**Day 8:**

**Database**

**RDBMS**

MySQL is a one of the type of RDBMS Database.

**show databases;**

create database **cgi\_db**;

use cgi\_db;

show tables;

Employee -🡪 Id Name salary

Int(PK) varchar(30) float

**JDBC : Java Database connectivity :** JDBC provide lot of pre defined classes and interface which help to connect the database through java technologies.

Steps to connect the database using jdbc.

1. Import the package.

import java.sql.\*;

import javax.sql.\*;

1. JDBC throw check exception so we nee to write the code using exception handling concept ie try-catch or throws.
2. Load the Driver : Driver is a pre defined class provided by vendor which help to connect the database.
3. 4 types of driver.
   1. Type 1 or jdbc odbc bridge driver
   2. Type 2 or jdbc native api driver
   3. Type 3 or jdbc net protocol driver
   4. Type 4 or jdbc thin or pure driver

From java 8 onward type 1 driver removed.

1. Class.forName(“drivername”);

Mysql type 4 driver

**com.mysql.cj.jdbc**.Driver

1. Establish the connection

Connection con = DriverManget.getConnection(url,username,password);

1. Create type of statement
   1. Statement
   2. PreparedStatement
   3. CallableStatement
2. Creating the Statement
3. After Statement created it provide set of methods which help to do operation on table.
   1. Stmt.executeQuery() : select clause

This method return type is ResultSet interface reference.

* 1. Stmt.executeUpdate() : DML Operation

This method return type is int.

Using Statement passing dynamic value more complex. To do parameterized query concept PreparedStatement we use.

PreparedStatement support pre-compile query concept. Query compile and execute again and again

We need to write database logic in DAO layer (Data Access Object).

Database table programming

Product Product 🡪 JavaBean class

Pid,PName,Price pid,pname,price

**Service layer -🡪** business logic.

**Dao layer** --🡪 pure database logic

Maven : Maven is an opens source build tool which help to build the java based application. Build is responsible to compile the program, run the program, run junit or other testing framework, creating jar or war, allow to download external dependencies ie jar file, help to create the documentation, maven create generic project structure which support by all IDE.

Maven use pom.xml file (project object model). this file contains all project configuration details.