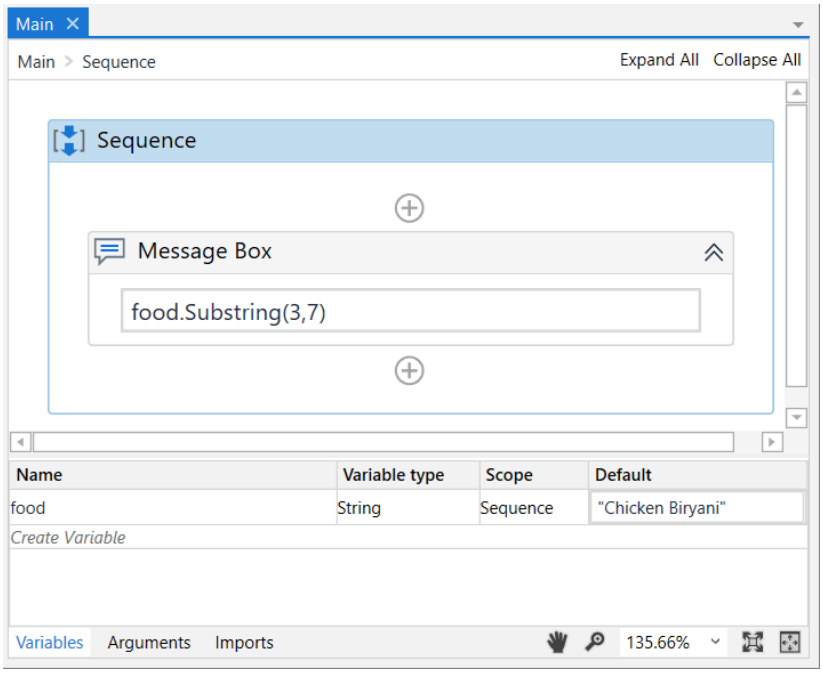




Invoked workflow's arguments
Name
Direction
Type
Value
out_num1
Out
Int32
num1
out_num2
Out
Int32
num2
Create Argument
OK
Cancel


Invoked workflow's arguments
Name
Direction
Type
Value
in_num1
In
Int32
num1
in_num2
In
Int32
num2
out_sum
Out
Int32
sum
OK
Cancel


Number_Assign
User_Input
Number_Assign
Expand All
Collapse All
Number_Assign
Assign
out_num1
= 5
Assign
out_num2
= 3
Name
Direction
Argument type
Default value
out_num1
Out
Int32
Default value not s
out_num2
Out
Int32
Default value not s
Create Argument
Variables
Arguments
Imports
100%


Addition
Addition
Expand All
Collapse All
Addition
Assign
in_num1
=
in_num1
Assign
in_num2
=
in_num2
Assign
out_sum
=
in_num1+in_num2
Name
Direction
Argument type
Default value
in_num1
In
Int32
Enter a VB express
in_num2
In
Int32
Enter a VB express
out_sum
Out
Int32
Default value not su
Create Argument
Variables
Arguments
Imports
100%


Main
Main
Sequence
Expand All
Collapse All
Sequence
Message Box
food.Substring(3,7)
Name
Variable type
Scope
Default
food
String
Sequence
"Chicken Biryani"
Create Variable
Variables
Arguments
Imports
135.66%