Overview of Spring & Spring Boot

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Learning Objectives in this Lesson

• Understand what Spring & Spring Boot are

- **Spring Boot**
  Takes an opinionated view of building Spring applications and gets you up and running as quickly as possible.

- **Spring Framework**
  Provides core support for dependency injection, transaction management, web apps, data access, messaging, and more.

- **Spring Data**
  Provides a consistent approach to data access – relational, non-relational, map-reduce, and beyond.

- **Spring Cloud**
  Provides a set of tools for common patterns in distributed systems. Useful for building and deploying microservices.

- **Spring Cloud Data Flow**
  Provides an orchestration service for composable data microservice applications on modern runtimes.

- **Spring Security**
  Protects your application with comprehensive and extensible authentication and authorization support.

See [spring.io/projects]
Learning Objectives in this Lesson

• Understand what Spring & Spring Boot are
• Recognize key components in Spring Boot

See spring.io/projects/spring-boot
Overview of Spring & Spring Boot
Overview of Spring & Spring Boot

- Spring is a dependency-injection framework & an inversion of control container for developing web apps on the Java platform.

See spring.io
Overview of Spring & Spring Boot

• Spring is a dependency-injection framework & an inversion of control container for developing web apps on the Java platform

• Dependency injection (DI) enables an object/service to receive other objects/services it depends on

• DI enables “autowiring” in lieu of manual wiring

See www.baeldung.com/spring-autowire
Overview of Spring & Spring Boot

- Spring is a dependency-injection framework & an inversion of control container for developing web apps on the Java platform
  - Dependency injection (DI) enables an object/service to receive other objects/services it depends on
  - With inversion of control (IoC) the framework runs the main execution thread(s)

See en.wikipedia.org/wiki/Inversion_of_control
Overview of Spring & Spring Boot

• Spring is a dependency-injection framework & an inversion of control container for developing web apps on the Java platform
  • Dependency injection (DI) enables an object/service to receive other objects/services it depends on
  • With inversion of control (IoC) the framework runs the main execution thread(s)
    • Implements the “Hollywood Principle”

Don’t call us, we’ll call you

See www.dre.vanderbilt.edu/~schmidt/Coursera/articles/hollywood-principle.txt
Overview of Spring & Spring Boot

- Spring contains various projects

<table>
<thead>
<tr>
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• Spring contains various projects
• We focus on Spring Boot 2.0

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See www.baeldung.com/new-spring-boot-2
Key Components in Spring Boot
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- The Spring Boot project makes it easy to create stand-alone, production-grade Web-based applications

See spring.io/projects/spring-boot
Key Components in Spring Boot

- The Spring Boot project makes it easy to create stand-alone, production-grade Web-based applications.

See [en.wikipedia.org/wiki/Client_(computing)](en.wikipedia.org/wiki/Client_(computing))
Key Components in Spring Boot

- The Spring Boot project makes it easy to create stand-alone, production-grade Web-based applications

HTTP is a request–response protocol in the client–server computing model

See en.wikipedia.org/wiki/Hypertext_Transfer_Protocol
Key Components in Spring Boot

- The Spring Boot project makes it easy to create stand-alone, production-grade Web-based applications.

Maps HTTP requests to endpoint methods that handle these requests.

See [spring.io/guides/gs/rest-service](https://spring.io/guides/gs/rest-service)
Key Components in Spring Boot

- The Spring Boot project makes it easy to create stand-alone, production-grade Web-based applications

Provide the “business logic” to operate on data sent to & from the data access layer & the client

See medium.com/stackavenue/why-to-use-service-layer-in-spring-mvc-5f4fc52643c0
Key Components in Spring Boot

- The Spring Boot project makes it easy to create stand-alone, production-grade Web-based applications.

Controllers & services can be connected to their dependent components automatically.

See en.wikipedia.org/wiki/Dependency_injection
Key Components in Spring Boot

- The Spring Boot project makes it easy to create stand-alone, production-grade Web-based applications.

Provide access to persistent data that is mapped to JPA with model classes.

Key Components in Spring Boot

- The Spring Boot project makes it easy to create stand-alone, production-grade Web-based applications.

See blogs.oracle.com/javamagazine/mastering-the-mechanics-of-java-method-invocation
End of Overview of Spring & Spring Boot