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

1)Which components have you used in Load Runner?

**LoadRunner** is a Performance Testing tool which was pioneered by Mercury in 1999. LoadRunner was later acquired by HPE in 2006. In 2016, LoadRunner was acquired by MicroFocus.

LoadRunner supports various development tools, technologies and communication protocols. In fact, this is the only tool in market which supports such a large number of protocols to conduct [Performance Testing](https://www.guru99.com/performance-testing.html). Performance Test Results produced by LoadRunner software are used as a benchmark against other tools

The key components of LoadRunner are:

1. **Vuser generator –** For generating Scripts
2. **Controller –** For creating and executing scenarios
3. **Analyzer –** To analyze results.

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

3) What is Correlation?

Correlation refers to the statistical relationship between two entities. In other words, it's how two variables move in relation to one another. Correlation can be used for various data sets, as well. In some cases, you might have predicted how things will correlate, while in others, the relationship will be a surprise to you. It's important to understand that correlation does not mean the relationship is causal.

To understand how correlation works, it's important to understand the following terms:

* **Positive correlation:** A positive correlation would be 1. This means the two variables moved either up or down in the same direction together.
* **Negative correlation:** A negative correlation is -1. This means the two variables moved in opposite directions.
* **Zero or no correlation:** A correlation of zero means there is no relationship between the two variables. In other words, as one variable moves one way, the other moved in another unrelated direction.

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

**The script development process in VUGen**



**1. Record the Script:** Usually, this is the first step of scripting where every user action is recorded into a script.

**2. Replay and Verify:** Once the script is recorded, reply the script to ensure its working right. Verify any impact through application frontend or database.

**3. Enhance the Script:** Once recording has been verified, enhance script by adding checkpoints, validating data, adding transactions and rendezvous points.

**4. Replay and Verify:** As earlier, re-play your script and verify that everything is working as intended.

**5. Configure Runtime Settings:** Configure and control pacing duration, think time variation, proxy settings and whether you wish to ignore any external resources.

**6. Use for Load Scenarios:** Formulate load scenarios based on test objectives. Use load distribution and geo-wide agents to make real like scenarios.

5)How Load Runner interacts with the application?

6) How many VUsers are required for load testing?

7) 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 amount of resources to that query. Conversely, you can maintain overall throughput by restricting the resources that the database allocates to a large query.

The trade-off between throughput and response time becomes evident when you try to balance the ongoing need for high transaction throughput with an immediate need to perform a large decision-support query. The more resources that you apply to the query, the fewer you have available to process transactions, and the larger the impact your query can have on transaction throughput. Conversely, the fewer resources you allow the query, the longer the query takes.

8)What is the difference between hits/second and requests/second?

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