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Selenium WebDriver (3rd Module)

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Java Revision Points

* Java Basics
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  + if else/
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    - enhanced for loop (for each loop)
    - nested for loop
  + Arrays
  + Methods
  + Type casting
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  + Constructor
  + Static variables and methods
  + Calling methods with objects
* Exception Handling
  + throws keyword
* Collections
  + List (VVVVVVVVVVIMP)
  + Set
  + Map

What is Software Testing?

Software Testing is a process of identifying Correctness, Completeness, Security and Quality of developed software application. (CCSQ)

Scenario Creation

Test Case Creation

Test Data Creation

RTM Creation

Execution

Manual Testing Actions

* Entering the data
* Selecting the data from drop down list
* Clicking on buttons / links
* Selecting radio button / check box
* Observe the actual result
* Comparing Actual result v/s expected result
* Marking test case as pass or fail

Automation testing is the process via which we can perform all above actions via a machine.

**The machine in this context is Automation Testing Tool / Test Tool / Testing Tool / Test Automation Tool.**

Every automation tool is a software.

Instructions needs to be provided in specific programming language (Java, Python, Javascript, C# .NET)

**Advantages of Automation Testing**

* Faster
* Time saving
* Cost
* Less human efforts
* Accuracy
* Reusability
* Automated Report
* More Efficiency
* Improve the Quality
* More Test coverage
* Early bug finding
* Testing on multiple platform
* Boost the productivity

**Need**

* Speed
* Test Coverage
* CICD
* Automated Reports

**When to Automate**

* Stable Requirement
* Regression Testing
* Repeated Scenarios
* Large amount of Data
* Performance Testing
* Security Testing
* Compability Testing

**Which test cases can be automated?**

* Regression
* Repetitive
* Performance

**Types of Automation Testing Tools**

* Unit Testing
  + JUnit, NUnit
* API Testing
  + Postman, REST API
* Performance Testing
  + JMeeter, Loar Runner
* Functional Testing
  + Selenium, Tosca, QTP

**Process of Automation**

* Planning
* Tool Selection
  + Cost of tool
  + Easiness of tool
  + Testers Availability
  + Automated Report
  + Community support
* Test script creation (Code for automation)
* Test Data Creation
* Execution
* Report Creation
* Maintance

Selenium

Set or Bundle of Test Automation tools

Components of Selenium

1. Selenium IDE (Record and Playback mechanism)
2. Selenium Grid (Parallel Execution)
3. Selenium RC (Deprecated)
4. Selenium WebDriver