



## Introduction

What is Automation Testing?

Use of Automation.

Where do we use.

Tools that Do Automation.

Web Applications vs Standalone Applications.

What is selenium?

How selenium works.

## HTML:

### Detailed discussion of HTML -

Some Important terminology to understand

Elements

Attributes

Parent

Child

Sibling

Ancestor

Descendant

Select

Input

Form

Popups

Alert

Prompt

Confirm

Iframes

HTML5 Elements

Style

CSS

and so on.

## Java:

Java Keywords

Java Data Types

Declarations and Access Control

Operators and Assignments

Flow Control

Typecasting

Arrays

Packages:

Introduction to all predefined packages

User Defined Packages

Access Specifiers

Object Oriented Programming Concepts:

Introduction

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Class  
Object  
Local, Instance and static variables  
Constructors  
This keyword  
Inheritance and Types  
Working with superclasses and subclasses  
Using types of polymorphism such as overloading, overriding, and dynamic binding  
Abstraction  
Encapsulation  
Abstract classes  
Interfaces  
String Processing:  
String manipulation with String Builder and String Buffer  
Essential String Methods  
Exceptions and Assertions:  
Introduction  
Exceptions categories  
Standard Java Exception classes  
Using Try-catch and finally clause  
I/O Streams:  
I/O using Java  
Files (Create/Read/Write operations on files)  
Wrapper Classes:  
Introduction  
Byte, Short, Integer, Long  
Float, Double  
Character  
Boolean classes  
Collections:  
Introduction to Collections framework  
util Package  
List, Set and Map  
Not limited to above concepts will be discussed as and when required.

#### **Selenium:**

SELENIUM IDE  
SELENIUM RC - Deprecated  
WEBDRIVER  
GRID

Pre Requisites:

#### **SELENIUM IDE:**

Introduction.  
Installation.  
Sample Examples  
Explanation of Each Icons.

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User Extensions.

Selenium IDE commands (asserting, verifying , wait, and storing the elements)

Assert

Verify

Adding Selenium IDE comments

Synchronization commands

Working on pages with AJAX

Storing elements

Creating test suites

### **Different ways of identifying Elements:**

Locators Identification.

ID

Name

Class

Link

CSS

Xpath

DOM

#### **Xpath**

Absolute xpath

Relative Xpath

Diff between / and //

@

.

..

xpath axes

parent

child

following

preceding

following-sibling

preceding-sibling

ancestor

descendent

Methods

text()

contains()

last()

Xpath Formats .

#### **CSS**

Diff between xpath and css

Identifying the css

#

.

+

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(space)  
^=  
=^  
and other symbols usage in CSS

Advantages of CSS

**Plugins - Helpful in automation**

Firebug  
Firepath  
Xpath Checker  
Developer Tools  
UserAgent Formatter.

**WebDriver :**

What is webdriver  
Comparison with RC  
How to use  
Launching application in multiple browser  
Method level explanation with examples  
Please check the chart which contains all the methods which includes all concepts  
Switching windows ,alerts , frames  
Waits - Implicit wait  
Explicit wait  
Fluent Waits  
Select Box handling  
Actions Class  
click  
contextClick  
doubleClick  
moveToElement  
moveByoffset  
Drag and Drop  
Simulation of Keyboard Actions  
Listeners -EventFiring WebDriver  
Annotations  
Capturing the screenshots  
Cookie Handling

**Grid:**

Remote WebDriver  
Capabilities  
Hub  
Node  
Json Configurations  
Executions on multi node/multi OS/multi browser

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Parallel Executions  
method level  
class level  
test level  
instance level

### **TestNG:**

Introduction  
Installation  
Annotations  
Attributes in annotations.  
enable  
retry  
dependsonMethods  
timeout  
exceptions  
and so on

Listners  
@Before\* and @After\*  
@DataProvider  
@Parameters  
@Factory  
@Listners  
and so on

Programatical Approach  
Configurational Approach  
Testng.xml

Executions Ways :  
Suites  
Tests  
packages  
classes  
method inclusion/exclusion  
groups

Execution of testng from command line and configurations in multiple modes.  
Rerun of failed tests automatically  
- After each failure (Retry)  
- After all tests (Rerun of failed suites)

Assertions

### **Junit:**

Introduction  
Comparison with Testng  
Categories etc

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## Reporting:

- TestNG Reports
- ReportNG Reports
- Extent Reports
- XSLT Reports
- Jasper Reports

## Basic Concepts

- JavaScript
- Ajax
- JQuery

## Build Tools:

### Maven:

- Installation
- Configuration
- Terminology
- Life Cycles
  - default
    - imp stages - compile
    - test compile
    - test
    - package
    - integration test
    - install
    - deploy
  - clean
    - stages - pre
    - compile
    - post compile
  - site
- Plugins
  - Surefire
  - Postman
- Creating a maven project
  - With default archetype
  - with specific archetype
- Invoking test phase to run automation suites
  - configuration of surefire plugins to run testng tests and junit tests
- Use of deployable artifacts
- Local Repositories
- Remote Repositories
- Central Repositories
- Artifactory (Tool to create a remote private repo)
- Other Usages of Maven..

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### **ANT:**

- Diff between ant vs maven
- Advantages and disadvantages
- Installation
- Terminology
- Examples .

### **Server Management:**

- Tomcat
- WebLogic

- Starting and stopping
- Logs verification
- Soft deployment
- hard deployment

- Internal Configurations

### **Design Patterns:**

- Page Object Model
- Page Factory
- Data Driven DP
- KeyWord Driven
- Singleton
- DTO Design Pattern
- DAO DP

### **Database Testing - (wrt Automation):**

- Java JDBC
- SQL queries (Basic)
- Sample Examples

### **Data Access Related Tools:**

- File IO
- POI - To Handle Excel sheets
  - Reading , writing , updating both xls and xlsx files.
  - Color management , Formula handling , Excel Processor tool
- JSON
- XML Handlers
- Properties File
- CSV Reader
- etc

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### **SCM Tools:**

- Installations
- Usage
- Terminology
  - Clone
  - Checkout
  - Pull
  - Update
  - Push
  - Commit
  - Checkin
  - Merge
  - Conflicts
  - Lock
  - Revision ID
  - Branch
  - etc
- GIT
- SVN
- Mercurial

Different ways of handling SCM Tools

### **Test Management Tools:**

- Need - TestLink
- Introduction
- Installation
- Configurations with Jenkins and Source Code
- Authoring
- Review
- Executions
- Configurations

### **Bug Management Tools:**

- Need - TestLink to Jira
- Introduction
- Installation
- Configurations with Jenkins and Source Code
- Authoring
- Review
- Executions
- Configurations
- BUG Life Cycle.

### **Log4j**

- Introduction
- Installation
- Configuration
- Examples

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Levels Of Log4j  
Debug  
Info  
Warn  
Error  
Trace

### **Jenkins:**

Introduction  
Installation  
Configuration of plugins  
Configuration of Jenkins  
Job Creation  
    Using multiple internal options  
Build Execution  
Jenkins Management  
Integration with SCM Tools  
Pipeline concepts  
Master and Slave concepts

### **Automation Tools:**

#### **AutoIT**

Windows automation tool  
Introduction  
Installation  
Java Plugin  
Au3 Approach  
Examples

#### **Sikuli**

ScreenShot based automation tools  
Introduction  
Installation  
Java Plugin  
IDE Mode  
Examples

**JMeter** : - Basic Intro  
Perf tool

### **Process Management:**

SDLC and STLC \_- -not in a traditional way (Practical implementation of the process)  
AGILE Process  
BUG Life Cycle

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### **Eclipse:**

Installation  
Plugins Installation.  
    testng  
    git  
    maven

Configurations  
ShortCuts.

### **Whitebox Testing \* ----(Optional)**

Unit Testing  
API Testing

#### **WebServices Testing :**

Soap  
    SoapUI  
    Axis2  
    CFX  
Rest  
    Implementation.

#### **Code Coverage Tools**

JACOCO  
Clover

#### **Review Tools:**

Review Board  
Collaborator

#### **Static Code analysis**

Sonar  
Findbugs  
PMD  
Checkstyle

### **Cucumber:-**

#### **Introduction to Cucumber and BDD**

- What is Automation Testing?
- Advantages & Limitations of Automation Testing
- Automation Criteria (Automate or Not)
- Web Applications and Test Automation for Web Applications

#### **Introduction to Selenium**

- What is BDD
- Cucumber implements BDD
- Gherkin Language

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- Features
- Scenarios
- Preparing Features File having test scenarios
- Writing a step definition
- Writing Runner Class
- Given, When, Then, And, But annotations and usage in features class
- Passing parameters in Step Functions
- Using regular expression in step implementation to parameterize
- Parameterize complete scenario using features class
- Datatable in Cucumber and its implementation

#### **Framework with Selenium+Cucumber**

Training Duration (Online/Classroom): 3 Months

Training Fee (Classroom/Online): 12K

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