

Assignment – 5

- Which components have you used in Load Runner?

1. **VuGen (Virtual User Generator):** VuGen collects end-user business processes and develops a Vuser script (automated performance testing script) that mimics end-user activities. These Vuser Scripts may also be utilized in other Micro Focus products like LoadRunner Cloud and Business Process Monitor.
2. **Controller:** This component develops, conducts, maintains, and monitors load tests.
3. **Load Generator:** This device generates load.
4. **Analysis:** It is used to evaluate, understand, and compare the load test findings.

- 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.

- What is Correlation?

Correlation Analysis is statistical method that is used to discover if there is a relationship between two variables/datasets, and how strong that relationship may be.

In terms of market research this means that, correlation analysis is used to analyse quantitative data gathered from research methods such as surveys and polls, to identify whether there is any significant connections, patterns, or trends between the two.

Essentially, correlation analysis is used for spotting patterns within datasets. A positive correlation result means that both variables increase in relation to each

other, while a negative correlation means that as one variable decreases, the other increases.

- What is the process for developing a Vuser Script?

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.

- How Load Runner interacts with the application?

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.

- How many VUsers are required for load testing?

The number of VUsers required depends on your system under test, network configurations, hardware settings, memory, operating system, software applications objective of a performance test. There can not be any generic value for Vuser.

- 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.

- What is the difference between hits/second and requests/second?

Hits per second means the number of hits the server receives in one second from the user.

Request per second is the number of request the user will request from the server.

- What is Automation Testing?

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. Commonly, test automation involves automating a manual process already in place that uses a formalized testing process. Although manual tests may find many defects in a software application, it is a laborious and time consuming process. In addition it may not be effective in finding certain classes of defects. Test automation is a process of writing a computer program to do testing that would otherwise need to be done manually. Once tests have been automated, they can be run quickly. This is often the most cost effective method for software products that have a long maintenance life, because even minor patches over the lifetime of the application can cause features to break which were working at an earlier point in time.

- Which Are The Browsers Supported By Selenium Ide?

Latest version of Selenium IDE got released into the market by Selenium guys in the Aug 2018 and it supports the following two browsers:

- Firefox Browser
- Chrome Browser

So, latest version of Selenium IDE can be installed on both Firefox Browser and Chrome Browser

Where as the older version of Selenium IDE used to support only the below browser:

- Firefox Browser

- What are the benefits of Automation Testing?

1. 70% faster than the manual testing
2. Wider test coverage of application features
3. Reliable in results
4. Ensure Consistency
5. Saves Time and Cost
6. Improves accuracy
7. Human Intervention is not required while execution
8. Increases Efficiency
9. Better speed in executing tests
10. Re-usable test scripts
11. Test Frequently and thoroughly
12. More cycle of execution can be achieved through automation
13. Early time to market

- What are the advantages of Selenium?

1. Selenium is pure open source, freeware and portable tool.
2. Selenium supports variety of languages that include Java, Perl, Python, C#, Ruby, Groovy, Java Script, and VB Script. etc.
3. Selenium supports many operating systems like Windows, Macintosh, Linux,

Unix etc.

4. Selenium supports many browsers like Internet explorer, Chrome, Firefox, Opera, Safari etc.

5. Selenium can be integrated with ANT or Maven kind of framework for source code compilation.

6. Selenium can be integrated with TestNG testing framework for testing our applications and generating reports.

7. Selenium can be integrated with Jenkins or Hudson for continuous integration.

8. Selenium can be integrated with other open source tools for supporting other features.

9. Selenium can be used for Android, iPhone, Blackberry etc. based application testing.

10. Selenium supports very less CPU and RAM consumption for script execution.

- To validate the Swaglab website Login and logout process page <https://www.saucedemo.com?>

```
{
  "id": "a9dab6da-92ac-4705-926d-2b3c8ce75f21",
  "version": "2.0",
  "name": "aakib",
  "url": "https://www.saucedemo.com/v1/index.html",
  "tests": [{
    "id": "5bd184d0-db61-4df5-b1be-5f70726fa9bc",
    "name": "swag lag1",
    "commands": [{
      "id": "e3b74f8f-d16d-48f0-abb2-1ea428b89c91",
      "comment": "",
      "command": "open",
```

```
"target": "https://www.saucedemo.com/v1/index.html",
"targets": [],
"value": ""
}, {
  "id": "005af92d-0487-4d0c-8d42-bb8da54131c8",
  "comment": "",
  "command": "setWindowSize",
  "target": "1382x744",
  "targets": [],
  "value": ""
}, {
  "id": "e724ef07-97e0-4158-8252-09782763171a",
  "comment": "",
  "command": "click",
  "target": "css=[data-test=\"username\"]",
  "targets": [
    ["css=[data-test=\"username\"]", "css:data-attr"],
    ["id=user-name", "id"],
    ["name=user-name", "name"],
    ["css=#user-name", "css:finder"],
    ["xpath=//input[@id='user-name']", "xpath:attributes"],
    ["xpath=//div[@id='login_button_container']/div/form/input",
"xpath:idRelative"],
    ["xpath=//input", "xpath:position"]
  ],
  "value": ""
}, {
```

```
"id": "52467ce0-4546-4473-96e1-ad78791c2d34",
"comment": "",
"command": "type",
"target": "css=[data-test=\"username\"]",
"targets": [
  ["css=[data-test=\"username\"]", "css:data-attr"],
  ["id=user-name", "id"],
  ["name=user-name", "name"],
  ["css=#user-name", "css:finder"],
  ["xpath=//input[@id='user-name']", "xpath:attributes"],
  ["xpath=//div[@id='login_button_container']/div/form/input",
"xpath:idRelative"],
  ["xpath=//input", "xpath:position"]
],
"value": "standard_user"
}, {
"id": "3d647ff9-bcee-483f-8a92-3ff36469236d",
"comment": "",
"command": "click",
"target": "css=[data-test=\"password\"]",
"targets": [
  ["css=[data-test=\"password\"]", "css:data-attr"],
  ["id=password", "id"],
  ["name=password", "name"],
  ["css=#password", "css:finder"],
  ["xpath=//input[@id='password']", "xpath:attributes"],
```

```
["xpath=//div[@id='login_button_container']/div/form/input[2]",
"xpath:idRelative"],
  ["xpath=//input[2]", "xpath:position"]
],
"value": ""
}, {
  "id": "0ff9e592-e171-46cb-95ce-24797c23f700",
  "comment": "",
  "command": "type",
  "target": "css=[data-test=\"password\"]",
  "targets": [
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    ["id=password", "id"],
    ["name=password", "name"],
    ["css=#password", "css:finder"],
    ["xpath=//input[@id='password']", "xpath:attributes"],
    ["xpath=//div[@id='login_button_container']/div/form/input[2]",
"xpath:idRelative"],
    ["xpath=//input[2]", "xpath:position"]
  ],
  "value": "secret_sauce"
}, {
  "id": "0b444366-d447-4c3c-87f2-6815490c93b6",
  "comment": "",
  "command": "sendKeys",
  "target": "css=[data-test=\"password\"]",
  "targets": [
```



```
["css=[data-test=\"password\"]", "css:data-attr"],
["id=password", "id"],
["name=password", "name"],
["css=#password", "css:finder"],
["xpath=//input[@id='password']", "xpath:attributes"],
["xpath=//div[@id='login_button_container']/div/form/input[2]",
"xpath:idRelative"],
["xpath=//input[2]", "xpath:position"]
],
"value": "${KEY_ENTER}"
}, {
"id": "9fe10a20-59f6-455f-9ed8-46a8a906f969",
"comment": "",
"command": "click",
"target": "css=.header_label",
"targets": [
["css=.header_label", "css:finder"],
["xpath=//div[@id='header_container']/div", "xpath:idRelative"],
["xpath=//body/div/div[2]/div/div", "xpath:position"]
],
"value": ""
}, {
"id": "166bc137-c504-46e0-aa6b-211df6555590",
"comment": "",
"command": "click",
"target": "css=.header_label",
"targets": [
```

```
["css=.header_label", "css:finder"],
["xpath=//div[@id='header_container']/div", "xpath:idRelative"],
["xpath=//body/div/div[2]/div/div", "xpath:position"]
],
"value": ""
}, {
  "id": "1fcbccd5-b0f0-4a9a-8011-e261e7a3b7a9",
  "comment": "",
  "command": "click",
  "target": "css=.bm-burger-button > button",
  "targets": [
    ["css=.bm-burger-button > button", "css:finder"],
    ["xpath=//div[@id='menu_button_container']/div/div[3]/div/button",
"xpath:idRelative"],
    ["xpath=//div[3]/div/button", "xpath:position"],
    ["xpath=//button[contains(.,'Open Menu')]", "xpath:innerText"]
  ],
  "value": ""
}, {
  "id": "043eee6b-6a49-419b-b3f4-1211f31c34eb",
  "comment": "",
  "command": "click",
  "target": "id=logout_sidebar_link",
  "targets": [
    ["id=logout_sidebar_link", "id"],
    ["linkText=Logout", "linkText"],
    ["css=#logout_sidebar_link", "css:finder"],
```

```

["xpath=//a[contains(text(),'Logout')]", "xpath:link"],
["xpath=//a[@id='logout_sidebar_link'", "xpath:attributes"],
["xpath=//div[@id='menu_button_container']/div/div[2]/div/nav/a[3]",
"xpath:idRelative"],
["xpath=//a[contains(@href, './index.html')]", "xpath:href"],
["xpath=//a[3]", "xpath:position"],
["xpath=//a[contains(.,'Logout')]", "xpath:innerText"]
],
"value": ""
}}
}},
"suites": [{
  "id": "46a681c5-6e29-4eb5-9f8e-5c1537c966dc",
  "name": "Default Suite",
  "persistSession": false,
  "parallel": false,
  "timeout": 300,
  "tests": ["5bd184d0-db61-4df5-b1be-5f70726fa9bc"]
}],
"urls": ["https://www.saucedemo.com/v1/index.html"],
"plugins": []
}

```