**MODULE-5**

**Selenium IDE**

**Que:-1** what is Automation Testing?

* Automation testing is a software testing technique that utilizes specialized automation testing tools to automatically run a suite of test cases, delivering faster and more accurate results compared to manual testing methods. The process of running the same test suite repeatedly is time-consuming, so by leveraging a test automation tool, it is much faster to write the test suite, re-play it as required, reduce human intervention, and improve testing ROI.
* With automation testing, you can effortlessly input test data into the System Under Test, compare expected outcomes with actual results, and generate comprehensive test reports. Although it demands some allocation of funds and resources, automation testing is a worthwhile investment for any organization looking to streamline their software testing process.

**Que:-2** 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.

**Que:-3** what are the benefits of Automation Testing?

* 70% faster than the manual testing
* Wider test coverage of application features
* Reliable in results
* Ensure Consistency
* Saves Time and Cost
* Improves accuracy
* Human Intervention is not required while execution
* Increases Efficiency
* Better speed in executing tests
* Re-usable test scripts
* Test Frequently and thoroughly
* More cycle of execution can be achieved through automation
* Early time to market

**Que:-4** what are the advantages of Selenium?

* Very easy to use and install.
* No programming experience is required, through knowledge of HTML and DOM are needed
* Can export tests to formats usable in Selenium RC and Web Driver
* Have built-in help and test results reporting module.
* Provides support for extensions

**Que:-5** Why testers should opt for Selenium and not QTP?

* Selenium, however, supports a wide range of programming languages. 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.

**Module-4 Automation Core Testing**

**Que:-1** **Which components have you used in Load Runner?**

* Virtual User Generator (VUGen): Used for recording and creating virtual user scripts that simulate user actions on an application.
* Controller: Used for managing and controlling load testing scenarios, including defining test scenarios, scheduling tests, and monitoring test results.
* Analysis: Used for analyzing and interpreting the results of load tests, including generating reports and graphs for performance analysis.

**Que:-2 How can you set the number of Vusers in Load Runner?**

* Launch the LoadRunner Controller.
* Create a new scenario or open an existing one.
* In the "Scenario" section, go to the "Vuser Groups" tab.
* Select the Vuser group for which you want to set the number of Vusers.
* In the "Number of Vusers" field, enter the desired number of Vusers that you want to simulate during the load test.
* You can also set additional options like ramp-up time, duration, and iterations for the Vusers in the same tab.
* Save the scenario.
* Start the load test by clicking the "Run" button in the Controller.

**Que:-3 What is Correlation?**

Correlation is a technique used in software testing to capture and replace dynamic values in server responses with parameterized values in subsequent requests. It helps ensure that test scripts accurately replicate user interactions with web applications by handling changing data, such as session IDs or user tokens. Correlation is commonly used in performance testing and web application testing to achieve realistic and accurate test results.

**Que:-4 What is the process for developing a Vuser Script?**

* Recording: User interactions with the application are recorded to generate a Vuser script.
* Enhancing: The recorded script is enhanced with parameterization, correlation, and data manipulation.
* Validating: The script is validated for accuracy and correctness.
* Customizing: The script is customized to simulate different scenarios or load levels.
* Execution: The script is executed as part of a load testing scenario.
* Maintenance: The script may require periodic maintenance to keep it up-to-date with changes in the application or system under test.

**Que:-5 How Load Runner interacts with the application?**

* Recording: Load Runner records user interactions with the application during script recording process.
* Playback: Load Runner replays the recorded script, sending requests and receiving responses from the application.
* Parameterization: Load Runner allows for parameterization of dynamic values in the script to simulate realistic user behavior.
* Correlation: Load Runner automatically correlates dynamic values in the script for accurate replay.
* Data Manipulation: Load Runner allows for data manipulation in the script, such as extracting data from responses and modifying request data.
* Monitoring: Load Runner captures performance metrics of the application during script execution.
* Analysis: Load Runner provides built-in analysis tools to interpret captured performance metrics and identify performance bottlenecks.

**Que:-6 How many VUsers are required for load testing?**

The number of Vusers (virtual users) required for load testing depends on factors such as application complexity, performance goals, and available resources. Typically, load testing involves simulating realistic user loads, and the number of Vusers needed varies for each application. It is important to carefully analyze and plan for the appropriate number of Vusers to ensure meaningful and accurate load testing results.

**Que:-7 What is the relationship between Response Time and Throughput?**

* As response time increases, throughput tends to decrease, and vice versa.
* Longer response time can lead to lower throughput or capacity to handle concurrent requests.
* Shorter response time can lead to higher throughput or capacity to handle concurrent requests.
* Achieving a balance between response time and throughput is important for optimal application performance in load testing.

**Que:-8 What is the difference between hits/second and requests/second?**

|  |  |
| --- | --- |
| **hits/second** | **requests/second** |
| Hits/second measures the rate at which cached content is served from the server's cache. | Requests/second measures the rate at which the server receives incoming requests from clients. |
| Hits/second is an indicator of the server's efficiency in serving cached content. | Requests/second reflects the server's ability to handle incoming requests and process them in a timely manner. |
| Hits/second can be significantly higher than requests/second in scenarios with effective caching mechanisms. | Requests/second is a critical performance metric that indicates the server's capacity to handle concurrent requests. |
| Hits/second provides insight into the server's ability to handle content-heavy websites or applications with significant caching. | Requests/second can be affected by various factors such as server configuration, hardware resources, network latency, etc. |
| Hits/second may not accurately represent the overall server workload, as it only considers cached content and does not account for non-cached content, redirects, errors, etc. | Requests/second provides insights into the server's scalability, performance, and ability to handle high levels of concurrent traffic. |