02 - What is ORM and JPA

👉 **ORM (Object-Relational Mapping):**

- Object-relational mapping (ORM) is a programming technique used to map objects in object-oriented programming languages to relational databases.
- It allows developers to work with databases using objects rather than writing SQL queries directly.
- Relational databases store data in tables, while objects in programming languages contain attributes and methods. ORM helps to bridge the gap between these two by mapping tables to objects and vice versa.

👉 **Key ORM Tools:**

- ➤ Hibernate
- ➤ TopLink
- ➤ EclipseLink

👉 **JPA (Java Persistence API):**

- JPA is a specification (not a framework) that defines how Java objects should be persisted in relational databases.
- It standardizes the mapping of objects to relational databases and provides a common interface for ORM tools like Hibernate.
- Hibernate, as one of the popular ORM frameworks, implements the JPA specification.

👉 **Why Use ORM & JPA in Spring Applications?**

- Spring ORM and Hibernate provide ORM capabilities but require significant boilerplate code for data persistence.
- Spring Data JPA further simplifies working with Hibernate and Spring ORM by abstracting and automating database operations.