Web Services

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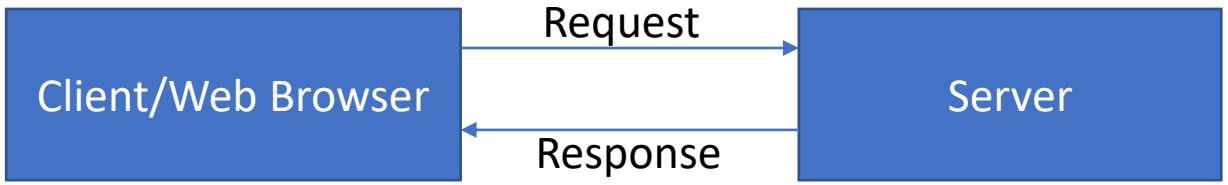
Covered topics in presentation:

- Introduction to Webservices
- Rest-API Webservices
- Introduction to Annotations
- Built-in and Custom Annotations
- Spring and Spring Boot
- Possible ideas to use Spring in our PG
- References

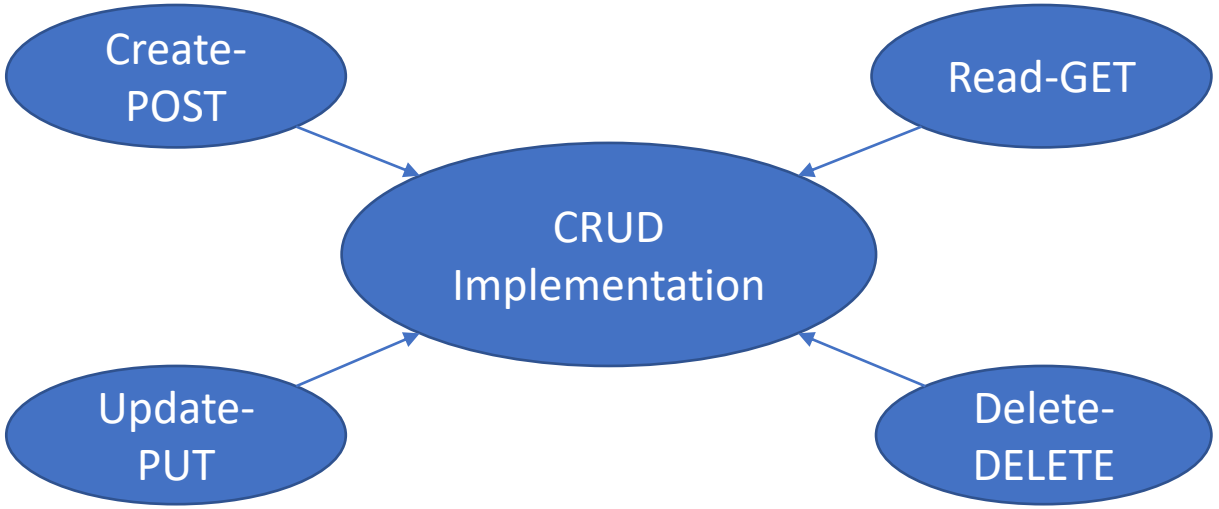
Introduction to Web Services

- Webservices are used to create client-server application for exchanging information between two applications.
- For Example: When we interact with any webpage, it involves request and response. Similarly, web services also involve request and response, but in the form of XML, JSON, etc.
- Below is the figure illustrates the basic functionality of Web Services.



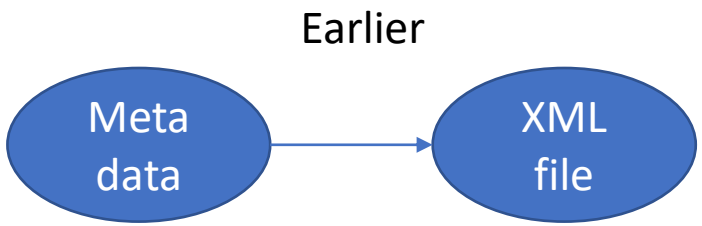
Rest-API Webservices

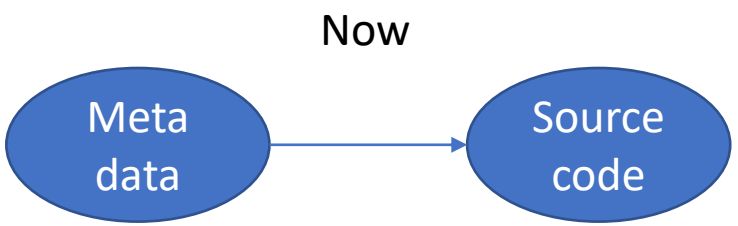
- Rest-API (Representational State Transfer – Application Programming Interface) – Restful is an architectural pattern for creating webservices.
- It uses HTTP (Hyper Text Transfer Protocol) methods to perform the operations which are as follows:
- Get, Post, Put, Delete.
- For Example: When we implement a CRUD (Create, Read, Update and Delete) operation.



Introduction to Annotations

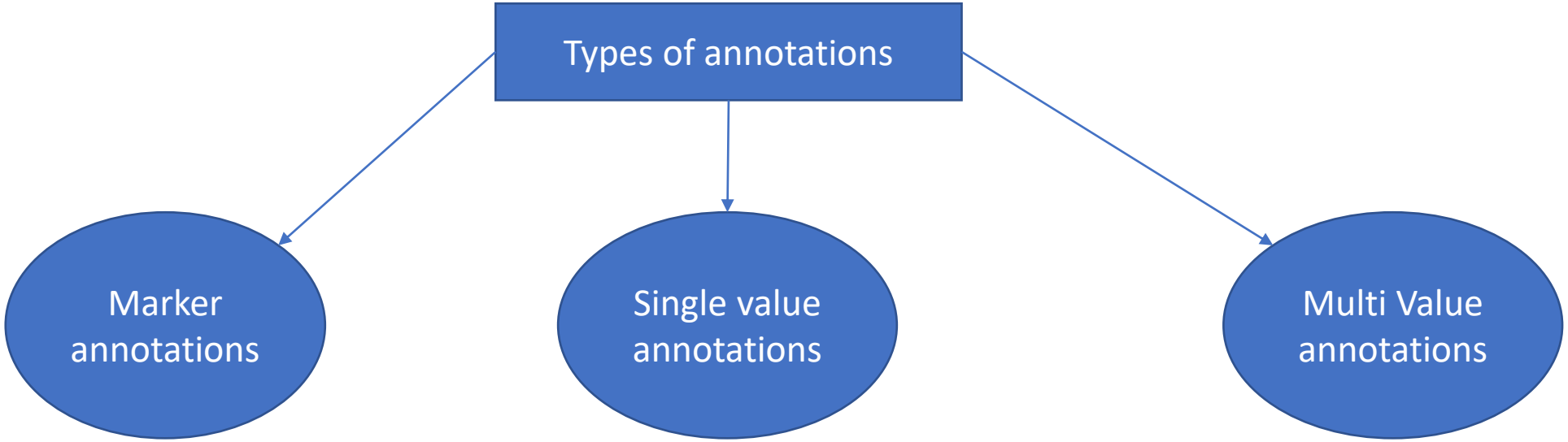
- Annotations are the tag (metadata) provides the information about the program. Indicated with ‘@’ followed by annotation name.
- Earlier, we used to define our source code metadata information in XML file but now with the annotations we can directly define in our source code.



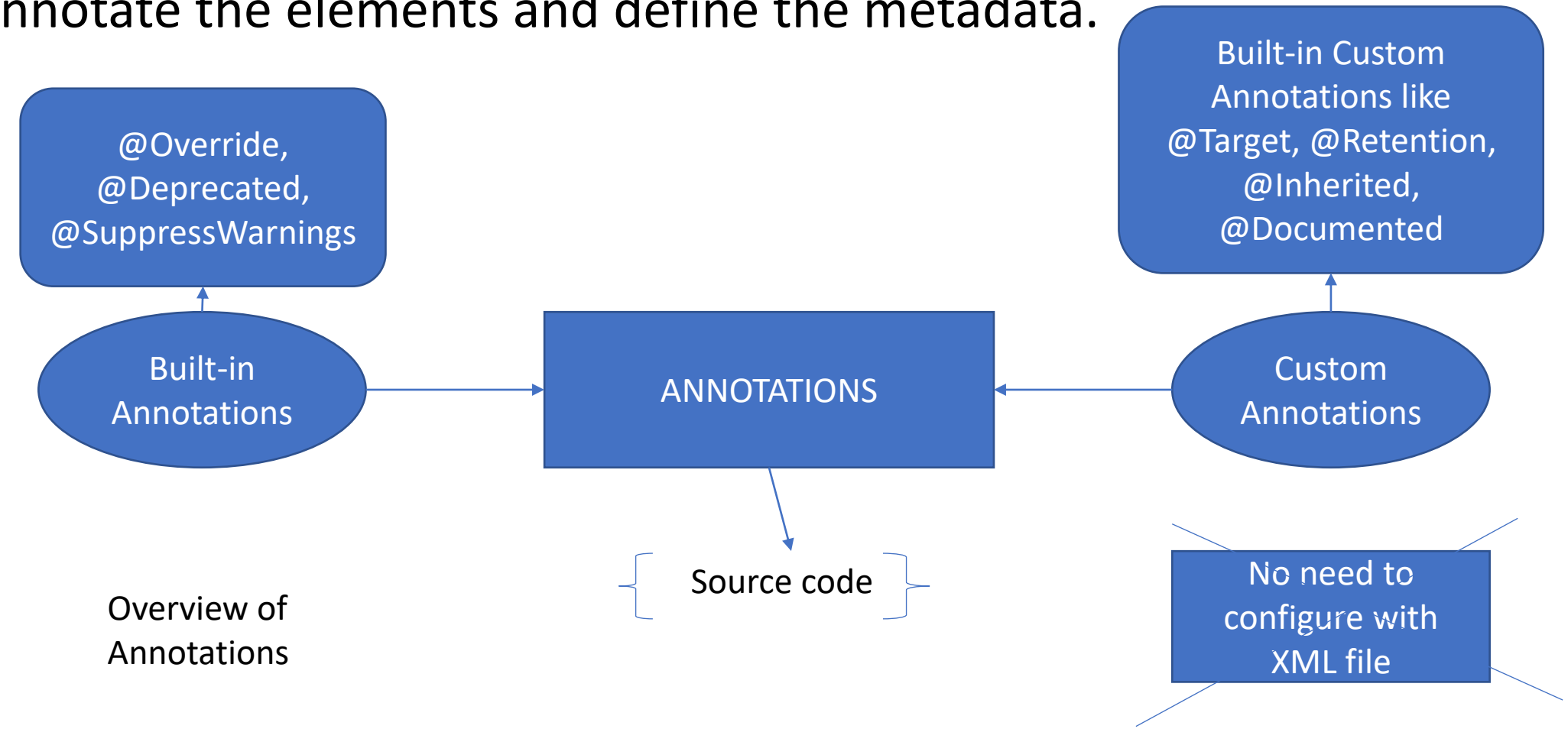


Built-in and Custom Annotations

- Annotations can be annotated with Java elements like Classes, methods, variables, etc.
- Providing supplement information directly to the source code made the previous complex process easy.



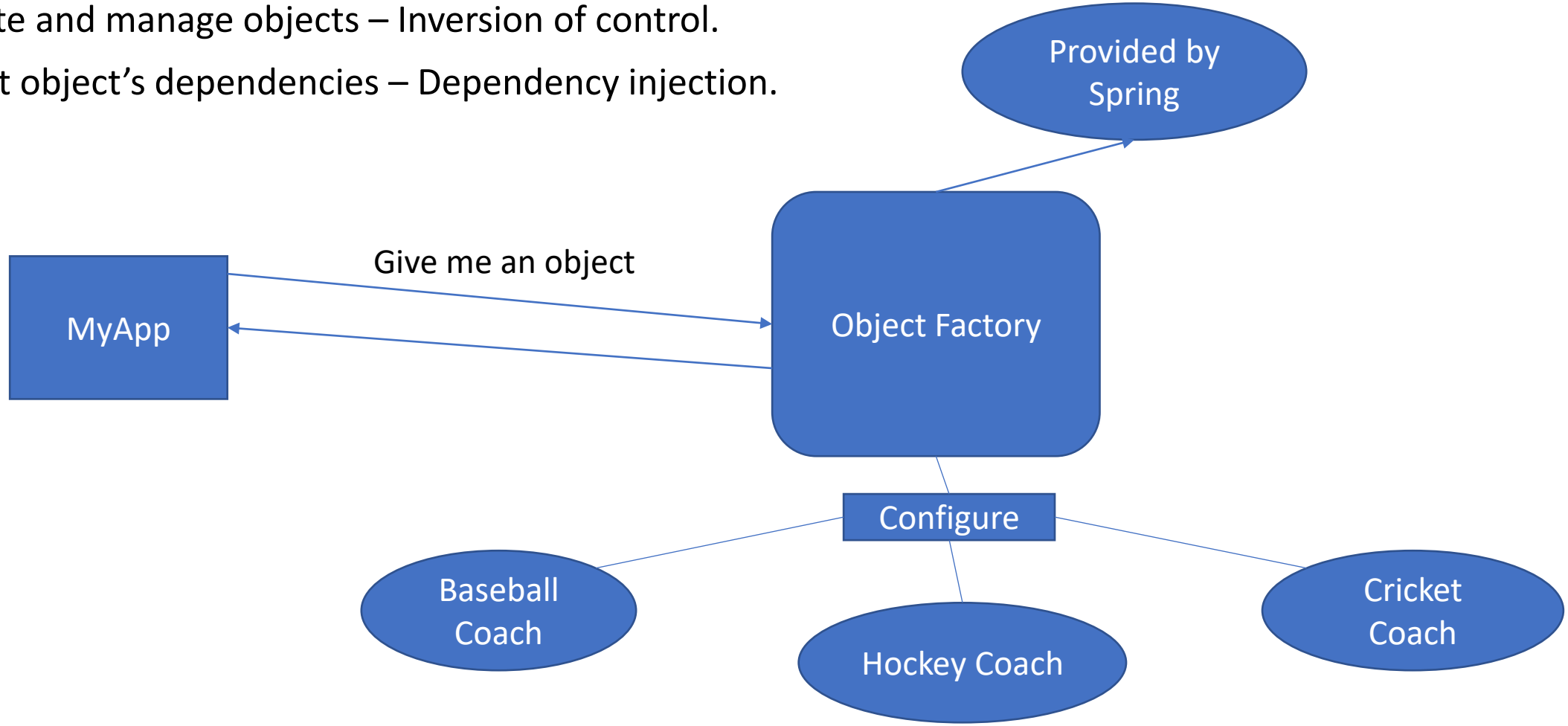
- We can also create custom annotations according to the information we want to define for classes or methods.
- We need not to configure the XML file often, we can just directly annotate the elements and define the metadata.



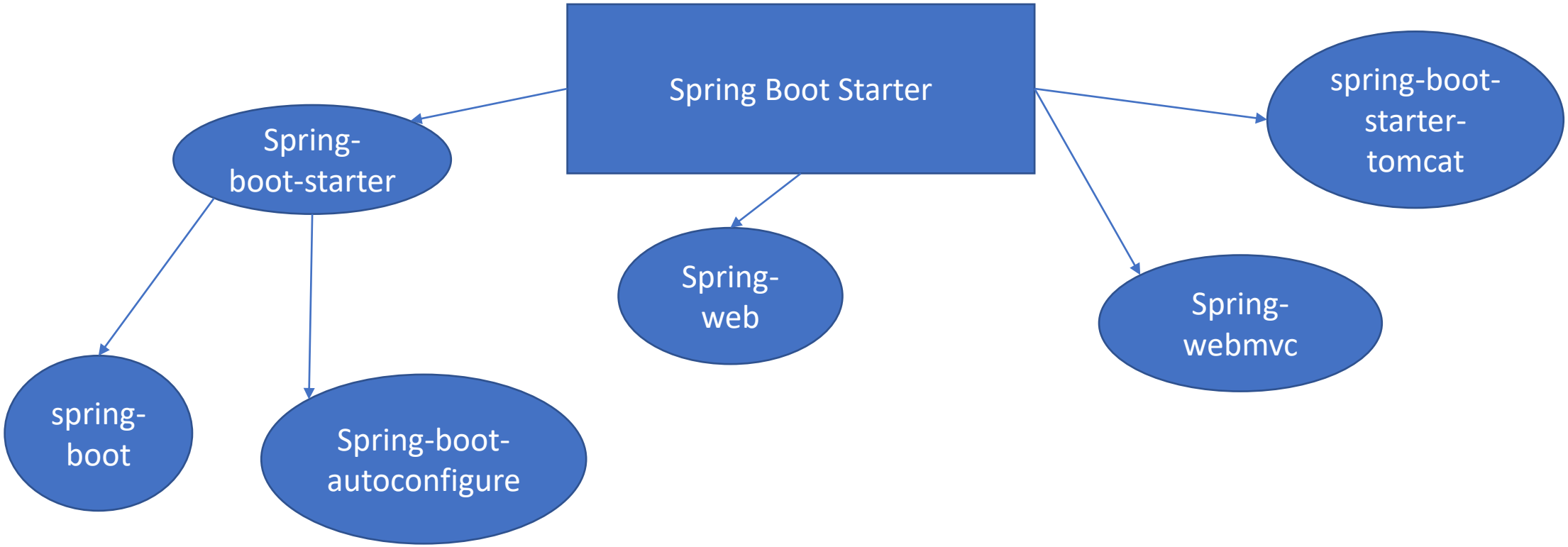
Overview of Annotations

Spring and Spring Boot

- Spring is the most popular application development framework for developing dynamic web projects in Java.
- We use spring framework for multiple reasons but the main features that spring has is the following by making our code loosely coupled.
- Create and manage objects – Inversion of control.
- Inject object's dependencies – Dependency injection.



- Spring Boot aims to shorten the code length and provide you with the easiest way to develop a web application with annotation configuration and auto configuration.
- It doesn’t require XML configuration and very easy to launch with IDE’s.
- Spring supports both XML and annotation configurations.



Possible ideas to use spring in our PG

- We could use spring to configure different Metrics and different Catfish modules we have implemented in the last semester. (Not sure, must ask to supervisor)
- Adding spring webservices enable our ‘civet’ implementation more readable and access through front end.
- ……

Vielen Dank !!!

Thank you for listening

References:

- www.spring.io/
- www.tutorialpoint.com/
- www.udemy.com/
- www.java2blog.com/