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Module – 7

Topics:

1. Databse

- a. Mysql**
- b. Workbanch Overview**
- c. CRUD operation**

1.DATABASE:

i. mysql:

what is mysql?

- When we are working with the data we need to store them and manage them continuously for the proper working system.
- There is a lot of data in the database and we need them to be secure, managed and organized.
- MYSQL is a database management system that allows us to manage relational database .
- It is an open source software by Oracle so anyone can freely without any payment download it and use it as their database management system. And also you can change its source code as per your requirement.
- It is the world's most popular open – source database .
- MYSQL can run on various platforms like – UNIX , LINUX, Windows. Etc .
- It is reliable, scalable and fast and it supports large database.

commands of mysql:

Description	Commands
Create a database	Create database[database_name];
List all database on SQL server	Show databases;
To create table	CREATE TABLE table_name(all fields table of t with its datatype and max length);
To show all table's list	Show tables;
To delete a table	Drop table table_name;
To delete a database	Drop database database_name;
To insert into table	INSERT INTO table_name(column_names)values(value_1);
To fetch data from a database	SELECT column_name FROM table_name;
To edit rows in a table	UPDATE table_name

	SET column_name = new_name; WHERE condition as per requirement
To sort the result set by a particular column	SELECT column_name FROM table_name ORDER BY column_name ASC DESC;
Join	SELECT column_name(s) FROM table_1 JOIN table_2 ON table_1.column_name=table_2.column_name;
To count the number of rows	SELECT COUNT(column_name) FROM table_name;

These are some commands that we can use to manipulate the data in our application.

Working with the data in ASP.NET

- Create entity framework and connect it with a database.

What is an entity framework?

- It is a tool that we use to access database.
- More accurately it's classify as ORM (object relation mapping).
- Entity framework has classes as
- DbContext : it is a gateway of entity framework . in this class the connection string of the database with our application is specified. We can refer it as our database.
- DbSet: DbContext have more than one DbSet that will store data .we can say it is a tables in our database.
- We can pass data into DbSet using LINQ.
- The ORM will automatically convert LINQ statements into SQL statement at compiletime .
- It will open a connection to the database ,execute the SQL statements and map the object onto the DbSet.
- When we ADD/Delete/Modify DbSet it keeps track of that and at the end when we want to change that operations in database accordingly it will do that for us.
- It is called a entity framework.

It has 2 workflows.

1. Codefirst
 2. Database first
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Workbench overview

- Mysql workbench is cross and open source platform for working with mysql server and databases.
- It is a graphical tool which can be used for creating database, working with the database.
- It supports mysql server version 5.6 or higher.

It has some main functionalities :

1. Sql development: it enables you to create and manage connections to the database and also you can configure connection parameters. MYSQL workbench provides the capability to execute SQL queries also..
 2. Data modelling: we can create models of schema graphically .the table editor function provide easy way for editing tables ,columns inserts, indexers , partitioning and view..
 3. Server administration : enables you to administer mysql server instance by administering users, performing backup and recovery and monitoring the mysql server performance.
 4. Data migration: Allows you to migrate from Microsoft SQL Server, Microsoft Access, Sybase ASE, SQLite, SQL Anywhere, PostgreSQL, and other RDBMS tables, objects and data to MySQL. Migration also supports migrating from earlier versions of MySQL to the latest releases.
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CRUD operations:

CRUD means create ,read, update and delete operations.

We can perform basic crud operation on the database with some http method as shown.

Create

```
CREATE DATABASE databasename;
```

```
CREATE TABLE table_name(column1 datatype(length)....)
```

Read

```
SELECT * FROM table_name;
```

```
SELECT column1,column2;
```

```
SELECT FROM table_name WHERE condition;
```

Update

```
UPDATE table_name
```

```
SET column1=value_1; WHERE condition
```

Delete

```
DELETE FROM table_name WHERE condition;
```

Insert

```
INSERT INTO table_name(column1,column2,...)VALUES(value_1,value_2,..)
```
