**Module-4 Automation Core Testing (Load Runner Up and Selenium IDE)**

* **What is Automation Testing?**

**Automation Testing** is a software testing technique that performs using special automated testing software tools to execute a test case suite. On the contrary, Manual Testing is performed by a human sitting in front of a computer carefully executing the test steps.

The automation testing software can also enter test data into the System Under Test, compare expected and actual results and generate detailed test reports. Software Test Automation demands considerable investments of money and resources.

Successive development cycles will require execution of same test suite repeatedly. Using a test automation tool, it’s possible to record this test suite and re-play it as required. Once the test suite is automated, no human intervention is required. This improved ROI of Test Automation. The goal of Automation is to reduce the number of test cases to be run manually and not to eliminate [Manual Testing](https://www.guru99.com/manual-testing.html) altogether.

* **Which Are the Browsers Supported by Selenium Ide?**

Selenium IDE has add-ons for Firefox and Chrome browsers. Selenium IDE comes with a rich set of commands that are powered by Selenese and it allows you to record and test different interactions of a web application with the browser.

* **What are the benefits of Automation Testing?**

The benefits of Automation Testing are as follows:

1. **It saves time & Money**
2. **Increased test coverage**
3. **Improve Accuracy**
4. **Helps continuous testing**
5. **Enables reusability**
6. **Offers faster feedbacks**
7. **Improves team moral**
8. **Promises information security**
9. **Easy reporting makes life easier**
10. **Offer Scalability**

* **What are the advantages of Selenium?**

**Some key benefits of Test Automation are:**

* Manual intervention is less, so the possibility of errors diminishes.
* It ensures higher ROI on the huge investments required initially.
* Automated tests make the process more reliable and the tests more dependable.
* Automation helps you find bugs at an early stage.
* You can test 24\*7 from a remotely–held device as well.
* It makes the test scripts reusable – need new scripts every time even with changes in the version of the OS on the device and the tests can recur without any errors.
* Most importantly, it enables testing in volumes. For instance, it allows you to run tests on thousands of mobile devices. Now, this is impossible with Manual Testing.
* **Why testers should opt for Selenium and not QTP?**

The Reasons That Selenium is better then QTP are as follows:

1. Selenium is the open-Source Testing tool whereas QTP is paid for use.
2. Selenium uses multiple languages whereas QTP is mostly VB Scripting environment.
3. Selenium allows you to write one script for any browser.
4. Selenium offers more scalability to software tester.
5. QTP doesn’t support several browsers.

* **Which components have you used in Load Runner?**

The key components of LoadRunner are:

* Load Generator generates the load against the application by following scripts.
* VuGen (Virtual User Generator) for generating and editing scripts.
* Controller controls, launches and sequences instances of Load Generator - specifying which script to use, for how long etc.
* **How can you set the number of vusers in LoadRunner**

You can set the number of Vusers in the controller section while creating your scenarios. Many other advanced options like ramp-up, ramp-down of Vusers are also available in the Controller section.

* **What is Correlation?**

Correlation' term refers to the handling of dynamic values coming from the server. These dynamic values are the unique values which are generated by the server for security purpose like the session ID, authorization token etc.

* **What is the process for developing a Vuser Script?**

There are 5 steps for developing a vuser script.  
  
1-recording the vuser script.  
  
2-edit the vuser script.  
  
3-runtime setting.  
  
4-run the vuser script in stand-alone mode.  
  
5-incorporate the vuser script into a load runner scenario.

* **How Load Runner interacts with the application?**

LoadRunner simulates user activity by generating messages between application components or by simulating interactions with the user interface such as keypresses or mouse movements. The messages and interactions to be generated are stored in scripts.

* **How many VUsers are required for load testing?**

Concurrent virtual user calculation

For example, if you run a load test with 10,000 virtual users, each making a request every 20 seconds (3 requests per minute), then you're making 30,000 requests per minute, which equals 500 requests per second.

* **What is the relationship between Response Time and Throughput?**

Response time and throughput are related. The response time for an average transaction tends to decrease as you increase overall throughput. However, you can decrease the response time for a specific query, at the expense of overall throughput, by allocating a disproportionate number of resources to that query.

* **What is the difference between hits/second and requests/second?**

Hits/second are the number of HTTP requests made by Vusers to the Web Server in a scenario or session step run on a per second basis. Requests/second are the number of requests completed during each second of scenario run.