

Advanced Application Development (CSE-214)

week-1 : Introduction

Dr. Alper ÖZCAN
Akdeniz University
alper.ozcan@gmail.com



Course Schedule

- Introduction (February 11)
- Angular – Typescript (February 18)
- Angular Application Architecture(February 25)
- Data binding, Routing(March 4)
- Angular forms, RxJS (March 11)
- Introduction to SpringBoot (March 18)
- Spring Core (March 25)
- Hibernate / JPA (April 1)
- **Midterm (April 8)**
- Rest / CRUD (April 15)
- Spring MVC (April 22)
- JPA / Hibernate Advanced Mappings (April 29)
- **Project Presentations (Due on May 6)**
- **Project Presentations (Due on May 13)**
- Final examination review (May 20)



Grading

- Midterm (15%)
- Lab (20 %) (**Coding will be held on lab**)
- Project (25%) – Angular + SpringBoot
 - Proposal, final report, github repo
 - Each project team should consist of 2 students
- Final (40%)

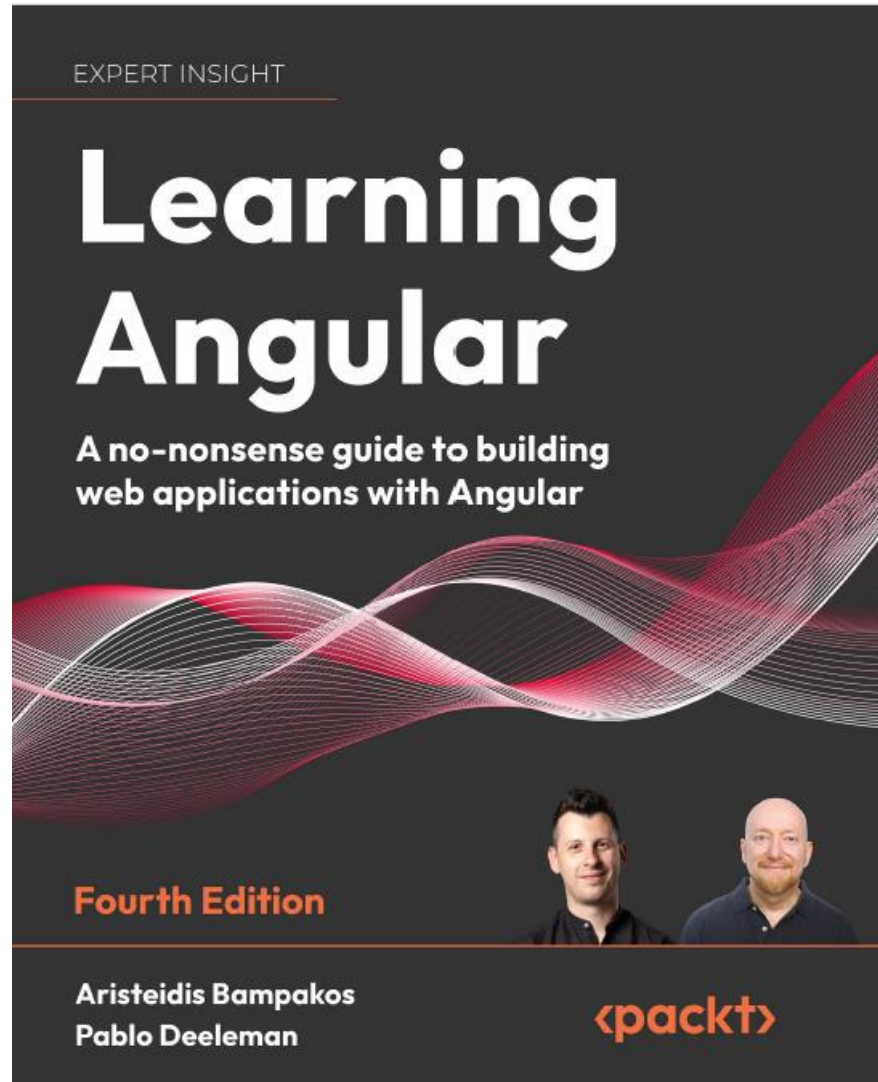


Prerequisites

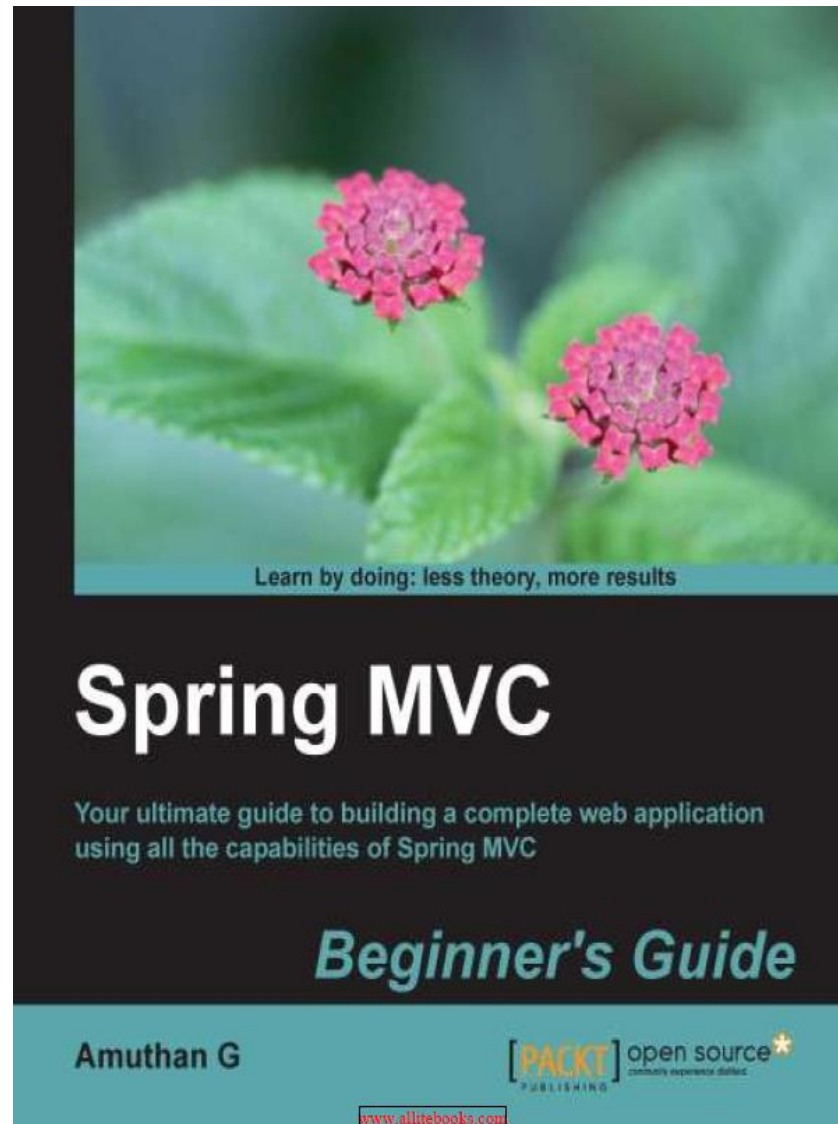
- Background in
 - Programming
- Programming:
 - Angular - Typescript
 - SpringBoot - Java
 - VsCode , IntelliJ



Text Books - Angular



Text Books - SpringBoot





What's this course about

- **Front-End (Angular)**

- **Data Binding:** Effective data exchange between templates and components.
- **Component Lifecycle Hooks:** Lifecycle management for Angular components.
- **Routing:** Efficient navigation between application views.
- **Angular Forms:** Form handling and validation.
- **Dependency Injection:** Modular and testable architecture.
- **RxJS:** Reactive programming for asynchronous operations.



What's this course about

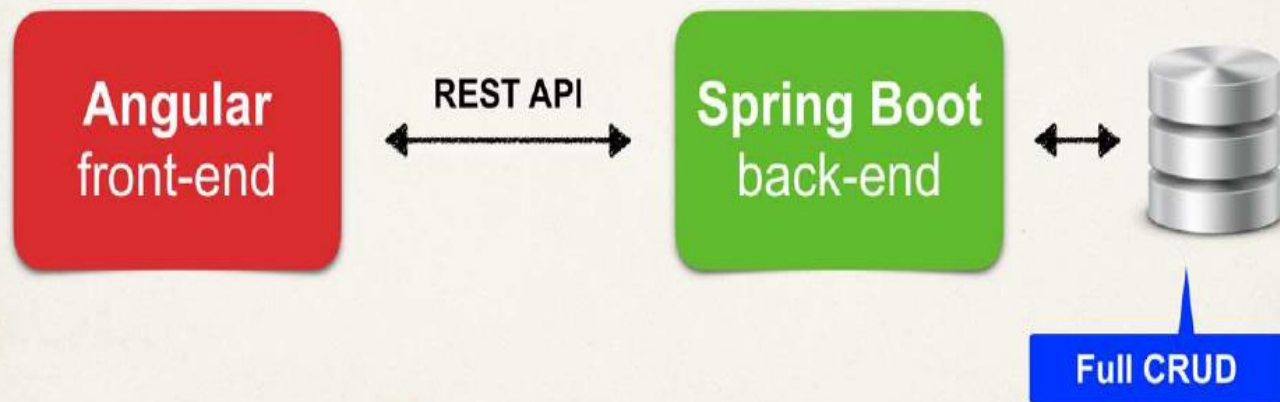
- **Back-End (Spring Boot)**

- **Hibernate/JPA:** Data persistence and ORM (Object-Relational Mapping).
- **REST API Development:** Secure and scalable APIs for CRUD operations.
- **Spring MVC:** Clear separation of concerns using Model-View-Controller architecture.
- **Advanced JPA Mappings:** Efficient representation of complex data relationships.
- **Security:** Authentication and authorization using Spring Boot REST API Security.

Project

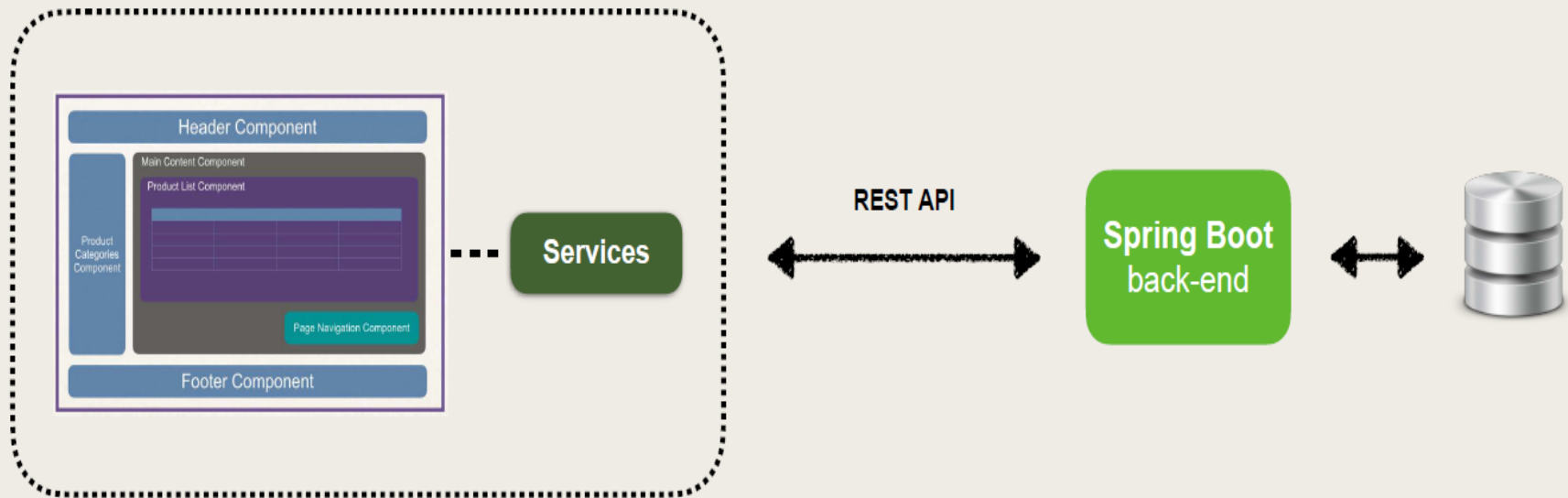
- Create Angular Front End components
- Retrieve data from Spring Boot REST APIs

Full Stack



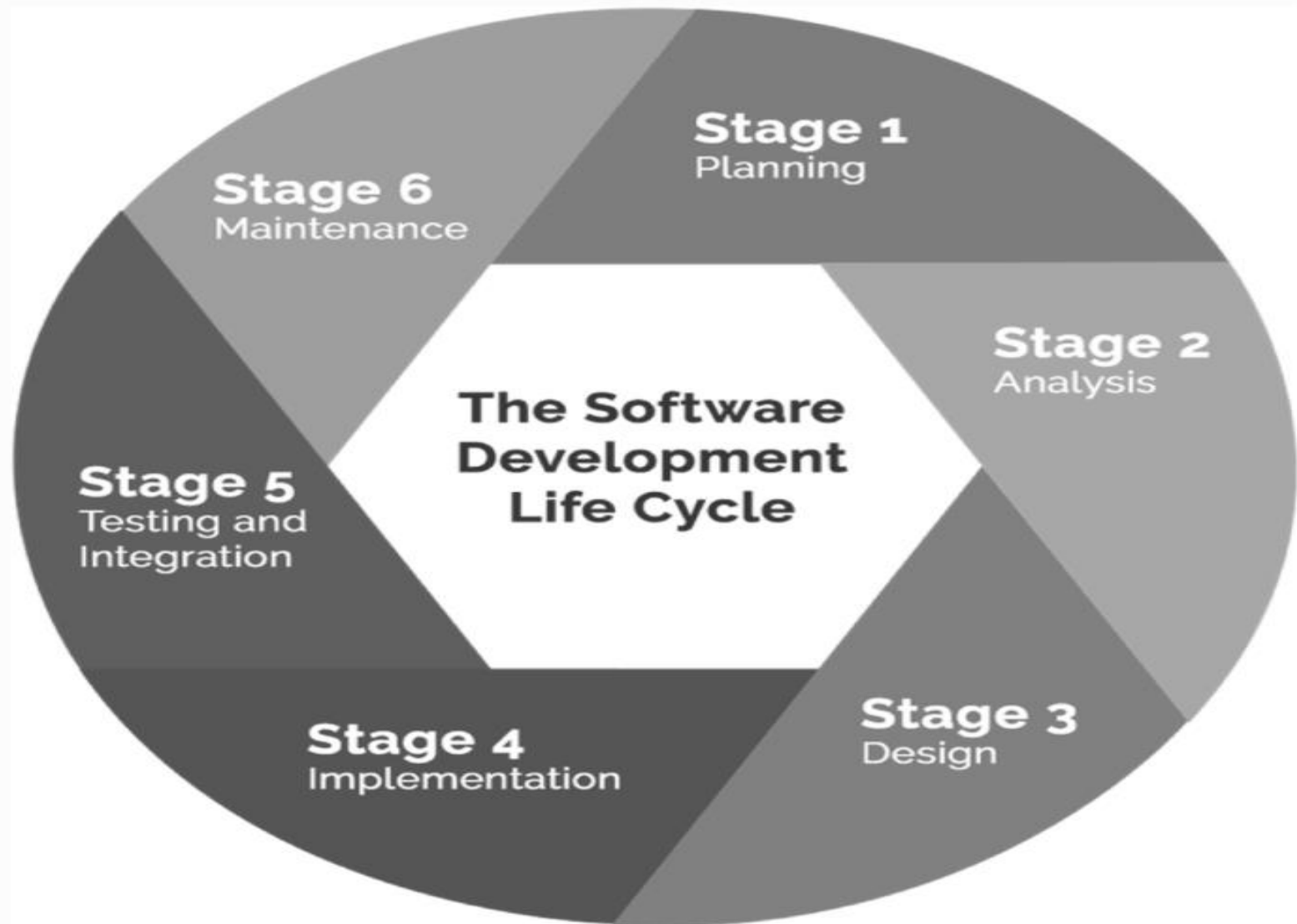
Project

Angular Project

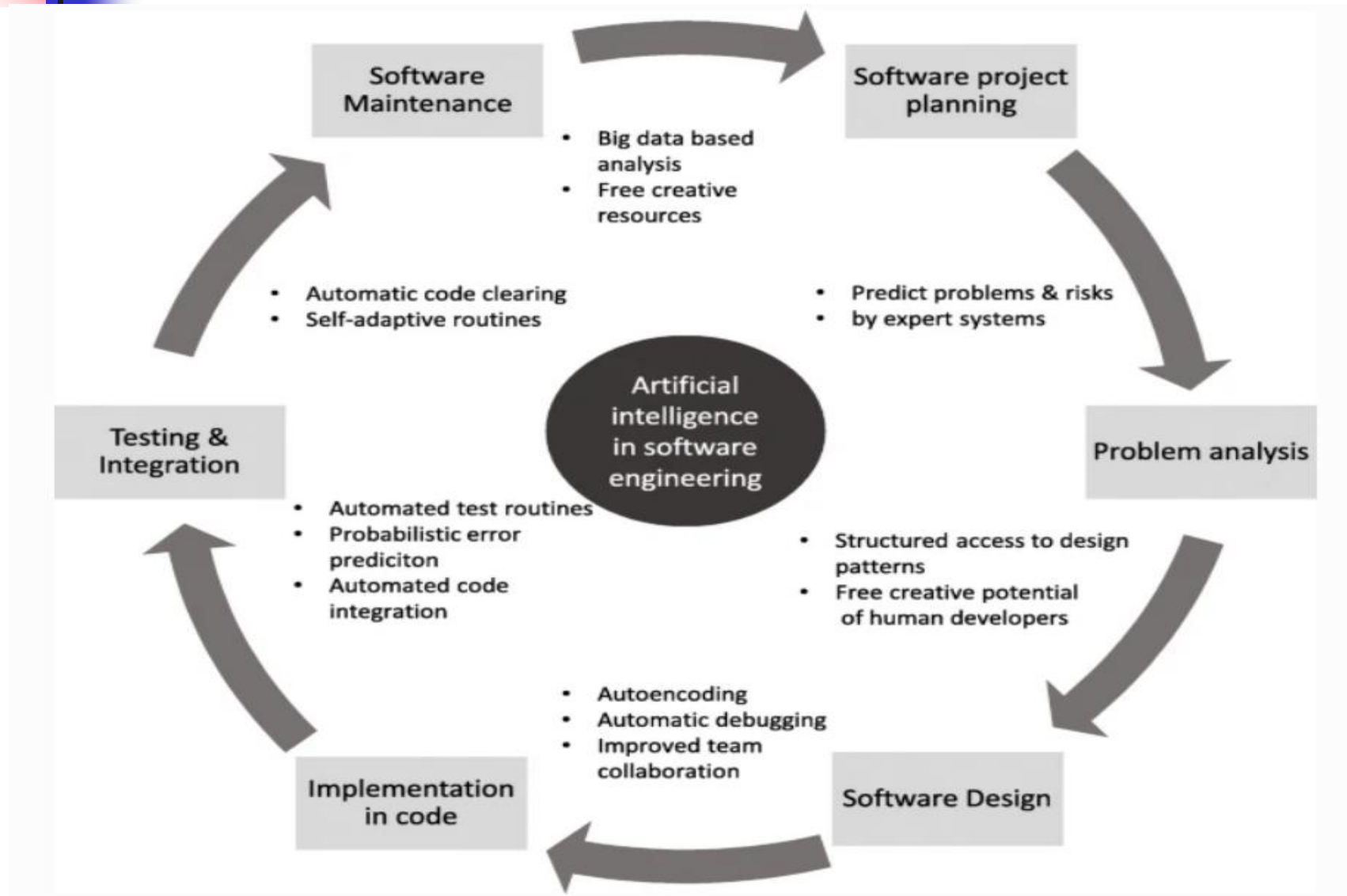


**Runs in Web Browser
Client-Side**

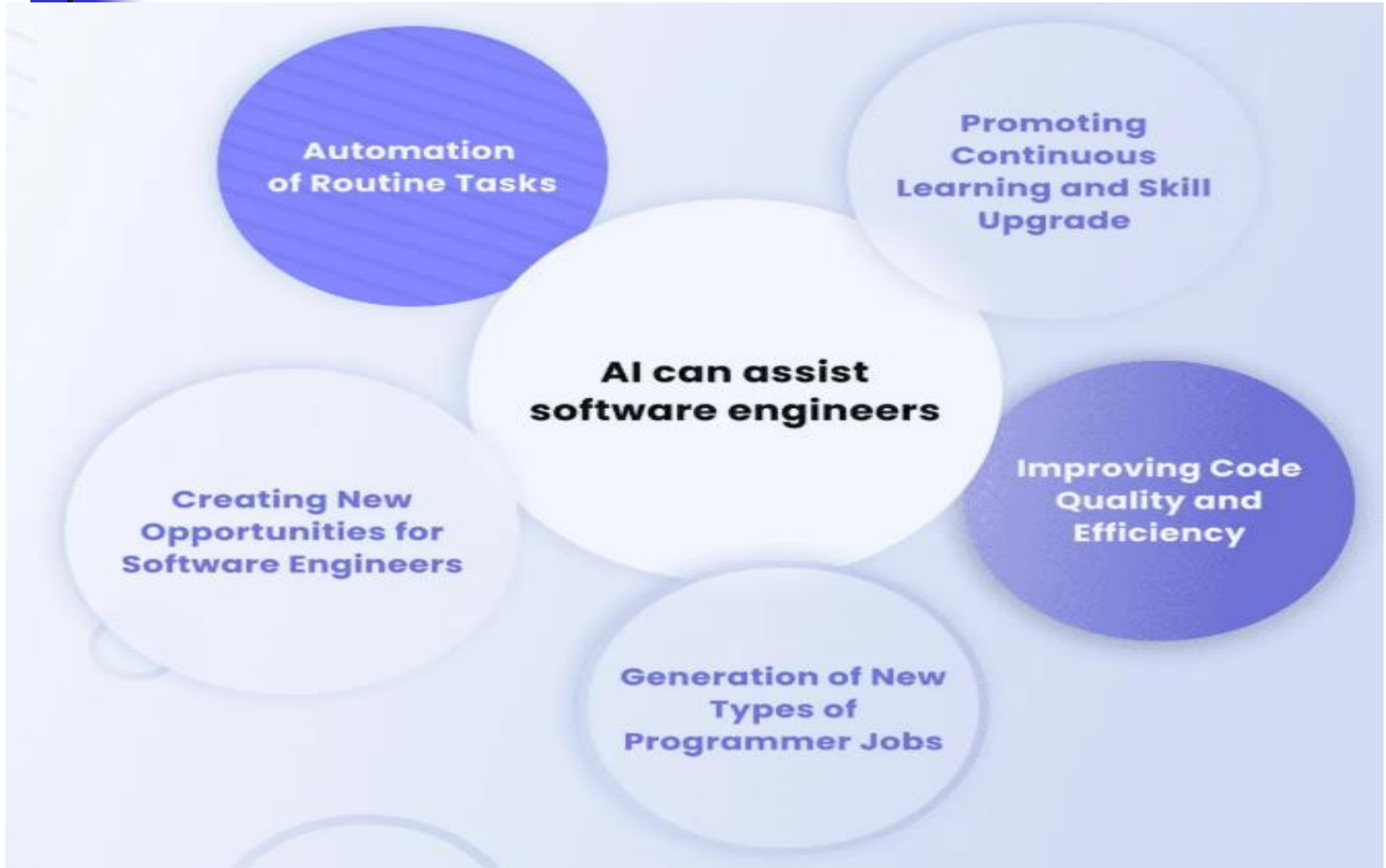
Software Development Life Cycle



Artificial intelligence tools in the software development life cycle



How Will AI Affect the Work of Developers?

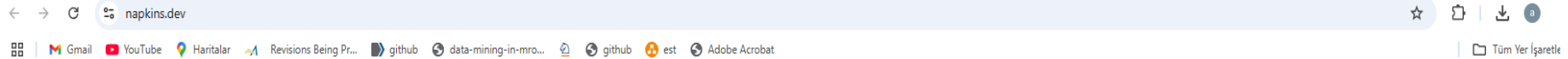


How Will AI Affect the Work of Developers?

Top 8 **Generative AI Tools** For Software Development In 2024



AI (LLM) based code generation (napkins)

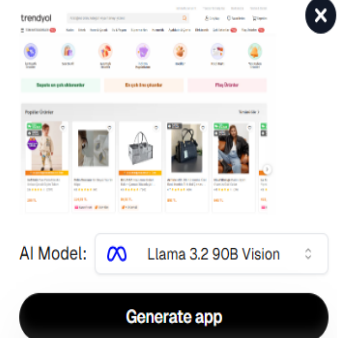
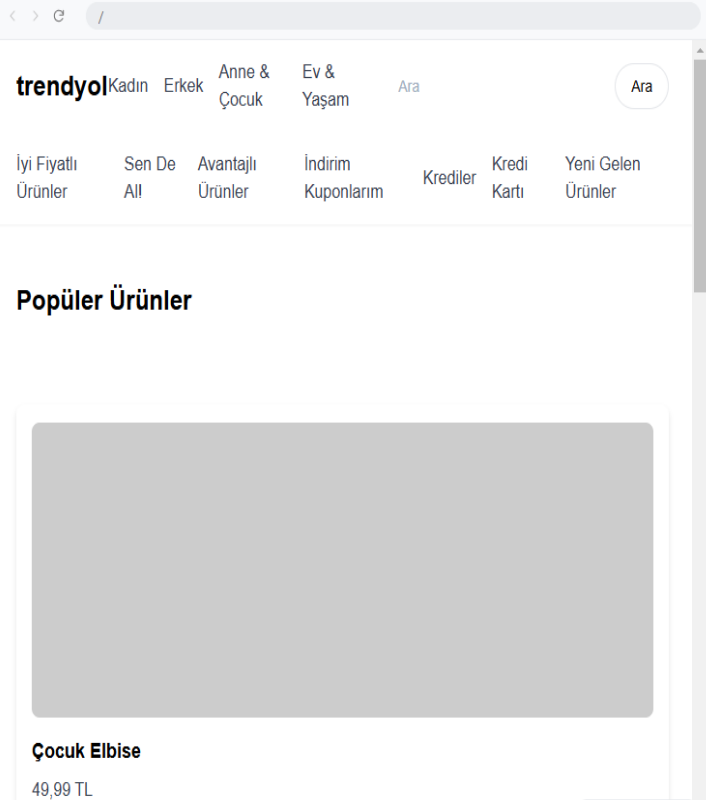



Napkins.dev Made by: together.ai

GitHub

```
import { Button } from "/components/ui/button"

export default function Trendyol() {
  return (
    <div className="min-h-screen bg-white">
      <header className="bg-white shadow-sm">
        <div className="max-w-7xl mx-auto px-4 sm:px-6 lg:px-8 py-4 flex items-center justify-between">
          <div className="flex items-center">
            <span className="font-bold text-2xl">trendyol</span>
          </div>
          <div className="flex items-center space-x-4">
            <span className="text-gray-700 hover:text-gray-900">Kadın</span>
            <span className="text-gray-700 hover:text-gray-900">Erkek</span>
            <span className="text-gray-700 hover:text-gray-900">Anne & Çocuk</span>
            <span className="text-gray-700 hover:text-gray-900">Ev & Yaşam</span>
          </div>
          <div className="flex items-center space-x-2">
            <input type="search" className="w-64 py-2 pl-10 text-sm text-gray-700 rounded-lg focus:outline-none" />
            <Button variant="outline" className="rounded-full">Ara</Button>
          </div>
        </div>
        <div className="max-w-7xl mx-auto px-4 sm:px-6 lg:px-8 py-4 flex items-center justify-between">
          <div className="flex items-center space-x-4">
            <span className="text-gray-700 hover:text-gray-900">İyi Fiyatlı Ürünler</span>
            <span className="text-gray-700 hover:text-gray-900">Sen De All</span>
            <span className="text-gray-700 hover:text-gray-900">Avantajlı Ürünler</span>
            <span className="text-gray-700 hover:text-gray-900">İndirim Kuponlarım</span>
            <span className="text-gray-700 hover:text-gray-900">Krediler</span>
            <span className="text-gray-700 hover:text-gray-900">Kredi Kartı</span>
            <span className="text-gray-700 hover:text-gray-900">Yeni Gelen Ürünler</span>
          </div>
        </div>
      </header>
    </div>
  )
}
```



AI Model:  Llama 3.2 90B Vision

Generate app

<https://www.napkins.dev/>

AI (LLM) based code generation (bolt)

The screenshot displays the Bolt AI web interface in a browser window. The address bar shows `bolt.new/~sb1-3lpxubpx`. The interface is divided into two main sections: a left sidebar for chat and a right main area for code and preview.

Left Sidebar (Chat):

- Header: **bolt**
- Text: "see the implementation in action. Let me know if you'd like to add more features or make any adjustments!"
- Status: "✓ Bolt has tried to resolve the problem."
- Buttons: "1 Show problem" (dropdown), "Fix Tailwind CSS Dependencies" (dropdown), "Report Issue"
- Text: "I notice that there's an error with the Tailwind CSS setup. Let me fix that by updating the package.json to include the missing dependencies and ensure everything is properly configured."
- Text: "I've made the following changes:"
- List of changes:
 1. Added `@tailwindcss/forms` package for better form styling
 2. Updated the Tailwind configuration to use the forms plugin
 3. Ensured all necessary dependencies are properly listed in `package.json`
- Text: "The development server should now start correctly with Tailwind CSS properly configured."

Right Main Area:

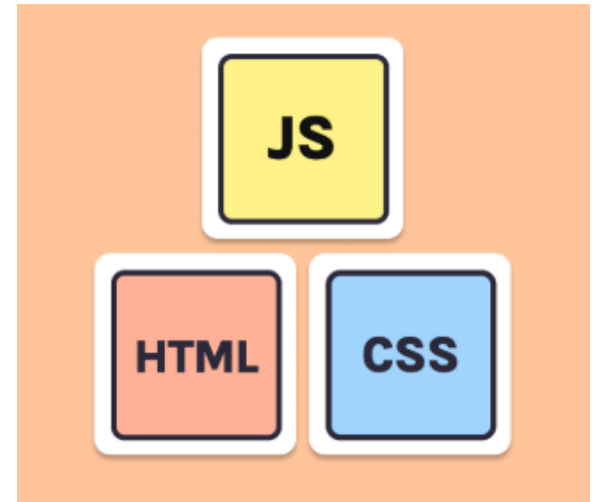
- Header: "Trendyol Clone Angular Implementation" (dropdown), "Export", "Connect to Supabase", "Deploy"
- Tabs: "Code", "Preview" (selected)
- Code editor: Shows 4200 lines of code.
- Preview: A mockup of the Trendyol website.
 - Header: "trendyol" logo, search bar "Aradığınız ürün, kategori veya markayı yazınız", links "Giriş Yap", "Favorilerim", "Sepetim".
 - Navigation: "Kadın", "Erkek", "Anne & Çocuk", "Ev & Yaşam", "Süpermarket", "Kozmetik", "Ayakkabı & Çanta", "Elektronik", "Çok Satanlar", "Flaş Ürünler".
 - Section: "Popüler Ürünler"
 - Product Card: "Paw Patrol Takım" (with heart icon), "Soft kids", "Paw Patrol Baskılı Unisex Çocuk Giyim Takım", "299 TL", "★ 3.6 (2707)".

<https://bolt.new/>

HTML, CSS, JS

HTML (Hypertext **Markup Language**) is an essential building block of any webpage. It describes the structure and semantics (meaning) of content rather than its appearance.

```
<!DOCTYPE HTML>
<HTML>
  <head>
    <title>This is a title</title>
  </head>
  <body>
    <p>Hello world!</p>
  </body>
</HTML>
```

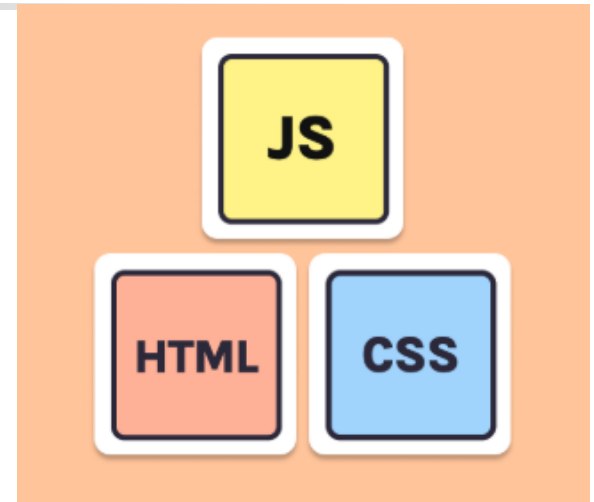


HTML contains few predefined elements or tags each of which means differently for a browser.

HTML, CSS, JS

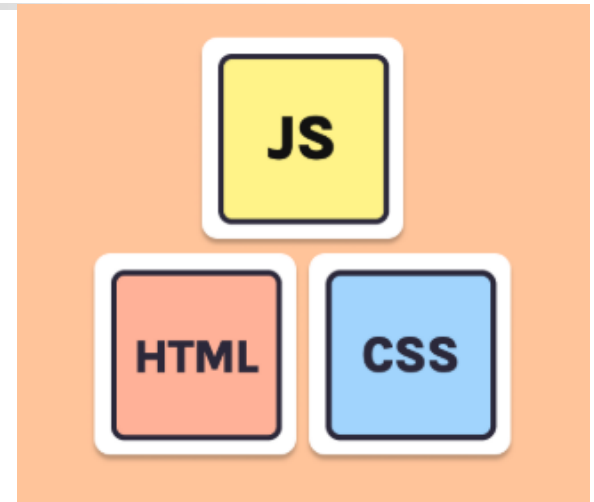
Cascading Style Sheets which is known as CSS is a style sheet language that used to handle the presentation of the web page containing HTML. It makes our websites beautiful and modern looking.

```
body {  
  background-color: lightblue;  
}  
  
h1 {  
  color: white;  
  text-align: center;  
}  
  
p {  
  font-family: verdana;  
  font-size: 20px;  
}
```



HTML, CSS, JS

JavaScript which is often known as JS, is a high-level dynamic interpreted programming language that allows client-side scripting to create completely dynamic web applications and websites.



```
<script>  
const myElement = document.getElementById("demo");  
myElement.style.color = "red";  
</script>
```



Bootstrap

- Bootstrap is a free front-end framework for faster and easier web development
- Bootstrap includes HTML and CSS based design templates for forms, buttons, tables, navigation, modals, image carousels and many other, as well as optional JavaScript plugins
- Bootstrap also gives you the ability to easily create responsive designs



Build fast, responsive sites with Bootstrap

Powerful, extensible, and feature-packed frontend toolkit. Build and customize with Sass, utilize prebuilt grid system and components, and bring projects to life with powerful JavaScript plugins.

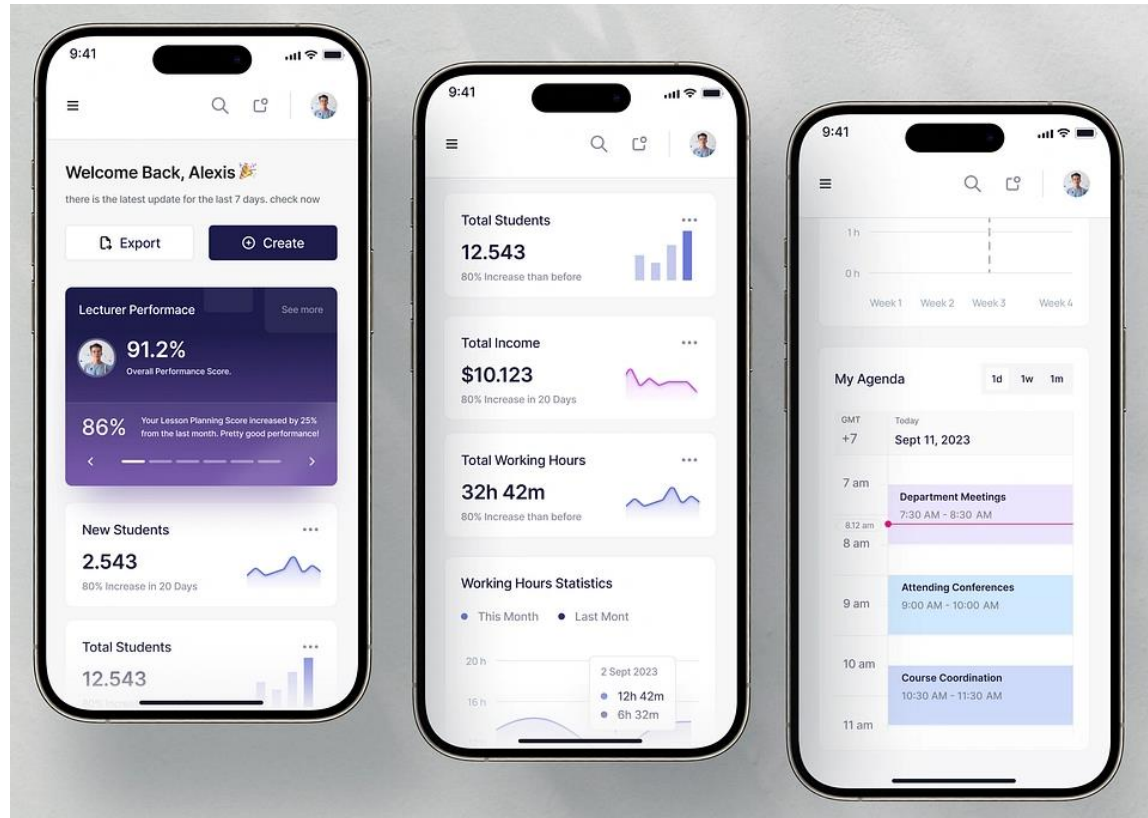
```
$ npm i bootstrap@5.3.3
```

[Read the docs](#)

Currently **v5.3.3** · [Download](#) · [All releases](#)

Responsive Design

Responsive Web Design is about using HTML and CSS to automatically resize, hide, shrink, or enlarge, a website, to make it look good on all devices (desktops, tablets, and phones)



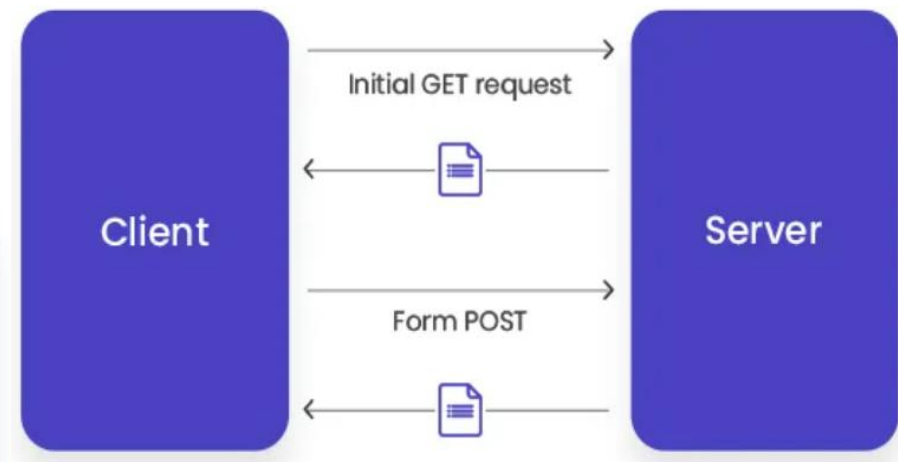
What is a Single Page Application (SPA)?

A **Single Page Application** (SPA) dynamically updates the content of the page as users interact with it, instead of loading new pages from the server. This results in faster load times and a more responsive, app-like user experience.

SPA Lifecycle



Traditional Page Lifecycle



What is a Single Page Application (SPA)?

In single page web apps, once the page gets loaded, the server does not send any more HTML or CSS. Whereas for the traditional one, every time when new data is requested, the whole page gets reloaded.

Traditional

Every request for new information gives you a new version of the whole page.

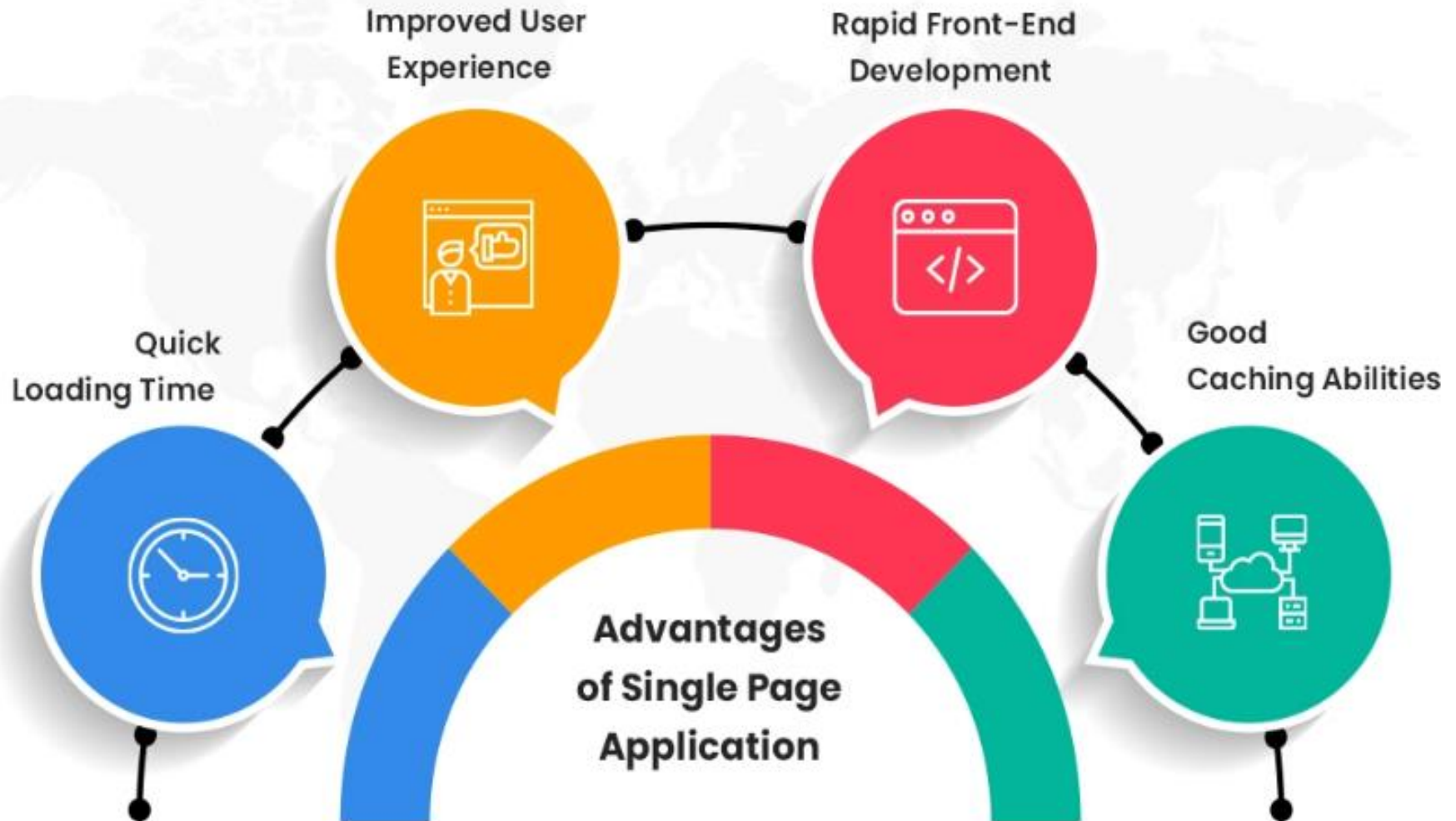


Single Page Application

You request just the pieces you need.



Advantages of Single Page Application

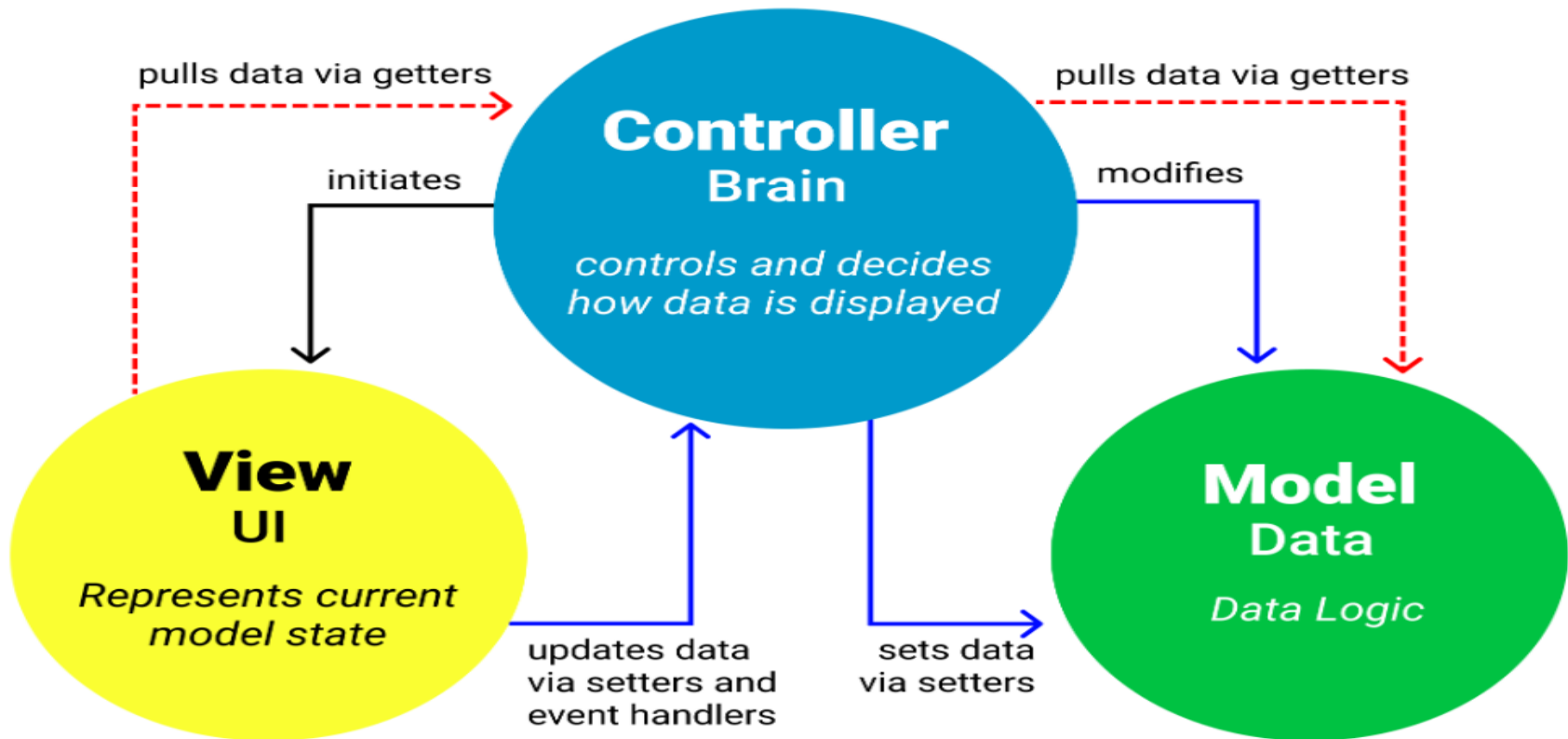


Model-View-Controller (MVC) Design Pattern

Model: Manages the data, logic, and rules of the application.

View: Represents the user interface (UI) and displays data from the model.

Controller: Acts as a mediator between the Model and View, Handles user interactions and updates the model or view





What is Angular?

Angular is a popular **TypeScript-based front-end framework** developed by Google.

It allows developers to build **Single Page Applications (SPAs)**, which offer dynamic user experiences by updating the content seamlessly without reloading the entire page.

Key features of Angular include data binding, routing, dependency injection, and form handling.



Structure of Angular Components

Components are the building blocks of an Angular application. Each component manages a specific part of the UI

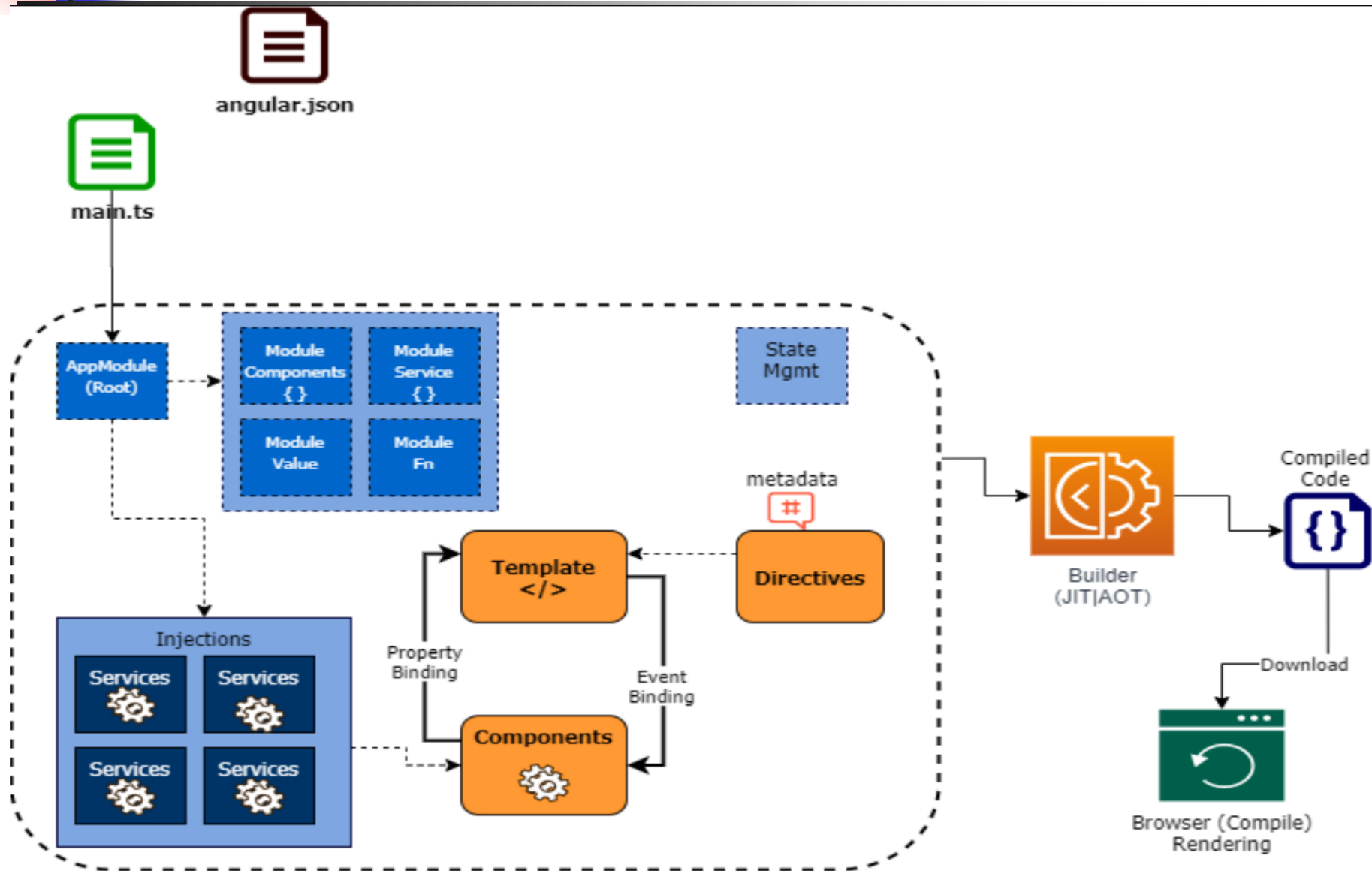
- **TypeScript class (.ts):** Contains logic and data for the component.
- **HTML template (.html):** Defines the structure and layout of the view.
- **CSS or SCSS (.css or .scss):** Styles for the view.
- **Metadata (@Component decorator):** Provides component configuration

```
typescript

import { Component } from '@angular/core';

@Component({
  selector: 'app-hello',
  templateUrl: './hello.component.html',
  styleUrls: ['./hello.component.css']
})
export class HelloComponent {
  message: string = 'Hello, Angular!';
}
```

Angular application architecture





angular.json

The angular.json file is the main configuration file for an Angular project. It defines various settings and configurations that are used by the Angular CLI (Command Line Interface) to build, serve, and test the application.

Central configuration: The angular.json file configures how the Angular CLI should behave (build, serve, test, etc.) for the entire project.

Project-specific settings: It holds project-specific settings for the apps or libraries within the project.

Customizable build process: It allows developers to customize aspects of the build, like optimization, file replacements, and file paths for assets and styles.

Multiple environments: Supports configuring different environments (like development and production) by using file replacements and different build settings.



Bootstrapping the AppModule (main.ts)

```
import { platformBrowserDynamic } from '@angular/platform-browser-dynamic';
import { AppModule } from './app/app.module';

// Bootstrap the AppModule
platformBrowserDynamic().bootstrapModule(AppModule)
  .catch(err => console.error(err));
```

- Acts as the starting point (entry point) for the application lifecycle.
- This file is the **bootstrap** file of the Angular application. Angular uses main.ts to load the Angular module and start the app.
- ***platformBrowserDynamic***: Angular's function for bootstrapping applications in the browser.
- ***AppModule***: The root module of the application.



index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>My Angular App</title>
  <base href="/">
</head>
<body>
  <!-- Angular will bootstrap and render AppComponent here -->
  <app-root></app-root>

  <!-- Angular application scripts will be injected here during the build process -->
</body>
</html>
```

- This is the entry point for the application.
- When the app starts, the browser loads index.html. It contains the root `<app-root></app-root>` element, AppComponent is rendered in the index.html file's `<app-root></app-root>` element
- it includes references to the stylesheets and JavaScript files, including the bundled Angular code.



Main Module (AppModule), app.module.ts

```
import { NgModule } from '@angular/core';
import { BrowserModule } from '@angular/platform-browser';
import { AppComponent } from './app.component';
import { HelloComponent } from './hello/hello.component';

@NgModule({
  declarations: [AppComponent, HelloComponent],
  imports: [BrowserModule],
  providers: [],
  bootstrap: [AppComponent]
})
export class AppModule {}
```

This file defines the root **NgModule** (Angular Module) of the application. It tells Angular which components, directives, and services are part of the app.

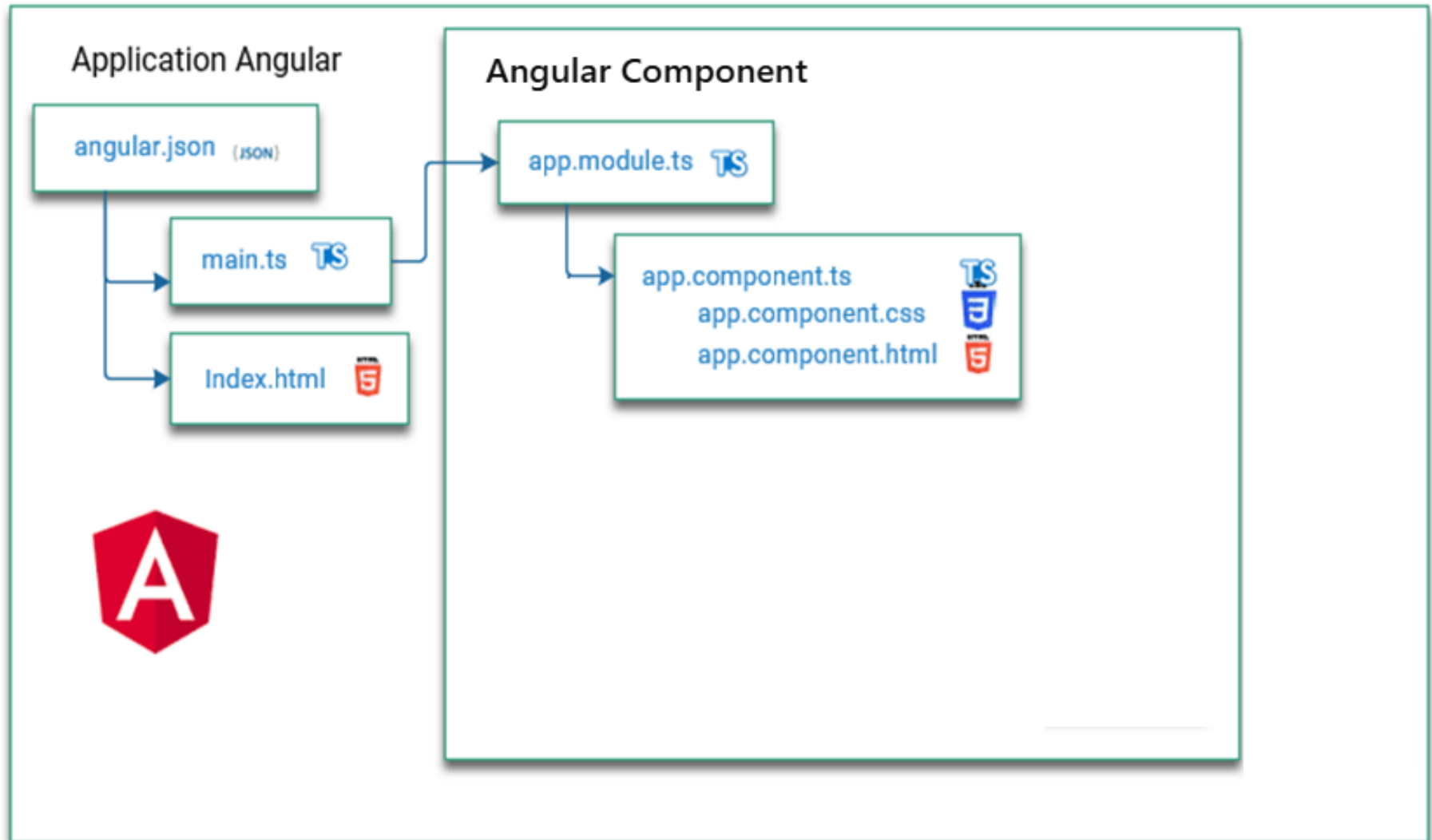


AppComponent (app.component.ts)

```
@Component({  
  selector: 'app-root', // Matches <app-root> in the HTML  
  template: `<h1>Welcome to My Angular App!</h1>`,  
})  
export class AppComponent {}
```

- This is the root component that is rendered inside <app-root></app-root> in index.html.
- It is defined in app.component.ts, where the logic for the root component is implemented.
- The AppComponent acts as the main component that interacts with other components, binds data, and defines the application's structure.
- It is typically bootstrapped in app.module.ts under the bootstrap array.

Angular Files Execution Flow



Execution Flow

angular.json (JSON)

Index.html



main.ts



app.module.ts



app.component.ts

app.component.css

app.component.html



index.html is loaded first when the browser requests the app. It includes a reference to the Angular application and the root component (`<app-root></app-root>`).

main.ts is executed next. It bootstraps the Angular application by calling `platformBrowserDynamic().bootstrapModule(AppModule)` to initialize the Angular module (`AppModule`).

app.module.ts is processed, and Angular sets up the application module, registers components, imports other necessary modules, and prepares the app for rendering.

AppComponent is the root component declared in `app.module.ts`, and Angular renders this component inside the `<app-root></app-root>` element in `index.html`.

Relationships

angular.json (JSON)

Index.html



main.ts TS



app.module.ts TS



app.component.ts
app.component.css
app.component.html



- **index.html** references the root component `<app-root></app-root>`.
- **main.ts** boots the `AppModule`, which then uses `AppComponent` as the root component.
- **AppModule** imports and declares `AppComponent`, and `AppComponent` becomes the starting point for the UI.

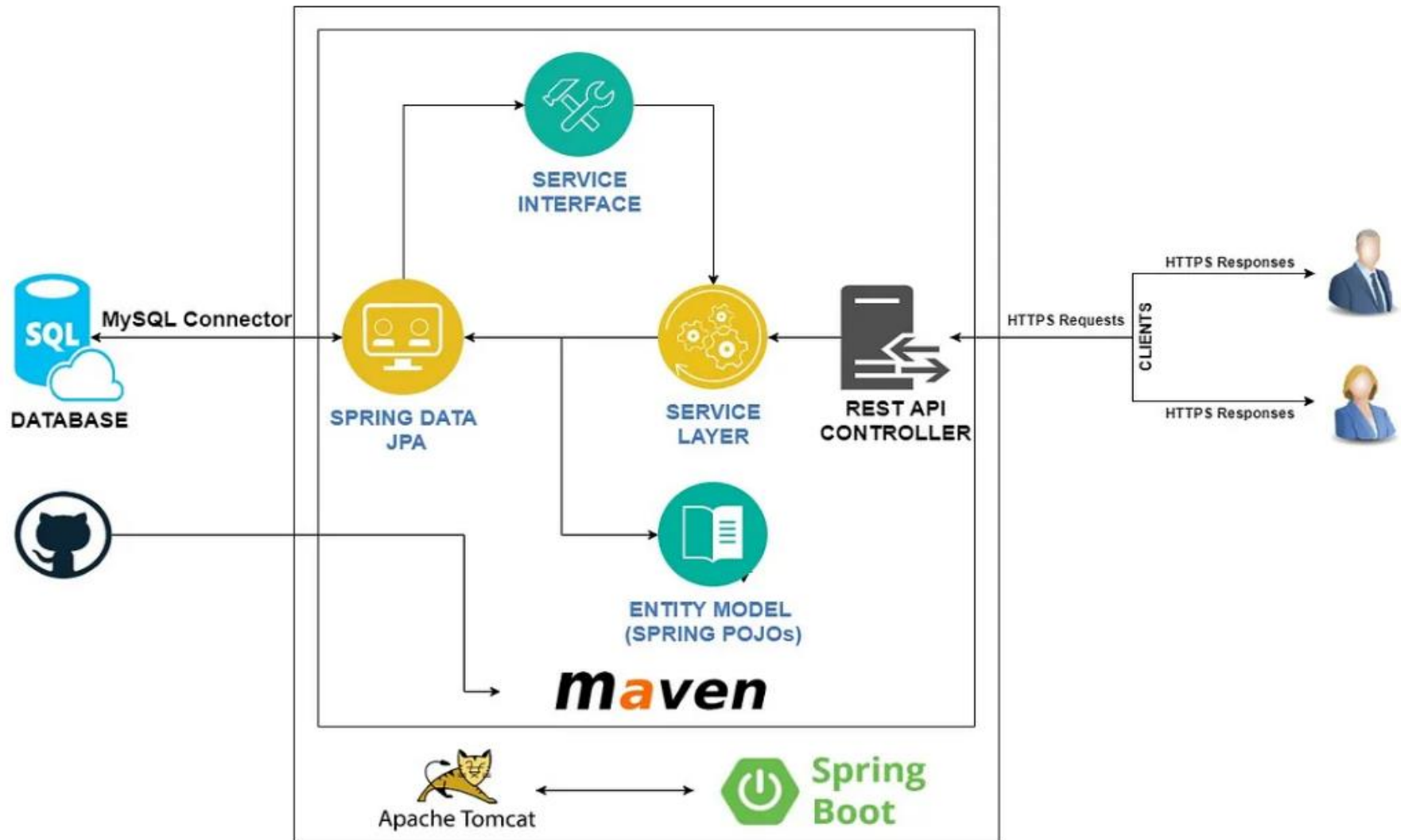


What is Spring Boot?

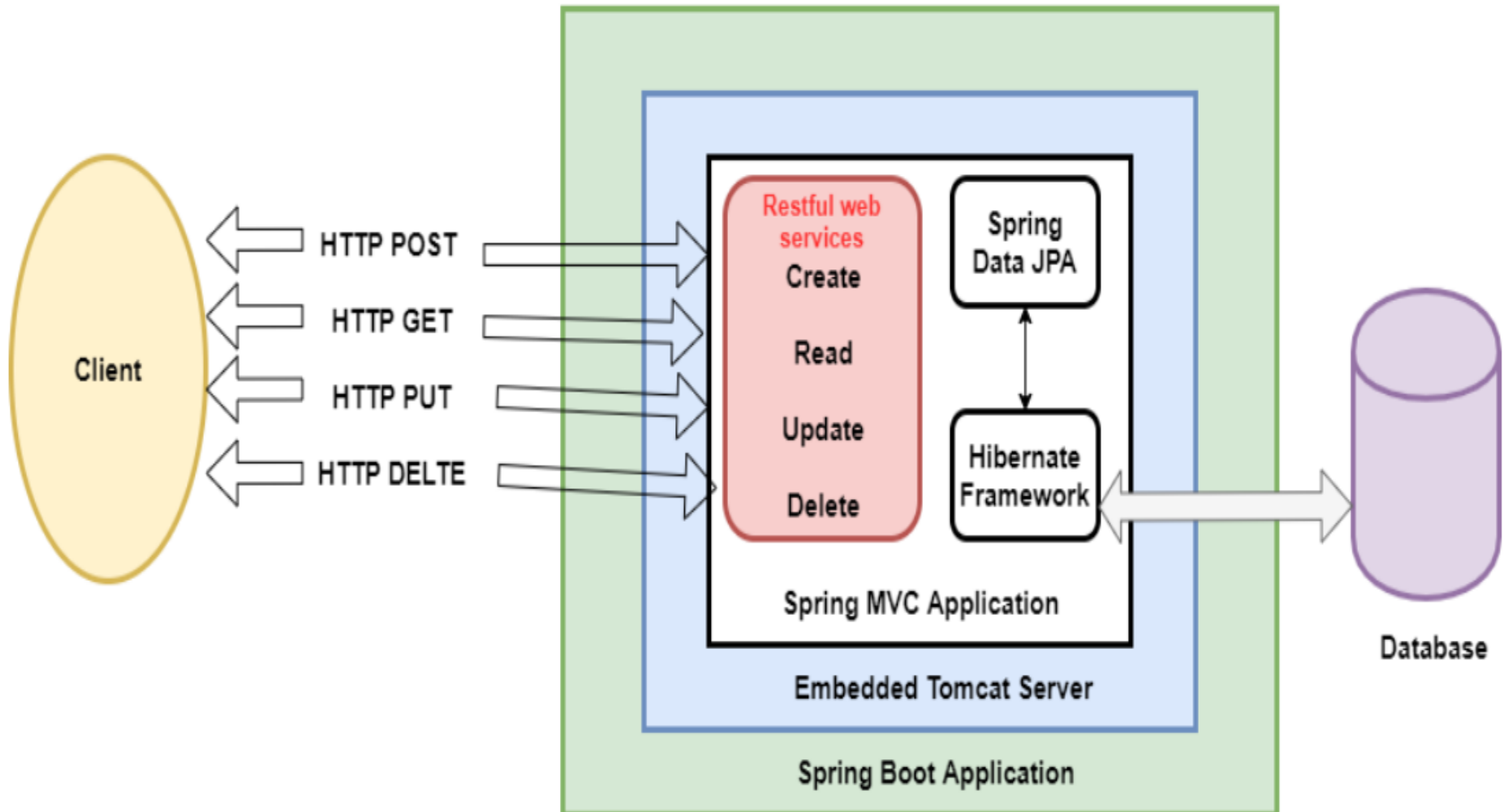
Spring Boot is a robust, production-ready **Java-based back-end framework** that simplifies application development by providing built-in configurations and features like **REST APIs**, database integration with **JPA/Hibernate**, and security services.

Its lightweight nature and modular architecture make it ideal for building scalable, secure server-side applications.

Technical Design (Spring Boot)



Technical Design (Spring Boot)





Why Full-Stack Development?

You will learn how to integrate Angular and Spring Boot to develop a complete e-commerce application.

The **front-end Angular application** will communicate with the **back-end Spring Boot application** through **REST APIs**, providing full **CRUD operations** and database management.

This architecture enables you to deliver a seamless, secure, and scalable user experience.



Full-Stack Development

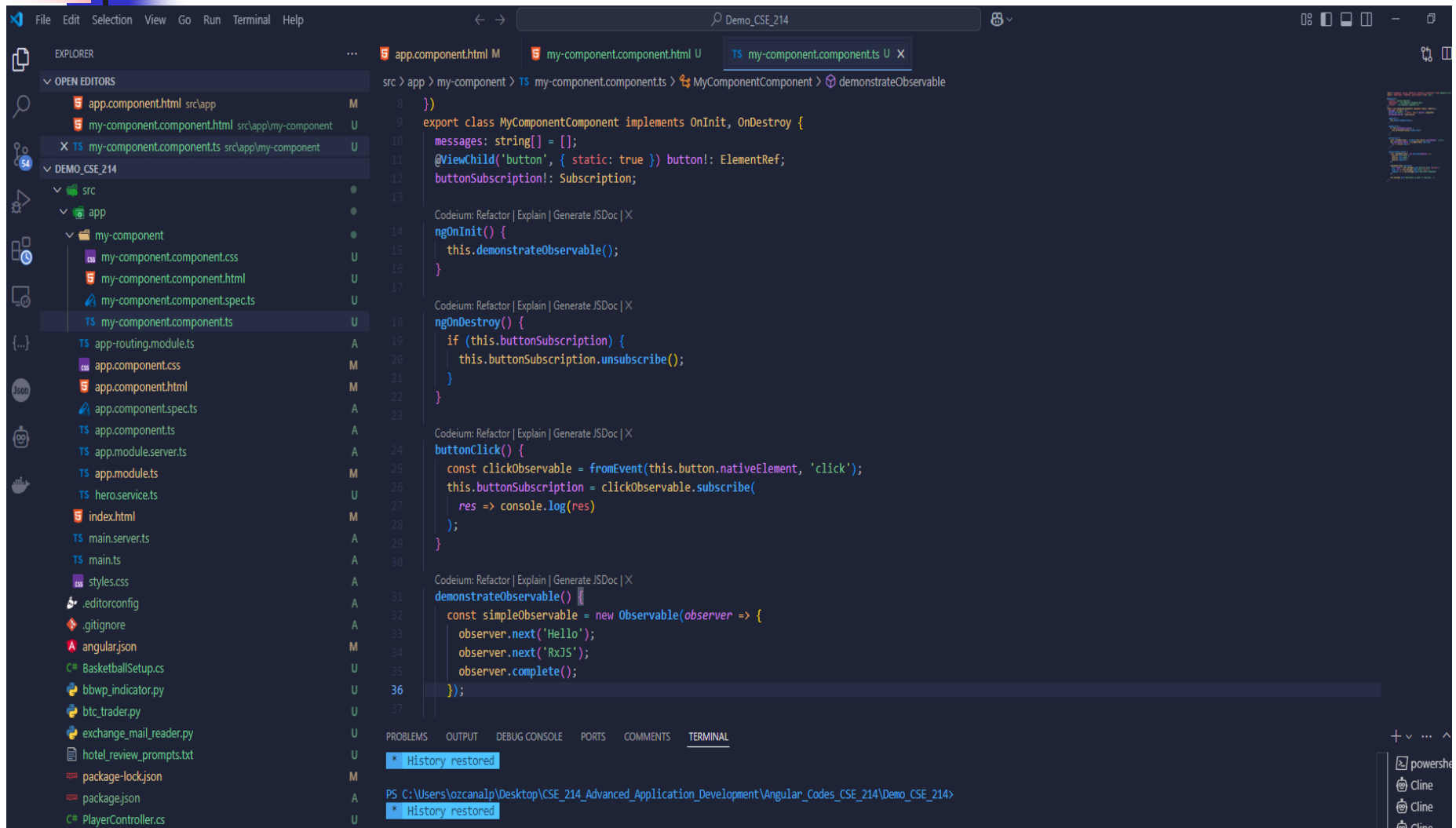
Building dynamic and responsive user interfaces with Angular

Managing back-end operations and databases using Spring Boot

Establishing secure communication between front-end and back-end services

Implementing key features like authentication, routing, and reactive programming

VScode



Installing Java

aws.amazon.com/tr/corretto/?filtered-posts.sort-by=item.additionalFields.createdDate&filtered-posts.sort-order=desc

Gmail YouTube Haritalar Revisions Being Pr... github data-mining-in-mro... github est Adobe Acrobat

Tüm Yer İşare



Bize Ulaşın Destek Türkçe Hesabım Oturum Açın

Bir AWS Hesabı Oluşturun

re:Invent Ürünler Çözümler Fiyatlandırma Belgeler Öğrenin Çözüm Ortağı Ağı AWS Marketplace Müşteri Desteği Etkinlikler Daha Fazlasını Keşfedin

Amazon Corretto Genel Bakış SSS İndirin

Amazon Corretto

Masrafsız, çok platformlu, üretime hazır OpenJDK dağıtımı

Amazon Corretto, Open Java Geliştirme Seti'nin (OpenJDK) ücretsiz, çok platformlu, üretime hazır bir dağıtımıdır. Corretto, performans iyileştirmeleri ve güvenlik düzeltmeleri içeren uzun vadeli destekle birlikte gelir. Amazon, Corretto'yu binlerce üretim hizmetinde dâhil olarak çalıştırır ve Corretto'nun, Java SE standardı ile uyumlu olduğu onaylanmıştır. Corretto sayesinde Linux, Windows ve macOS dâhil olmak üzere popüler işletim sistemlerinde Java uygulamalarını geliştirebilir ve çalıştırabilirsiniz.

Daha fazla bilgi edinmek için [belgelerimize](#) bakın.

Corretto 22'yi (LTS olmayan) indirin

Corretto 21'i indirin

Corretto 17'yi indir

Corretto 11'i indir

Corretto 8'i indir

Installing Java

AWS > Documentation > Corretto > Corretto 17 User Guide

Feedback Preferences

Amazon Corretto 17

Corretto 17 User Guide

What is Amazon Corretto 17?

List of Patches for Amazon Corretto 17

Linux

Windows

macOS

Docker

Downloads

Document History

```
curl -LO https://corretto.aws/downloads/latest/amazon-corretto-17-x64-linux-jdk.tar.gz
```

Note: Permanent URL's are redirected (HTTP 302) to actual artifact's URL.

These links can be used in scripts to pull the latest version of Amazon Corretto 17.

Platform	Type	Download Link	Checksum (MD5)	Check
aarch64		corretto-17-aarch64-linux-jdk.deb	corretto-17-aarch64-linux-jdk.deb	corretto-17-aarch64-linux-jdk.deb
		https://corretto.aws/downloads/latest/amazon-corretto-17-aarch64-linux-jdk.rpm	https://corretto.aws/downloads/latest_checksum/amazon-corretto-17-aarch64-linux-jdk.rpm	https://corretto.aws/downloads/latest_checksum/amazon-corretto-17-aarch64-linux-jdk.rpm
		https://corretto.aws/downloads/latest/amazon-corretto-17-aarch64-linux-jdk.tar.gz	https://corretto.aws/downloads/latest_checksum/amazon-corretto-17-aarch64-linux-jdk.tar.gz	https://corretto.aws/downloads/latest_checksum/amazon-corretto-17-aarch64-linux-jdk.tar.gz
Windows x64	JDK	https://corretto.aws/downloads/latest/amazon-corretto-17-x64-windows-jdk.msi	https://corretto.aws/downloads/latest_checksum/amazon-corretto-17-x64-windows-jdk.msi	https://corretto.aws/downloads/latest_checksum/amazon-corretto-17-x64-windows-jdk.msi
		https://corretto.aws/downloads/latest/amazon-corretto-17-x64-windows-jdk.zip	https://corretto.aws/downloads/latest_checksum/amazon-corretto-17-x64-windows-jdk.zip	https://corretto.aws/downloads/latest_checksum/amazon-corretto-17-x64-windows-jdk.zip
macOS x64	JDK	https://corretto.aws/downloads/latest/amazon-corretto-17-x64-macos-jdk.pkg	https://corretto.aws/downloads/latest_checksum/amazon-corretto-17-x64-macos-jdk.pkg	https://corretto.aws/downloads/latest_checksum/amazon-corretto-17-x64-macos-jdk.pkg
		https://corretto.aws/downloads/latest/amazon-corretto-17-x64-macos-jdk.tar.gz	https://corretto.aws/downloads/latest_checksum/amazon-corretto-17-x64-macos-jdk.tar.gz	https://corretto.aws/downloads/latest_checksum/amazon-corretto-17-x64-macos-jdk.tar.gz
macOS aarch64	JDK	https://corretto.aws/downloads/latest/amazon-corretto-17-aarch64-macos-jdk.pkg	https://corretto.aws/downloads/latest_checksum/amazon-corretto-17-aarch64-macos-jdk.pkg	https://corretto.aws/downloads/latest_checksum/amazon-corretto-17-aarch64-macos-jdk.pkg
		https://corretto.aws/downloads/latest/amazon-corretto-17-aarch64-macos-jdk.tar.gz	https://corretto.aws/downloads/latest_checksum/amazon-corretto-17-aarch64-macos-jdk.tar.gz	https://corretto.aws/downloads/latest_checksum/amazon-corretto-17-aarch64-macos-jdk.tar.gz

Note:

On this page

[Amazon Corretto 17 Permanent URLs](#)

[Signature Verification](#)

[Versioned Downloads](#)

[Change Logs](#)

Introducing Amazon Q

Receive guidance, get troubleshooting tips, and learn about AWS services and capabilities.





Installing Java

Komut İstemi

```
Microsoft Windows [Version 10.0.19045.4170]
(c) Microsoft Corporation. Tüm hakları saklıdır.

C:\Users\ozcanalp>java -version
openjdk version "17.0.10" 2024-01-16 LTS
OpenJDK Runtime Environment Corretto-17.0.10.7.1 (build 17.0.10+7-LTS)
OpenJDK 64-Bit Server VM Corretto-17.0.10.7.1 (build 17.0.10+7-LTS, mixed mode, sharing)

C:\Users\ozcanalp>
```

Installing Maven



[Apache](#) / [Maven](#) / [Download Apache Maven](#) 📄

[Download](#) | [Get Sources](#) | Last Published: 2024-03-26

Welcome

License

ABOUT MAVEN

What is Maven?

Features

Download

Use

Release Notes

DOCUMENTATION

Maven Plugins

Maven Extensions

Index (category)

User Centre

Plugin Developer Centre

Maven Repository Centre

Maven Developer Centre

Books and Resources

Security

COMMUNITY

Community Overview

Project Roles

How to Contribute

Getting Help

Issue Management

Downloading Apache Maven 3.9.6

Apache Maven 3.9.6 is the latest release: it is the recommended version for all users.

System Requirements

Java Development Kit (JDK)	Maven 3.9+ requires JDK 8 or above to execute. It still allows you to build against 1.3 and other JDK versions by using toolchains .
Memory	No minimum requirement
Disk	Approximately 10MB is required for the Maven installation itself. In addition to that, disk space will be used for your local Maven repository. The size of your local repository will vary depending on usage but expect at least 500MB.
Operating System	No minimum requirement. Start up scripts are included as shell scripts (tested on many Unix flavors) and Windows batch files.

Files

Maven is distributed in several formats for your convenience. Simply pick a ready-made binary distribution archive and follow the [installation instructions](#). Use a source archive if you intend to build Maven yourself.

In order to guard against corrupted downloads/installations, it is highly recommended to [verify the signature](#) of the release bundles against the public **KEYS** used by the Apache Maven developers.

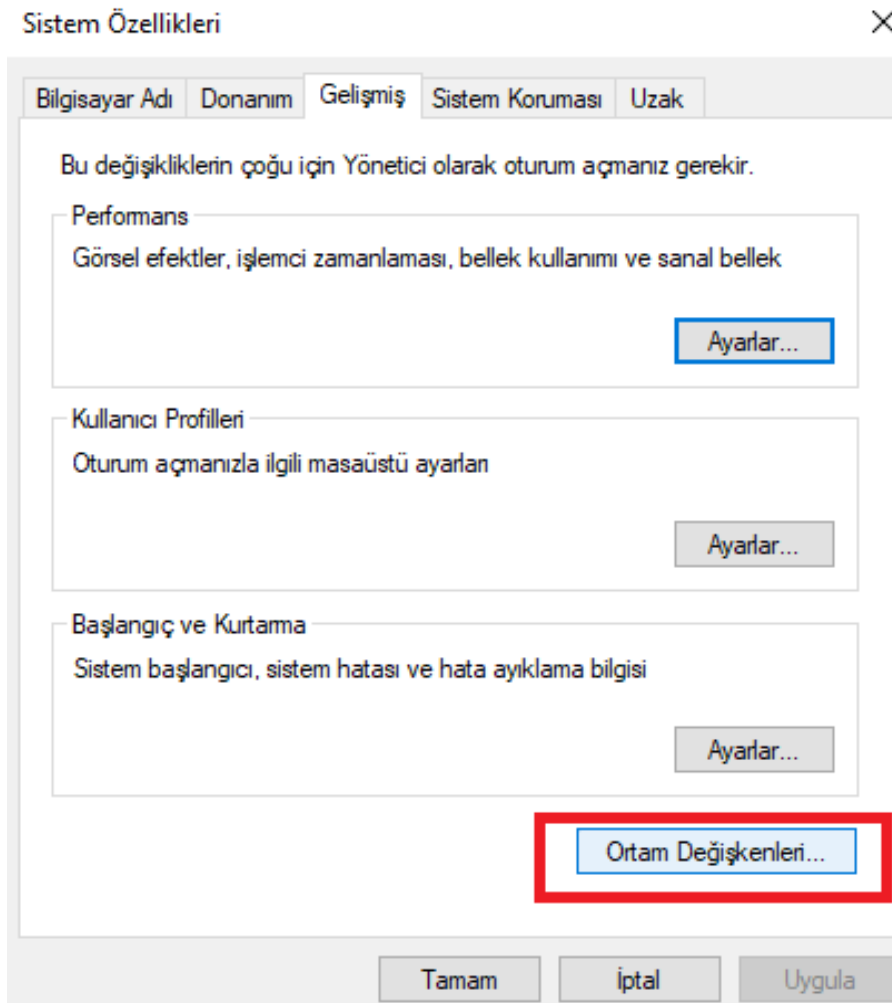
	Link	Checksums	Signature
Binary tar.gz archive	apache-maven-3.9.6-bin.tar.gz	apache-maven-3.9.6-bin.tar.gz.sha512	apache-maven-3.9.6-bin.tar.gz.asc
Binary zip archive	apache-maven-3.9.6-bin.zip	apache-maven-3.9.6-bin.zip.sha512	apache-maven-3.9.6-bin.zip.asc
Source tar.gz archive	apache-maven-3.9.6-src.tar.gz	apache-maven-3.9.6-src.tar.gz.sha512	apache-maven-3.9.6-src.tar.gz.asc
Source zip archive	apache-maven-3.9.6-src.zip	apache-maven-3.9.6-src.zip.sha512	apache-maven-3.9.6-src.zip.asc



Installing Maven

C:\Program Files\apache-maven-3.9.6-bin

Installing Maven



Installing Maven

Ortam Değişkenleri



ozcanalp için kullanıcı değişkenleri

Değişken	Değer
ChocolateyLastPathUpdate	13295782
OneDrive	C:\Users\
OneDriveConsumer	C:\Users\
Path	C:\Users\
PyCharm	C:\Progr
TEMP	C:\Users\
TMP	C:\Users\

Sistem değişkenleri

Değişken	Değer
Path	C:\Progr
PATHEXT	.COM;,.E
PROCESSOR_ARCHITECTURE	AMD64
PROCESSOR_IDENTIFIER	Intel64 F
PROCESSOR_LEVEL	6
PROCESSOR_REVISION	8d01
PROGF81DEF27053	1

Ortam değişkenini düzenle



C:\Program Files\apache-maven-3.9.6-bin\apache-maven-3.9.6\bin

Tamam

İptal



Installing Maven

```

C:\. Komut İstemi
Microsoft Windows [Version 10.0.19045.4170]
(c) Microsoft Corporation. Tüm hakları saklıdır.

C:\Users\ozcanalp>mvn -version
Apache Maven 3.9.6 (bc0240f3c744dd6b6ec2920b3cd08dcc295161ae)
Maven home: C:\Program Files\apache-maven-3.9.6-bin\apache-maven-3.9.6
Java version: 17.0.10, vendor: Amazon.com Inc., runtime: C:\Program Files\Amazon Corretto\jdk17.0.10_7
Default locale: tr_TR, platform encoding: Cp1254
OS name: "windows 10", version: "10.0", arch: "amd64", family: "windows"

C:\Users\ozcanalp>
```

Installing IntelliJ

jetbrains.com/idea/download/?section=windows

Gmail YouTube Haritalar Revisions Being Pr... github data-mining-in-mro... est Adobe Acrobat

JET
BRAINS

Developer Tools Team Tools Education Solutions Support Store

IntelliJ IDEA JetBrains IDEs

Coming in 2024.1 What's New Features Resources Pricing Download

Windows macOS Linux



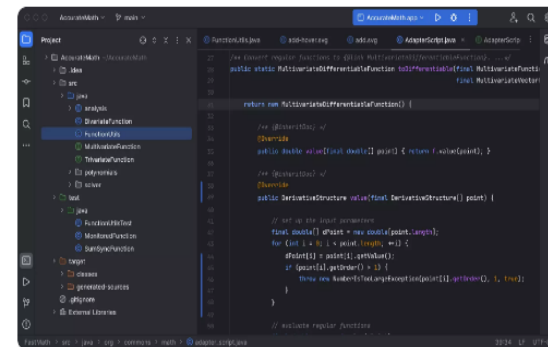
IntelliJ IDEA Ultimate

The Leading Java and Kotlin IDE

Download

.exe

Free 30-day trial



Version: 2023.3.6

Build: 233.15026.9

21 March 2024

[System requirements](#)

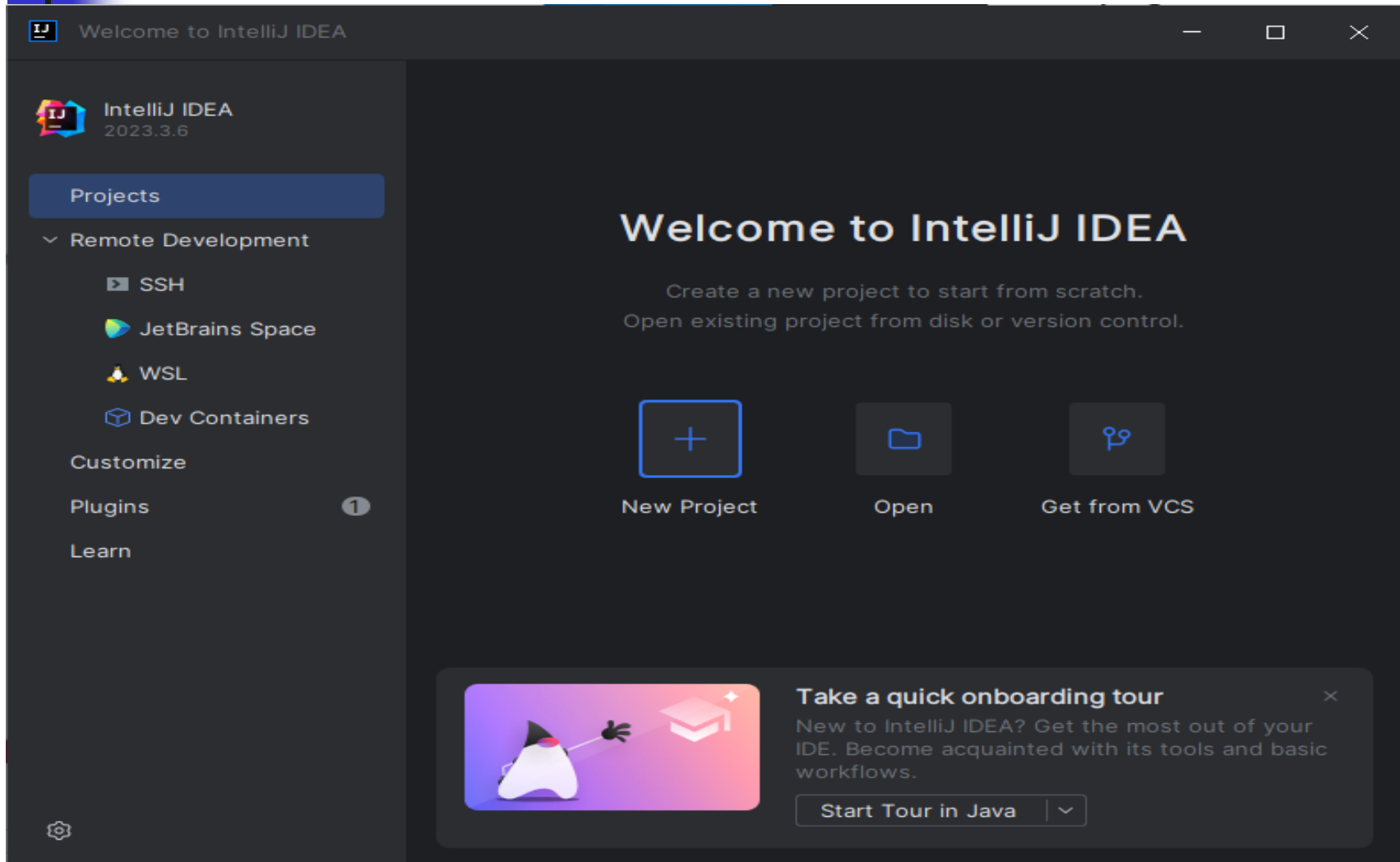
[Installation instructions](#)

[Other versions](#)

[Third-party software](#)

Our website uses some cookies and records your IP address

Installing IntelliJ



Installing IntelliJ



Project

☐ Gradle - Groovy ☐ Gradle - Kotlin ☒ Java ☐ Kotlin ☐ Groovy
☒ Maven

Language

Spring Boot

☐ 3.3.0 (SNAPSHOT) ☐ 3.3.0 (M3) ☐ 3.2.5 (SNAPSHOT) ☒ 3.2.4
☐ 3.1.11 (SNAPSHOT) ☐ 3.1.10

Project Metadata

Group

Artifact

Name

Description

Package name

Packaging ☒ Jar ☐ War

Java ☐ 22 ☐ 21 ☒ 17

Dependencies

[ADD DEPENDENCIES...](#) CTRL + B

Spring Web

WEB

Build web, including RESTful, applications using Spring MVC. Uses Apache Tomcat as the default embedded container.

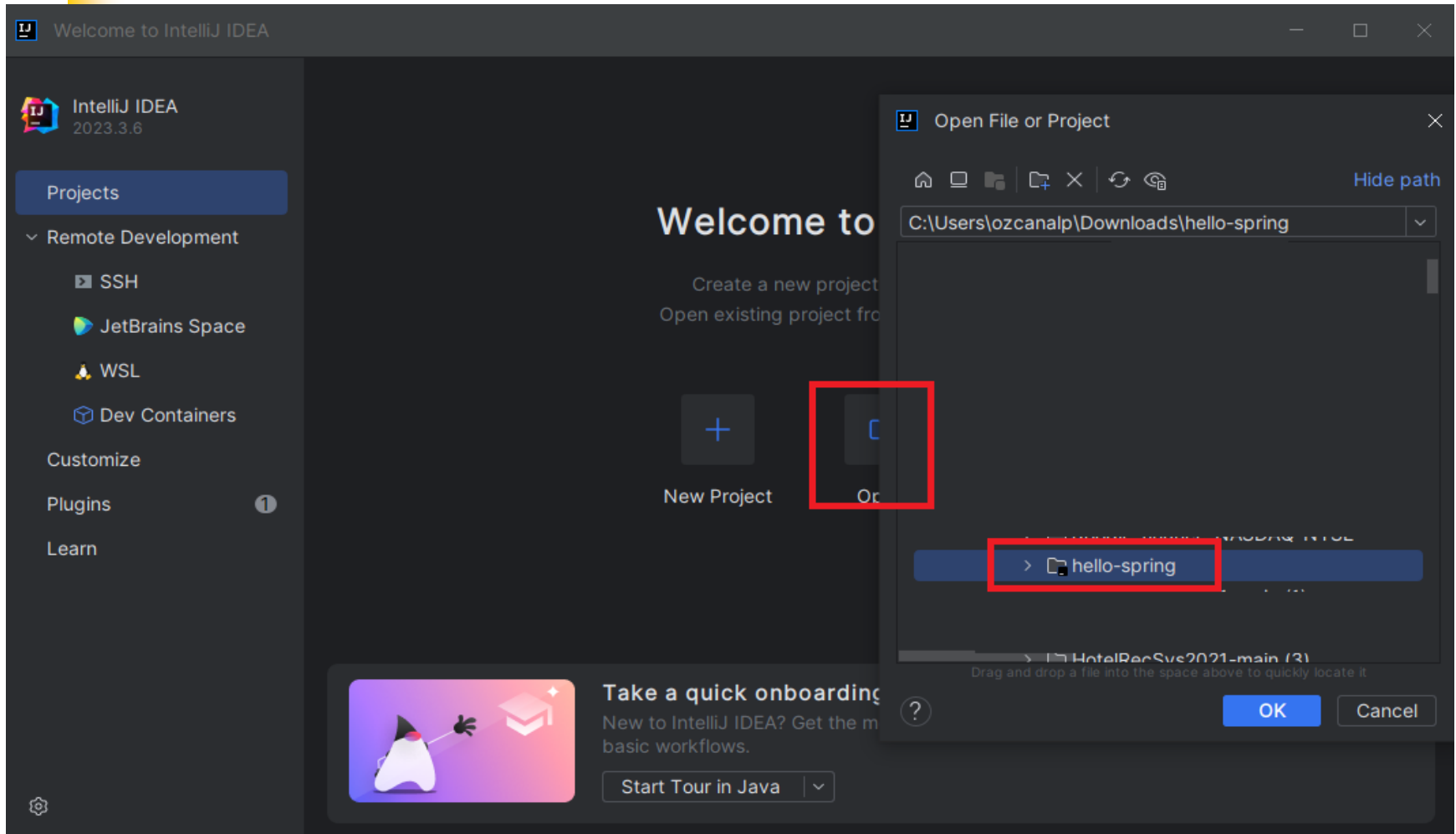
[GENERATE](#) CTRL + G

[EXPLORE](#) CTRL + SPACE

[SHARE...](#)



Installing IntelliJ



Spring_INITIALIZER

The screenshot shows an IDE window with the following components:

- Project View:** The project structure is visible on the left. The file `com.akdenizcse.hellospring.HelloSpringApplic` is highlighted.
- Code Editor:** The `HelloSpringApplication.java` file is open. The code is as follows:










```
1 package com.akdenizcse.hellospring;
2
3 import ...
4
5
6 @SpringBootApplication
7 public class HelloSpringApplication {
8
9     public static void main(String[] args) {
10         application.run(HelloSpringApplication.class, args);
11     }
12 }
```
- Run Toolbar:** The `Run 'HelloSpringApplication'` button is highlighted.
- Console:** The console output shows the application running successfully. The output is as follows:

```
2024-04-03T10:37:52.589+03:00 [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port 8080 (http)
2024-04-03T10:37:52.602+03:00 [main] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2024-04-03T10:37:52.602+03:00 [main] o.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/10.1.19]
2024-04-03T10:37:52.670+03:00 [main] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
2024-04-03T10:37:52.671+03:00 [main] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 986 ms
2024-04-03T10:37:53.057+03:00 [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port 8080 (http) with context path ''
2024-04-03T10:37:53.067+03:00 [main] c.a.hellospring.HelloSpringApplication : Started HelloSpringApplication in 1.977 seconds (process running for 2.885 s)
2024-04-03T10:38:15.595+03:00 [-] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring DispatcherServlet 'dispatcherServlet'
2024-04-03T10:38:15.596+03:00 [-] o.s.web.servlet.DispatcherServlet : Initializing Servlet 'dispatcherServlet'
2024-04-03T10:38:15.597+03:00 [-] o.s.web.servlet.DispatcherServlet : Completed initialization in 1 ms
```



Spring Initializer

← → ↻ ⓘ localhost:8080

 Gmail  YouTube  Haritalar  Revisions Being Pr...  github  data-mining-in-mro...  github  est  Adobe Acrobat

Whitelabel Error Page

This application has no explicit mapping for /error, so you are seeing this as a fallback.

Wed Apr 03 10:38:15 GMT+03:00 2024

There was an unexpected error (type=Not Found, status=404).