

13 Tuesday
APRIL

103-202 Week 15

2021

Spring Framework

Spring is a dependency injection framework

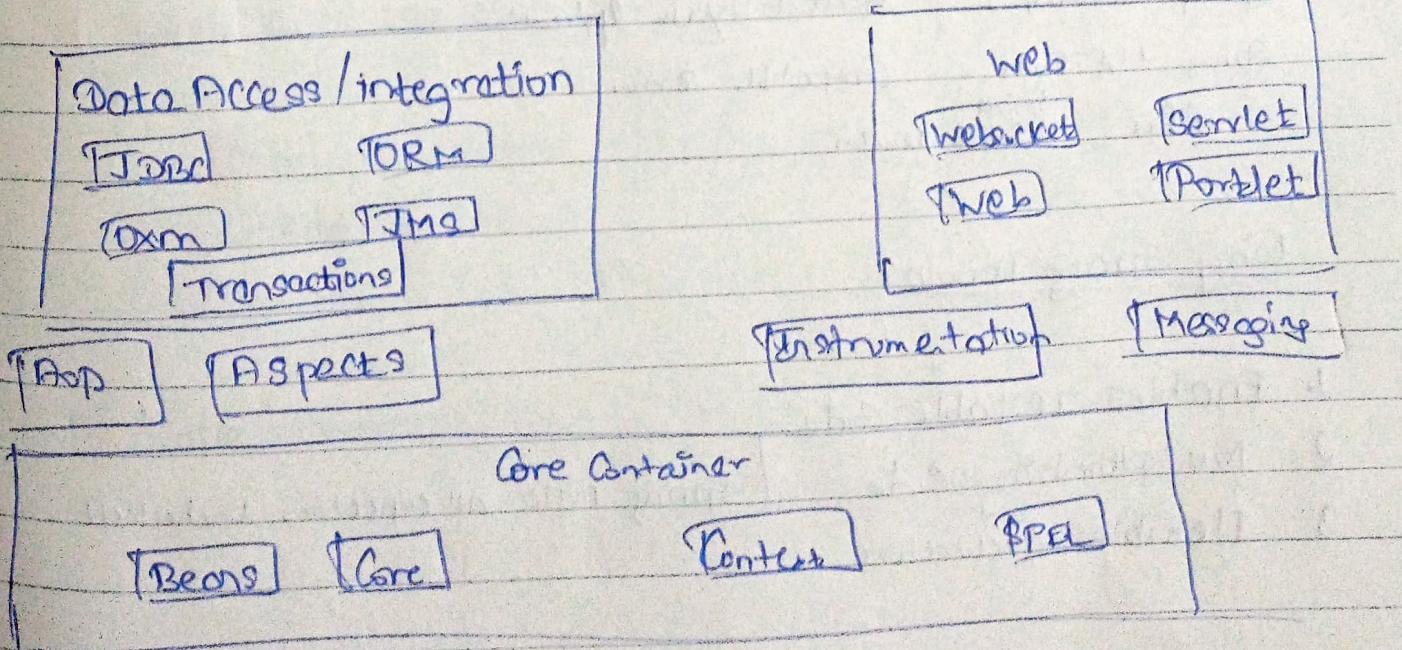
3 options for using autowiring

- * Constructor
- * Setter
- * No Setter or Constructor

If mandatory dependencies use constructor injection
optionally , setter injection

Spring Jars

Spring Context
Aspect
beans



2021

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Week 15 104-26

Object to XML → XML provider

Crosscutting concept is unit testing

↓
Web layer
Business
Data layer

Spring projects provide solutions for different problems faced by enterprise applications.

Spring
Boot

— used to develop microservices

Spring Cloud — Build native apps

Spring Data — Consistent Data Access

Spring Integration — Application integration

Spring Batch — Batch Applied

Spring Security — Protect your application

Spring HATEOAS — Compatibl. service

other — Spring Web services

Why Spring Popular

1. Enables Testable Code

2. No plumbing code

3. Flexible Architecture

Spring makes all exceptions unchecked

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Sort algorithm is dependency of binary search algorithm

Business layer - Concerned about transaction
Data - How to take the data & store it to the database.

If multiple candidates available for
@Qualifier @ Autowiring
@ primary

Bean scope

Default - singleton

Singleton, one instance per Spring Context

prototype New bean whenever requested

request - one bear per HTTP request

Session - one been per HTTP session

Bean is created and life cycle is managed by the thing called Container

@ scope (Prototype)

→ Different instances of `base`

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@Scope (Configurable Bean Factory. Scope - SINGLETON)

Group of four design pattern

Singleton means one singleton per Jvm.

@PostConstruct
@PreDestroy

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Context and dependency injection

Java EE Dependency Injection standard (JSR - 330)

Spring supports most annotations

@Inject (@Autowired)

@Named (@Component & @Qualifier)

@Singleton (Defines a scope of singleton)

It defines annotation

@Inject

@Named

@Singleton

JPI is an interface

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Junit is framework which help us to do unit testing.

source code will be deployed to production.

@Test → unit test

Absence of failure is success.

✓ assertEquals(expected, actual);

to check condition is true

assertTrue(condition);

assertArrayEquals(expecteds, actuals);

Important Annotations

@Before

@After

@BeforeClass } class level unit, it should be static

@AfterClass }

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DOGIT method is called return hardcoded value.

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Spring Boot is zero code generation

Neither an application server nor a web server

Add a starter called SpringBoot Starter Web in to Project and get Spring MVC free.

For JPA, SpringBoot Starter JPA

Provides
Spring Boot Actuator, Monitoring Services

To Connect database in Spring

EntityManager entityManager;

CommandLineRunner is one of the interfaces which is present in springBoot.

In JDBC

1st we make a Connection

Then prepared Statement

ToDo

Close the Connection

Spring JDBC

Ter (name of code (less than JDBC))

Precents you from making mistakes

Even there is exception happening the JDBC template makes sure that the connection is closed

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findById()

every `Object` is when you are actually searching for a specific object for specific thing.

deleteById()

update

Delete specific user

RowMapper

Class PersonRowMapper implements RowMapper<Person>

@override

public Person mapRow(ResultSet rs, int rowNum) throws

Person person = new Person();

SQLEception {

person.setId(rs.getInt("id"));

JPA

Java persistence API

JPA says why do you map a query and map the values and get the data back?

In JPA we define something called Entity

Define entity person and map to row called Person

map the fields from here to columns in the table

Job of writing the queries shifts from you from the developer to a framework which is called a

JPA implementer, JPA is like an interface

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It defines set of annotations & interfaces.

Hibernate is most popular implementation of JPA.

You can create JPA as an interface and hibernate as the class.

Hibernate was the most popular ORM framework.

JPA is standard of doing object relational mapping (ORM).

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CS Week 16

Hibernate

JPA - Java Persistence API (JPA) is a specification of java used to persist data b/w java object and relational database.

Hibernate is Java framework, open source, lightweight, tool for the java language which simplifies the buildout of java application to interact with the database.

In JPA defining your entities & mapping your fields to the column in database.

Object would store to the database called entities.

* Entity

* we can use Criteria query to build the entire query using Java API. (Criteria queries)

* To use Native queries directly is to use your SQL directly.

Springworks became the number one framework to develop micro services in the java world.

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SpringBoot goals

- 09 Enable building production ready applications quickly
- 10 Provide common non-functional features.
 - embedded servers
 - metrics
 - health checks
 - externalized Configuration

14 If I'm using spring mvc

- 15 I need to configure dispatcher servlet
- 16 Need to configure Viewresolver.

16 Add a starter called spring boot starter
17 Spring mvc for free
Core for free

18 With SpringBoot comes a concept called embedded server.

Tomcat include jar

What are the versions, dependencies to be used
Planned before,

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