

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

(1) Which components have you used in Load Runner?

- Virtual User Generator
- Controller
- Load Generator
- Analyzer
- Agent Process

(2) How can you set the number of Vusers in Load Runner?

- 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.
- Open the Controller: Launch LoadRunner Controller.
- Create a New Scenario: Set up a new scenario.
- Add VUsers: Specify the desired VUser count.
- Distribution: Allocate VUsers across scripts or processes.
- Ramp-Up and Ramp-Down: Define gradual increase and decrease.
- Execute Scenario: Run the test with the chosen VUser count

(3) What is Correlation?

- Correlation is the fundamental concept and the first challenge faced by the performance testers while scripting the business processes for load testing. Correlation is used to capture the dynamic values returned by the server.

(4) What is the process for developing a Vuser Script?

- Recording the Vuser Script:
- Editing the Vuser Script:
- Runtime Settings:
- Replay and Verification:
- Incorporate into a LoadRunner Scenario:

(5) How Load Runner interacts with the application?

- LoadRunner communicates with the application by imitating what real users do. It sends requests to the application to perform actions like logging in or filling out forms, just like a person would. This helps testers see how the application performs under different levels of usage.

- 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.

(6) How many VUsers are required for load testing?

- The number of VUsers required for load testing depends on factors like the application's complexity and the expected user traffic. Generally, testers decide based on the application's performance goals and the system's capacity. More VUsers might be needed to simulate heavy traffic and ensure accurate testing.

- Time taken for 1 user to complete 1 transaction:  $[a] + [b] + [c] = 6$  second In 1 hour a user can do:  $60 \times 60 / 6 = 600$  transactions To do 280,000 transactions per hour, we need:  $280,000 / 600 = 467$  VUsers After identifying the scripts and the total VUsers, plan the LoadRunner test scenario for the same.

(7) What is the relationship between Response Time and Throughput?

- Response time is the time it takes for the application to respond to a user's request, like loading a webpage. Throughput is the number of requests the application can handle in a given time. They're related because as throughput increases, response time may also increase since the application is handling more requests. But if the system is overloaded, response time might go up too, as the system struggles to keep up with the load. So, generally, there's a trade-off 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 amount of resources to that query.

Selenium IDE)

(1) What is Automation Testing?

- Automated testing is the implementation of an automation tool to execute test cases.
- This is well-suited for projects that are large or require testing to be repeated multiple times. It also could be applied to projects that already have been through an initial manual testing process.

(2) Which Are The Browsers Supported By Selenium Ide?

- Selenium IDE supports multiple browsers, including Google Chrome, Mozilla Firefox, Microsoft Edge, and Safari. However, the availability of certain features and compatibility might vary across different browser versions.

(3) What are the benefits of Automation Testing?

- There are 8 benefits of Automation Testing

(1) Saving Costs

(2) Faster Feedback Loop

(3) Better Allocation of Resources

(4) Guarantees Higher Accuracy

(5) Increased Test Coverage

(6) Detects bugs earlier

(7) Test at Scale

(8) Maximizes ROI

(4) What are the advantages of Selenium?

- It's open-source, meaning it's free to use and has a large community for support.
- It supports multiple programming languages like Java, Python, and C#, making it flexible for different teams.
- It works across various operating systems like Windows, macOS, and Linux.
- Selenium can automate web applications across different browsers like Chrome, Firefox, and Edge.
- It allows for parallel execution, speeding up testing processes.
- Selenium integrates well with other tools and frameworks, enhancing its functionality.

(5) Why testers should opt for Selenium and not QTP?

-> some reasons of Why testers should opt for Selenium

- Open source, free to use
- Highly extensible Limited add-ons
- Can run tests across different browsers
- Supports various operating systems
- Supports mobile devices
- Can execute tests while the browser is minimized to be visible on the desktop
- Can execute tests in parallel.

-> some reasons of Why testers should not QTP

Commercial

Limited add-ons

Can only run tests in Firefox, Internet Explorer and Chrome

Can only be used in Windows

Supports mobile device using 3rd party software

Needs to have the application under test

Can only execute in parallel but using

Quality Center which is again a paid product.