

# Robotics Process Automation (RPA) Developer with UiPath



*Glossary & Reference Sheet - Introduction to RPA with UiPath*

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## Introduction to UiPath

### Activities

are grouped in packages. An activity package is a bundle of activities that can help automate a certain application (UiPath.Excel.Activities, UiPath.Word.Activities), a category of apps (UiPath.Mail.Activities, UiPath.Terminal.Activities), or use certain technologies in automations (UiPath.OCR.Activities, UiPath.FTP.Activities).

### Library

is a package which contains multiple reusable components. Libraries are saved as .nupkg files and can be installed as dependencies to workflows using Package Manager.

### Robots

execute the workflows, steps, and instructions received from the Orchestrator or the code generated. There are two types of robots, Attended and Unattended. Robots mimic human actions such as type, click, and read data. Robots interact with applications. Once trained and programmed, robots can make decisions with precision based on predefined rules.

### UiPath Extensions

The extensions are used to extend the automation capabilities to applications like web browsers, Java applications, Silverlight applications, and Citrix Virtual Apps and Desktops, as well as over RDP connections.

### UiPath Orchestrator

is a server application that can be accessed through a web browser. With the help of Orchestrator, the user can control, manage, and monitor the digital workforce, i.e., UiPath Robots. Orchestrator is used to publish and execute the automation workflows developed in Studio. Orchestrator acts as the control room and is responsible for handling resources, queues, scheduling, generating logs, and execution of Robots.

### UiPath Studio

is where the automated processes are built visually, using the built-in recorder, drag & drop widgets, and best-practice templates. The Studio is at the heart of automation with UiPath products. UiPath Studio encapsulates both simple and complex solutions for application integration and automating third-party applications, administrative IT tasks, and business IT processes.

## Reference: Keyboard Shortcuts

### File Management

**Ctrl + Shift + N** - Creates a new Blank Process

**Ctrl + O** - Opens a previously created workflow

**Ctrl + L** - Opens the folder where the Log files are stored

**Ctrl + S** - Saves the currently opened workflow

**Ctrl + Shift + S** - Saves all the workflows currently open

**Ctrl + Tab** - Moves focus between workflows opened in the Designer panel

### Selected Activity

**Ctrl + T** - Places the selected activity inside the Try section of a Try Catch activity

**Ctrl + N** - Creates a new Sequence Diagram in the current project

**Ctrl + C** - Copies the selected activities to the clipboard

**Ctrl + V** - Pastes the copied activities

**Ctrl + K** - Creates a variable of the same type as the required type of the activity

**F2** - Allows for renaming the selected activity

**Shift + F2** - Adds an annotation to a selected activity

**Enter** - Saves the data added in the activity input field

### Other Activities Available [Here](#)

**Comment**

**Debugging**

**Recording**

**Workflow Analysis and Execution**

**Selected Activity**

**Miscellaneous**

## Reference: Installing & Uninstalling Packages

### Installing Packages

1. Installing packages can be done by first opening the Package Manager.
2. Select the All Packages category or click on a certain feed (Local, Official, and so on), that contains the desired package.
3. Use the search bar to find a specific package/library using keywords or scroll down to browse for available ones.
4. Click on a package to open up a set of details, including its description, version number and dependencies.

5. Select a version of the package and set a Runtime Rule. The Runtime Rule can be set as strict (when a certain version is needed for running the project), or lowest applicable (when the lowest version is needed). For detailed information on dependencies and their rules, check the Managing Dependencies page on the UiPath Online Help Center.
6. Click on the Install button.
7. Alternatively, click on the icon next to the package name to mark it with the icon, making it ready for installation. The dependency installs only after you click Save.

### Uninstalling Packages

1. To uninstall a package
2. go to the Project Dependencies category of the Package Manager
3. Click the Uninstall button next to the package you no longer need.
4. The option will become effective after you click Save.

## Reference: UiPath Activities

### Abbyy

Enables user to extract intelligent data & document capture processes through OCR, Cloud OCR, data extraction activities

### Citrix

Enables users to easily automate processes for on-demand management and maintenance of Citrix virtual machines through a new server from a template, option to take screenshots of virtual machines, and reboot power on/off.

### Cognitive

Contains activities that help the user to use Google's, IBM's, Stanford's, and Microsoft's APIs and enable the robot to translate text from one language to another and extract relevant information from a given piece of text.

### Credentials

Contains activities that work with Windows Credential Manager and enables the user to add/delete credentials for specific Microsoft authentication packages and retrieve credentials

### Cryptography

Provides services to user to encrypt & decrypt sensitive data using encryption protocols

### Database

Enable user to connect to a database & perform actions such as executing transactions or queries & non-queries

### Document Processing

Enables user to integrate own classification & extraction activities with Intelligent OCR activities package

### Excel

Contains activities that help users to automate all aspects of Microsoft Excel and enables the user to: read information from a cell, column, or rows, write to other spreadsheets, execute macros, sort, data, and append additional information.

### Exchange Server

Include activities designed for Microsoft Exchange Server 2016 & 2019 (mail, calendar, schedule, etc.)

### Form

Contains activities that enable the user to create custom input forms (to collect data from human users) and display custom callout messages.

### FTP

Enables user to connect to a File Transfer Protocol server & perform like searching, downloading, uploading files & directories

### Google GSuite

Enables users to automate Google Cloud G Suite applications (Calendar, Drive, Mail, etc.)

### Intelligent OCR

Enable user to digitize & classify document, extract data & export it

### Java

Enables user to harness the power of Java code by initializing Java library & using further activities

### Mail

Contains activities that facilitate the automation of any email-related tasks and enable the user to send, receive, and delete emails and send attachments.

### PDF

Contains activities designed to extract data from PDF files and store it into string variables and enables the user to extract data from the entire document or from a range of pages (Rangeproperty) and Use OCR-based activities to extract data from scanned documents.

### Persistence

Enables user to manipulate jobs, tasks, queues in Orchestrator

### Python

Enables user to invoke Python scripts & methods in any workflow directly from UiPath

### Salesforce

Enables user to automate Salesforce processes (file & record manipulation, report execution)

### SAP BAPI

Enable user to connect to a SAP system & use a Invoke SAP BAPI activity

### Screen OCR

Offers a machine-learning based OCR for screens

### System

Contains all the basic activities used for creating automation projects and enables the robot to manipulate data tables and directly interact with directories and files.

### Terminal

Contains activities designed to connect to a terminal and efficiently work within it and enables the user to retrieve text, fields, screen positions, send keys, and text, wait for certain text/fields to appear as triggers, and connect to a specific environment using Terminal Session activity.

### UI Automation

Contains all the basic activities used for creating automation projects & enables the robots to simulate human interaction, perform image & text automation, create UI behaviors based triggers, and perform browser interaction.

### Web

Contains activities that enable the user to perform requests using specific protocols to any web APIs that support them, manipulate XML and JSON files, and automate various software components with less effort (using APIs)

### Workflow Foundation

Provides functionality for control flow, event handling, & communicating with applications and services

# Variables, Arguments, & Control Flow

## Arguments

are used to pass data from one workflow to another by storing the data dynamically.

## Arguments Panel

that enables the users to create arguments and modify them.

## Flowchart

is a type of project that consists of various activities which can be connected to one another in multiple ways.

## Sequence

is a container in which multiple activities are placed one after another and executed linearly.

## State Machine

A container for using state machine specific activities. It contains a start node that can be linked to the initial state of the State Machine.

## Variables

are containers that are used to store multiple types of data. Using variables makes it easier to label and store data which can later be used throughout the automation process.

## Variables Panel

enables the users to create variables and modify them.

# Data & String Manipulation and UI Activity Properties

## Data Manipulation

is the process of changing data to make it easier to read or be more organized. Manipulating data can enable it to be displayed in a common format for systems, output, verification, and beyond.

## Dictionary

is a collection of words and their meanings. Dictionaries consist of key and value pairs, in which the keys are unique.

## Lists

are data structures consisting of objects of the same data type. Each object has a fixed position in the list; thus, it can be accessed by index.

## Regular Expression

or commonly known as RegEx is a specific search pattern that can be used to easily match, locate and manage text.

# Selectors

## Dynamic Selectors

uses a variable or an argument as a property for the attribute of the target tag

## Selectors

are tags and attributes of an element in an application. They help UiPath Robots identify which buttons, drop-down lists, and other UI elements to interact with.

## UI Explorer

is a tool that shows all the options for attributes and values, the structure of the element, and other elements on screen.

Notes: