Module-4 Automation Core Testing

(Load Runner Up and Selenium IDE)

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

The component used in Load Runner Up are: -

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| 1). Load Generator | Is a system that stimulates load while performance testing.   * Works by sending a request remotely to a host system or load driving system. * Packaged within an API proxy and act as a client for one or more APIs. * Load generator can be Linux based or Windows Based. * To create load generator, we can install load runner software on host computer. * Generates the load from controller and goes in between servers and agents processor. |
| 2). Load Controller | Is a device that monitors and limits a home electrical usage.   * It is also known as peak demand controller. * Manage electric usage. * Improve energy efficiency. * Limit power draw.   In Testing we can configure and execute load test scenarios using scripts recorded from Vugen or any compatible source. |
| 3). Analyzer | Is a type of software testing application that reviews, analyses and reports on the source code structure of a program or software.   * Tool to analyse data to improve software quality and correctness. * Encompass with security, reliability, and performance. * Helps to automate the code analysis process. * It helps result files generated at the controller after test execution. * Helps to analyse and generate reports. |
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2). How can you set the number of Vusers in Load Runner?

To set the number of Vusers in Load Runner: - in the controller section while creating our scenarios. Many more options like ramp up, ramp down, are also available in the controller section. Steps to follow:

Step 1: - Open the Vusers Dialog Box.

Step 2: - Click the add Vusers button.

Step 3: - From the Group name box, select the name of the vuser group.

Step 4: - From the quantity to add box, select the number of vuser that you want to add to the group.

Step 5: - Start the user from the VUSER screen.

3). What is Correlation?

It’s a fundamental concept in Load Runner performance testing.

* Involves capturing dynamic values that are passed from the server to the client and back.
* Values can include web content like drop- down list values, calendar dates, item IDs, Product IDs, and order numbers.
* Helps in verifying the changes by running the scrip again.

It’s a statistical technique for determining the relationship between two variables. It can be in different determining like positive, negative, linear or non-linear. It also helps in understanding the economic behaviour easier and identifies critical variables that are significant.

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

Vusers script help to record, playback, improve, define and helps in different run time parameters.

There are certain steps for making script that are as follows: -

Step 1: Record the vuser script using the appropriate protocol and actions.

Step 2: Edit and enhance the recorded script to add logic, parameters and check points.

Step 3: Define the runtime settings for the vuser script, such as iteration, pacing and log level.

Step 4: Run the Vuser Script in stand alone mode to verify its functionality and performance.

Step 5: Incorporate the Vuser Script into a Load Runner scenario to run it with multiple Vusers.

5). How Load Runner interacts with the application?

Load Runner is a software testing tool from Hewlett – Packard that uses protocols to interact with applications.

* Generating messages.
* Between applications components.
* Stimulates interactions with the user interface.

Load Runner stimulates users’ activity by generating messages between application components or by stimulating interactions with the user interface such as key presses on mouse movements. The message and interactions to be generated are stored in scripts.

6). How many Vusers are required for load testing?

Vusers are number of users that hit the application in parallel over a period of time.

* They are used to stimulate a live environment and identify applications behaviour when clients connect to the application.
* Load testing is used to determine how an application will behave during normal and peak load conditions.
* Involves conducting anticipated load in terms of virtual users or request per second.
* Then the actual metrics compare with expected metrics.

The numbers of virtual users required for load testing in the test scripts and the number of test engine instances. A rough of thumb is that for a fast load generator computer, it is possible to run 500 virtual users per core. The number of concurrent virtual users is on of the most important variables that effect accuracy. If think time is enabled during load test, one vuser represents one real user, if think time is disabled one vuser represent total 5 real users.

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

Response time is the time taken for a transaction to complete, while Throughput is the number of requests processed per unit of time.

* The higher response time results in lower throughput and vice versa.

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| The relation between response time and throughput is: - | Higher response time leads to lower throughput and vice versa. |
| Ideally response time and throughput should be constant: - | During a steady state. |
| If throughput decrease with an increase in time response: - | It indicates instability of the application/ system. |
| The response time for an average transaction tends to: - | Decrease as you increase overall throughput |
| Throughout is the number of requests divided | By the total time. |
| Response time is the length of time it takes | For a system to respond to an instruction. |
| We can reduce the response time for a specific query at the expense of | Overall throughput by allocating more resources to that query. |
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