ITBRAINY

SELENIUM TESTING

JAVA FOR SELENIUM

- Selenium Overview
- Installing Java
- Installing Eclipse
- Features of Java
- Why Java for Selenium
- First Eclipse Project
- First Java program
- Concept of class file
- Platform Independence
- Data types in Java
- String class
- If statements
- Conditional and concatenation operators
- Mille Loop
- For Loops
- Practical Examples with loops
- Usage of loops in Selenium
- 40. Single Dimensional Arrays
- Two Dimensional arrays
- Practical usage of arrays in Selenium
- Drawbacks of arrays
- What are Functions?
- Function Input Parameters
- Function Return Types
- Local Variables
- Global Variables
- Static and Non-Static Variables
- Static and Non-Static Functions
- Creating Objects in Java
- Meaning of static
- Why Is main method static?
- Object and Object References
- Call by reference and Value
- Constructors
- Usage of Objects In Selenium
- Concept of Inheritance
- Interface
- Over loadings and Overriding Functions
- Example on inheritance
- Object Class
- Usage of Inheritance in Selenium
- Relevence of Packages
- Creating Packages

- Accessing Classes Across Packages
- Good Features of eclipse
- Accessing modifiers - Public, Private, Default, Protected
- Exception hading with try catch block
- Importance of exception handling
- Exception and Error
- Throwable Class
- Final and Finally
- Throw and Throws
- Different Types of Exceptions
- Need of exception handling in Selenium framework
- Introduction to Collections API
- ArrayList Class
- HashTable Class
- String class and functions
- Reading/Writing Text Files
- Reading Properties File in Java
- Concept of jar file
- ReadingiWrIfing Microsoft XLS Flies

SELENIUM IDE

- Intalling Selenium IDE
- Recording Script
- Running, Pausing and debugging Script
- Running a script line by line
- Inserting commands in between script
- XPATHS and installing firebug to get XPATHS
- Wait Commands
- Verification and Assertions
- Should I use verify or assertion
- JavaScript
- User-extension.js in Selenium IDE

SELENIUM WEBDRIVE

- Why WebDriver?
- Downloading WebDriver Jars and configuring in eclipse
- Architecture of selenium webdriver
- Drivers for Firefox, 1E, chrome, !phone, Android etc
- First Selenium Code
- Working with chrome and IE
- Selenium RC and WebDriver
- Concept of firefox profile
- What is Firefox profile
- Why we need tirefox Profile
- Close and Quit -Difference
- Importing webdriver documentation in eclipse
- WebDriver i DesiredCapabilities Class
- Proxy settings with webdriver/Working with proxy Servers
- HTMLUnit driver and desired capabilities
- Firepath and firebug Add-ons installation in Mozilla
- Inspecting elements in Mozilla, Chrome and IE

- **HTML language tags and attributes**
- **Various locator strategies**
- **WebDriver Interface**
- **WebElement Interface**
- **Identifying WebElements using id, name, class**
- **Finding Xpaths to Identify**
- **Absolute and complete Xpaths**
- **Creating customized Xpaths without firebug**
- **Css Selectors**
- **Generating own CssSelectors**
- **Performance of CssSelectors as compared to)(paths**
- **Finding xpaths/cssselectors in different browsers - Mozilla,**
- **Chrome and IE**
- **Objects with same idixpathicssSelector**
- **What is class attribute?**
- **Handling Dynamic objects/ids on the page**
- **Working with different browsers without changing code**
- **Managing Input fields, Buttons and creating custom xpaths**
- **Managing/Identifying Links with xpathslcss selectors**
- **Extracting More than one object from a page**
- **Extracting all links of a page/Bulk extraction of objects**
- **xtracting Objects from a specific area of a web page**
- **Various strategies to test Links on a page by clicking on them one by one**
- **Finding whether object Is present on page or not**
- **Handling drop down list**
- **Select Class in Selenium API**
- **Managing radio buttons and Checkboxes**
- **Hidden components**
- **isDisplayed function**
- **Taking Screenshots of the web page**
- **Implicit and Explicit waits PageLoadTimeout Property WebDriverWatt Class**
- **WebDriver.Timeout Interface**
- **ExpectedCondition interface and ExpectedConditions class WaitUntil Condition**
- **Fluent Walt**
- **Managing Ajax based components Concepts**
- **Set Interface in Java Window Handles**
- **Managing tabbed windows In 1E, Chrome and Mozilla**
- **Managing popups in 1E, Chrome and Mozilla**
- **Closing windows**
- **Default Popups**
- **Extracting Data From WebTable Dynamic WebTable**
- **Handling Attaching files with Selenium**
- **Changing your facebook profile picture by attaching new picture**
- **Mouse movement with Selenium- Mouse interface**
- **Handling Ajax Autosuggests**
- **Handling Google Ajax Autosuggests**
- **Handling Frames in Web Page**
- **Handling cookies**
- **More Examples on Webtables Webtables and css Selectors**
- **Building custom functions for Webtables**
- **Managing Javascript alerts**
- **Simulalng front and back buton click on Browser using**
- **selenium**

- Assigning Firefox profile parameters
- Downloading files using selenium
- Selenium Javadocs
- Moving a mouse on a Object and right clicking on it
- Finding Coordinates of a Web Object
- Actions class In WebdrIver-
- Handling CSS menu with Action class-
- Handling CSS menu with JavaScript
- Executor-JavaScriptExecutor example-
- Drag, drop, native events

TESTNG FRAMEWORKS

- TestNG Framework
- What is TestNg
- Installing TestNg in Eclipse
- TestNg annotations
- Understanding usage of annotations
- Running a Test in TestNg
- Batch Running of tests in TestNg
- Skipping Tests
- Parameterizing Tests - DataProvider
- Assertions/Reporting Errors
- TestNg Reports
- Advantages over Junit
- Using TestNg in Selenium

FRAMEWORK

- Modular Driven Framework
- Datadrtven Framework
- Keyworddriven Framework
- Hybrid Framework

ANT

- Downloading and configuring Ant
- Buildiarl configuration
- HTML Report generation using Ant
- What is Ant
- XSLT report generation generation using TestNg and Ant
- Building a BAT file to run tests using ANT
- Overview of Data driven framework
- Building the Test Base Class
- Reading XPATHS, Configuration from properties file
- Initialize the WebdrIver
- Repeating a test with different Data
- Building utility functions
- Parameterizing tests using XL Flies
- Controlling Execution order from XL Files
- Assertions and Reporting Errors ErrorCollector
- Storing Screenshots of errors
- Generating the HTML reports

- Emailing test reports
- Creating a BAT file for project execution

MAVEN

- What is Maven and Why Maven?
- Installing/Configuring Maven
- Archetypes In Maven
- Creating maven project through command line
- POM.xml
- importing Archetypes
- Maven Repositories
- Building POM.xml through command line to configure
- Selenium and Junit
- Importing the maven project Into eclipse
- Building a selenium project and running It through Maven
- Maven Antrun Plugin configuraion in POM.xml
- Eclipse plugin for maven
- Using the maven plugIn to execute phases - compile,dean. oackaoe etc

DATABASE TESTING USING SELENIUM

- Installing MySQL Database and making some tables in it
- java.sql package
- JDBC Drivers
- Connection Interface
- Statement and PreparedStatement Interfaces
- ResultSet Interface
- Firing select, insert, update and delete queries with database using Java JDBC
- Looping the ResultSet
- Using Annotations of JunitlTestNg to establish connection with database when Using Selenium

GRID

- Introduction to Grid 2
- Creating Nodes and Hubs
- Deciding number of browsers on a Node
- Deciding type of browsers on Node
- Limiting number of concurrent browsers on node
- Difference between maxSession and maxinstance
- Configuring chromedriver and lEdriver exe files on grid
- Testng configurations
- RemoteWebDriver and DesiredCapabilities
- Configuring JSON file format to initialize/configure hub and nodes
- Running single test on single node - serially In multiple browsers
- Running single test on single node — parallely on multiple browsers
- Running single test on multiple nodes — each node having different browser
- Can we decide node to run test?
- Running multiple tests spread across 3 nodes — one for ie, one for firefox and one for chrome
- Node Tirneout
- Prioritizing the test cases
- Prioritizer Interface and CustomPrioritizer
- Sharing same webdriver instance among multiple tests after prioritizing them

- Grid Coding in eclipse
- Creating a Grid sample test case
- End to end scenario building and execution on Grid -demonstration on one node
- End to end scenario building and execution on Grid -demonstration on multiple nodes on virtual machine
- End to end scenario building and execution on Grid -demonstration on multiple nodes on virtual machine and on multiple browsers

POM (PAGE OBJECT MODEL)

- What is POM
- When to use POM
- inheritance and Encapsulation In POM
- Designing POM classes
- Putting up test configurations in a properties file
- Building Page class
- Building generaic utility functions
- Runner Class
- Given, when, Then, And, But annotations
- Passing Parameters to Step function
- Batch running the test cases
- Using junit/testng to execute test cases
- Parameterizing tests using XL Files
- Taking screenshots
- Genrating reports and reporting errors
- Mailing the test Reports
- Creating a Bat file for project executing

AUTOMATING WINDOW COMPONENTS

- Autoit
- Robot

GIT

- Downlaocling and installing GIT
- Installing GIT and GITHUB plugins for jenkins
- Configuring ssh host keys for GIT and Jenkins
- Git Bash commands and operations
- Uploading project to GIT using GIT Bash

JENKINS

- What is continuous integration
- How Jenkins helps in continuous integration
- Downloading and installing Jenkins
- Executing simple batch commands
- Build project at will and build at intervals/ Scheduling builds
- Build Triggers
- Mailing if build fails
- Configuring/Scheduling Maven Project In Jenkins
- Configuring/Scheduling remote Git maven project in Jenkins

LOG4J

- introduction about logging
- Introduction about Log4J framework
- Logging Problem without log4J
- How to solve logging problem with log4J
- What is layout
- Different types of layouts In log4J
- What is Appender
- Different types of Appenders in log4J

CUCUMBER

- What Is BDD
- Downloading Cucumber Jars
- Junit & Cucumber
- Preparing Feature File
- Step definition
- Runner Class
- Given, when, Then, And, But annotations
- Passing Parameters to Step function