

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

### **Q.1 Which components have you used in Load Runner?**

**Ans.** Virtual User Generator (VuGen)

- Controller
- Analysis

### **Q.2 How can you set the number of Vusers in Load Runner?**

**Ans.** Open the Controller

- Create or Open a Scenario
- Add Vuser Scripts
- Configure Vuser Groups
- Set Number of Vusers
- Schedule the Scenario
- Run the Scenario

### **Q.3 What is Correlation?**

**Ans.** Correlation, in the context of LoadRunner or performance testing, refers to the process of capturing and replacing dynamic values in a recorded script with parameters. Dynamic values are those that change with each user session or interaction, such as session IDs, authentication tokens, timestamps, or any other unique identifiers generated by the server.

### **Q.4 What is the process for developing a Vuser Script?**

**Ans.** Following development process in Vuser Script:

- Recording the Vuser Script
- Edit the Vuser script
- Runtime setting
- Run the Vuser script in stand-alone mode
- Incorporate the Vuser script into a load runner scenario

### **Q.5 How Load Runner interacts with the application?**

**Ans.** LoadRunner interacts with applications primarily through a process called performance testing. LoadRunner is a performance testing tool that simulates user activity on software

applications, allowing testers to measure and analyse system performance under various conditions.

Here's how LoadRunner typically interacts with an application:

- **Scripting:** Testers create scripts using LoadRunner's scripting language, usually by recording user interactions or manually coding the scenarios. These scripts simulate user actions like logging in, browsing pages, filling forms, etc.
- **Parameterization:** LoadRunner allows for parameterization, where variables can be used to represent dynamic data such as user names, passwords, or input data. This enables realistic simulation of user behaviour.
- **Scenario Design:** Testers design scenarios that represent different types of user loads and behaviours. For example, a scenario might simulate a specific number of users logging in simultaneously or performing specific actions at different rates.
- **Controller Setup:** LoadRunner's Controller component orchestrates the execution of scenarios. Testers configure the desired number of virtual users, ramp-up rates, and other parameters to mimic real-world usage patterns.
- **Execution:** The Controller distributes the load across multiple load generators (machines or virtual machines running LoadRunner's Virtual User Generator or Vusers scripts). Each load generator simulates multiple virtual users executing the scripts against the application under test.
- **Monitoring:** During test execution, LoadRunner collects performance metrics such as response times, throughput, CPU and memory usage, database performance, etc., from the application servers, web servers, and other infrastructure components.
- **Analysis:** After the test completes, testers analyse the collected data using LoadRunner's Analysis component. They can identify performance bottlenecks, pinpoint areas for optimization, and evaluate the application's scalability, reliability, and responsiveness under different loads.
- **Reporting:** LoadRunner generates comprehensive reports summarizing the test results, including graphs, charts, and statistics, to help stakeholders understand the application's performance characteristics and make informed decisions.

Overall, LoadRunner provides a robust framework for assessing an application's performance under realistic conditions, helping organizations ensure that their software meets performance objectives and user expectations.

#### **Q.6 How many VUsers are required for load testing?**

**Ans.** Determining the number of Virtual Users (Vusers) required for load testing depends on several factors, including the objectives of the test, the nature of the application, the expected user load in production, and the available infrastructure. Calculating No. of virtual users for our load test but when doing performance testing. Never tested the application against any specific user set. Always perform different user tests to determine the system state at different loads. In independent testing cases the incremental approach to test the application by increasing the virtual users test by test.

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

**Ans.** Response time and throughput are two key performance metrics used in load testing and performance monitoring. While they are related, they measure different aspects of system performance.

- While response time and throughput are related, they are not directly proportional. In some cases, as throughput increases, response time may also increase, and vice versa.
- A system with high throughput may still have high response times if it's struggling to process a large number of concurrent requests.
- Conversely, a system with low throughput may have low response times if it's not under heavy load.

### Q.8 To test the Performance testing on "Tops Technologies website": - <https://www.saucedemo.com/>

1. to Record all top-level menu

2. to Record minimum 10 Vuser on this website

3. save all (Script, Design, Graph)

**Ans.**

Action()

{

```
web_url("gts1c3.der",  
        "URL=http://pki.goog/repo/certs/gts1c3.der",  
        "Resource=1",  
        "RecContentType=application/pkix-cert",  
        "Referer=",  
        "Snapshot=t5.inf",  
        LAST);
```

```
web_url("gtsr1.der",  
        "URL=http://pki.goog/repo/certs/gtsr1.der",
```

```
"Resource=1",  
"RecContentType=application/pkix-cert",  
"Referer=",  
"Snapshot=t6.inf",  
LAST);
```

```
web_url("gts1c3.der_2",  
        "URL=http://pki.goog/repo/certs/gts1c3.der",  
        "Resource=1",  
        "RecContentType=application/pkix-cert",  
        "Referer=",  
        "Snapshot=t7.inf",  
        LAST);
```

```
web_url("gtsr1.der_2",  
        "URL=http://pki.goog/repo/certs/gtsr1.der",  
        "Resource=1",  
        "RecContentType=application/pkix-cert",  
        "Referer=",  
        "Snapshot=t8.inf",  
        LAST);
```

```
web_url("RapidSSLTLSRSACAG1.crt",  
        "URL=http://cacerts.rapidssl.com/RapidSSLTLSRSACAG1.crt",  
        "Resource=1",  
        "RecContentType=application/pkix-cert",  
        "Referer=",
```

```
        "Snapshot=t9.inf",  
        LAST);  
  
    return 0;  
}
```

**Q.9 create a normal script of above website with correlate using hp default website.**

**Ans.**

```
Action()
```

```
{
```

```
    web_url("index.htm",  
            "URL=http://127.0.0.1:1080/WebTours/index.htm",  
            "Resource=0",  
            "Referer=",  
            "Snapshot=t1.inf",  
            "Mode=HTML",  
            LAST);
```

```
    web_url("header.html",  
            "URL=http://127.0.0.1:1080/WebTours/header.html",  
            "Resource=0",  
            "Referer=http://127.0.0.1:1080/WebTours/index.htm",  
            "Snapshot=t2.inf",  
            "Mode=HTML",  
            LAST);
```

```
web_url("welcome.pl",
        "URL=http://127.0.0.1:1080/cgi-bin/welcome.pl?signOff=true",
        "Resource=0",
        "RecContentType=text/html",
        "Referer=http://127.0.0.1:1080/WebTours/index.htm",
        "Snapshot=t3.inf",
        "Mode=HTML",
        EXTRARES,
        "Url=http://pki.goog/repo/certs/gts1c3.der",          "Referer=",
ENDITEM,
        "Url=http://pki.goog/repo/certs/gtsr1.der", "Referer=", ENDITEM,
        LAST);
```

```
lr_save_string(lr_decrypt("6620c77998a0b4f6"), "PasswordParameter");
```

```
web_submit_data("login.pl",
        "Action=http://127.0.0.1:1080/cgi-bin/login.pl",
        "Method=POST",
        "RecContentType=text/html",
        "Referer=http://127.0.0.1:1080/cgi-bin/nav.pl?in=home",
        "Snapshot=t4.inf",
        "Mode=HTML",
        ITEMDATA,
        "Name=userSession",
"Value=138794.996921831HVDQczHpzftVzzzHtciDfpzAfQcf", ENDITEM,
        "Name=username", "Value=jojo", ENDITEM,
        "Name=password", "Value={PasswordParameter}", ENDITEM,
        "Name=login.x", "Value=47", ENDITEM,
```

```
"Name=login.x", "Value=8", ENDITEM,  
"Name=JSFormSubmit", "Value=off", ENDITEM,  
LAST);  
  
return 0;  
}
```

- **Selenium IDE**

### **Q.1 What is Automation Testing?**

**Ans.** Test automation is the use of software to control the execution of tests, the comparison of actual outcomes to predicted outcomes, the setting up of test preconditions, and other test control and test reporting functions.

### **Q.2 Which Are the Browsers Supported by Selenium Ide?**

**Ans.** Google Chrome

- Mozilla Firefox
- IE (Internet Explorer)
- Microsoft Edge
- Safari

### **Q.3 What are the benefits of Automation Testing?**

**Ans.** 70% faster than the manual testing

- Wider test coverage of application features
- Reliable in results
- Ensure Consistency
- Save 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

#### **Q.4 What are the advantages of Selenium?**

**Ans.** Open source

- Supports all browsers like IE, Firefox, Mozilla, Safari
- Supports all Operating Systems.
- Supports all programming languages Java, Ruby, C# and Python.
- Run multiple tests at a time.

#### **Q.5 Why testers should opt for Selenium and not QTP?**

**Ans.** Choosing between Selenium and QTP (now known as UFT - Unified Functional Testing) depends on various factors, including the project requirements, budget, skillset of the testing team, and the specific needs of the organization.

The best test automation tool for you will depend on your specific needs and requirements. If you are looking for a commercial tool with a wide range of features and support for record-and-playback, then QTP/UFT is a good choice. If you are looking for an open-source tool that supports a wide range of programming languages and operating systems, then Selenium is a good choice.