Phase 3

9 classes

Day 3 : June 5 2024

JdbcTemplate is a pre defined class part of spring jdbc module. Which internally wrap

Core jdbc code.

ORM : Object Relation Mapping

Limitation of JDBC or JdbcTemplate

1. Using jdbc or jdbctemplate we can’t store or retrieve object from database. We need to convert java object into string format and vice-versa.
2. JDBC use SQL language. SQL is database dependent language.
3. JDBC throw checked exception. Exception hierarchy database dependent.
4. JDBC doesn’t support relationship like is a or has a.

Object in programming side (java /python/c#) relation 🡪Table

Class

class Employee { Employee 🡪 table

id, name, salary (variable) id, name, salary (column)

}

Mapping

Employee ----- EMPLOYEE

Id --🡪ID (PK)

Name 🡪NAME

Salary 🡪SALARY

Mapping

1. Old version we are/were using xml file
2. New version using annotation.

Hibernate

Jpa (Java Persistence API)

iBaties

etc

JPA : Java Persistence API. JPA is a specification. JPA is a part of Java. JPA is a type of EJB.

Hibernate : Hibernate is a framework. Which provide implementation for JPA. Hibernate is third party

Framework. It is a part of jBoss.

Core Java with JDBC/ Hibernate / JPA

Servlet / JSP with JDBC/Hibernate/JPA

Spring framework with Jdbc/Hibernate /JPA

Spring boot with jdbc or jpa or spring jpa data.

JPA alone

Hibernate alone

Spring framework with ORM ie hibernate/jpa

JPA or Hibernate provide ORM features. But doesn’t provide DI and IOC.

Spring framework provide IOC and DI but not ORM. But it allow to integrate with existing ORM tools.

In JPA we need to configure database details in persistence.xml file

In hibernate we need to configure database details in hibernate.cfg.xml file.

@Entity : This annotation we use on class level.

@Id : column or property which is pk.

Through JDBC if we do any DML (insert / delete / update) query. It perform this operation successful. Because by default JDBC auto – commit.

TCL (Transaction control language). Save point, commit, rollback etc.

con.setAutocommit(false); by default true.

Then after any DML query. We need to say con.commit() if all query executed successfully else con.rollback()

In ORM like hibernate or jpa. By default tcl is not auto commit.

So in ORM we need to use transaction while doing DML operation.