Spring Boot

08 March 2025 08:59

OSI Model
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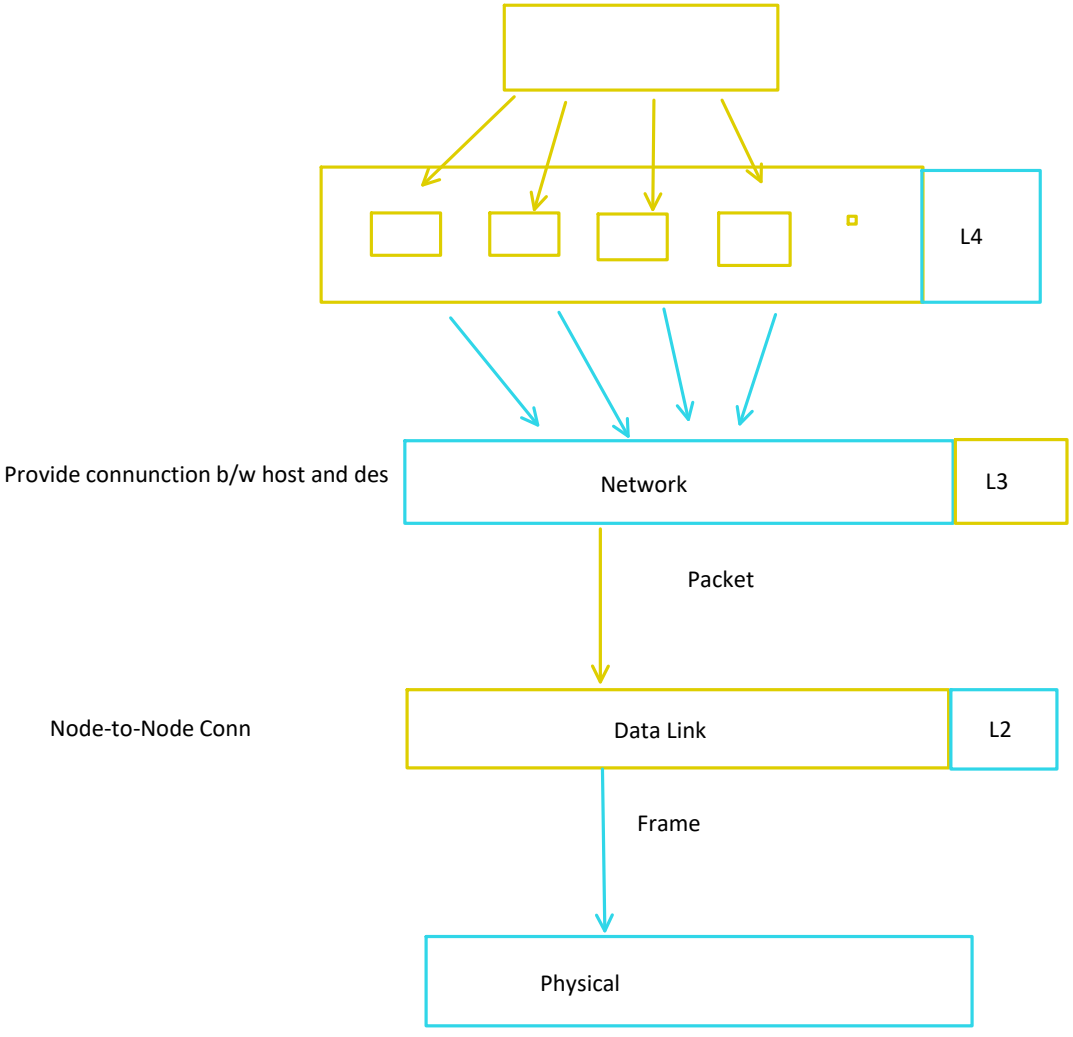
1. Physical
2. Data link
3. Network
4. Transport
5. Session
6. Presentation
7. Application

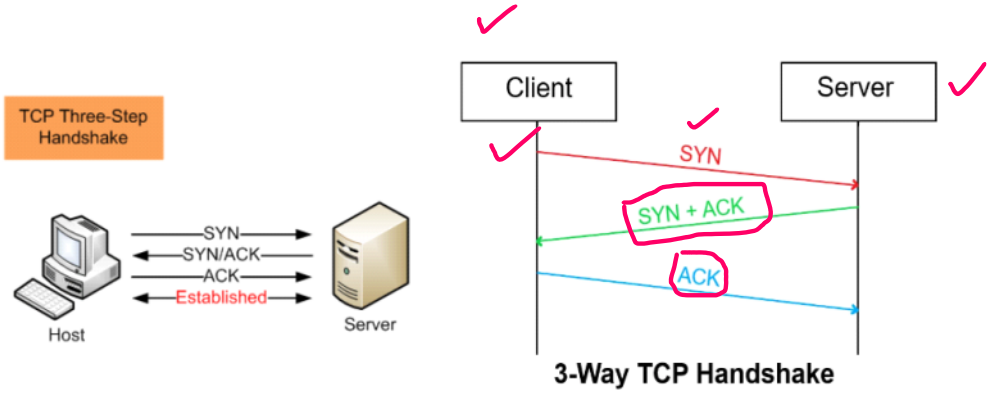
N/w engineers not intract with these layer

Transport: break large piece of data into small segments



Application : Http is an application layer protocol that provide web-based comm
Presentation: Responsible for data formatting (JSON,XML) Jackson for JSON conversion
Session Layer: Mostly it is used for security
Transport layer: Uses TCP for reliable connection of HTTP req/res
Network Layer: IP handles addressing and routing http packets
Data Link Layer: handles MAC addressing and physical device comm
Physical Layer: Deals with h/w transmission

3 Way TCP handshake to establish a TCP Connection



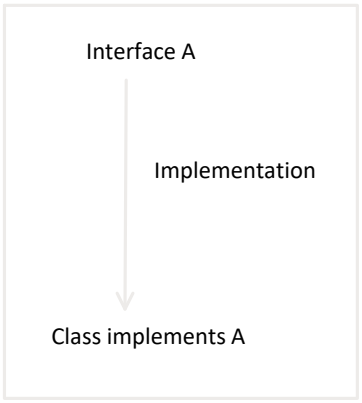
UNICMINDS

JDK 1.1(1997) -> Introduced --> @Deprecated
JDK 1.5(2004) -> introduced full annotation support

Spring, hibernate, JPA adopted annotation heavily

Syntax of making custom annotations

```
@interface MyAnnotation {
    no usages
    String value();
}
```




```
@interface MyAnnotation {
    String value();
}
```

It uses reflection API

```
@MyAnnotation(value = "Custom Annotation | Genie Ashwani")
public class Test
{
    public static void main(String[] args) {
        System.out.println("Hello sir ");
    }
}
```

Spring Boot
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1. Spring boot is one approach to develop spring bases applications with less configurations

Spring boot = spring framework - xml configurations

2. Spring boot is not replacement for spring. Spring boot is developed on top spring
3. All core and spring framework concepts can be used in spring boot also

Advantages
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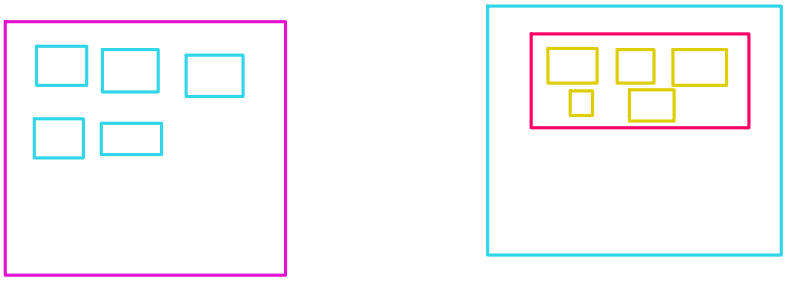
1. Less configuration & No Xmls configurations
2. Pom Starters to simplify dependencies
3. Auto Configuration
4. Embedded Server
5. Actuator (Production ready features)

What is started ?

1. If you want to make one application then you will need multiple dependencies so spring has combined all these and make one dependency is called started



Eg: web-starter, jpa-starter, security-starter

Note : Spring boot makes it easy to create stand-alone, production grade spring based application that you can "just run"

Spring boot 1.0 released in 2014
Current version of spring boot is 3.4.x ----> Nov-2025
Note: Java 17 is mandatory to work with spring boot 3.x version

Spring boot Application creation
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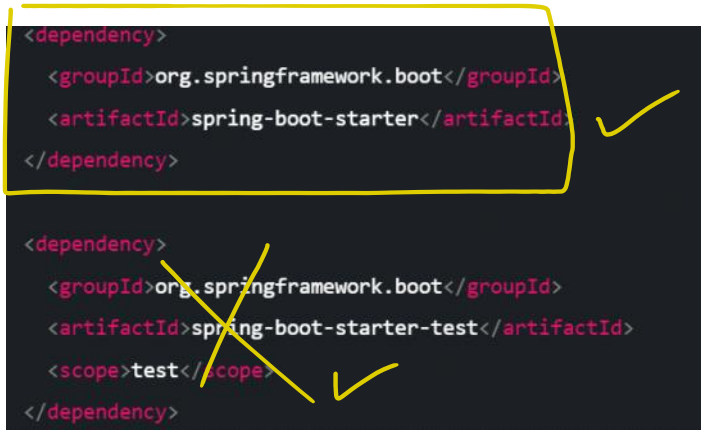
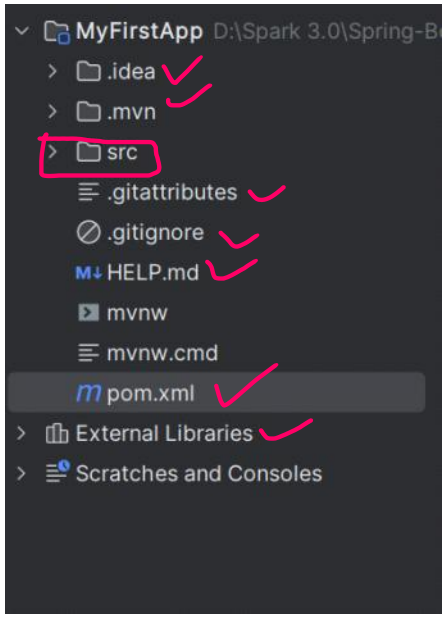
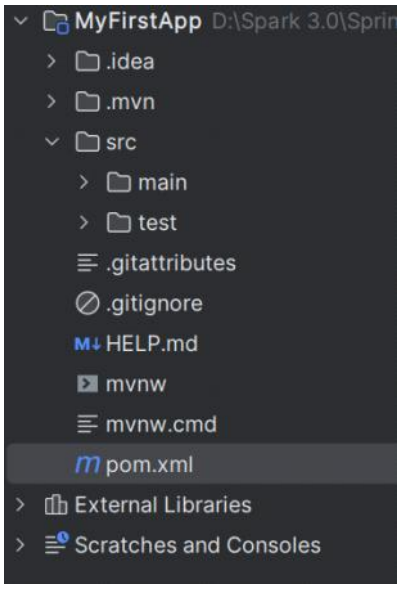
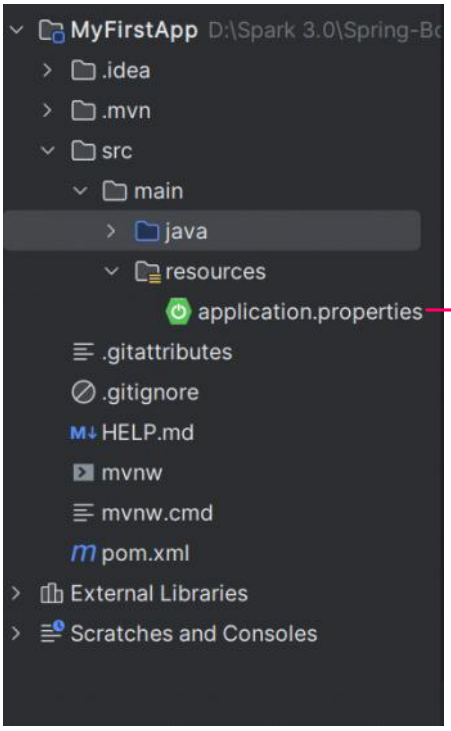
1. we can create SB application in 2 ways
   a. Initializer website
   b. Spring starter project in IDE

Note : if we try to create SB application using IDE then also IDE is communication with Initializer

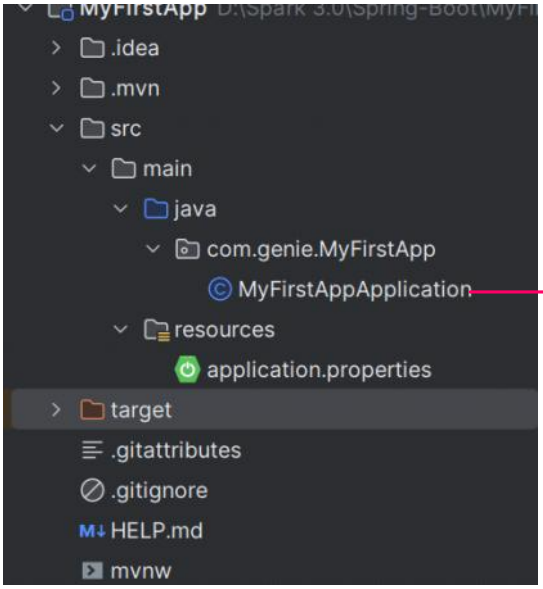








External configuration
Eg: db config



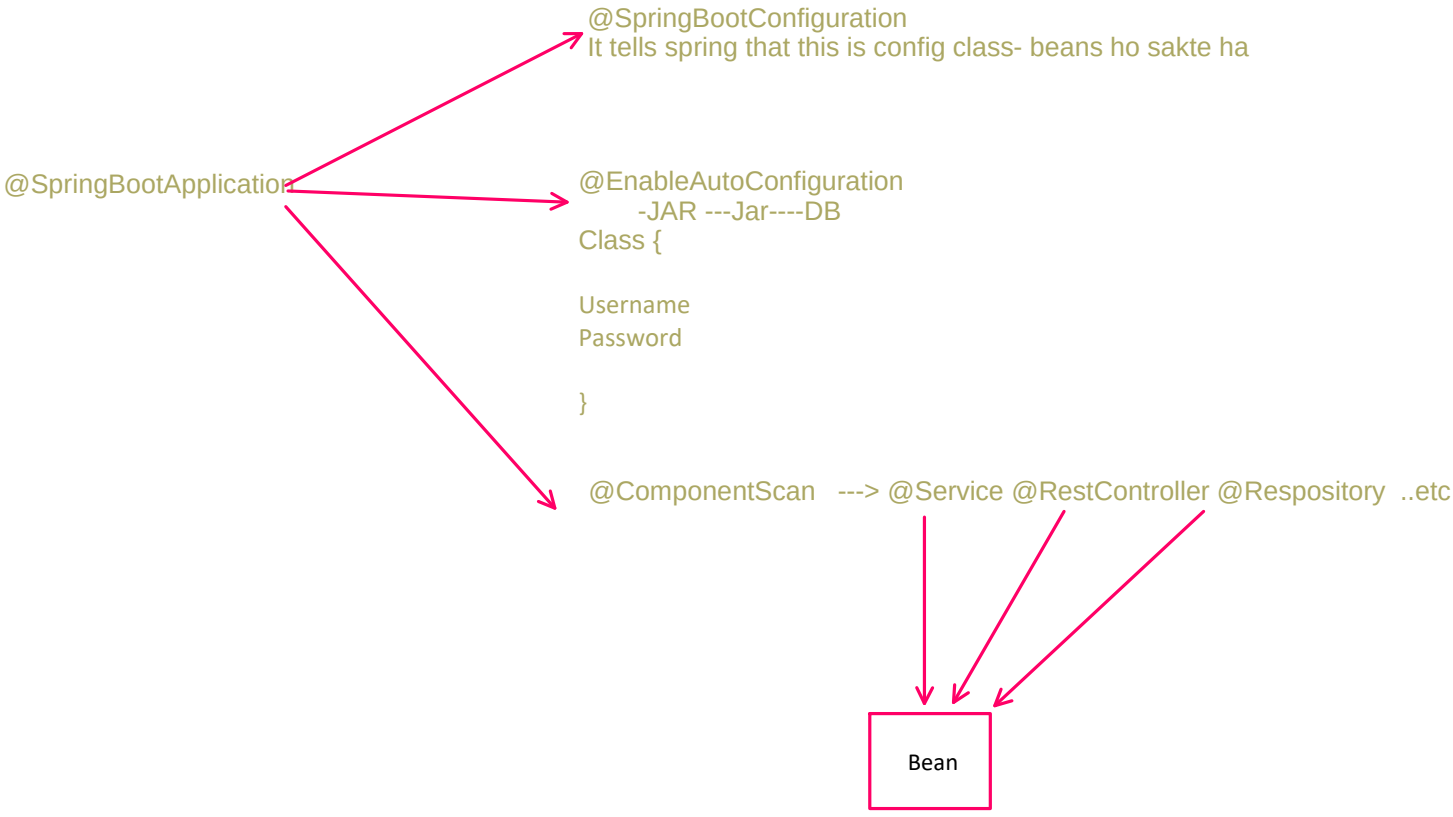
Run

Intelij sirf .class file use krta ha build nhi banata

Build banane k liy maven ka use

Note: Based on type of our application, it will start IOC container

1. Run() method will print banner on console
2. Run() method will start IOC container
3. Run() will return context of IOC container



JPA ------>Config------>Config------>Datascourse