Java Spring 5 Programming
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Overview of Spring Technology
- The Motivation for Spring, Spring Architecture
- The Spring Framework

Spring Introduction
- Declaring and Managing Beans
- ApplicationContexts
- Using @Component/@Named

Dependencies and Dependency Injection (DI)
- Examining Dependencies
- Dependency Inversion / Dependency Injection (DI)
- XML Configuration of DI
- Injection with @Autowire

Configuration of Spring

Spring AOP Overview

Java Based Configuration (@Configuration)
- Overview, @Configuration, @Bean
- Dependency Injection
- Resolving Dependencies

Integrating Configuration Types
- XML vs. @Component
- @Configuration Pros and Cons
- Choosing a Configuration Style
- Integrating Configuration Styles

Bean Scope and Lifecycle
- Singleton, Prototype, and Other Scopes

- Configuring Scope
- Bean Lifecycle / Callbacks

Externalizing Properties
- Properties Files
- @PropertySource, property-placeholder
- Using @Value
- SpEL

Profiles
- Overview and Configuration
- Activating Profiles

Spring data

Overview of Spring database support
Configuring a DataSource
Using Spring with Hibernate
- High-Level Hibernate Overview
- SessionFactory configuration, LocalSessionFactoryBean
- Contextual Sessions and Spring Integration

Using Spring with JPA
- Managing the EntityManager (EM)
- LocalContainerEntityManagerFactoryBean and Container-managed EMs
- JEE and JNDI Lookup of the EM
- Configuration and Vendor Adaptors
- Creating a JPA Repository/DAO Bean - @PersistenceUnit, @PersistenceContext

Spring Data Introduction
- Overview and Architecture
- Configuring Spring Data
- Repositories and JPA Repositories
- Using CrudRepository

Spring Data Querying
- Naming Conventions for Querying
- Creating more Complex Queries
- Query Configuration

Spring Transaction

Overview

Declarative TX Management (REQUIRED, etc.)

TX Scope and Propagation

XML Configuration of Transactions
- Specifying Advice, TX Attributes, and Methods
- Linking Advice with Pointcuts
- Benefits of XML Configuration of TX Behavior