Spring Ecosystem

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Spring Boot

Spring Framework

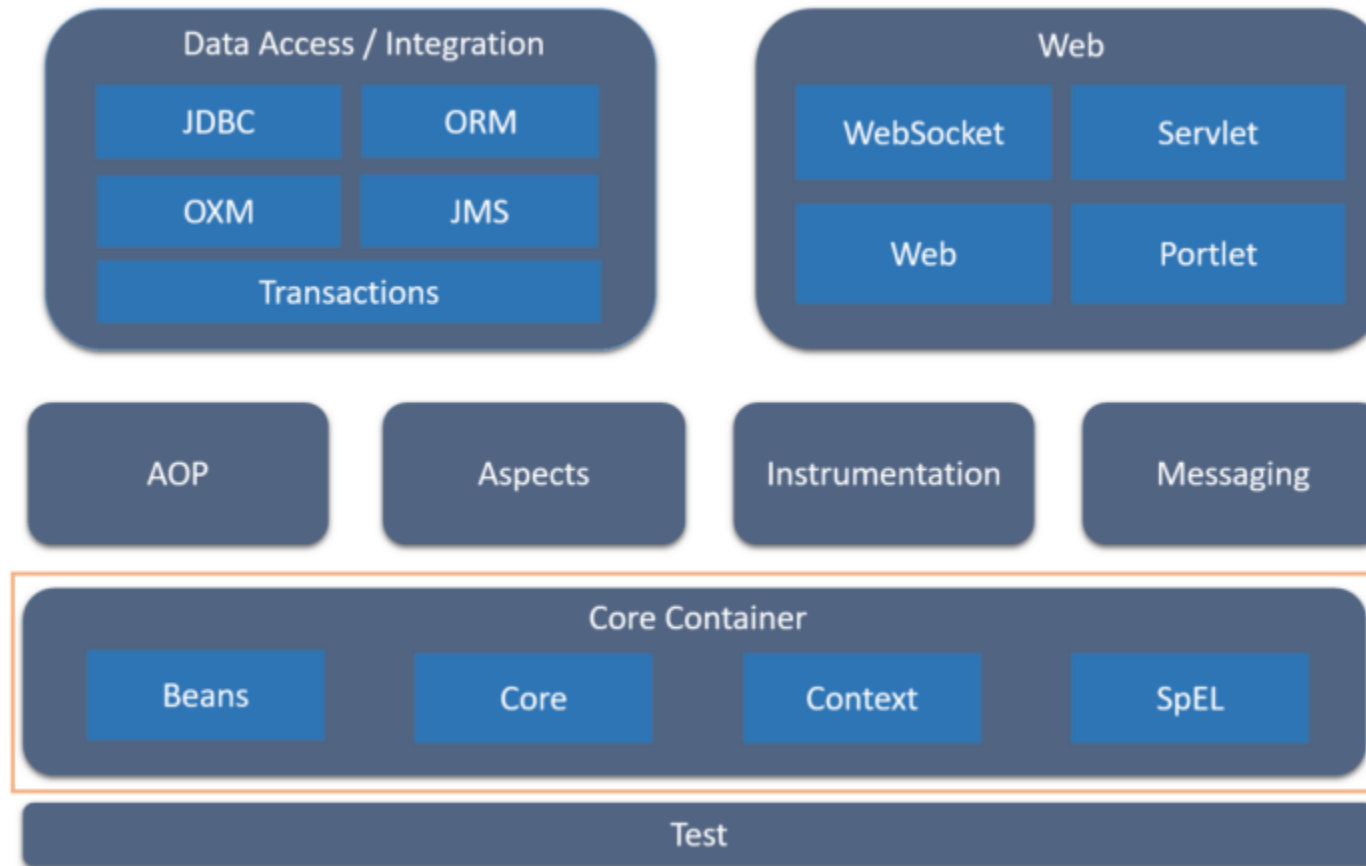Spring Data

Spring Cloud

Spring Security

Spring Batch

Spring AMQP

Spring HATEOAS

Spring Framework

Spring Framework and Core Container

Inversion of Control and Dependency Injection

Inversão de Controle (IoC) é um padrão de projeto, em que um objeto apenas declara suas dependências sem cria-las e delega a tarefa de construir tais dependências a um Container IoC (Core Container).

Injeção de Dependência é a implementação utilizada pelo Spring Framework de aplicar a Inversão de Controle quando necessário.

What are Spring Beans?

Beans

Um bean consiste em um objeto que é instanciado, montado e gerenciado por um container do Spring através da Inversão de Controle (IoC) e Injeção de Dependências.

@Component

@Controller

@Service

@Repository

@Bean – Producer Methods

```java
@Configuration
public class RestTemplateConfig {

    @Bean
    RestTemplate restTemplate(RestTemplateBuilder restTemplateBuilder) {
        return restTemplateBuilder
                .errorHandler(new RestTemplateResponseErrorHandler())
                .build();
    }
}
```

```java
@Component
public class RestClient {

    @Autowired
    private RestTemplate restTemplate;
```

Spring Boot

Spring Boot

```
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     :: Spring Boot ::                (v2.5.4)


2021-09-29 14:38:45.173  INFO 14808 --- [           main] com.ead.course.CourseApplication          : Starting CourseApplication using Java 11.0.12 on DESKTOP-7F5CO3Q with
2021-09-29 14:38:45.173  INFO 14808 --- [           main] com.ead.course.CourseApplication          : No active profile set, falling back to default profiles: default
2021-09-29 14:38:45.923  INFO 14808 --- [           main] o.s.b.w.embedded.tomcat.TomcatWebServer   : Tomcat initialized with port(s): 8080 (http)
2021-09-29 14:38:45.923  INFO 14808 --- [           main] o.apache.catalina.core.StandardService    : Starting service [Tomcat]
2021-09-29 14:38:45.923  INFO 14808 --- [           main] org.apache.catalina.core.StandardEngine   : Starting Servlet engine: [Apache Tomcat/9.0.52]
2021-09-29 14:38:45.985  INFO 14808 --- [           main] o.a.c.c.C.[Tomcat].[localhost].[/]        : Initializing Spring embedded WebApplicationContext
2021-09-29 14:38:45.985  INFO 14808 --- [           main] w.s.c.ServletWebServerApplicationContext  : Root WebApplicationContext: initialization completed in 750 ms
2021-09-29 14:38:46.251  INFO 14808 --- [           main] o.s.b.w.embedded.tomcat.TomcatWebServer   : Tomcat started on port(s): 8080 (http) with context path ''
2021-09-29 14:38:46.251  INFO 14808 --- [           main] com.ead.course.CourseApplication          : Started CourseApplication in 1.445 seconds (JVM running for 2.206)
```

Spring Boot
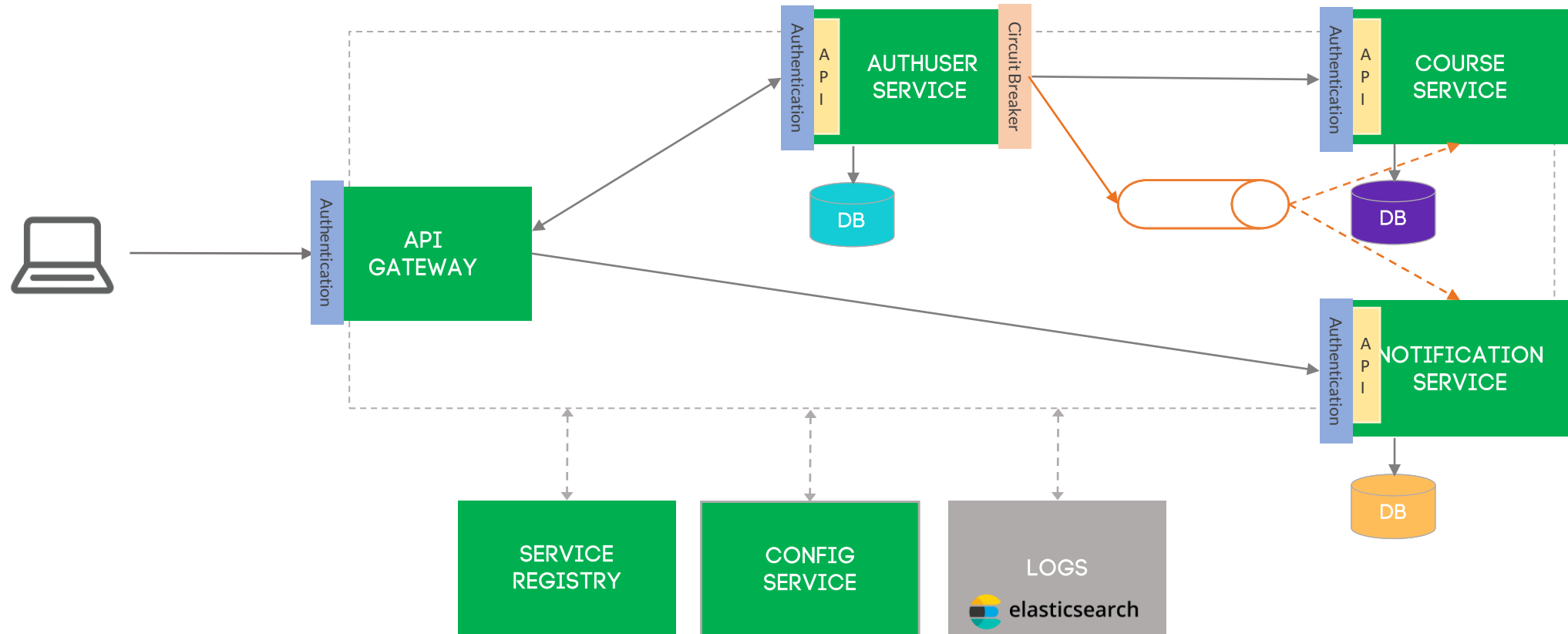
```
<dependency>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter</artifactId>
</dependency>
```

#DECODERPROJECT