



Selenium WebDriver



Session Objective

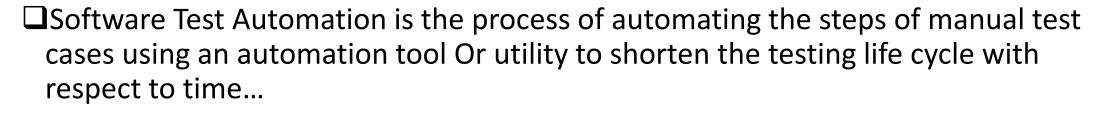


- Automation Testing Fundamental Concepts
- What is selenium?
- Introducing WebDriver and WebElements
- Exploring Advanced Interactions of WebDriver
- Exploring the Features of WebDriver
- Different Available WebDrivers
- Understanding WebDriver Events
- Dealing with I/O
- Exploring RemoteWebDriver and WebDriverBackedSelenium
- Understanding Selenium Grid
- Understanding PageObject Pattern

Automation Fundamental Concepts



What is Test Automation ?



- ☐When application undergoes regression, some of the steps might be missed out or skipped which can be avoided in Automation...
- ☐Automation helps to avoid human errors and also expedite the testing process...
- ☐ To implement the Test Automation detailed planning and effort is required

Automation Fundamental Concepts



☐ Automation saves time and effort which results in reduction of the Test life cycle	e
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Benefits of	Automation
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- ☐ Consistency of Test Execution
- ☐ Reducing cycle time of regression test cycles
- ☐ Data driven testing
- ☐ Repeatability
- **□**Coverage
- ☐ Reliability
- ☐ Reusability of test wares

Automation Fundamental Concepts



Automation life cycle is a subset of the entire test life cycle
Automation planning can be initiated in parallel to the test planning phase
Factors to be considered in automation planning
☐Stability of AUT (Application under test)
☐No of regression cycles to be performed
☐Compatibility of App platform with testing tools
□Cost benefit analysis (ROI)
☐ Availability of skilled resources

Why Test Automation



- ☐ Make the testing procedures systematic, consistent and 100% reproducible
- ☐ Minimize the error-prone manual testing
- ☐ Save effort of QA Engineer: fast, in the night and short testing cycle
- ☐ Some testing is not able to be done manually



Regression Testing & Automation



When Automation is applicable?
☐Regression Testing Cycles are long and iterative.
\square If the application is planned to have multiple releases / builds
☐ If it's a long running application where in small enhancements / Bug Fixes keeps happening
☐Test Repeatability is required

Regression Testing & Automation



□What to Automate?
$oldsymbol{\Box}$ Following should be considered while deciding the areas to be automated within the application:
\square Areas not too complex to automate, when manual efforts are too less
☐Areas which are regression worthy or part of smoke test.
\square Areas having a defined input/output (or feasible to calculate) and you can code
☐Part of application that has to be tested on different environments
□Application's module which has scope of retesting (multiple data values for same action)
☐Feature that doesn't have a finite lifetime.
☐Where Precision is important. While humans are good at noticing oddities, they're bad at painstaking or precise checking of results. If bugs lurk in the 7th decimal place of precision, humans will miss it, whereas a tool might not.

Regression Testing & Automation



■ When Automation is Not applicable?		
	□Not too many regressions.	
	□Application is not stable, too much maintenance effort.	
	☐Cost of the supporting tool doesn't justify the investment.	
	☐There are not too many candidates for smoke testing.	
	☐ Size of application is too small vs Availability of resource.	
	☐A process where you cannot escape from manual intervention.	

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False Expectations



□ False Expectations for Test Automation

- □Immediate Test Effort Reduction
- □ Immediate Schedule Reduction
- □One Test Tool Fits All
- □Tool Ease of Use
- □100% Test Coverage

Testing Process with automation tools



Automation tool involves 3 main stages:

Creating Test scripts

Running Test

Analyzing Test Results





Thank You