Week 15 Research

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The Spring framework offers extensive infrastructure support for Java applications, featuring powerful elements such as Dependency Injection and pre-built modules like Spring JDBC, Spring MVC, Spring Security, Spring AOP, Spring ORM, and Spring Test. These modules significantly reduce development time, especially notable in scenarios like inserting records into a data source where, with Spring JDBC, complex tasks can be achieved with just a few lines of code and minimal configurations.

Spring Boot, an extension of the Spring framework, takes this efficiency a step further by eliminating the need for boilerplate configurations in setting up a Spring application. It adopts an opinionated stance on the Spring platform, resulting in a faster and more streamlined development ecosystem. Spring Boot's key features include opinionated starter dependencies for simplified build and configuration, an embedded server for uncomplicated application deployment, and automatic configuration for Spring functionality whenever feasible. This approach enhances overall productivity by providing a straightforward and cohesive development experience.

Spring Boot empowers developers to build applications that effortlessly run on their own. Specifically, it enables the creation of standalone applications that don't depend on an external web server. This is achieved by embedding a web server, such as Tomcat or Netty, into the application during the initialization process. This approach simplifies deployment and enhances the self-contained nature of the application, allowing it to run independently without external dependencies on web servers.

CRUD, an acronym for Create, Read/Retrieve, Update, and Delete, encapsulates the fundamental operations in persistence storage. These operations represent the core functions for managing data.

In the context of user interfaces, CRUD is a set of conventions facilitating the viewing, searching, and modification of information through computer-based forms and reports. It aligns with standardized HTTP action verbs, each serving a distinct purpose:

- POST: Creates a new resource

- GET: Reads or retrieves a resource

- PUT: Updates an existing resource

- DELETE: Deletes a resource

These HTTP verbs, integrated with CRUD principles, provide a structured and uniform approach to interacting with and managing data in various applications.

<https://www.baeldung.com/spring-vs-spring-boot>

<https://www.javatpoint.com/spring-boot-crud-operations>