QMINDS technologies

SELENIUM

Course Coverage:-

- ✓ Java for Selenium
- ✓ Selenium IDE
- ✓ Selenium WebDriver
- ✓ JUnit Framework
- ✓ TestNG Framework

- ✓ SVN
- ✓ Maven
- ✓ DataBase Testing Using Selenium
- ✓ Grid
- ✓ POM(Page Object Model

Date:……………………………..Timings ………………………………………..

Duration…………………………Fees……………………………………………….

Courses Offered

- ❖ Java
- ❖ .Net
- ❖ Android
- ❖ iphone

- ❖ Testing Tools
- ❖ QTP
- ❖ Load Runner
- ❖ Hadoop

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Selenium
COURSE CONTENT

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
Datatypes in Java
String class
If statements
Conditional and concatination operators
While Loop
For Loops
Practical Examples with loops
Usage of loops in Selenium
Single Dimensional Arrays
Two Dimnsional 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
Overloadings and Overriding Funtions
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
Reading/Writing Microsoft XLS Files

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
Using if statements and loops in IDE.
Echo, StoreEval and StoredVars
Creating your own user extensions.

Selenium WebDriver

Why WebDriver?
Downloading WebDriver Jars and configuring in eclipse
Architecture of selenium webdriver
Drivers for Firefox, IE, chrome, Iphone, 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 firefox Profile

Close and Quit -Difference

Importing webdriver documentation in eclipse

WebDriver 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 Xpaths

Finding xpaths/cssselectors in different browsers - Mozilla, Chrome and IE

Objects with same id/xpath/cssSelector

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 xpaths/css selectors

Extracting More than one object from a page

Extracting all links of a page/Bulk extraction of objects

Extracting 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 response Headers/ response code

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

WebDriverWait Class

WebDriver.Timeout Interface

ExpectedCondition interface and ExpectedConditions class

WaitUntil Condition

Fluent Wait

Managing Ajax based components

Concepts of Set Interface in Java

Window Handles

Managing tabbed windows in IE, Chrome and Mozilla

Managing popups in IE, 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

Simulaing front and back buton click on Browser using selenium

Assigning Firefox profile parameters

Downloading files using selenium

Selenium Javadocs

Listeners- Using WebDriverEventListener

Practical usage of Listeners in Selenium

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 JavaScriptExecutor-

JavaScriptExecutor example-

Drag, drop, native events

JUnit Framework

What is JUNIT

Configuring Junit 4 in Project/Eclipse

Junit 4 annotation

Storing Screenshots of errors

Running the framework through ANT

Generating the HTML reports

Emailing test reports

Creating a BAT file for project execution

SVN

What is SVN?

SVN centralized repository

How will SVN be useful to team?

Installing SVN client UI - TortoiseSVN

Revisions in repository

Checkin and Checkout with UI

Installing SVN eclispe plugin - Subeclipse

Checkin and Checkout code with eclipse

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

Running Ant Tasks with Maven Antrun Plugin

Checkin and Checkout your maven project from SVN

Eclipse plugin for maven

Using the maven plugin to execute phases - compile, clean, package etc

Running the ant tasks through the Eclipse maven plugin

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 Junit/TestNg 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 IEdriver 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 Timeout

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

Batch running the test cases

Using junit/testng to execute test cases

Parameterizing tests using XL Files

Taking screenshots

**Genrating reports and reporting
errors Using Ant to run project
Mailing the test Reports
Creating a Bat file for project executing
Generating XSLT chart reports in case of
testng**