**Module – 3 [Testing On Live Application]**

* **What is RDBMS ?**
* RDBMS stands for **Relational Database Management System**.
* RDBMS is a program used to maintain a relational database.
* RDBMS is the basis for all modern database systems such as MySQL, Microsoft SQL Server, Oracle, and Microsoft Access.
* RDBMS uses SQL queries to access the data in the database.
* RDBMS is the basis for SQL, and for all modern database systems like MS SQL Server, IBM DB2, Oracle, MySQL, and Microsoft Access.
* The software used to store, manage, query, and retrieve data stored in a relational database is called a relational database management system (RDBMS). The RDBMS provides an interface between users and applications and the database, as well as administrative functions for managing data storage, access, and performance.
* **How It Work:**
* Data is represented in terms of tuples (rows) in RDBMS.
* A relational database is the most commonly used database. It contains several tables, and each table has its primary key.
* Due to a collection of an organized set of tables, data can be accessed easily in RDBMS.
* **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
* **What is SQL ?**
* **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.
* Although SQL is a standard language, different database management systems may have slight variations in syntax or additional proprietary features. However, the core SQL commands and functionality remain consistent across most implementations.
* SQL has become a crucial tool for developers, database administrators, and data analysts to manage and query relational databases efficiently. It is widely used in various industries and applications where structured data needs to be stored, accessed, and analyzed.
* **Write SQL Commands :**

1. **DDL: Data Definition Language**

create , alter , truncate , drop

1. **DML: Data Manipulation Language**

insert , update , delete

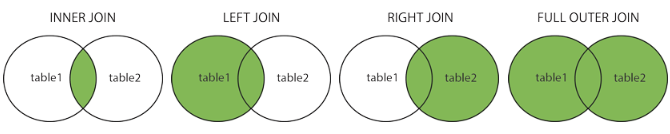
1. **DQL: Data Query Language**

select

1. **DCL/TCL: Data/Transactional Control Language**

Commit , rollback , save point

* **What is join?**
* JOIN means **"to combine two or more tables".**
* A join is an SQL operation performed to establish a connection between two or more database tables based on matching columns, thereby creating a relationship between the tables. Most complex queries in an SQL database management system involve join commands.
* Joining in SQL means retrieving data from two or more than two tables based on a common field. In other words, JOINs combine data from multiple tables in a result table based on a related column between those tables.
* **Write type of joins :**



* **INNER JOIN**: Returns records that have matching values in both tables.
* **LEFT OUTER JOIN:** Returns all records from the left table, and the matched records from the right table.
* **RIGHT OUTER JOIN:** Returns all records from the right table, and the matched records from the left table.
* **FULL OUTER JOIN:** Returns all records when there is a match in either left or right table.
* **How Many constraint and describes it self :**

1. **Not Null :** Ensure that column cannot have a NULL value.
2. **Unique :** Ensure that all values in a column are different.
3. **Primary Key** : A combination of a NOT NULL and UNIQUE.
4. **Foreign Key :** Prevents actions that would destroy links between tables (Used to link multiple tables together).
5. **Check :** Ensure that the values in a column satisfies a specific condition.
6. **Default :** Sets a default value for a column satisfies a specific condition.
7. **Create Index :** Used to create and retrieve data from the data very quickly.

* **Difference between RDBMS VS DBMS :**

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| --- | --- | --- |
| **SN.** | **RDBMS** | **DBMS** |
| **1.** | **Relational Database Management System** | **Database Management System** |
| **2.** | RDBMS is a specific type of DBMS that manages databases based on the relational model. | DBMS is a general term that refers to a software system used for managing databases. |
| **3.** | It organizes data into tables with rows and columns, where each table represents a specific entity or concept. | It provides a set of tools and functionalities to store, retrieve, and manipulate data. |
| **4.** | RDBMS enforces relationships between tables using keys and supports SQL as the standard query language. | It may support various data models, such as hierarchical, network, object-oriented, or relational. |
| **5.** | Data stored into a large amount. | Data stored into small quantity. |
| **6.** | oracle, and SQL server. | XML, Microsoft server. |

* **What is API Testing ?**
* **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.
* **Types of API Testing :**
* **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.
* **Tools for API Testing**:
* PostMan
* SoapUI
* Jmeter
* VRest
* **What is Responsive Testing?**
* 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 ?**
* LT Browser
* Lambda Testing
* Google Resizer
* I am responsive
* Pixel tuner
* **What is the full form of .ipa, .apk ?**
* **.ipa**: An **IPA (iOS App Store Package)** file is an iOS application archive file that stores an iOS app. Each IPA file includes a binary and can only be installed on an iOS device.
* **.apk:** APK file stands for **(Android Application Package).** APK is a file extension of an Android device. APK files can normally be used in Android and a number of other Android-based Operating Systems for the distribution and installation of mobile apps and mobile games.
* **How to create step for to open the developer option mode ON :.**
* The Developer options menu lets you configure system behaviors to improve app performance.
* The list of developer options will depend on the version of Android that your device is running.
* For more information on what each of the developer options does, please visit the official Android Developer site.

**On most Android devices the Developer options menu is hidden by default.**

1. Go to "Settings"
2. Tap "About device" or "About phone"
3. Tap “Software information”
4. Tap “Build pattern number” seven times
5. Enter your, PIN or password to enable the Developer options menu
6. The "Developer options" menu will now appear in your Settings menu Depending on your device, it may appear under Settings > General >
7. Developer options.)To disable the Developer options menu, tap the switch on.