



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.

Manual Testing :

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



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.



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

.
+



(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



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



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..



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



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



- 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



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