Difference between JPA, Hibernate and Spring Boot JPA

JPA (Java Persistence API), Hibernate, and Spring Data JPA are all related to data persistence in Java, but they serve different roles. **JPA** is a **specification**—it defines a standard for mapping Java objects to relational database tables but does not provide any implementation. To use JPA, you need a provider like **Hibernate**, which is the most popular **implementation of the JPA specification**. Hibernate not only fulfills the JPA contract but also offers additional features like caching, custom query language (HQL), and advanced mapping techniques. **Spring Data JPA**, on the other hand, is a **higher-level abstraction** built on top of JPA and Hibernate (or other providers). It is part of the Spring ecosystem and aims to **reduce boilerplate code** required for writing repository classes. With Spring Data JPA, you can define repository interfaces, and the framework automatically provides the implementation at runtime.