**Day 4: 2 – Aug 2024 – Core Java**

File base system

Object serialization

Limitation of file base system

1. Data redundancy
2. Data inconsistency
3. Security
4. Doing CRUD Operation more complex.

Database system

RDBMS database Relational database management system.

MySQL

Oracle

Db2

SQL Server version

**show databases; it is use to show all database present in your account**

**create database databasename; it is use to create new database.**

**use databasename; it is use to switch inside a database.**

**show table it is use to verify all table present in current database.**

**Using Java we can connect to database ie RDBMS like oracle or mysql etc**

1. JDBC
2. ORM (hibernate or JPA)
3. Spring JdbcTemplate
4. Spring with ORM ie Hibernate or JPA
5. Spring JPA Data

JDBC steps

1. Load the Driver : Driver is a pre defined class provided by vendor which help to connect the database.

4 types

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 pure or thin driver

From java 8 onward type 1 driver deprecated.

Type 4 driver

Mysql database

1. Establish the connection

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

1. Create Statement or PreparedStatement or CallableStatement

Statement is use for static query

PreparedStatement is use to dynamic query

CallableStatement for stored procedure or function part of plsql

1. For dml operation ie insert or delete or update we need to call the method as executeUpdate() and method return type is integer