

# QA Tech Hub – Selenium 3.0 Course Content

## What all you need in Java for Selenium?

- Introduction to Java
- Why Java became famous?
- Environment Setup for Java
- Creating a project in Java, writing and running our first code.
- Variables and constants
- Data Types
- Operators in Java
- Conditional Statements
- Loop Statements
- Classes and Objects
- Methods in Java
- Constructors
- String Handling
- Introduction to OPP Concepts
- Encapsulation
- Inheritance
- Polymorphism – Over Loading and Over Ridding
- Access Modifiers and Class Modifiers
- Abstraction
- Getters and Setters
- Exception Handling
- Data Structures – Collections Framework – Lists and Sets
- Maps

## Selenium 3.0 Topics:

- Introduction to Selenium and its components
- Getting Started with Selenium WebDriver – Environment Setup
- Introduction to basic Selenium commands - Running first call flow
- Executing automation scenarios on Mozilla Firefox, Chrome Browser and on Internet Explorer
- Installing Firebug and Firepath
- Locators and Identifiers in Selenium
- Working with form elements like textbox, radio buttons, checkbox, text area, etc
- Working with Dropdowns
- Working with lists
- Practicing XPath
- Practicing CSS Selector
- Waits in Selenium – Page Load Timeout, Implicit wait, Explicit wait and Fluent wait
- Mouse Operations – Mouse Hover, Right Click, Double Click
- Alert Handling

- Multiple Window Handling
- Frame handling
- Cookies Handling
- Working with Tables
- Exception Handling in Selenium
- Validations through Selenium Methods
- Java Script Execution
- Taking Screenshot
- Integration with AutoIT
- Integration with Sikuli
- Selenium Grid – Environment Setup, A call flow

## TestNG Topics:

- Introduction to TestNG
- Comparison between TestNG and Junit
- Annotations and attributes in TestNG
- Reports in TestNG
- Enable/Disable a Test case
- Controlling the sequence of test cases
- Assertions in TestNG
- Introduction to testing.xml file
- Package execution through testing xml file
- Class Execution through testing xml file
- Parameterization
- Data Provides
- Parallel Execution of testcases

## Design Patterns:

- Object Repository
- POM (Page Object Model)
- Page Factory (Enhanced POM)

## Frameworks:

- Introduction to Frameworks
- Designing end to end framework using **Page Factory as design pattern**, TestNG as Testing framework, Integration with POI Apache for reading data from Excel sheet, **Integration with Maven and Jenkins**