**Difference between JPA, Hibernate, and Spring Data JPA**

**JPA (Java Persistence API)**

* A **specification** (not an implementation) for object-relational mapping (ORM) in Java.
* Defines standard APIs for interacting with databases using Java objects.
* Requires a provider like Hibernate to be used.
* Provides interfaces such as EntityManager for persistence operations.

**Hibernate**

* A **framework and ORM tool** that implements the JPA specification.
* Offers additional features like caching, batching, and custom fetching strategies.
* Can be used with or without JPA.
* Provides its own API (e.g., Session) and also supports JPA APIs.

**Spring Data JPA**

* A **Spring-based abstraction** on top of JPA.
* Simplifies database access and reduces boilerplate code.
* Provides interfaces like JpaRepository and CrudRepository.
* Supports derived query methods (findByName, findByStatus, etc.) and custom queries.