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

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

* ***“LoadRunner consists of three main components: Virtual User Generator (VuGen), Controller, and Analysis”.***

***• How can you set the number of Vusers in Load Runner?***

1. ***Using the LoadRunner Controller: LoadRunner comes with a Controller component that allows you to control various aspects of your load test, including the number of Vusers. In the Controller, you can specify the number of Vusers you want to simulate for your performance test.***
2. ***Defining Vuser Groups: LoadRunner allows you to organize Vusers into groups based on the tasks they perform. You can specify the number of Vusers for each group according to your test scenario.***
3. ***Script Configuration: LoadRunner works with scripts that simulate user actions. Within these scripts, you can define parameters such as the number of iterations each Vuser should perform and the ramp-up time, which determines how gradually Vusers are added to the test.***
4. ***Load Generators Configuration: Load generators are machines responsible for simulating Vuser activity. You can configure the number of load generators and the number of Vusers each generator will handle.***
5. ***Scenario Configuration: LoadRunner allows you to create test scenarios which include details such as the number of Vusers, duration of the test, and the load distribution across different scripts or Vuser groups.***

***• What is Correlation?***

* ***“Correlation is a statistical measure that expresses the extent to which two variables are linearly related (meaning they change together at a constant rate). It's a common tool for describing simple relationships without making a statement about cause and effect”.***

***• 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 key presses or mouse movements. The messages and interactions to be generated are stored in scripts”.***

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

* ***(concurrent users) x (requests per user per minute) = total requests per minute***
* ***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 isthe relationship between Response Time and Throughput?***

* ***“When your throughput during a test decreases, your response time increases, and when your throughput increases your response time would be relatively good. Since more data is being sent through the server, thus the server is able to process requests faster, and hence your response time would be relatively lower”.***

***• To test the Performance testing on “Tops Technologies website” :-*** [***https://www.saucedemo.com/***](https://www.saucedemo.com/)

***1. to Record all top level menu***

***2. to Record minimum 10 Vuser on this website***

***3. save all (Script,Design,Graph)***

***• create a normal script of above website with correlate using hp default website. Selenium IDE)***

***• What is Automation Testing?***

* **"Automation testing refers to the automatic testing of the software in which developer or tester write the test script once with the help of testing tools and framework and run it on the software. The test script automatically test the software without human intervention and shows the result (either error, bugs are present or software is free from them)."**

***• Which Are The Browsers Supported By Selenium Ide?***

* ***Currently, Firefox, Chrome, Edge, IE, and Safari are supported and the Selenium IDE has great documentation on how to configure your environment***

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

1. ***Increased Efficiency and Speed :- The most noticeable benefit of automated testing is speed. A computer can go through automated test scenarios in minutes or even seconds.***

### *Enhanced Accuracy :-* *Besides running tests quickly, automation saves tons of time by eliminating human error while going through test cases.*

### *Improved Coverage of Complex Test Scenarios :- Automated testing helps improve speed and accuracy thanks to managing repetitive tasks programmatically.*

### *Save Money in the Long Run :-* *One of the reasons why organizations decide to defer automated testing to the future is because of the initial costs involved.*

### *A Highly Collaborative Team :-* *An argument that often pops up online regarding automated testing concerns who owns it in a project.*

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

* ***Selenium is an open-source framework used for automating web applications for testing purposes, but it is not limited to just testing. It provides a way for developers and testers to write scripts in various programming languages like Java, C#, Python, etc., to automate interactions with web browsers.***

***Advantages of Selenium:***

1. ***Cross-Browser Compatibility: Selenium supports multiple browsers like Chrome, Firefox, Safari, and Internet Explorer, making it easier to test web applications on different platforms.***
2. ***Platform Independence: Selenium is a cross-platform tool, which means it can be used on different operating systems like Windows, Linux, and macOS.***
3. ***Support for Multiple Programming Languages: Selenium supports multiple programming languages, including Java, C#, Python, Ruby, and others. This allows developers and testers to choose the language they are most comfortable with.***
4. ***Large Community and Resources: Selenium has a large and active community. This means there is a wealth of documentation, tutorials, and forums available, making it easier for users to find help and solutions to common problems.***
5. ***Integration with Other Tools: Selenium can be easily integrated with other tools and frameworks, such as TestNG, JUnit, Maven, and Jenkins, enhancing its capabilities and making it suitable for various testing needs.***
6. ***Flexibility and Extensibility: Selenium can be extended for various functionalities through its APIs, making it adaptable to different testing scenarios.***
7. ***Support for Parallel Execution: Selenium allows for the parallel execution of test scripts, which can significantly reduce the overall test execution time.***

***• Why testers should opt for Selenium and not QTP?***

* ***Selenium, however, supports a***[***wide range of programming languages***](https://www.browserstack.com/docs/automate/selenium)***.***
* ***QTP/UFT test scripts run only on the Windows environment. They cannot be run across all browsers. On the other hand, Selenium is OS independent and allows test scripts to run across all browsers.***

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