# Automation Using Selenium(Advanced Level)

## Day 1:

### Page object Model in Selenium:

Page object model is not a new concept this concept is used by the programmer to make code robust and make code clean. We will also use Page Object model in Selenium to make our framework efficient.

It is a design pattern which will help to maintain the code and code duplication. You can store all locators and respective methods in separate class and call them from the test which you have to use. So the benefit of this if there is any change in the page then you don’t have to modify the test just modify the respective page. It will behave has an object repository where all locators are saved.

There are two choices if you want to implement the POM.

1. POM with page factory
2. POM without page factory

#### POM without page factory

Program 1:Login Page

Approach: Create a separate login page that will store the three locators username, password and login button and create a methods to access them.

Then create a test class so you can use the login class and call all the methods accordingly.

Algorithm:

1. Import the packages
2. Create a package
3. Create Login Class
4. Declare the three locator – username , password and login button
5. Create a new package inside same project
6. Import the login class package
7. Create the test class
8. Call the login method from 1st package

* he length of your resume looks appropriate given your career level and objective
* Headings throughout your resume seem inconsistent at some places
* Font type and size are not consistent across the resume. We recommend you use one of the below fonts (recommended font size indicated in brackets for each font): Verdana (9-11), Calibri (10-12), Cambria (10-12), Arial (9-11) and Lucida Sans Unicode (9-11); Time New Roman (9-11) and use Black Font Color across the document.( Non headings)
* Type of bullet points seem consistent throughout your resume
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* Your resume has some underlined content. It is suggested that you remove the underline and bold the same
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* Some of the paragraphs in your resume are lengthy. They should not exceed 20 words
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* Work experience is correctly listed in reverse chronological order in your resume

SCORE : **58/70**Content

* Your resume does not contain summary section or does not have enough content in summary section
* Your resume seems to have limited number of sections. It is suggested that you add a few more to enhance the readability of your resume
* Targeted functional area or industry is appropriately mentioned in the objective, summary or personal details section
* Your resume carries skillset and skills are appropriately substantiated in work experience highlighting your areas of specialization
* You have not quantified your achievements in your resume. It is suggested that you do so to add more credibility to your achievements
* Your resume does not have any spelling errors.
* Your resume carries certain repetitive information. It is suggested that you avoid repetition for better impact
* Your resume is packed with action phrases and Functional Area specific keywords providing better ranking in recruiter searches
* Your resume has valid Email ID for contact
* Your resume has valid mobile number for contact
* Your resume has most appropriate words and does not contain any banned words.
* Your resume has most appropriate words and does not contain any commonly mis-spelt words.
* Your resume does not have any error related to use of commas, parenthesis, correct case, word repetition, extra space, correct use of vowels etc.
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### Accessing elements from dropdown

To select the elements from the drop down first do the following 2 things.

1. Import the package org.openqa.selenium.support.ui.select
2. Instantiate the drop down box as a select object

##### Selecting items in a multiple Select Items

We can select multiple option by selecting the item using the select object one by one.

Common Methods in Select class

1. Select By Visible Text & Deselect By Visible text
2. Select By Value & Deselect by Value
3. Select By Index & Deselect by Index
4. Is Mutliple()
5. DeselectALL()

### Accessing Links and tables in Selenium

Link can be accessed using the full text match by “by.LinkText” or by the partial matching

If there are two links with same name then selenium will get the first link

If there are two links contains the same matching words when using the partial link text then selenium will get the first link

Both By.LinkText and By.PartialLinkText are case-sensitive

If you want to check all links in web page is working or not then follow the below procedure

* Get all the links and store in a List of Web Element
* Create a String array with the size of list of web Elements
* Run For Each loop and store the link text in each String array
* Run for each loop with String array and click on the link
* Before all these create a string var storing the common under construction message for broken links
* In the for each loop with string array compare the title with constant
* If both equals then print not working
* If not then print working

##### Link outside and inside a block

Web driver access both inside the block link and outside the block link

##### Images Link

Images link cannot be accessed through LinkText or PartialLinkText because the images link doesn’t have any LinkText . To access images link we have to use the Css or Xpath functionality you can use the css because of its functionality

If the link is inside the frame then first switch to the frame and then search for the link

Clicking link by href value also can be use first store the link in a webelement and then get the attribute of the webelement and match with expecting href and if both matches then click the element

Other way to click on a hyperlink is by xpath or css

By.xpath(“//\*a[@href=”------”]”)

By.cssSelector(“a[@href=’------- ’]”)

##### Handling Tables using Selenium

To access the HTML table data we have to use XPATH

//table/tbody/tr[1 or 2 or…depending on row]/td[1 or 2 or 3..]

##### Accessing Nested Tables

Nested tables are tables located within another table

Use the same principle of xpath to get he nested table data

//table/tbody/tr[1 or 2…]/td[1 or 2….]/table/tbody/tr[1…]/td[1..]

##### Using Attribute as predicate

When the table is buried deep into the html page and it difficult to get the which number of row and column the value is stored i.e; predicate

Then the attribute of the table can be used to get the value stored there

Remember when using the attribute value stored within the “” use the escape character \ slash to prevent the string to prematurely end within xpath

\”240”\

//table[@width=\”240”\]/tbody/tr[1]/td[1]

### Keyboard and Mouse Event in Selenium

Keyboard Events

KeyUp(keys Modifer Key)

KeysUp(WebElement Element , Keys Modifier Key)

KeyDown(Keys Modifier Key)

KeyDown(WebElement Element, Keys Modifier Key)

Release()

SendKeys(CharSequence KeysToSend)

SendKeys(WebElement element, CharSequence KeysToSend)

Mouse Events

ClickAndHold()

doubleClick()

contextClick()

dragAndDrop()

dragAndDropBy()

MoveToElement()

MoveToOffset()

### Download and upload using selenium

Uploading a file – You can upload a file using the send keys method on the file select input field passing the path of the file which needs to be uploaded

Downloading- Selenium cannot handle the window dialog box for download rather there are below options to download

* 1. Window automation - AutoIT
  2. Change the browser default behaviour-
  3. Direct Download- wget

Wget: Wget is a small command line program to automate download , we can access the wget from selenium webdriver

Step 1: Import java.io.IOException

Step 2: using the GetCssAttribute get the href attribute of the and store in the String

Step 3: Set up the syntax for Wget command

String wget\_command= “cmd/c wget –P D: --no-check-certificate” +sourcelocation(location of href attribute)

Step 4: Initiate the run

Process exec= Runtime.getRuntime().exec(wget\_command)

Int exitVal= exec.waitFor()

### TestNG

Features of TestNG

* Support for annotations
* Support for parameterization
* Provide data driven testing by using data providers
* Advance execution methodology that does not requires test suite be created
* Option to execute particular test by using textng.xml
* Prioritization
* Report mechanism
* Support integration with other tools like ANT, Maven Eclipse
* Execution pattern can be set
* Concurrent execution of the test suite
* Test Case dependencies can be set

### Assertion in Selenium

AssertEqual(“String actual”,”String Expected”,”Message if fails”)

AssertEquals(“Boolean actual, Boolean Expected”)

AssertEquals(“java.utill.collection actual, java.utill.collection expected , “messgage”)

AssertTrue(Condition)

AssertTrue(Condition,message)

AssertFalse(Condition)

AssertFalse(Condition, Message)

TestNG.xml

Testing.xml file is created to handle multiple test cases, In this file we can add test case dependency , include or exclude any test,class,method or package, set priority , provide data

### Excel file operations in Selenium

###### Reading the data from Excel

1. Create a Read method of type void with three parameters(Filepath,FileName , SheetName)
2. Create a file object to open the file
3. Create FileInputStream object to start reading the file
4. Using the FileInputStream object create a Workbook object
5. Using the Workbook object and SheetName from parameters create Sheet object
6. Now get the total numbers of rows in the sheet
7. Run the loop for till the last row using the number of rows count
8. Create a row object and get the first row
9. Using the first row create a loop till last cell value
10. Using the row get the Cell value and Print or store the value
11. Create a Main method and create an object of the read class
12. Declare the FilePath
13. Call the Read class with Filepath , Filename and Sting name

Writing in excel

### Taking Screenshot :

GetScreenShotAs method of interface TakeScreenshot is used to take the screenshot.

Public <X> X getScreenshotAS(OutputType<X> target)

OutputType- another interface

File filename= ((TakeScreenshot)driver).getScreenShotAs(outputType.file);

### Handing windows:

First get the window handle then use the command to switch to that window handle

Driver.switchTo.window(WindowHandle)

To get all the window handles use .getWindowhandles

### Handling Frames

We can switch to frame by using the Frame Id, Name or index

##### Select Frame by Its index

Driver.SwitchTo.Frame(int index)

Throws: NoSuchFrameException – if the frame is not found

##### Select Frame by Its name

Driver.SwitchTo.Frame(String framename)

Throws: NoSuchFrameException – if the frame is not found

##### Select Frame by Its name

Driver.SwitchTo.Frame(String framename)

Throws: NoSuchFrameException – if the frame is not found

##### String Programs:

1. Write a java program to find the duplicate words and their number of occurrences in a string?
2. Write a java program to count the number of words in a string?
3. Write a java program to count the total number of occurrences of a given character in a string without using any loop?
4. Write a java program to reverse a string?
5. Write a java program to count the number of occurrences of each character in a string?
6. Write a java program to remove all white spaces from a string?
7. Write a java program to find duplicate characters in a string?
8. Write a java program to check whether one string is a rotation of another?
9. Write a java program to check whether two strings are anagram or not?
10. Write a java program to reverse a given string with preserving the position of spaces?
11. Write a java program to reverse each word of a given string?
12. How do you convert string to integer and integer to string in java?
13. Write a java program to find the percentage of uppercase letters, lowercase letters, digits and special characters in a given string?
14. Write a java program to prove that strings are immutable in java?
15. How do you find longest substring without repeating characters in the given string?
16. How do you swap two string variables without using third or temp variable in java?
17. Write a java program to find all permutations of a string?
18. How do you find first repeated and non-repeated character in the given string in java?
19. Write a java program to append a given string to a text file?
20. How do you find the number of characters, words and lines in the given text file in java?
21. **How do you find the most repeated word in a text file in java?**
22. program to print first non repeated character from String?
23. How to check if a String contains only digits?
24. How to find duplicate characters in a String?
25. How to count number of vowels and consonants in a String?
26. How to replace each given character to other e.g. blank with %20?
27. How to find all permutations of String?
28. How to check if a String is valid shuffle of two String?  
      
    Read more: <http://javarevisited.blogspot.com/2015/01/top-20-string-coding-interview-question-programming-interview.html#ixzz4dNaA7WQZ>
29. Write a program to check if a String contains another String e.g. indexOf()?
30. Write a program to remove a given characters from String?
31. How to sort String on their length in Java?
32. Program to reverse each word of a given string
33. Count numbers of vowels and constants in a string
34. Program to append a given string to the text file
35. Sort String
36. Find most repeated word in a text file in java
37. Program to find number of words, number of characters, number of lines in a text file

# Q/A

##### Tell me about yourself

Should address:

1. What are your primary selling point for this job
2. Why are you interested in this position

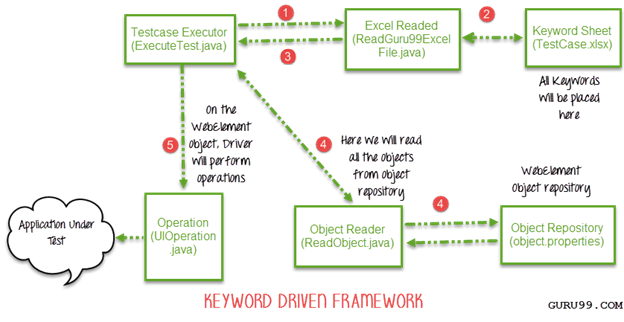
Answer:

1. Who you are: I am a proficient software testing professional with over 3 and half years of experience in software testing industry managing and conducting all aspects of software testing life cycle for a telecom and internet provider company.
2. Expertise Highlights: I have spent last 3 years developing my skills as a software tester in both manual and automation methods for CGI where I took complete responsibilities of delivering a successful test projects. I love finding defects and deriving different scenarios.
3. Why you are here: Although I am ok with my current role , I feel I am ready for more challenging assignment and I see this position is for Automation tester and Automation really interest me and I think I’ll do great job if given opportunity

##### Tell me about your work experience?

Tell me about roles and responsibilities?

Hybrid framework



1. Create a driver script Class : This is a Test Case executer
2. Driver Script will call the Excel Reader class to read the test case , Keywords to be executed
3. Create an Excel reader classes which will read the Test case name , Keyword , test Data an other required things
   1. Create 3 classes , Set Excel File , Get Cell Data , Set Cell Data
   2. Create 2 helper method to help Excel Reader classes GetRowContains and GetRowUsed
4. Excel Reader class should also contain a class to write the results insert row , columns when necessary
5. Based on the test case, test data, keyword return by the Excel Reader classes Driver script will call the UI operation / Action classes to perform the operation on the web page
6. Create Actions/Operations classes
7. Operation classes will use the object repository or the POM classes to perform the operations
8. Create an object repository or Page object classes for every page
9. Also create the object repository reader classes which will read the object from the repository and return it to Driver Script which will pass it to operations classes to perform operations
10. Also create the utilities classes such class to declare all the constants
11. Listner classes to print the Result , Log and status
12. Create log class which will print logs
13. Create class for reporting

# Java

02 May 2017

* Prepare Common Interview Questions
* Read Selenium thoroughly and Interview Question

03 May 2017

* Prepare Common Interview Questions
* Read Java and Interview Questions

04 May 2017

* Prepare Common Interview Questions
* Read SQL thoroughly and Interview Questions

05 May 2017

* Go for interview

06 May 2017

* Revise what happened in the interview and prepare again

3rd May 2017

Selenium 2 Test Automation Framework [By Grazitti Interactive](http://www.grazitti.com/)

Version 3.0

# ==================== FRAMEWORK OVERVIEW

## Selenium 2 (Webdriver) Framework

Setting up Selenium Automation for the first time or running it for separate web applications, you will require some bit of study to get started. You can read up a lot of documentation, experiment with scripts, and repeat the process every time your testing object changes. Or you can simply use our Selenium 2 (Webdriver) Framework. This [Selenium 2 (Webdriver) Framework](http://www.grazitti.com/resources/tools/selenium-2-framework) is a set of guidelines, including coding standards, test-data handling, object repository treatment etc., which when followed will not only save precious time but will also provide additional benefits including increased code re-usage, higher portability, and reduced script maintenance cost.

## Our Approach

For [our framework](http://www.grazitti.com/resources/tools/selenium-2-framework) we have used ‘Data-Driven Framework’ with Selenium 2 (Webdriver) and Java Programming language. A data-driven framework is where test input and output values are read from data files (ODBC sources, CVS files, Excel files and DAO objects) and are loaded into variables in captured or manually coded scripts. In this framework, variables are used for both input values and output verification values. Navigation through the program, reading of the data files, and logging of test status and information are all coded in the test script.

## Framework Features

* Well defined architectural design
* Less time to test large data
* Script execution in multiple environments
* Easier, faster and efficient analysis of result logs
* Communication of results
* Easy debugging and script maintenance
* Robust and stable due to error and exception handling
* 100% reliability of utility scripts, online execution, report packs

## Architecture Explanation

Architecture forms the foundation of any software application. It should be robust enough to handle the desired functions efficiently and effectively. In this approach, the goal is to develop an application-independent reusable Data-Driven Framework that can be used directly across any application without spending any extra time on it. In order to make all the components of the system work in sync, it is important to define the components and its functionalities, as well as the binding relationship between them.

This Package Includes:

* Config - Keeps all the configuration files such as property files
* InputTestData - Has files containing input data for application
* OutputData - Contains downloaded docs/images, fetched data in excel
* TestReports - Contains ANT generated reports
* Util - Utility package contains all generic functions & business functions such as email configuration setting and all other utilities
* TestLogs - Contains log file corresponding to tests
* DAO - Classes for accessing persistent storage, such as to a database
* Pages - Page classes for particular pages

## Understanding of Page Object Model

Page Object Pattern

* A simple design pattern that models each page (or page chunk) as a class object that other classes / objects can interact with
* A very common pattern for implementing an automation framework using Selenium 2 (Webdriver)
* Classes representing pages / chunks should provide the services that a user would execute on the page

## Retrieving Data From DataBase

RegisterTest extends DBCon class having function loadDataFromExcel() retrieving data from excel sheet which further extends GUI\_automation\_base class setting up the browser to be used as mentioned in gui\_automation.properties in config folder.

## Logs:

Initialize the logger for getting logs with: static Logger log = Logger.getLogger(RegisterTest.class.getName());

## Setup Function:

In setup() function call the GUI\_automation\_base setup() function by getting the browser from gui\_automation.properties in config folder, configure the log4j.properties file, load the data from excel sheet and initialize the RegisterPage instance.

## Rules for Automation Framework

* Methods performing an action that results into other page should return the page object to user. Assert and wait to load the page completely with all elements of the page. Example: Clicking a button on page A redirects the user to page B, then returns the object of page A
* Naming of variables and methods: a. Standard JAVA naming conventions should be utilized b. If a method performs an action that clicks on any element on the page, the name of the method should start with click c. If a method retrieves any value or entity, or a list of values or entities, the method name should start with get d. If a method assigns a value to a web element, the method name should start with set e. If a method interacts with radio or check-boxes it should start with enable or disable f. Instance variables should be named using an underscore as a leading character. Example: \_register, \_pageName
* Encapsulation should be used as follow: a. All methods intended for the implementation of tests for the automation of the web project, should be public b. All methods not intended for the implementation of tests should be private c. All variables, with the exception of enums, should be private
* Common methods for similar web elements: a. Lists (HTML tables): getAll\* or getAllByName, findByName, click\*\_ByName b. List-boxes: getAllOptions or getAllOptions\_ByText, click\*Option
* All assertions and verifications should be within the tests using JUnit framework asserts

## Some amazing and distinct features

Selenium 2 (Webdriver) Framework Version 3 has all new features, which will make testing a whole lot easier. Key new features include:

1. Parameterization of Different Input Types: In the earlier versions, we did parameterization only for textboxes. But in version 3.0 we have also implemented it for other input types like radio button, drop downs, check boxes, auto-suggest search drop down, and file upload.
2. Auto-suggest Search Dropdown: The common Webdriver code for selecting drop down is:

Select gender = new Select(driver.findElement(By.id(“gender”))); gender.selectByVisibleText(“Female”);

This does not work for auto-suggest search dropdowns Therefore, we have used following code in our framework for these types of dropdowns:

driver.findElement(locator).sendKeys(value); driver.findElement(locator).sendKeys(Keys.TAB);

1. Image Comparison: This feature helps you to take screenshots of images and compare them with sample images. In our code, we have added 3 sample images in the ‘InputTestData’ folder of the Project and compared them with the screenshots that are stored in the ‘OutputData’ folder.
2. Drag and Drop Functionality: Drag and drop is a very common feature. It is when you “grab” an object and drag it to a different location. We have also also added this functionality using the Actions class:

WebElement element = driver.findElement(By.name(“source”)); WebElement target = driver.findElement(By.name(“target”)); (new Actions(driver)).dragAndDrop(element, target).perform();

1. Sorting Values: Data sort is a common functionality used in different websites especially Business to Consumer sites. You can use framework’s sorting functionality to sort values and check if the sorted order is correct or not. In the test script – SortingTest.java, we have checked sorting of table rows for three columns.
2. Auto-Focusing On New Tab: Some links on the websites open in a new tab but when we click on them via automation script, a new window opens instead of tab; and the automation script breaks. We have now added code in our framework for managing this new window using webdriver’s “switchTo” method.
3. Check and Delete Cookies: Webdriver has amazing feature of cookie handling that we have used in our framework to check and delete cookies for a specific domain.

## Conclusion

A robust framework helps keep pace with agile software delivery and maximize on the benefit of Selenium automation testing. It drives productivity and facilitates code reuse ultimately enhancing the quality of resulting software.

##### Maven-

* POM.xml
* Maven Clean- Run As – Maven Build- Goal- Clean – Run

When it runs the target folder will be deleted , all the jars file after compilation will be saved in target folder

Compile

* Maven Built… - Run AS- Maven Built..- Goal – Compile

When it runs it will create target folder – it will create class file by Maven from the source file

* Maven Built… for Test- Run As – Maven Built…- Goal – test-compile it will create test class folder inside target folder

Run

* Maven Built…. – Run As- mavenbuilt…- Goal- test

In the console window you will see the result whether the test has passed or not , it will create a sorfire-report folder inside the target folder which will have two file among which is a text file where we can see the result of test run

###### Create Jar

* Create Jar- Maven Built…- Goal- install – Run – It will create a jar file inside the target folder , it will same name as class and the version

#### Maven Build Life Cycle

###### Commands

* Validate
* Compile
* Test
* Package
* Integration-test
* Verify
* Install
* Deploy

#### Transitive Dependencies in Maven

Any dependent jar will also be downloaded along with the main dependency jar

#### Exclude Dependencies

To exclude the dependencies one has to know the Group ID and Artifact ID of the jar

Add element <exclusions> and inside exculsion put the Group ID and Artifact ID of the Jar

Scope: Scope can be added to the Dependency to limit the access to the file For example if Scope is Test then it will access only Test file and not Main Source file

Other Scope can be: compile(default), test , runtime, provided

Ant

Jenkin

**Steps:**

* Create three different project

## 4th May 2017

Resume work:

Tim Jobs(Senior Software Engineer and Architect at eBay)

Expert in Designing and implementing scalable architectures; 6+ years of experience in multiplatform environment and mutli- tiered web application design and development at Yahoo, Amazon and Ebay

Tim Jobs(Software Developer with 6+ years of experience at Yahoo, Amazon and Ebay)

Expert in Java and scalable architectures; dabbles in Hadoop and python; Algorithm and Machine Learning enthusiast. When I am not working I’m tackling competitive programming problems, contributing to open source project and playing squash.

## 10th May 2017

Array List

* Add function
* Get Function
* Set function
* To loop through the Array list we can use For loop, Enhanced For Loop and Iterator
* Contains method
* ContainsALL method
* Clear method
* IsEmpty

Linked List

* Same as array list
* AddLast method
* AddFirst
* Set Method
* Remove Function
* Get Method
* GetLast Method
* Contains
* Index OF method
* ISEmpty method
* Size method
* Peek() method
* Poll() Method
* PollLast() Method

Cover latter

**Tim Jobs**

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Email: [tim.jobs@gmail.com](mailto:tim.jobs@gmail.com)

March 21,2016

XXXX, YYYYY

Vice President , Engineering

$Company

$Company\_Address

Re: Lead Software Engineer opening (Ref ID: CS-45623

Detailed Resume Quality Report

SCORE : **12/30**Format

* The length of your resume looks appropriate given your career level and objective
* Headings throughout your resume seem inconsistent at some places
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* Work experience is correctly listed in reverse chronological order in your resume

SCORE : **47/70**Content

* Your resume does not contain summary section or does not have enough content in summary section
* Your resume seems to have limited number of sections. It is suggested that you add a few more to enhance the readability of your resume
* Targeted functional area or industry is appropriately mentioned in the objective, summary or personal details section
* Your resume does not carry your skillset. It is suggested that you include it in your resume and substantiate your skills in work experience to highlight your areas of specialization
* You have not quantified your achievements in your resume. It is suggested that you do so to add more credibility to your achievements
* Your resume does not have any spelling errors.
* Your resume carries certain repetitive information. It is suggested that you avoid repetition for better impact
* Your resume is packed with action phrases and Functional Area specific keywords providing better ranking in recruiter searches
* Your resume has valid Email ID for contact
* Your resume has valid mobile number for contact
* Your resume has most appropriate words and does not contain any banned words.
* Your resume has most appropriate words and does not contain any commonly mis-spelt words.
* Your resume has few errors related to use of commas, parenthesis, correct case, word repetition, extra space, correct use of vowels etc.
* Your resume has sufficient soft skills effectively portraying your personality.
* Your resume carries certain repetitive information. It is suggested that you avoid repetition for better impact.

## 18th May 2017

Problem faced during Selenium automation project

* As soon as I navigated to the url windows authentication pop up window appears first I thought it to handle it through Auto IT but it didn’t work as the driver.get command never completed , to resolve this I had to use multi-threading concept of java and ran both auto it and get command at the same time

## 19th May 2017

Coding

* Regular expression in java to check string contains digit or not

Pattern pattern= Pattern.compile(“.\*[^0-9].\*”);

Pattern pattern = Pattern.compile(“.\*\\D.\*”);

In character class /d will represent a digit and /D will represent Non Digit characters

* Given a String find the longest substring without repeating characters
* **1-** [Write code to filter duplicate elements from an array and print as a list?](http://www.techbeamers.com/java-coding-questions-software-testers/#q1)  
  **2-** [Write code to sort the list of strings using Java collection?](http://www.techbeamers.com/java-coding-questions-software-testers/#q2)  
  **3-** [Write a function to reverse a number in Java?](http://www.techbeamers.com/java-coding-questions-software-testers/#q3)  
  **4-** [Write a method to check prime no. in Java?](http://www.techbeamers.com/java-coding-questions-software-testers/#q4)  
  **5-** [Write a Java program to find out the first two max values from an array?](http://www.techbeamers.com/java-coding-questions-software-testers/#q5)  
  **6-** [Write a Java program to find the longest substring from a given string which doesn’t contain any duplicate characters?](http://www.techbeamers.com/java-coding-questions-software-testers/#q6)  
  **7-** [Write Java code to get rid of multiple spaces from a string?](http://www.techbeamers.com/java-coding-questions-software-testers/#q7)  
  **8-** [Write Java code to identify a number as Palindrome?](http://www.techbeamers.com/java-coding-questions-software-testers/#q8)  
  **9-** [Write Java code to swap two numbers without using a temporary variable?](http://www.techbeamers.com/java-coding-questions-software-testers/#q9)  
  **10-** [Write a Java program to demonstrate string reverse with and without StringBuffer class?](http://www.techbeamers.com/java-coding-questions-software-testers/#q10)

Testing techniques:

1. Equivalence Partitioning.
2. Use Case Testing.
3. Data Flow Analysis.
4. Exploratory Testing.
5. Decision Testing.
6. Inspections.

## 24th May 2017

Amazon framework.

1. First build a

**Tools:**

\* \*\*IntelliJ IDE\*\* - Best Java IDE in the Whole Wide World!!!

\* \*\*Eclipse Java EE\*\*

\* \*\*Java 7+\*\*

\* \*\*WebDriverJs\*\* - JavaScript

\* \*\*MySQL Connector\*\*

\* \*\*WebDriver 2+\*\*

\* \*\*Selenium Grid\*\* - Not implemented yet!!

\* \*\*SauceLabs\*\* - Not Implemented yet!!

\* \*\*Object Repository\*\* - Not Implemented yet!!

\* \*\*Selenium Server\*\*

\* \*\*Apacha POI\*\*

\* \*\*Apache Ant\*\*

\* \*\*Apache Maven\*\*

\* \*\*JUnit 4.10\*\*

\* \*\*TestNG\*\*

\* \*\*Jenkins\*\* (Hudson) - Not implemented yet!!

\* \*\*XML\*\*

--

The framework consists of the following components.

* com.totsy.config - config.properties - config.or
* com.totsy.log - Application.log
* com.totsy.test - Constants.java - DriverScript.java - Keywords.java
* com.totsy.utils - ReportUtil.java - SendMail.java - Zip.java
* com.totsy.xls - C Suite.xls - Check Items.xls - Links Verification.xls - Login Functionality.xls - My Account.xls - Sales page.xls - Search Suite.xls - Suite.xls
* test(Sample scripts) - Arraylist.java

**Amazon framework.**

* com.amazon.config- config properties – config or
* com.amazon.log- application log
* com.amazon.pages- will contain the page objects of each pages
* com.amazon.test- Constants.java, DriverScript.java, keywords.java
* com.amazon.utils- ReportUtil.java, SendMail.java, Zip.java
* com.amazon.xls- C Suite xls, checkItem.xls, Links Verification.xls, Login Functionali.xls, My Account.xls, Sales page.xls, Search Suite.Xls , suite.xls
* Test (Sameple scripts)- ArrayList.java

com.amazon.config

**config.properties: This classs is created to declare all the configuration data like database details, test url , credential, browser confugiration.**

**com.amazon.pages**

**BaseClass.java: This class contains the webdriver object and result variable object which will be inherited by every other class who will use webdriver object**

# GitHub:

* 1. Error : Git Push Non rejected non-fast-forward
* Configure Fetch in Remote -> Merge Master with Origin/master
* In eclipse, open the view 'Git Repositories'.
* Ensure you see your local repository and can see the remote repository as a subfolder. In my version, it's called Remotes, and then I can see the remote project within that.
* Look for the green arrow pointing to the left, this is the 'fetch' arrow. Right click and select 'Configure Fetch'.
* You should see the URI, ensure that it points to the remote repository.
* Look in the ref mappings section of the pop-up. Mine was empty. This will indicate which remote references you want to fetch. Click 'Add'.
* Type in the branch name you need to fetch from the remote repository. Mine was 'master' (btw, a dropdown here would be great!!, for now, you have to type it). Continue through the pop-up, eventually clicking 'Finish'.
* Click 'Save and Fetch'. This will fetch that remote reference.
* Look in the 'Branches' folder of your local repository. You should now see that remote branch in the remote folder. Again, I see 'master'.
* Right-Click on the local branch in the 'Local' folder of 'Branches', which is named 'master'. Select 'Merge', and then select the remote branch, which is named 'origin/master'.
* Process through the merge.
* Commit any changes to your local repository.
* Push your changes to the remote repository.
* Go have a tasty beverage, congratulating yourself. Take the rest of the day off.

Steps to set up git in eclipse

1. Create a repository in github.com
2. Right click on project and -> Team -> Share Project
3. Create a local repository and give it a name -> Finish
4. Adjust setting to display Github toolbar = Window-> Show view-> Other-> Git -> Git repository & Git staging
5. Adjust setting to display Team History -> Window-> Show view-> Other-> Team-> History
6. Customize perspective for git-> Window-> perspective-> customize perspective-> Tool Bar visibility-> Git -> Action Set Availability-> Git
7. Create a local master branch -> Right click on project-> Team-> Commit -> Provide commit comment -> Select file and then -> Commit
8. Create Remote -> Origin-> Type Url-> Add spec -> source and destination
9. Fetch the repository from Github.com-> Right click on GreenArrow pull-> configure fetch-> type url->add spec -> source and destination -> finish and fetch
10. Merge Local master branch with Remote -> Right click on Branch named master -> merge-> select remote branch -> click merge
11. Now push the code -> right click on push from remote origin/master -> push

#### 28th June

## How to get the row count of excel sheet

* Create a method and pass the sheetname as parameter
* Get the index by using the method getSheetindex on workbook object
* Using the sheet object get the sheet using the index
* Get the row count by using the lastrownum+1

#### Jenkin

1. Get MSI file
2. Install
3. Copy the path of program file jenkin
4. Java –jar Jenkins.war –httpPort-9999
5. Get the password from command prompt
6. http:/localhost:9999

###### Day 2

http://localhost:8080/jenkins/restart

under build

javac -cp src.\DemoJenkin\src\demo1\JenkinDemo1.java

C:\Users\shashi.prasad\.jenkins\workspace\DemoJob

maven

build dependency

right click

run as- maven build

goal- clean test

clean -Dtest=AppTest test

go to directory leave there is class AppTest , test it

* Jenkin job creation – linking with git then build(compile and run)
* Maven Project- Maven build with test- upload to Git-create job in jenkin – link with git – run the jenkin job build
* git config --global user.name "Shashi Prasad"
* git config --global user.email "shashi.prsd@yahoo.com"
* **Create a new repository**
* git clone git@gitlab.com:ShultzShining/ManualCommit.git
* cd ManualCommit
* touch README.md
* git add README.md
* git commit -m "add README"
* git push -u origin master
* **Existing folder**
* cd existing\_folder
* git init
* git remote add origin git@gitlab.com:ShultzShining/ManualCommit.git
* git add .
* git commit -m "Initial commit"
* git push -u origin master
* **Existing Git repository**
* cd existing\_repo
* git remote add origin git@gitlab.com:ShultzShining/ManualCommit.git
* git push -u origin --all
* git push -u origin --tags
* -cp src directory packagename.classname

### Day 3

##### Web project - Deployment

* Install Tomact
* Configure the server in eclipse
* Create a dynamic web project select the server
* Upload it to git
* Create jenkin job add git
* Build goal- clean install
* Post build- deploy war or ear to container

##### Send Mail:

* Configure system- setup smtp server
* Build setting – Set recipient , mail will be sent for failed build

<https://github.com/eswaribala>

##### Pipeline:

|  |
| --- |
| node |
|  | { |
|  | // This shows a simple build wrapper example, using the Timestamper plugin. |
|  | node { |
|  | // Adds timestamps to the output logged by steps inside the wrapper. |
|  | timestamps { |
|  | // Just some echoes to show the timestamps. |
|  | stage "First echo" |
|  | echo "Hey, look, I'm echoing with a timestamp!" |
|  |  |
|  | // A sleep to make sure we actually get a real difference! |
|  | stage "Sleeping" |
|  | sleep 30 |
|  |  |
|  | // And a final echo to show the time when we wrap up. |
|  | stage "Second echo" |
|  | echo "Wonder what time it is now?" |
|  | } |
|  | } |
|  |  |
|  |  |
|  | } |

Groovy script

* ShultzShining
* becky23

|  |
| --- |
| Import groovy.sql.sql  def url = 'jdbc:mysql://localhost:3306/nessu' |
|  | def user = 'root' |
|  | def password = 'vignesh' |
|  | def driver = 'com.mysql.jdbc.Driver' |
|  | def sql = Sql.newInstance(url, user, password, driver) |
|  |  |
|  | // use 'sql' instance ... |
|  | sql.query('SELECT \* FROM employee') { resultSet -> |
|  | while (resultSet.next()) { |
|  |  |
|  | print(resultSet.getString(1)) |
|  | println(resultSet.getString(2)) |
|  | } |
|  | } |
|  | sql.connection.autoCommit=false |
|  | def sqlstr = """INSERT INTO Project(project\_id, project\_name) VALUES (1280,'GeoSpace')""" |
|  | try |
|  | { |
|  | sql.execute(sqlstr); |
|  | sql.commit() |
|  | println("Successfully committed") |
|  | } |
|  | catch(Exception ex) |
|  | { |
|  | sql.rollback() |
|  | println("Transaction rollback") |
|  | } |
|  | sql.close() |
|  | } |

##### Security

Configure global security

Jenkins own user data base , allow user to sing up

**Cameron Philipp-Edmonds:**Tell us a little about yourself.

**Jonathan Cooper:** I’m Jon Cooper, principal quality engineer for the ExactTarget Marketing Cloud. I have worked in software testing for nearly ten years, starting out at a small software company in Indianapolis, testing telecom billing software. There, I manually tested the telecom billing software using session-based exploratory testing techniques. For the next six years, I worked with a consulting company that had clients in both Indianapolis and Cincinnati. From there, I joined the ExactTarget Marketing Cloud team and recently celebrated my two-year anniversary.

**Cameron:**Can you tell us about your role at ExactTarget Marketing Cloud?

**Jon:**As part of the platform team, my primary focus is testing our core platform APIs and our mobile products. Most of my testing revolves around REST APIs. Additionally, I train team members on why and how to test APIs. For our mobile products, I work with SMS and push message emulators that simulate messages moving back and forth from SMS and push aggregators.

**Cameron:**In your words, what is API testing?

**Jon:**API stands for application programming interface, and defines how software components interact with each other. In other words, an API is a way for a developer to expose functionality for use internally or externally. Just as traditional testers test how an operator would use the front end of their product, an API tester can test how internal and external users use the APIs. The concepts are very similar to non-API testing; the only difference is that in most cases you are manipulating the API outside of a user interface (UI) using different tools.

**Cameron:**Do you think API testing is more a white box testing task or a black box testing task?

**Jon:**The vast majority of the testing I do can be done without having any expressed knowledge of what the code behind the API is doing. The same things that a tester would do in the UI, you can do with the parameters of an API. Now, it can be very useful to have knowledge of the code and data structures behind the scenes because it opens up lots of different testing ideas and allows you to shift your focus to areas where you can see that there might be vulnerabilities that could be exposed with certain testing techniques. But at most, my testing could be considered “Gray Box”, almost never White Box.

**Cameron:**You specialize in API testing with an emphasis on both SOAP and REST. In layman's terms, can you tell us the difference between the two and why someone would choose one over the other?

**Jon:**Simple object access protocol (SOAP) and representational state transfer (REST) are two formats for implementing web services. Soap APIs have customer actions defined by developers, where REST APIs use only HTTP actions and define the state of an object using payload.

Typically users of REST routes are those who depend on their services being very quick to run and quick to build, including a significant amount of web apps. Newer companies seem to prefer REST due to its ease of implementation, and versatility.

**Cameron:**You also do mobile testing. Can you tell us what kind of testing for mobile you work on?

**Jon:**I assist with the testing of our two mobile products, MobileConnect, our SMS product, and MobilePush, our push product. MobileConnect allows our customers to interact with their mobile subscribers via customized SMS campaigns. For instance, at the movies when you see a sign in the lobby that says “Text POPCORN to 123456 to get concessions discounts,” MobileConnect is a tool that would allow brands to set up and monitor that marketing campaign.

The testing I do is around our mobile APIs and also around the mobile product itself, including the sending and receiving of SMS messages. We also test to ensure these interactions work across all of the aggregators we partner with both here in the US and internationally. Finally, we test to ensure message sizes and encoding work internationally.

Our push product enables brands to interact with their mobile subscribers via mobile apps on their phones and tablets. MobilePush enables a brand to “push” a message to a subscriber’s phone from an installed app. For example, if on your phone you get a notification saying that you have a bill ready to be paid from your banking app, it may have been triggered using one of our APIs. We also handle geo-targeted notifications. For example, if you are walking past a restaurant, and happen to have a dining coupons app, our APIs might trigger a message from that app giving you a coupon code for 10% off an appetizer.

**Cameron:**What is the difference between SMS and push notifications, and how does testing of those mobile traits differ?

**Jon:**Both SMS and mobile app messaging are critical communications for almost any organization— [**mobile stats and consumer behavior shows it**](http://www.exacttarget.com/blog/7-mobile-usage-stats-you-didnt-know-yesterday/). SMS is a text message and push notifications are messages delivered in-app or sent to the home scree of customer’s mobile devices. Each requires unique testing with variables on country, mobile app, size and encoding.

**Cameron:**You describe yourself as an adherent of the context-driven methodology of software testing. What about the method do you find so appealing?

**Jon:**As a consultant for several years, I’ve worked with interesting products in unique places. There was not a single instance where I would use the same testing procedure verbatim. The whole idea behind the context-driven methodology is that there is no single testing best practice that fits all situations, and that is up to the entire team to determine what the best way to test. This is what I have found to be true during my testing career.

It really is all about people taking a purposeful look at what they are trying to build and working together to define the “best practices” in their own unique context. However, that does not mean that for every testing project everything must be built from scratch. Tools, ideas, and processes can and should be reused where prudent.

**Cameron:** You've been a testing professional for roughly a decade, and testing seems to have changed a lot in the last ten years. How do you think the world of testing, especially relating to mobile, will change in the next ten years?

**Jon:**In the last ten years, I have seen a considerable shift to more and more automation, simply because the products we test and environments we operate in have become so complex that manual regression testing is impractical. In the next ten years we are likely going to continue to see more movement toward automation, especially in the mobile space. This does not however mean that there will be fewer testers.

In the last few years, I have seen more companies discover that automated tools are only a part (a SMALL part) of good software testing, and that on site testing teams actually save money and provide better ROI.

All in all, I believe we will see the number of testers grow to support the ever-increasing amounts of software that we interact with every day. Average testers ten years from now will be more knowledgeable about the technologies that drive the products they work with, and they will be working much more closely with development teams to build better and more stable products quickly.

**Cameron:**Knowing what you know now, what advice would you give to yourself when you were just starting out?

**Jon:** I would get more involved with the development and test communities locally and online. There are lots of great people and organizations out there to interact with professionally that can assist with professional growth and provide an environment for mentorship. Early on in my testing career I got to know some of the people in the AST, and the advice and techniques I learned from them are invaluable to my work even today. The software testing community is a friendly, professional, and resourceful community, so get involved!

## 16th August

Roles and responsibilities as a manual Tester:

Roles and responsibilities as an Automation Tester:

## 28th November

## Jmeter

#### SMTP Transfer

1. Download java mail jar
2. Place in lib folder
3. Add details to smtp transfer
4. Get server details

Software installed- Badboy, Filezilla, Mysql

#### Workbench

#### Ui Tools in Jemter

<https://openweathermap.org/api>

# 7Th Decemeber

Selenium Group Link

<https://groups.google.com/forum/?fromgroups#!forum/webdriver>