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| **Aspect** | JPA (Java Persistence API) | Hibernate | Spring Data JPA |
| Type | Specification / Interface | Implementation of JPA and ORM framework | Abstraction over JPA with Spring support |
| Purpose | Defines a standard API for ORM in Java | Implements JPA + provides additional features | Simplifies JPA by reducing boilerplate code |
| Who Provides It | Oracle (as part of Java EE / Jakarta EE) | Red Hat | Spring Framework (Pivotal/VMware) |
| Key Feature | Interface for persisting Java objects | JPA provider + advanced caching, lazy loading, etc. | Repository abstraction, query derivation, pagination, etc. |
| Requires Boilerplate? | Yes (EntityManager, queries, etc.) | Slightly reduced, but still verbose | Minimizes boilerplate using CrudRepository, JpaRepository |