Module 3 (Testing on Live Application)

- **What is RDBMS**

ANS: RDBMS stands for Relational Database Management System. RDBMS is the basis for SQL, and for all modern database systems like MS SQL Server, IBM DB2, Oracle, MySQL, and Microsoft Access.

A Relational database management system (RDBMS) is a database management system (DBMS) that is based on the relational model as introduced by E. F. Codd.

Most of today's databases are relational:

database contains 1 or more tables

table contains 1 or more records

record contains 1 or more fields

fields contain the data

So why is it called "relational"?

tables are related (joined) based on common fields.

- **What is SQL?**

ANS: SQL is Structured Query Language, which is a computer language for storing, manipulating and retrieving data stored in relational database.

SQL is the standard language for Relation Database System. All relational database management systems like MySQL, MS Access, Oracle, Sybase, Informix, postgres and SQL Server use SQL as standard database language.

Also, they are using different dialects, such as: MS SQL Server using T-SQL, ANSI SQL Oracle using PL/SQL, MS Access version of SQL is called JET SQL (native format) etc.

- **Write SQL Commands ?**

ANS: DDL – Data Definition Language

DML – Data Manipulation Language

DCL – Data Control Language

DQL – Data Query Language

- **What is join?**

ANS: A JOIN clause is used to combine rows from two or more tables, based on a related column between them.

Types of JOIN:-

INNER JOIN: returns rows when there is a match in both tables.

LEFT JOIN: returns all rows from the left table, even if there are no matches in the right table.

RIGHT JOIN: returns all rows from the right table, even if there are no matches in the left table.

FULL JOIN: returns rows when there is a match in one of the tables.

• Difference between RDBMS vs DBMS

DBMS	RDBMS
Stand for Database Management System	Stand for Relational Database Management System
Normalization cannot be performed	Normalization can be performed
Store data in a hierarchical form or navigational form as files	Store data in tables and these tables are related to each other
There is high data redundancy	There is low data redundancy
Provide comparatively less security for data	Provide more security to data
Difficult to modify data	Easier to modify data
Takes more time to access data	Takes less time to access data
No keys and indexes	Has key and indexes
EX. Microsoft Access, Libra Office, dBase	EX. MSSQL, MySQL, Oracle, SQLite

• What is API Testing?

ANS: Application Programming Interface (API) is a software interface that allows two applications to interact with each other without any user intervention another definition, API (Application Programming Interface) is a computing interface which enables communication and data exchange between two separate software systems.

The purpose of API Testing is to check the functionality, reliability, performance, and security of the programming interfaces.

In API Testing, instead of using standard user inputs(keyboard) and outputs, you use software to send calls to the API, get output, and note down the system's response.

API tests are very different from GUI Tests and won't concentrate on the look and feel of an application.

• Types of API Testing

ANS: - Open APIs: These types of APIs are publicly available to use like OAuth APIs from Google. It has also not given any restriction to use them. So, they are also known as Public APIs.

- Partner APIs: Specific rights or licenses to access this type of API because they are not available to the public.

- Internal APIs: Internal or private. These APIs are developed by companies to use in their internal systems. It helps you to enhance the productivity of your teams.

• What is Responsive Testing?

ANS: A responsive web design involves creating a flexible web page that is accessible from any device, starting from a mobile phone to a tablet.

Furthermore, a responsive web design improves users' browsing experience.

Considering this from a quality assurance perspective, a responsive web design requires thorough evaluation using a variety of devices before it is ready to go live

Software testers may find it challenging to perform responsive design testing as a variety of factors are to be looked into during the testing phase.

Some points to be understand for Responsive Testing.

The challenges involved in testing a responsive website

How website testing differs from a mobile device to a computer

Rules and guidelines to be followed during responsive design testing and Lastly, various tools available to perform responsive testing

- **Which types of tools are available for Responsive Testing**

ANS: LT Browser

Lembda Testing

Google Resizer

I am responsive

Pixel tuner

- **How to create step for to open the developer option mode ON?**

ANS:

1. On your device, find the build number options. The following table shows the settings location of the Build number on various devices
2. Tap the build Number option seven times until you see the message you are now a developer
3. Return to the previous screen to find Developer options at the bottom

- **Which components have you used in Load Runner?**

ANS: - Virtual user generator(VUGEN): -

Itrecords Vuser scripts thatemulate the step of real users using the applicaton.

- **Controller:-**

It is an administrative center for creating, maintaining, and executing scenarios. Starts and stops load tests, and perform other administrative tasks.

-**Analyser:-**

Uses the load test results to create graphs and reports that are used to corelate system information and identify both bottlenecks and performance issues.

- **How can you set the number of Vusers in Load Runner?**

ANS: We can set the number of Vusers in the controller section while creating your scenarios. Many other advanced options like ramp-up, ramp-down of Vuserd are also available in the Controller section.

- **What is Correlation?**

ANS: Correlation is used to obtain data which is unique for each run of your test script. While recording, these dynamic values are hard-coded in your script causing the script to fail during playback. Correlation is a technique where dynamic values are not hard-coded in your script but are extracted at run-time to avoid failure.

- **What is the process for developing a Vuser Script?**

ANS:

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-paly your script and verify that everything is working as intended.
5. **Configure Runtime** Settings: Configure and control pacing duration, think time variation, proxy setting 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.

- **How Load Runner interacts with the application?**

ANS: Protocol is used in Load Runner to interact with the applicaton.

- **How many VUsers are required for load testing?**

ANS: The number of Vusers required depends on your system under test, network configurations, hardware settings, memory, operation 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?**

ANS: The Throughput graph shows the amount of data in bytes that the Vusers received from the server in a second. When we compare this with the transaction response time, we will notice that as

throughput decreased, the response time also decreased. Similarly, the peak throughput and highest response time would occur approximately at the same time.

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

ANS: Hits per second mean the number of hits the server receives in one second from the vuser.

Request per second is the number of request the vuser will request from the server

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.
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.

- **Which Are The Browsers Supported By Selenium Ide?**

ANS: Selenium IDE has add-ons for Firefox and Chrome browsers. Selenium IDE comes with a rich set of commands that are powered by Selenese, and it allows you to record and test different interactions of a web application with the browser.

- **What are the benefits of Automation Testing?**

ANS: -70% faster than the manual testing

- test coverage of application features

- Reliable in results

- Ensure Consistency

- Saves 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

- **What are the advantages of Selenium?**

ANS: - Very easy to use and install.

-No programming experience is required, through kno wledge of HTML and DOM are needed

-Can export tests to formats usable in Selenium RC and WebDriver

-Has built-in help and test results reporting module.

-Provides support for extensions.

- **Why testers should opt for Selenium and not QTP?**

ANS: Selenium is more popular than QTP as

- Selenium is an open source whereas QTP is a commercial tool
- Selenium is used specially for testing web based applications while QTP can be used for testing client server application also
- Selenium supports Firefox, IE, Opera, Safari on operating systems like Windows, Mac, Linux etc. however QTP is limited to Internet Explorer on Windows.
- Selenium supports many programming languages like Ruby, Perl, Python whereas QTP supports only VB script.

- **What is the full form of .ipa, .apk**

ANS: iPA: ios app store package

APK: Android Application Package file