**1.which components have you used in load runner ?**

Ans : Load Generator generates the load against the application by following scripts.

VuGen (Virtual User Generator) for generating and editing scripts.

Controller controls, launches and sequences instances of Load Generator - specifying which script to use, for how long etc.

**It consists of 5 components:**

* Virtual User Generator. VuGen is LoadRunner's first component to create, validate, and modify scripts. ...
* Controller. ...
* Load Generator. ...
* Agent Process. ...
* Planning the Load Test. ...
* Create a VUGen Script. ...
* Scenario Creation. ...
* Run Scenario.

**2.how can you set the number of vuser in load runner ?**

Ans : You can initialize, run, or stop any number of Vusers irrespective of their defined schedules. In addition, you can add new Vusers to the performance test. On the Performance Test Run page, click Run Vusers. The Run Vusers dialog box opens, enabling you to run additional Vusers.

With the help of Run / Stop Vusers dialog box, we can activate an additional Vuser while a scenario is running. The scenario will finally end when all the Vusers have completed their scripts, or when the specified duration finishes out, or when we terminate it.

1. **what is the correlation ?**

Ans : 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.

Correlation is a statistical measure that expresses the extent to which two variables are linearly related (meaning they change together at a constant rate).

A correlation reflects the strength and/or direction of the association between two or more variables. A positive correlation means that both variables change in the same direction. A negative correlation means that the variables change in opposite directions.

1. **what is the preccess for developong a vuser script ?**

Ans : A vuser script may be created in four steps.

Step 1- Record the Vuser Script.

Step 2- Playback and improve the recorded vuser script.

Step 3- Define and test the different run-time parameters.

Step 4- Use the script in a LoadRunner scenario.

VUGen (Virtual User Generator) is a key tool in LoadRunner to create testing scripts to emulate real-user behavior on your system. In VUGen, a human is replaced by a virtual user (VUser) and the actions performed by a VUser are recorded in VUser script to emulate the real-user behavior for testing and monitoring.

When Vuser is run as a process, the same driver program is loaded into memory for each Vuser. This will take a large amount of memory and will limit the number of Vusers you can run on a single generator. When Vuser is run as a thread, only one instance of driver program is shared by given number of Vusers.

1. **how load runner interacts with the applocation ?**

Ans : 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.

Protocol support: LoadRunner supports many protocols, including HTTP, HTTPS, SOAP, REST, and more. Scripting: LoadRunner offers a user-friendly scripting environment that allows users to create scripts that simulate user actions on the application.

Protocol support: LoadRunner supports many protocols, including HTTP, HTTPS, SOAP, REST, and more. Scripting: LoadRunner offers a user-friendly scripting environment that allows users to create scripts that simulate user actions on the application.

1. **how many vusers are required for load testing ?**

Ans : 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.

For example, to simulate 1,000 virtual users, set the number of threads in the Apache JMeter script to 250. Then configure the load test with four test engine instances (that is, 4 x 250 threads).

test with each user group. Tests should be conducted with each distinct user group that will interact with the site or platform. If the interface has several disparate user groups, your tests should include at least 3-4 participants per round, per user group. (There will be some overlap in issues identified by each.)

1. **what is the relatinship between response time and throughput ?**

Ans : 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.

In terms of load/Performance testing. Throughput and Response times are inversely proportional. i.e With increase in response time throughput should decrease. With increase in Throughput response time should decrease.Throughput measures the overall performance of the system.

1. **What is the difference between hits/second and request/second ?**

Ans: Hits per second is the total load set by the concurrent virtual users on the server, no matter if they are executed successfully or not on the server side. The number of requests executed successfully by the server per unit of time is called throughput. Learn about what is throughput in performance testing.

Requests per second (RPS), or throughput, is the total number of requests to the server application that your load test generates per second. The formula is: RPS = (number of requests) / (total time in seconds). The time is calculated from the start of the first sample to the end of the last sample.

Requests per second (RPS), or throughput, is the total number of requests to the server application that your load test generates per second.

The formula is: RPS = (number of requests) / (total time in seconds).

The time is calculated from the start of the first sample to the end of the last sample. This time includes any intervals between samples, for example if the test script contains [timers](https://jmeter.apache.org/usermanual/component_reference.html" \l "timers).

Another way to calculate the RPS is based on the average application's [latency](https://learn.microsoft.com/en-us/azure/load-testing/concept-load-testing-concepts" \l "latency) and the number of [virtual users](https://learn.microsoft.com/en-us/azure/load-testing/concept-load-testing-concepts" \l "virtual-users). To simulate a specific number of RPS with a load test, given the application's latency, you can then calculate the required number of [virtual users](https://learn.microsoft.com/en-us/azure/load-testing/concept-load-testing-concepts" \l "virtual-users).

1. **what is automation testing ?**

Ans : Automated testing is a software testing technique that automates the process of validating the functionality of software and ensures it meets requirements before being released into production. With automated testing, an organization can run specific software tests at a faster pace without human testers.

Automated Testing is a technique where the Tester writes scripts on their own and uses suitable Software or Automation Tool to test the software. It is an Automation Process of a Manual Process. It allows for executing repetitive tasks without the intervention of a Manual Tester.

1. **which are the browsers supported by selenium ide ?**

Ans : The supported browsers include Mozilla Firefox, Google Chrome, Microsoft Edge, Safari, and Opera, among others. Selenium WebDriver allows you to write tests in various programming languages (including Java, C#, Python, and more) and execute them on different browsers using the corresponding WebDriver implementations.

This is because the Selenium IDE is a Firefox Extension. Chrome does not support Firefox extensions. Selenium IDE is an integrated development environment for Selenium scripts. It is implemented as a Firefox extension.

As of June 2022, Selenium officially no longer supports standalone Internet Explorer. The Internet Explorer driver still supports running Microsoft Edge in “IE Compatibility Mode.”

1. **what are the benefits of automation testing ?**

Ans : Manually repeating these tests is costly and time consuming. Once created, automated tests can be run over and over again at no additional cost and they are much faster than manual tests. Automated software testing can reduce the time to run repetitive tests from days to hours.

Let's delve in detail into 10 of the benefits of automation.

Efficiency.

Productivity.

Cost Savings.

Compliance.

Reduced Errors.

Customer Satisfaction.

Increasing Employee Satisfaction and Retention.

Eliminate Paper-Based Processes.

1. **what are the advantages of selenium .**

Ans : Advantages of Selenium for Automated Testing

Language and Framework Support. ...

Open Source Availability. ...

Multi-Browser Support. ...

Support Across Various Operations. ...

Ease of Implementation. ...

Reusability and Integrations. ...

Flexibility. ...

Parallel test execution and faster market launch.

It becomes useful for programmers while testing. It can be operated across multiple operating systems such as Windows, OS, Linux, etc. Supports tests across devices, as the test can be implemented on Android, iPhone and Blackberry. The programmers can use scripts that can be tested across multiple browsers.

1. **why testers should opt for selenium and not OTP ?**

Ans : 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.

Selenium can be used only for Web-based applications. It is a major disadvantage of selenium over QTP. UFT can be used to test all three layers of an application the interface, the service layer and the database layer. Selenium can be used to test only the front end or interface layer.

Environment: QTP supports different environments like SAP, Oracle, and so on and it does not support additional plugins to the software whereas Selenium supports all additional plugins alongside its features. So, these are the major differences between the two most predominantly used testing giants, QTP and Selenium.