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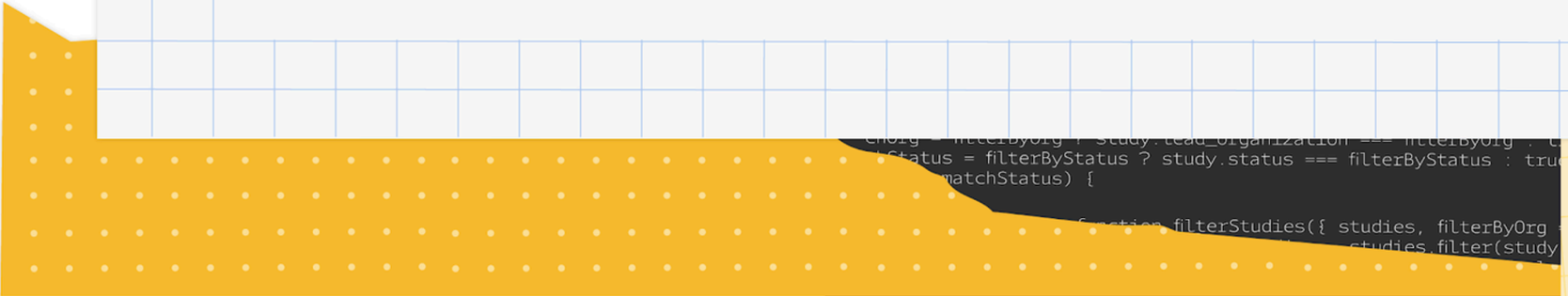
SPRING BOOT WORKSHOP



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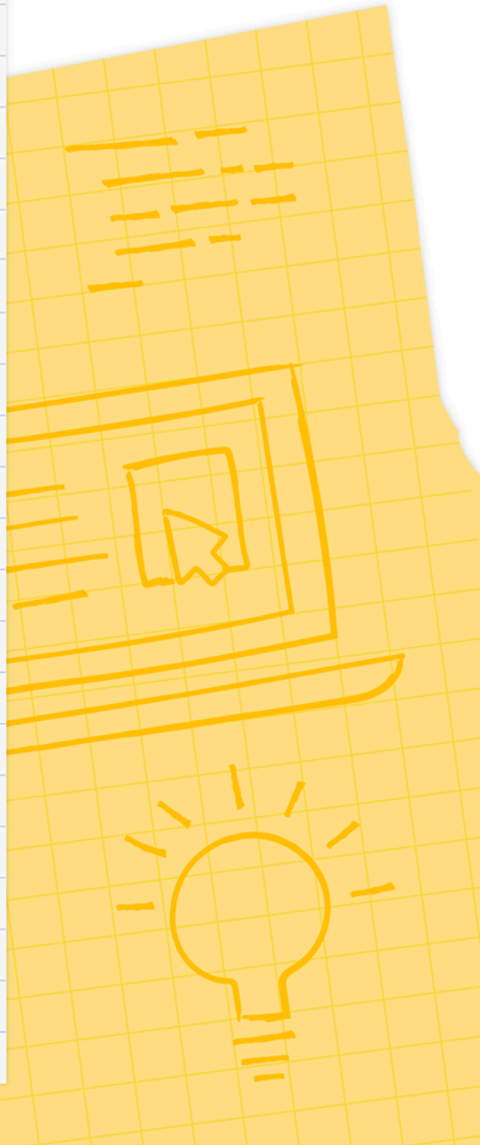
INTRODUCTION

What is Spring Boot ?
What is Backend Development ?
What Spring Boot Offers ?
Real-World Applications of Spring Boot



What is Spring Boot ?

WHAT IS SPRING BOOT ?

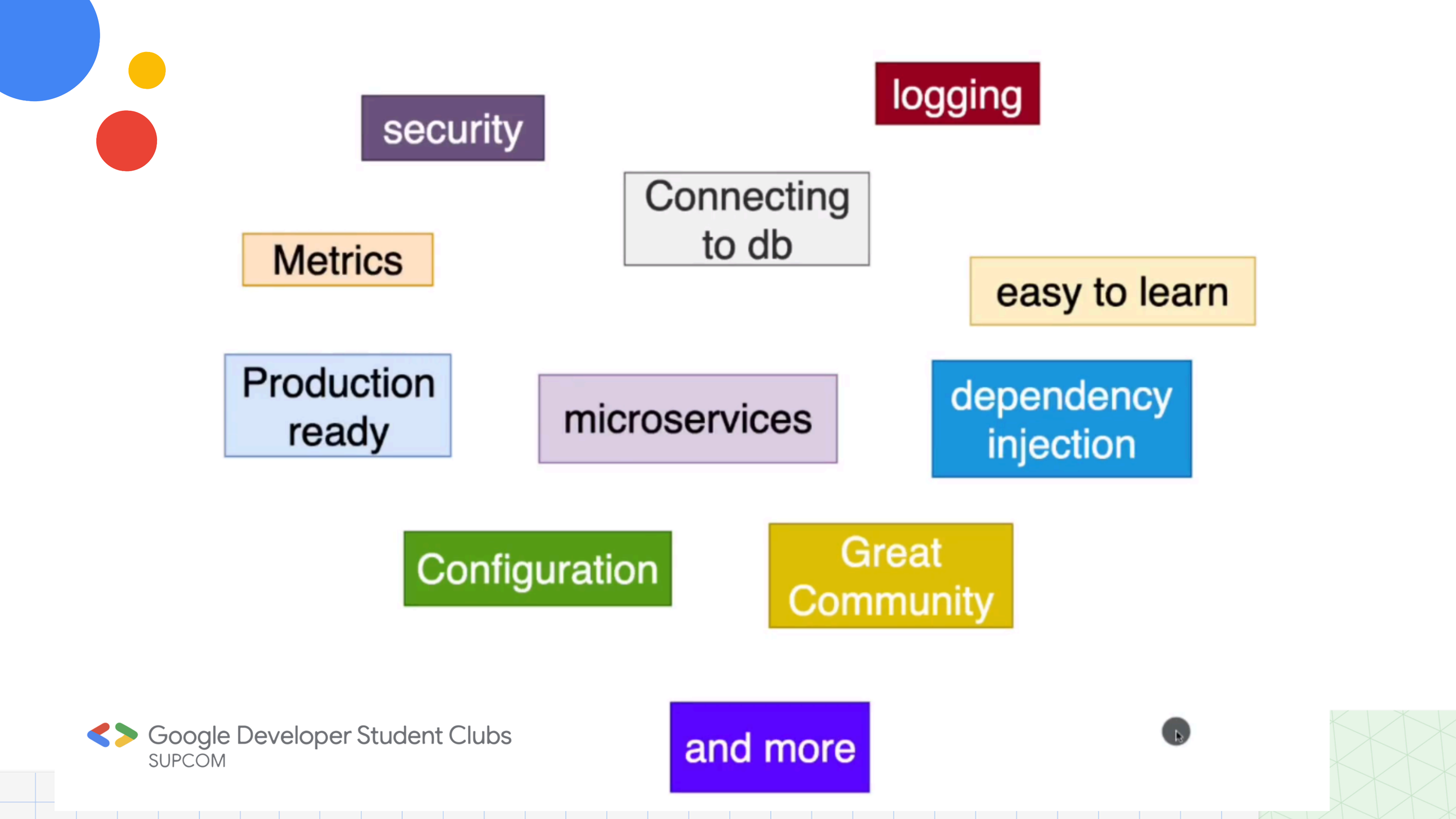
- A POWERFUL BACKEND JAVA FRAMEWORK.
- SIMPLIFIES BUILDING WEB APPLICATIONS AND MICROSERVICES.

KEY CHARACTERISTICS:

- RUNS ANYWHERE JAVA RUNS, NO SPECIAL INSTALLATIONS REQUIRED.
- COMES WITH "JUST-ENOUGH" CONFIGURATIONS FOR A QUICK START, YET FLEXIBLE FOR ADJUSTMENTS.

WHAT SPRING BOOT OFFERS

- REDUCE DEVELOPMENT TIME.
- ECOSYSTEM AND INTEGRATION
- SIMPLIFY THE DEPLOYMENT PROCESS.
- SCALABILITY


security
logging
Connecting to db
Metrics
easy to learn
Production ready
microservices
dependency injection
Configuration
Great Community
and more

REAL-WORLD APPLICATIONS OF SPRING BOOT

amazon

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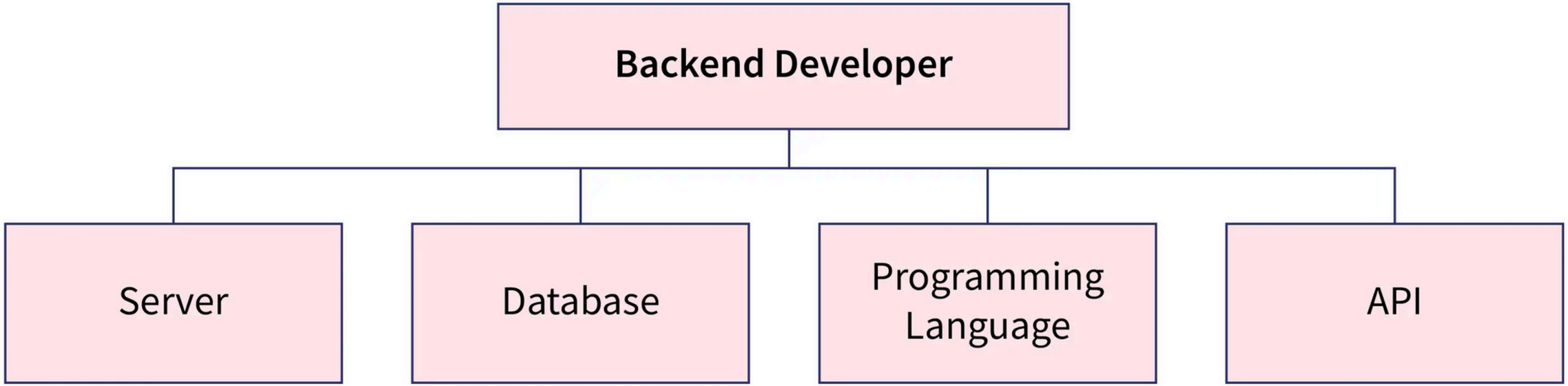
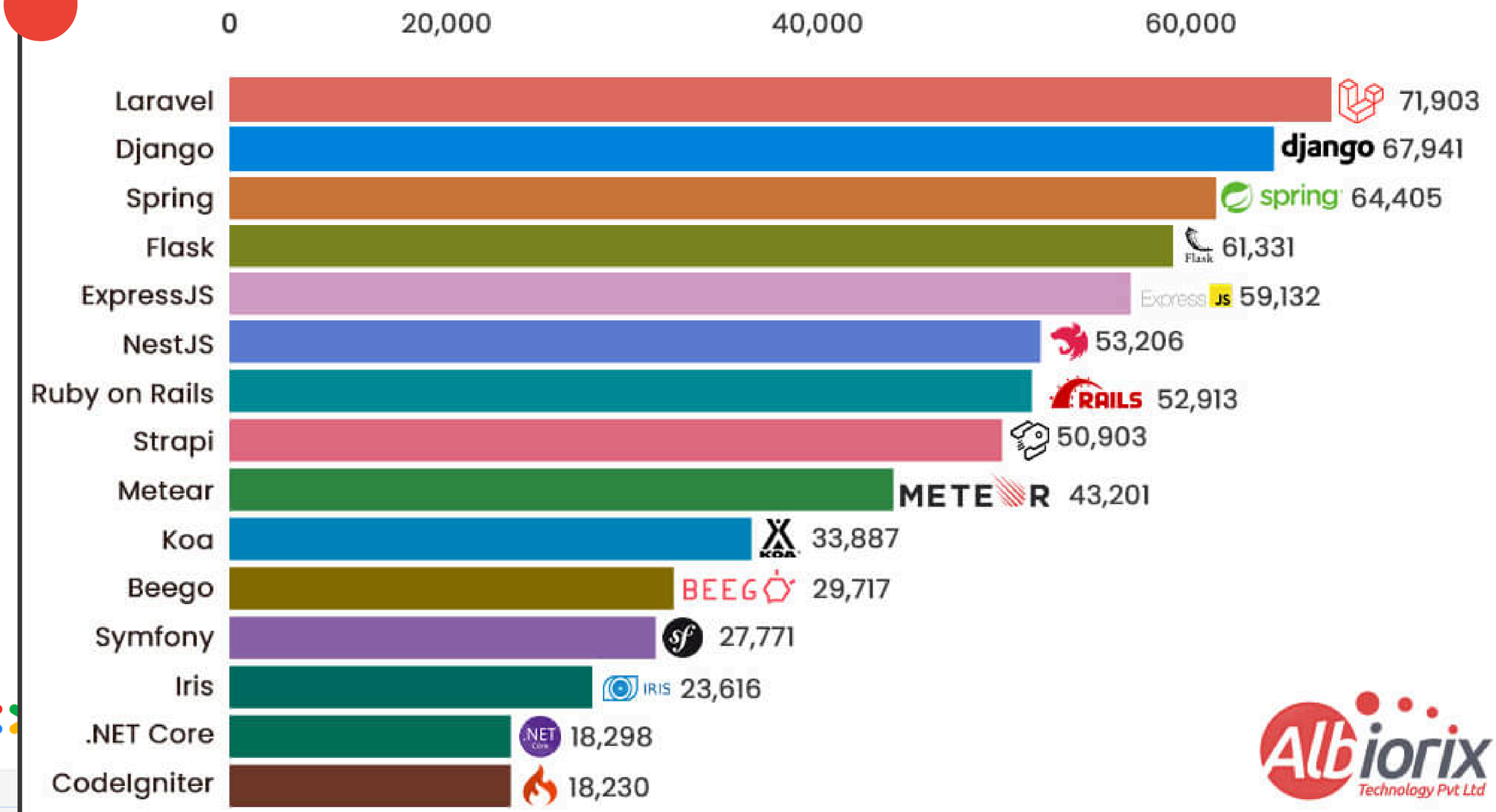
Backend Development


Backend Developer
Server
Database
Programming Language
API

Most Popular Backend Frameworks



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GETTING STARTED WITH SPRING BOOT

Spring Boot vs. Spring
Development Tools and Environment

SPRING BOOT VS. SPRING

Spring Framework	Spring Boot Framework
The primary feature is Dependency Injection	Autoconfiguration is the primary feature of Spring Boot
we need to set up the server explicitly for the testing procedure.	offers embedded server such as Jetty and Tomcat, etc
For smaller tasks, developers need to write a boilerplate code	Reduction in boilerplate code
Does not provide an in-memory Database	Provide several plugins to work with embedded servers and some in-memory databases such as H2
Developers have to define dependencies manually in the pom.xml file	Starter concept in pom.xml file internally handles the required dependencies

TOOLS

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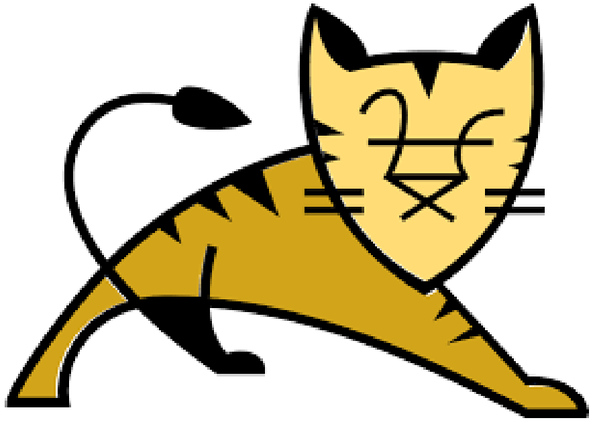
GRADLE/MAVEN

AUTOMATE PROJECT BUILDS, MANAGE LIBRARIES AND DEPENDENCIES.
FACILITATE PROJECT TESTING, PACKAGING, AND DEPLOYMENT PROCESSES.

Maven™

EMBEDDED SERVER

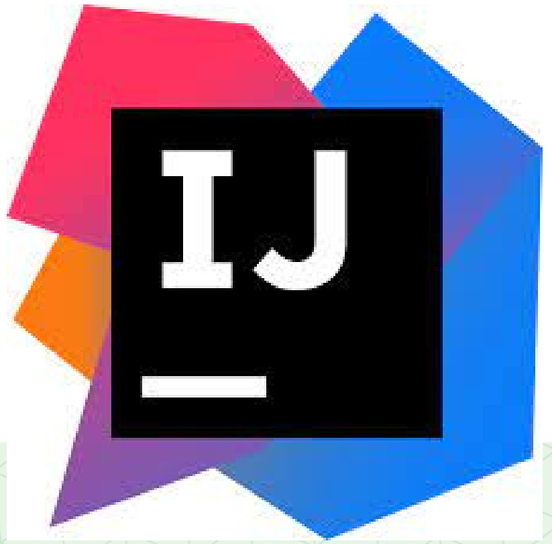
SPRING BOOT ALLOWS DEVELOPERS TO EMBED WEB SERVERS DIRECTLY WITHIN THE APPLICATION, ELIMINATING THE NEED FOR EXTERNAL SERVER DEPLOYMENT.



jetty://

IDE (INTELLIKJ)

- OFFERS ADVANCED SUPPORT FOR SPRING BOOT, INCLUDING AUTO-COMPLETION, NAVIGATION, AND LIVE TEMPLATES FOR RAPID DEVELOPMENT.
- SIMPLIFIES THE PROCESS OF RUNNING AND DEBUGGING SPRING BOOT APPLICATIONS DIRECTLY WITHIN THE IDE.
- INTEGRATED TOOLS :MAVEN/GRADLE



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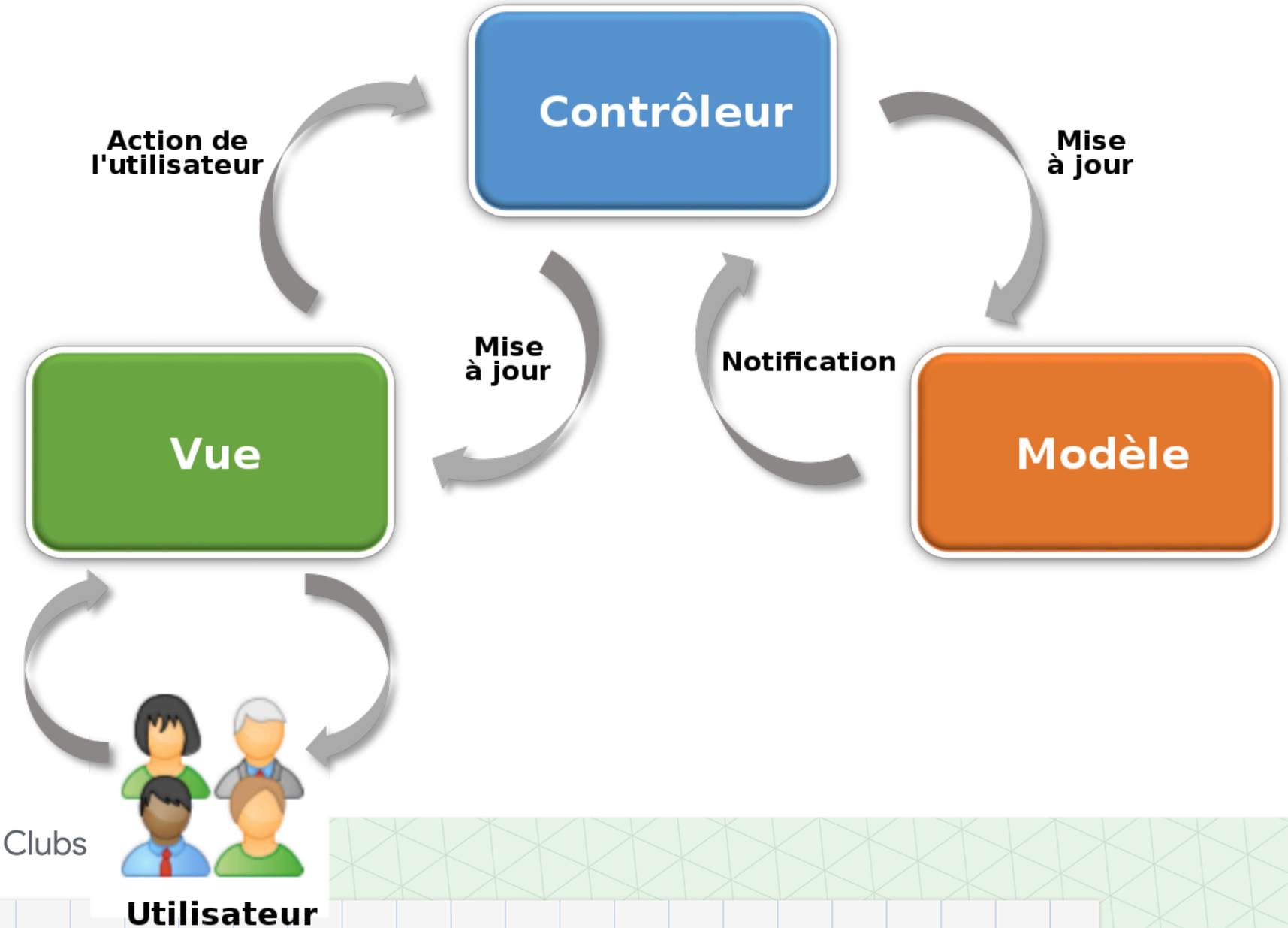
UNDERSTANDING SPRING BOOT ARCHITECTURE

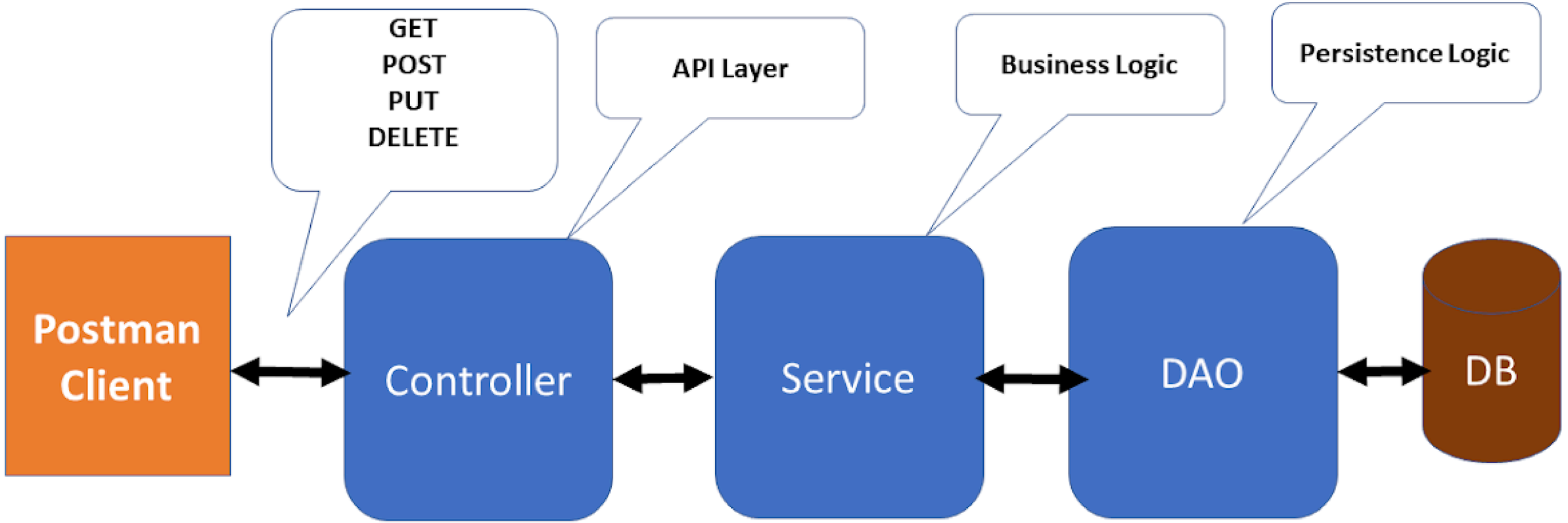
MVC Architecture(Model-view-conroller)

MVC


Contrôleur
Action de l'utilisateur
Mise à jour
Mise à jour
Notification
Vue
Modèle
Utilisateur

MVC Example

Spring Boot Project Architecture



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BUILDING YOUR FIRST SPRING BOOT PROJECT

Spring Initializr
Project Components
Building a Sample RESTful API

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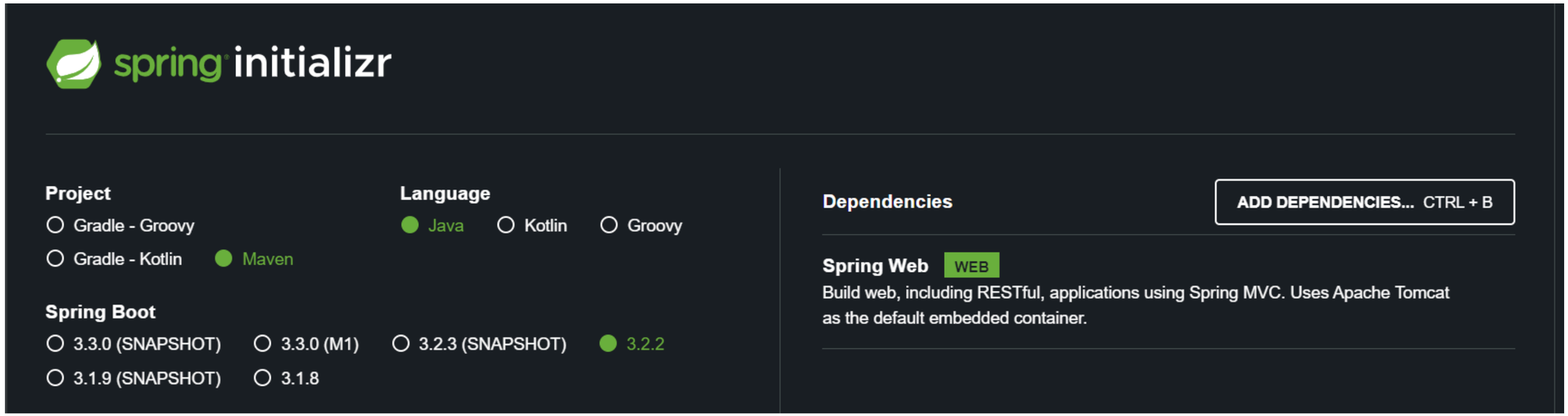
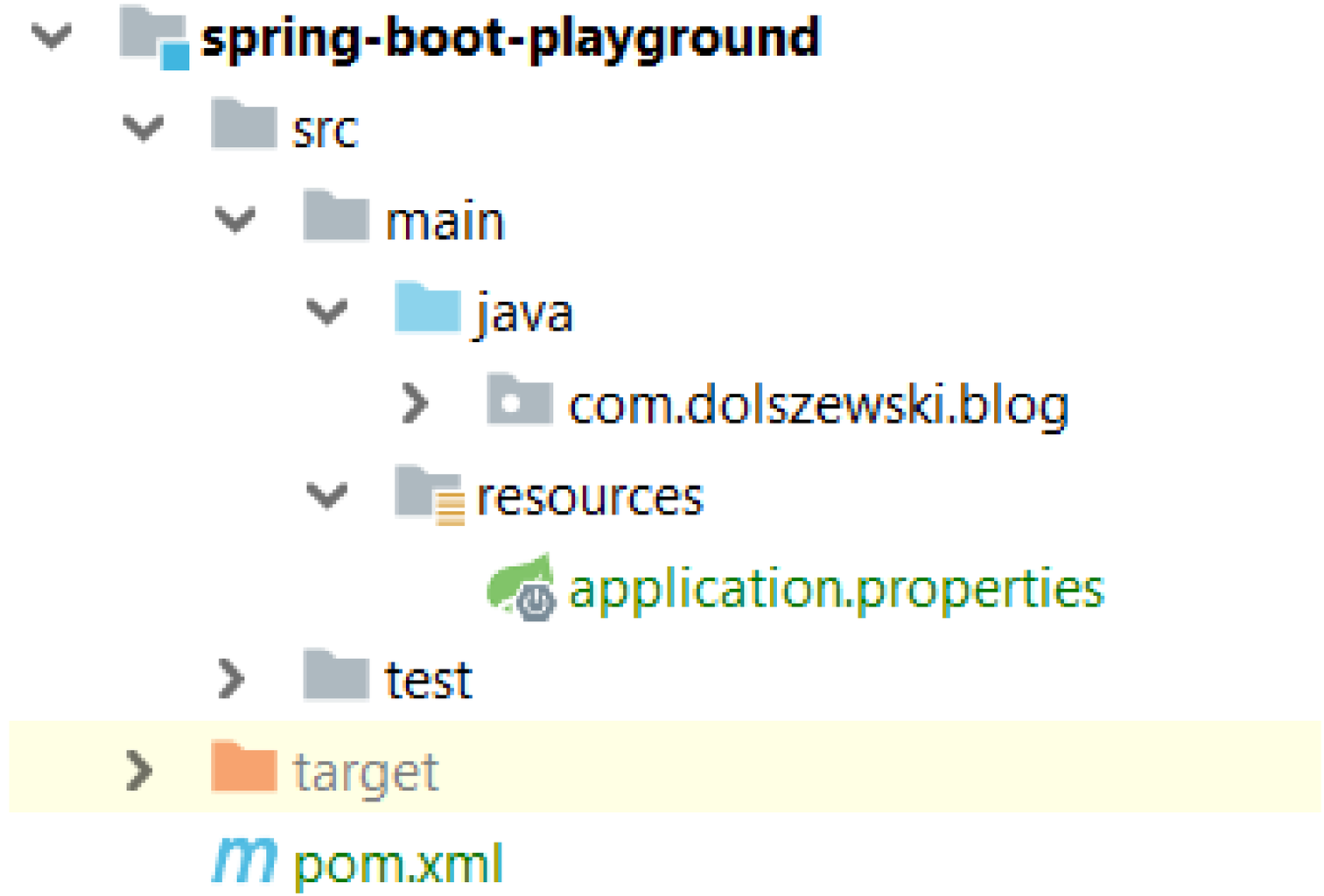
SPRING INITIALIZR



STEPS TO CREATE A PROJECT:

1-VISIT **START.SPRING.IO.**
2-CHOOSE YOUR PROJECT METADATA (GROUP, ARTIFACT, NAME, DESCRIPTION).
3-SELECT YOUR SPRING BOOT VERSION -> 3.2.2 (LATEST)
4-SELECT JAVA AS PROGRAMING LANGUAGE WITH VERSION 21
5-SELECT MAVEN
6-ADD DEPENDENCIES RELEVANT TO YOUR PROJECT (SPRING WEB).
7-CLICK "GENERATE" TO DOWNLOAD YOUR PROJECT ZIP FILE.

PROJECT COMPONENT


spring-boot-playground
src
main
java
com.dolszewski.blog
resources
application.properties
test
target
pom.xml

KEY COMPONENTS:

- **SRC/MAIN/JAVA/** - YOUR MAIN APPLICATION AND OTHER JAVA CODE.
- **SRC/MAIN/RESOURCES/** - APPLICATION PROPERTIES, STATIC RESOURCES, AND TEMPLATES(HTML).
- **POM.XML/BUILD.GRADLE** - DEFINES PROJECT DEPENDENCIES AND BUILD CONFIGURATION.
- **APPLICATION.JAVA** - THE MAIN CLASS THAT RUNS THE SPRING BOOT APPLICATION.
- **POM.XML/BUILD.GRADLE:**OVERVIEW OF DEPENDENCY MANAGEMENT AND HOW TO ADD NEW DEPENDENCIES.
- **APPLICATION.PROPERTIES** OR **APPLICATION.YML** FOR CONFIGURING APPLICATION SETTINGS (E.G., SERVER PORT, DATABASE CONNECTIONS).

LET’S PRACTICE!!

Thank you for your attention!