

SELENIUM with PYTHON (Live Project Use Cases)

Course Overview

The course is designed to make you an Automation Engineer. The course is a right blend of theory and practice ensuring student-teacher engagement throughout the course. Topics include Python Basics, Selenium Basics to Advance and Framework Development.

Prerequisite

The course requires knowledge of Manual Testing and test case development.

Introduction to Python

- Introduction and installation of Python
- Answers to some frequently asked questions
- Topics covered throughout the course duration
- Checking python prompt from command prompt
- Discussion and installation about IDE

Python Modules, Variables and Data Types

- Basic Syntax of Python
- First Python Program
- Python Identifiers
- Reserved Words
- Lines and Indentations in Python

Python Decision Making & Functions

- Python Decision Making
- Python if, else and else-if Statements
- Python Loops
- Python while and for loop
- Break, Continue and Pass
- Python Date and Time

Python Data Structures and Strings

- Python – Strings
- Python – Lists
- Python – Tuples
- Python – Sets
- Python – Dictionaries
- Python – Booleans

Python Object Oriented Programming

- Limitations of using Modules – Need for OOPs
- Building Classes in module
- Constructor - The `__init__` Function

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- Object creation
- Object and Object Referencing

Inheritance & its types

- Inheritance
- What is Inheritance
- Types of Inheritance
- Single-Level Inheritance
- Multi-Level Inheritance
- Multiple Inheritance

Encapsulation

- What is Encapsulation?
- Private Variables and Functions
- Abstract Classes
- Access Specifiers

Exception Handling

- Exception and File Handling

Writing into Excel file

- Why do we write to excel files?
- Writing to a cell by column name
- Writing to a cell by column Index
- Read Properties file

What is Pytest | Installing Pytest

- What is PyTest
- Installation of Pytest
- Pytest Conventions
- How to make a test
- Running a test in PyTest
- Create multiple tests

Project Structure with Python reusable with any project

- What Is Selenium Webdriver, Components of Selenium Webdriver
- What is selenium?
- Evolution of selenium from Selenium Rc to webdriver 4
- Understanding different Components - IDE, WebDriver, GRID

Downloading Selenium in Eclipse/Pycharm

- Installing Selenium and configuring it with Pycharm/Eclipse

- Launching Browsers with Selenium
 - Understanding different Drivers for Different Browsers
 - Downloading exes for different Drivers
 - Working with Mozilla, Chrome, IE, Edge and other browsers
 - Adding the driver classes in the environment variable
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- Launching Browsers Dynamically on a Single Selenium Script
 - Working with different browser with webdriver class
 - Writing a single script to work on different browsers

Handling Browser Notifications, Proxy Settings, Logs,SSL Errors

- Firefox Profiling Concept
- What is Firefox profile
- Usage of Profiling
- Disabling notifications
- Disabling info-bars
- Chrome Options

Identification of Objects in Selenium Python WebDriver

- What is object
- About the interface WebElement
- About the tags and attributes on page source
- Discussion over commonly available elements on webpage
- Compulsory and optional attributes
- Example of extracting elements using the attributes

Using Xpaths with Selenium Python

- What is xpath
- Different types of xpath : complete and partial
- Customizing own xpaths
- Extracting elements on webpage using both types of xpaths

Using CSS Selectors with Selenium WebDriver

- What is CSS selector
- Customizing CSS selector and extracting element using it
- Inspecting element from different browser like Firefox
- Discussing different tools to make xpath on Firefox like xpath finder and try xpath
- Discussing different tools to make xpath on Firefox like xpather
- Different way to copy xpath from the inspector

Waiting Strategies, WebElement Features, Exceptions in Selenium

- Implicitly Wait

- Usage of Implicit wait
- Shortcomings of Implicitwait
- NoSuchElementException, InvalidSelectorException, ElementNotInteractableException
- Finding If Element is Displayed on Page
- Finding Element is Enabled

Multiple Object Extraction

Using Explicit Waits

- Dynamic Waiting Techniques - Explicit and Implicit waits
- Reason why implicitly wait does not work
- Managing Ajax based components on the web page
- Making the isElementPresent function robust
- Applying isElementPresent to work with explicit wait script

Taking Screenshots , Managing CheckBoxes, Radiobuttons, Dropdowns with Selenium

- Overview of Select Class
- Handling drop down list and Select
- Difference between drop-down and custom drop-downs
- Managing radio buttons and check boxes
- Taking screenshots of the web pages

Multiple Windows Handing With Selenium

- Concept of sets
- Popup and tab window management in Chrome, IE, Firefox, Edge
- Managing pop ups
- Detect presence of popup
- Closing windows
- Close and Quit Command

Real Time Automation Frameworks

- What is framework
- How to start with framework.
- Types of Framework
- What is keyword driven framework?
- What is data driven framework?
- What is hybrid framework?
- How to create data driven framework.