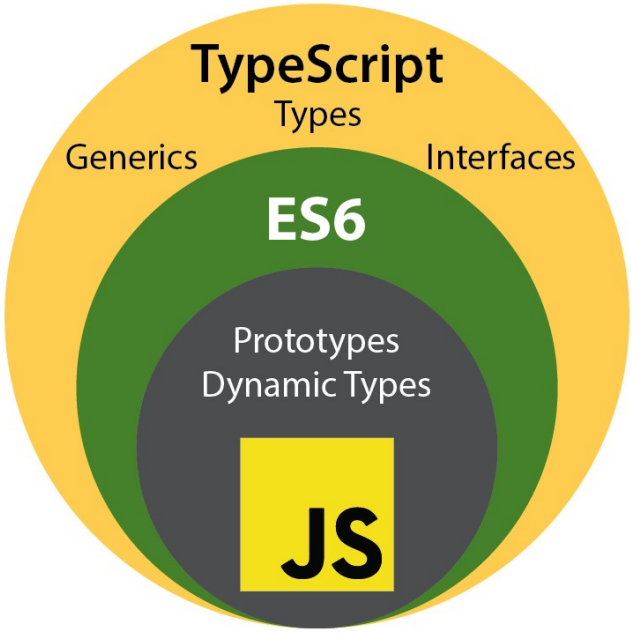
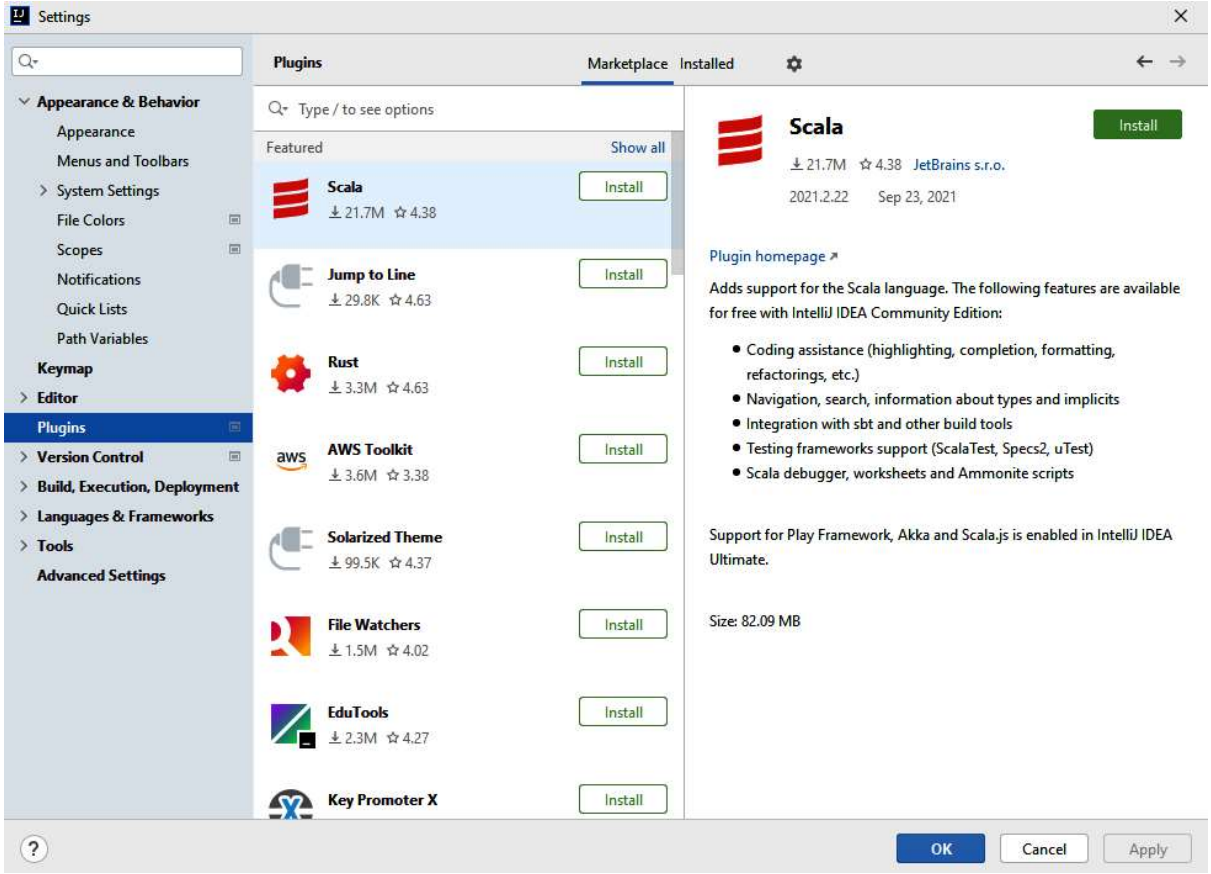
Chapter 1: Spring Boot and Angular- The Big Picture

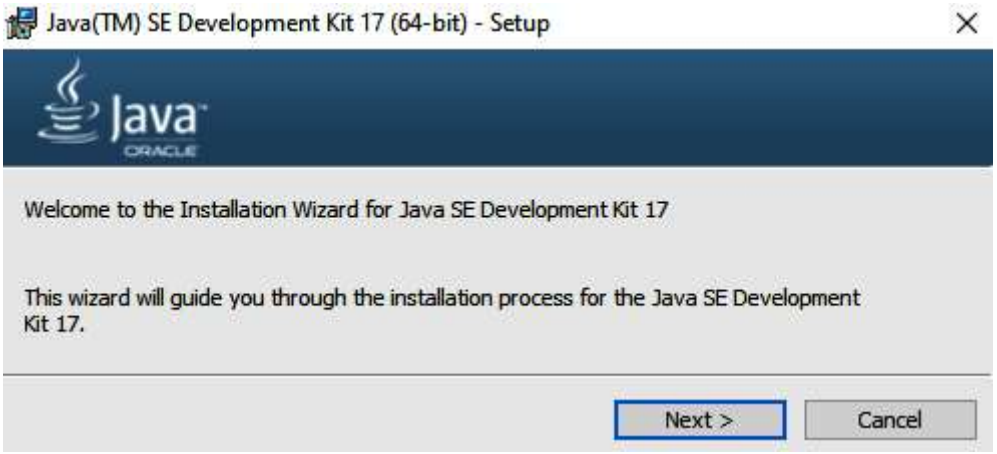


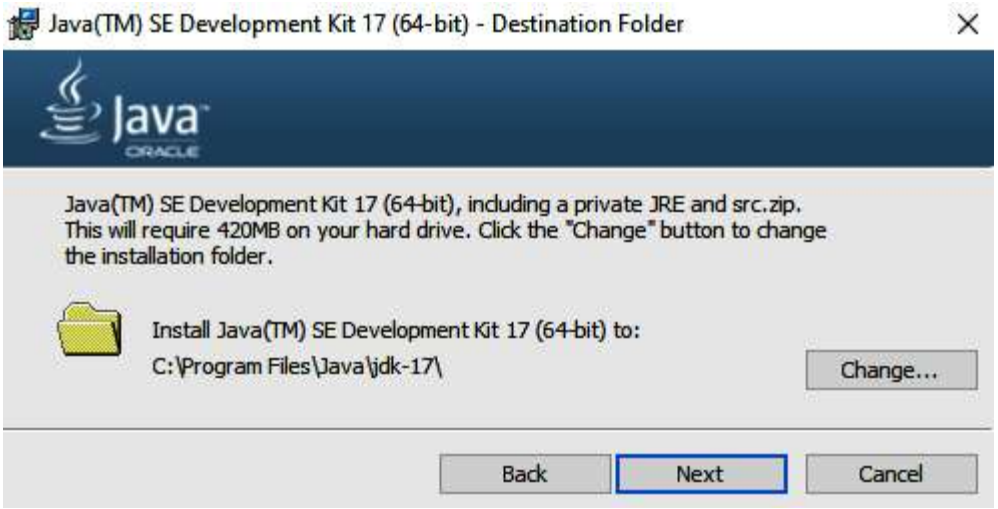
Chapter 2: Setting Up the Development Environment

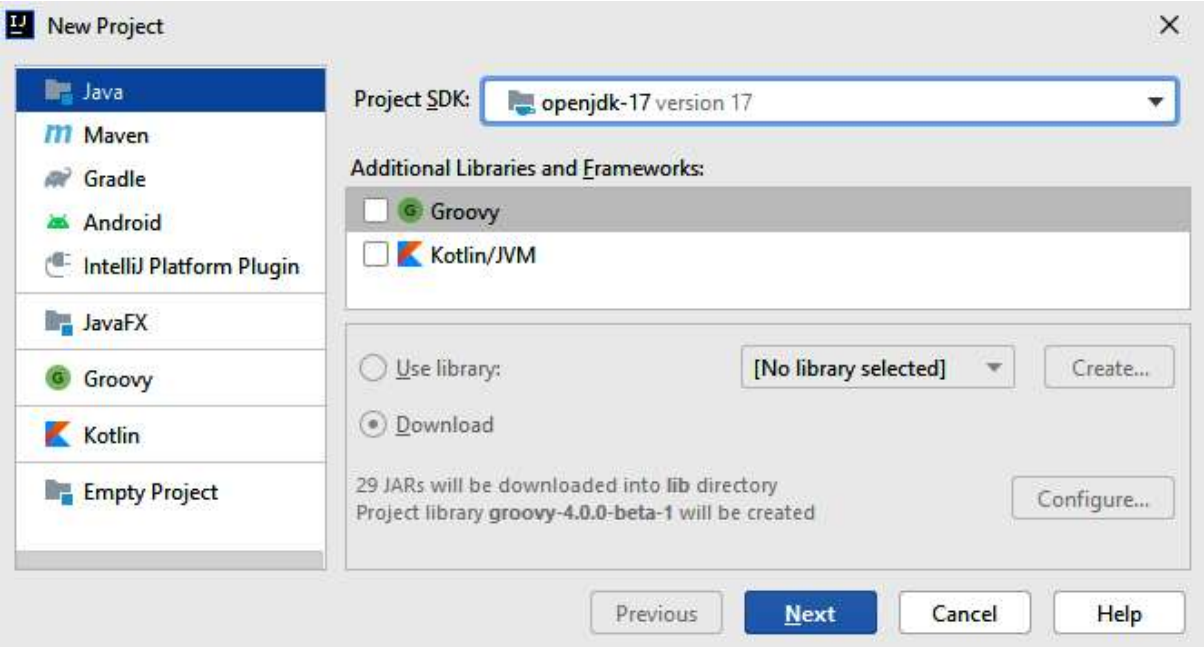


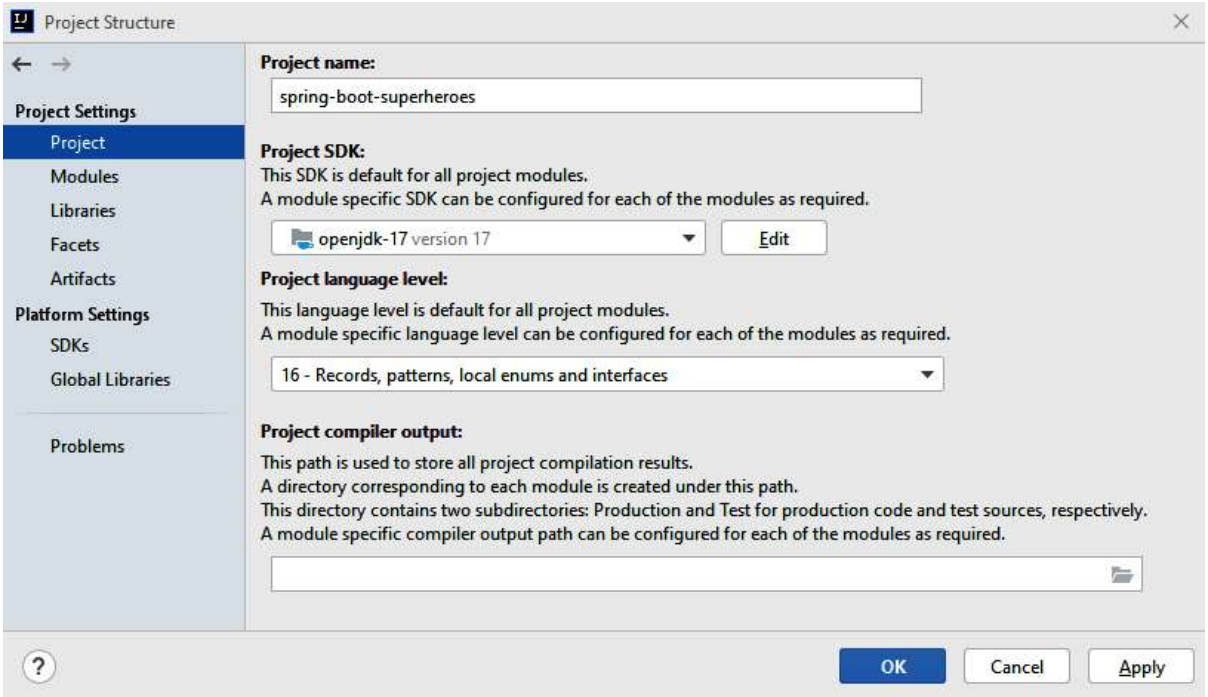
Linux **macOS** **Windows**

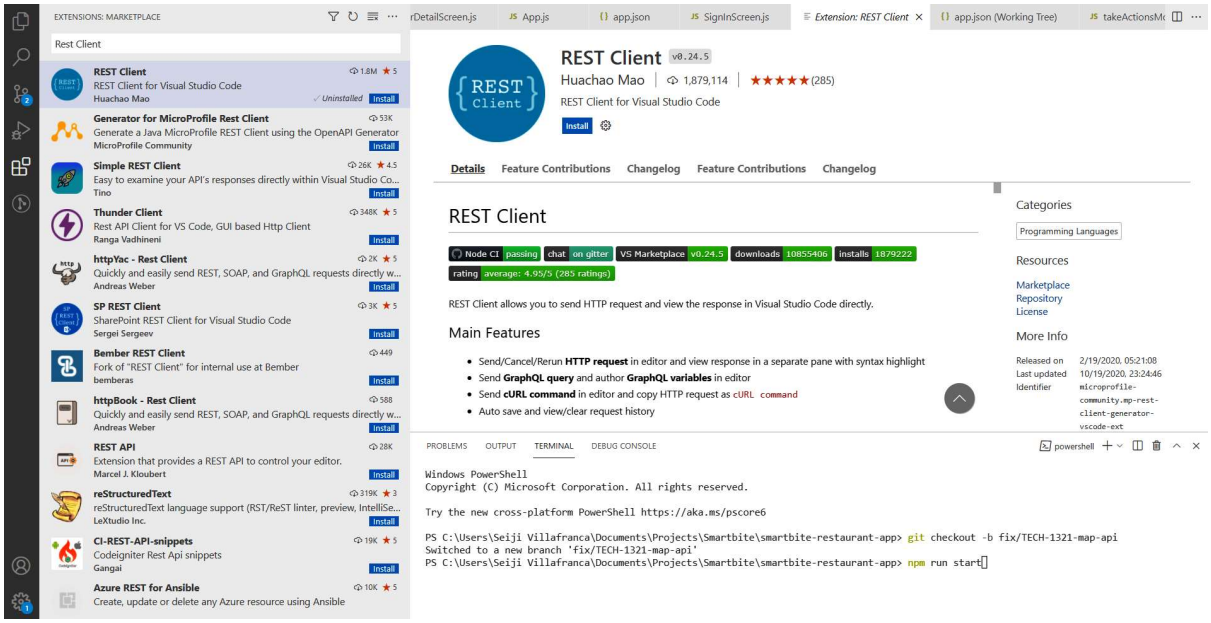
Product/file description	File size	Download
x64 Compressed Archive	170.64 MB	https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.zip (sha256)
x64 Installer	151.99 MB	https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.exe (sha256)
x64 MSI Installer	150.88 MB	https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.msi (sha256)

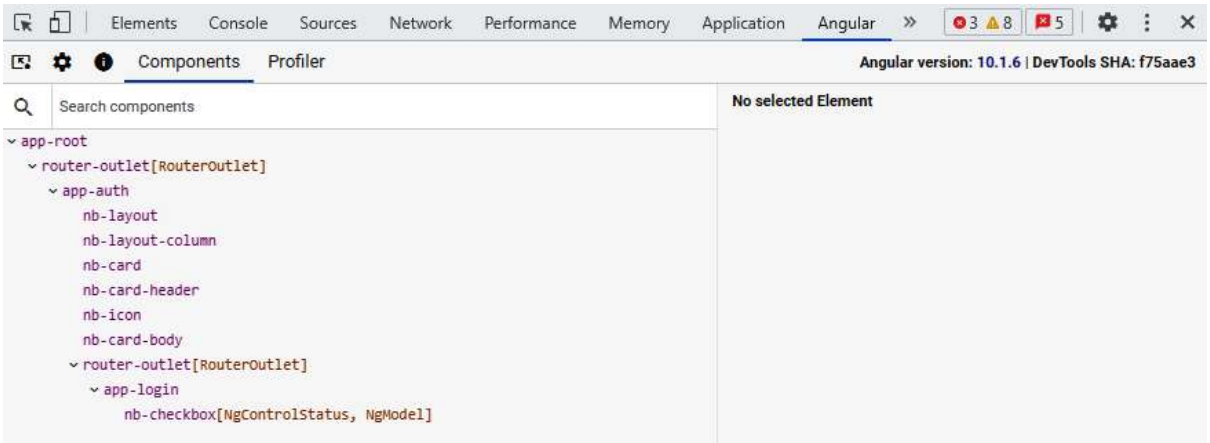



Java(TM) SE Development Kit 17 (64-bit) - Destination Folder
Java
ORACLE
Java(TM) SE Development Kit 17 (64-bit), including a private JRE and src.zip.
This will require 420MB on your hard drive. Click the "Change" button to change the installation folder.
Install Java(TM) SE Development Kit 17 (64-bit) to:
C:\Program Files\Java\jdk-17\
Change...
Back
Next
Cancel

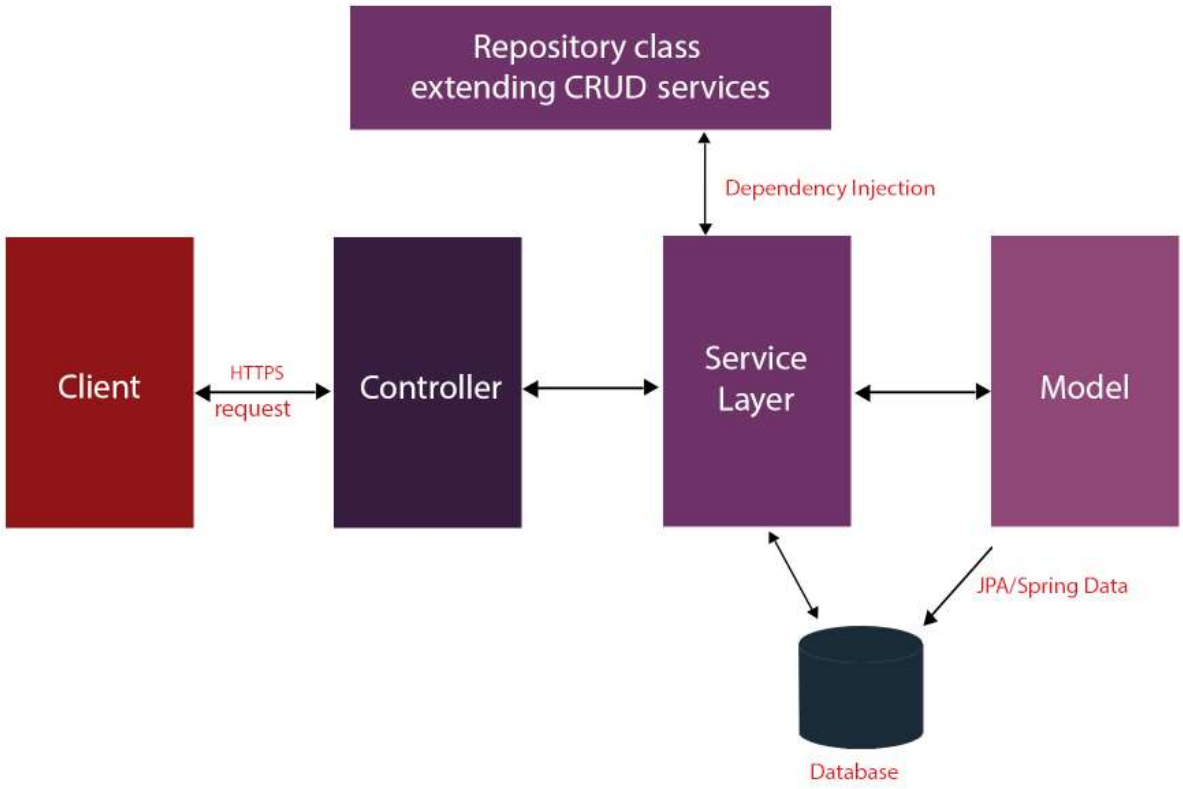

New Project
Java
Maven
Gradle
Android
IntelliJ Platform Plugin
JavaFX
Groovy
Kotlin
Empty Project
Project SDK:
openjdk-17 version 17
Additional Libraries and Frameworks:
Groovy
Kotlin/JVM
Use library:
[No library selected]
Create...
Download
29 JARs will be downloaded into lib directory
Project library groovy-4.0.0-beta-1 will be created
Configure...
Previous
Next
Cancel
Help

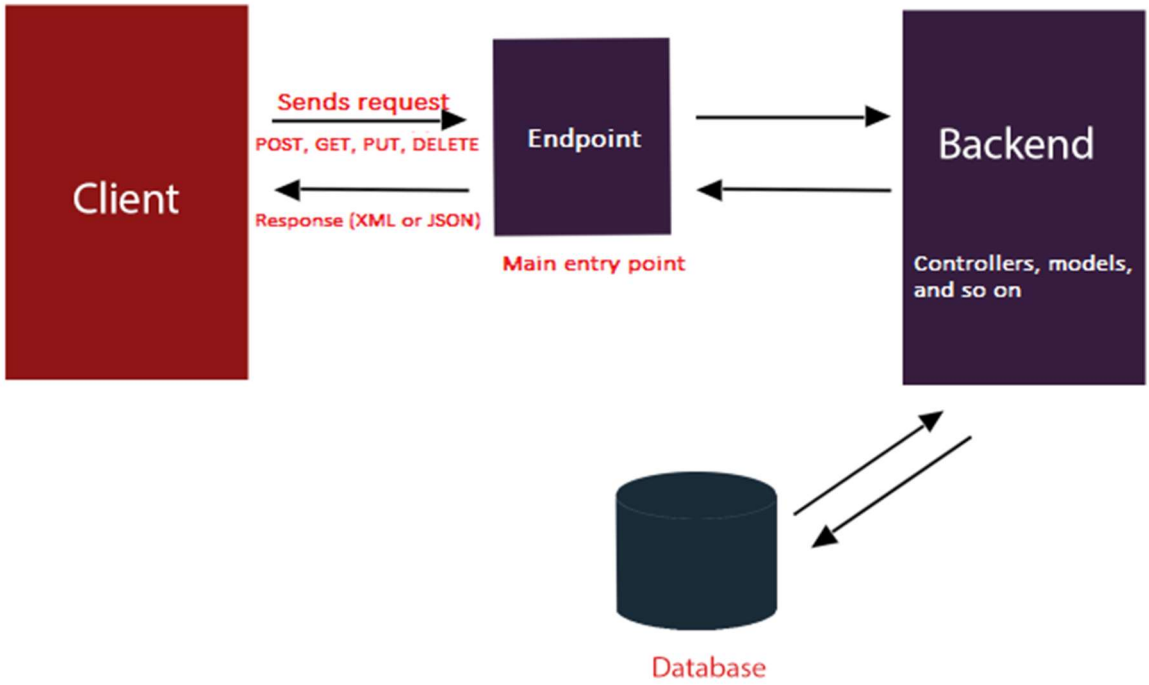

Project Structure
Project Settings
Project
Modules
Libraries
Facets
Artifacts
Platform Settings
SDKs
Global Libraries
Problems
Project name:
spring-boot-superheroes
Project SDK:
This SDK is default for all project modules.
A module specific SDK can be configured for each of the modules as required.
openjdk-17 version 17
Edit
Project language level:
This language level is default for all project modules.
A module specific language level can be configured for each of the modules as required.
16 - Records, patterns, local enums and interfaces
Project compiler output:
This path is used to store all project compilation results.
A directory corresponding to each module is created under this path.
This directory contains two subdirectories: Production and Test for production code and test sources, respectively.
A module specific compiler output path can be configured for each of the modules as required.
OK
Cancel
Apply


EXTENSIONS: MARKETPLACE
Rest Client
REST Client
REST Client for Visual Studio Code
Huachao Mao
Generator for MicroProfile Rest Client
Generate a Java MicroProfile REST Client using the OpenAPI Generator
MicroProfile Community
Simple REST Client
Easy to examine your API's responses directly within Visual Studio Co...
Tino
Thunder Client
Rest API Client for VS Code, GUI based Http Client
Ranga Vadhineni
httpYac - Rest Client
Quickly and easily send REST, SOAP, and GraphQL requests directly w...
Andreas Weber
SP REST Client
SharePoint REST Client for Visual Studio Code
Sergei Sergeev
Bember REST Client
Fork of "REST Client" for internal use at Bember
bemberas
httpBook - Rest Client
Quickly and easily send REST, SOAP, and GraphQL requests directly w...
Andreas Weber
REST API
Extension that provides a REST API to control your editor.
Marcel J. Kloubert
reStructuredText
reStructuredText language support (RST/ReST linter, preview, IntelliSe...
LeXtudio Inc.
CI-REST-API-snippets
Codeigniter Rest Api snippets
Gangai
Azure REST for Ansible
Create, update or delete any Azure resource using Ansible
REST Client v0.24.5
Huachao Mao | 1,879,114 | ★★★★★(285)
REST Client for Visual Studio Code
Install
Details
Feature Contributions
Changelog
Feature Contributions
Changelog
REST Client
Node CI passing
chat on gitter
VS Marketplace v0.24.5
downloads 10855406
installs 1879222
rating average: 4.95/5 (285 ratings)
REST Client allows you to send HTTP request and view the response in Visual Studio Code directly.
Main Features
Send/Cancel/Rerun HTTP request in editor and view response in a separate pane with syntax highlight
Send GraphQL query and author GraphQL variables in editor
Send cURL command in editor and copy HTTP request as cURL command
Auto save and view/clear request history
Categories
Programming Languages
Resources
Marketplace
Repository
License
More Info
Released on 2/19/2020, 05:21:08
Last updated 10/19/2020, 23:24:46
Identifier microprofile-community.mp-rest-client-generator-vscode-ext
PROBLEMS
OUTPUT
TERMINAL
DEBUG CONSOLE
powershell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.
Try the new cross-platform PowerShell https://aka.ms/pscore6
PS C:\Users\Seiji Villafranca\Documents\Projects\Smartbite\smartbite-restaurant-app> git checkout -b fix/TECH-1321-map-api
Switched to a new branch 'fix/TECH-1321-map-api'
PS C:\Users\Seiji Villafranca\Documents\Projects\Smartbite\smartbite-restaurant-app> npm run start


Elements
Console
Sources
Network
Performance
Memory
Application
Angular
Components
Profiler
Angular version: 10.1.6 | DevTools SHA: f75aae3
Search components
No selected Element
app-root
router-outlet[RouterOutlet]
app-auth
nb-layout
nb-layout-column
nb-card
nb-card-header
nb-icon
nb-card-body
router-outlet[RouterOutlet]
app-login
nb-checkbox[NgControlStatus, NgModel]

Chapter 3: Moving into Spring Boot





Project
- ○ Maven Project
- ● Gradle Project

Language
- ● Java
- ○ Kotlin
- ○ Groovy

Spring Boot
- ○ 2.6.0 (SNAPSHOT)
- ○ 2.6.0 (RC1)
- ○ 2.5.7 (SNAPSHOT)
- ● 2.5.6
- ○ 2.4.13 (SNAPSHOT)
- ○ 2.4.12

Project Metadata

Group	com.example
Artifact	demo
Name	demo
Description	Demo project for Spring Boot
Package name	com.example.demo
Packaging	● Jar ○ War
Java	○ 17 ● 11 ○ 8

Dependencies ADD DEPENDENCIES... CTRL + B

No dependency selected

GENERATE CTRL + ⏎ | EXPLORE CTRL + SPACE | SHARE...

Project
- ● Maven Project
- ○ Gradle Project

Language
- ● Java
- ○ Kotlin
- ○ Groovy

Spring Boot
- ● 2.6.0 (SNAPSHOT)
- ○ 2.6.0 (RC1)
- ○ 2.5.7 (SNAPSHOT)
- ○ 2.5.6
- ○ 2.4.13 (SNAPSHOT)
- ○ 2.4.12

Project Metadata

Group	com.example
Artifact	demo
Name	demo
Description	Demo project for Spring Boot
Package name	com.example.demo
Packaging	● Jar ○ War
Java	● 17 ○ 11 ○ 8

Lombok DEVELOPER TOOLS
Java annotation library which helps to reduce boilerplate code.

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

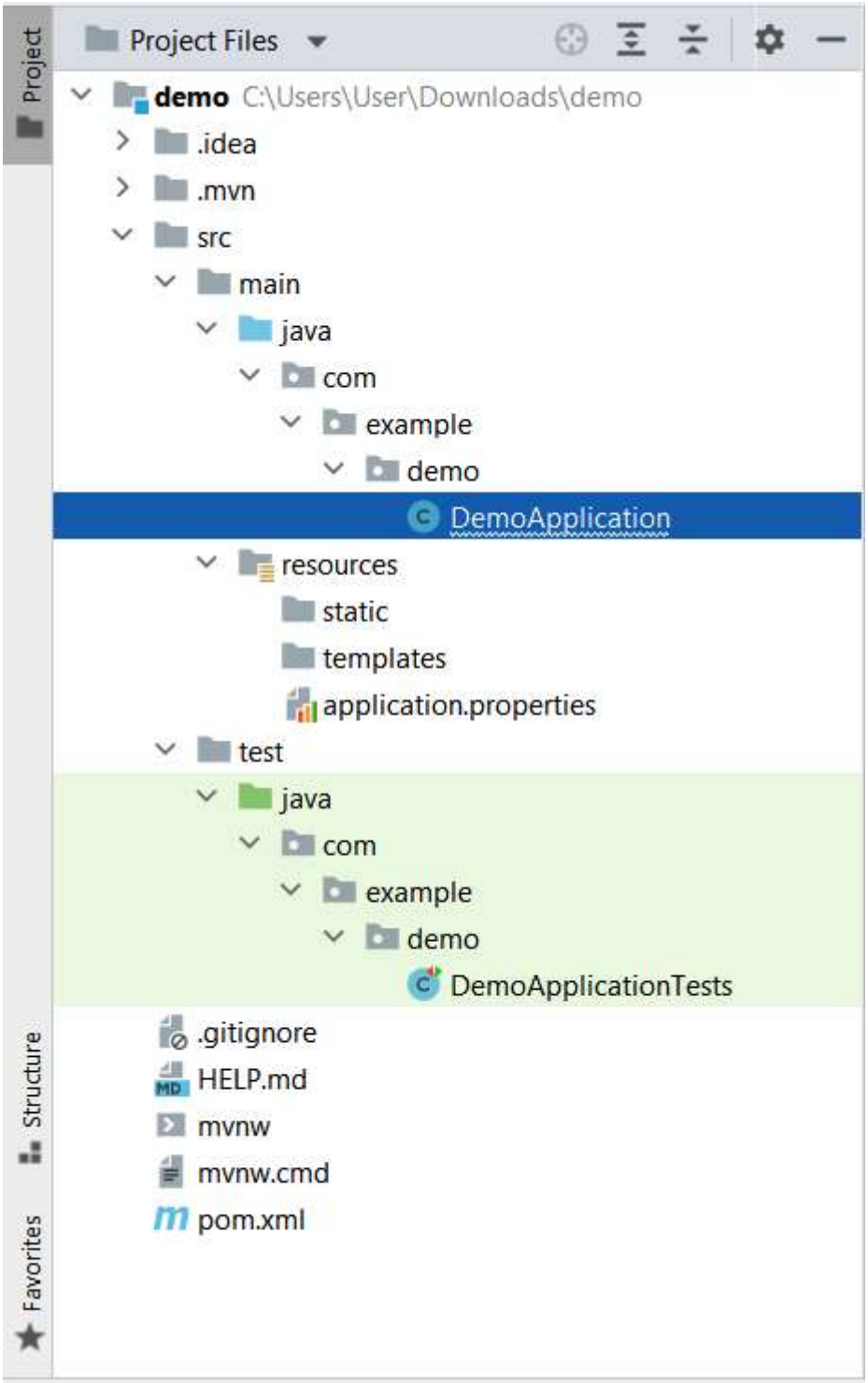
Spring Data JPA SQL
Persist data in SQL stores with Java Persistence API using Spring Data and Hibernate.

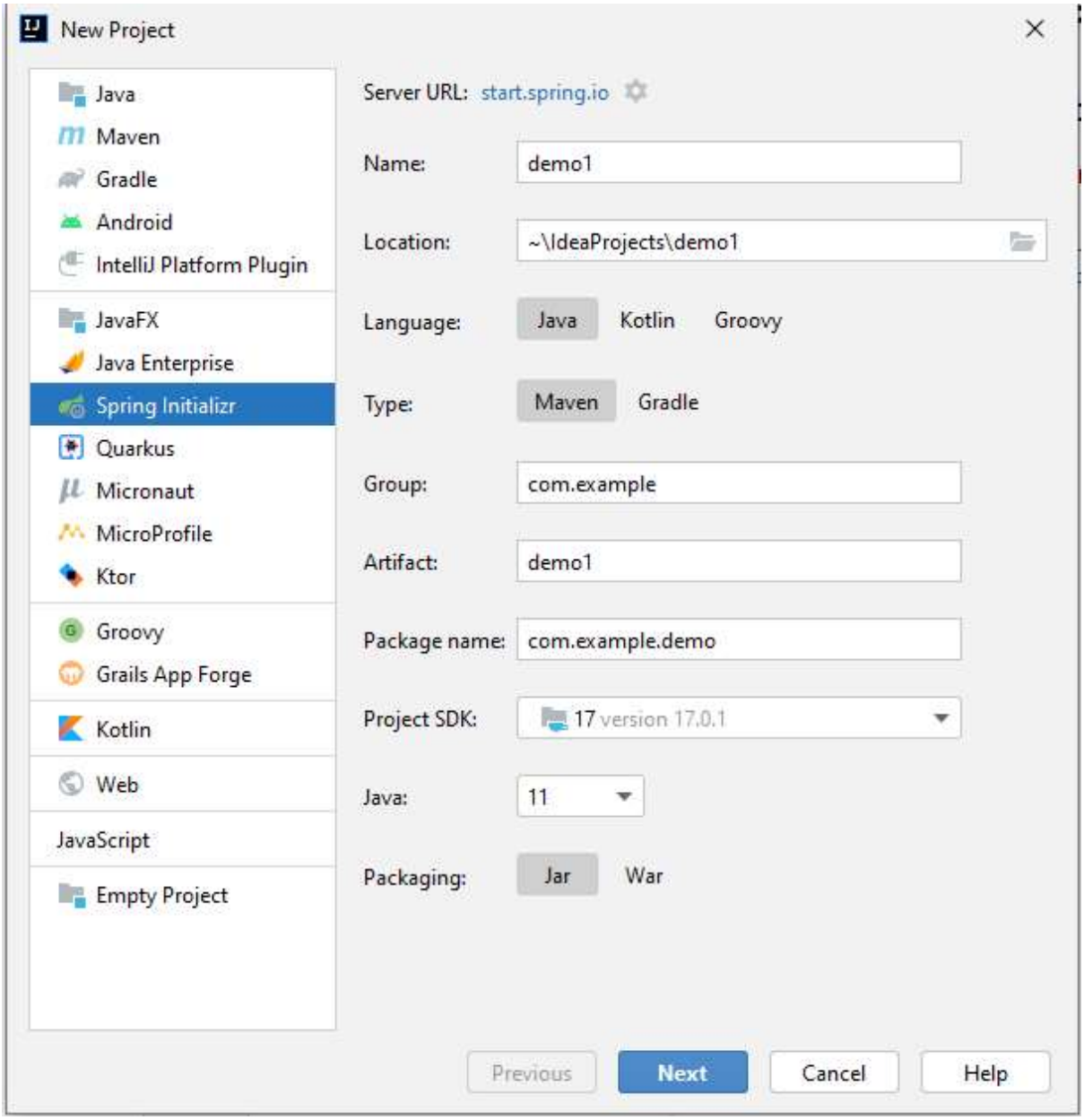
PostgreSQL Driver SQL
A JDBC and R2DBC driver that allows Java programs to connect to a PostgreSQL database using standard, database independent Java code.

Spring Data Reactive Redis NOSQL
Access Redis key-value data stores in a reactive fashion with Spring Data Redis.

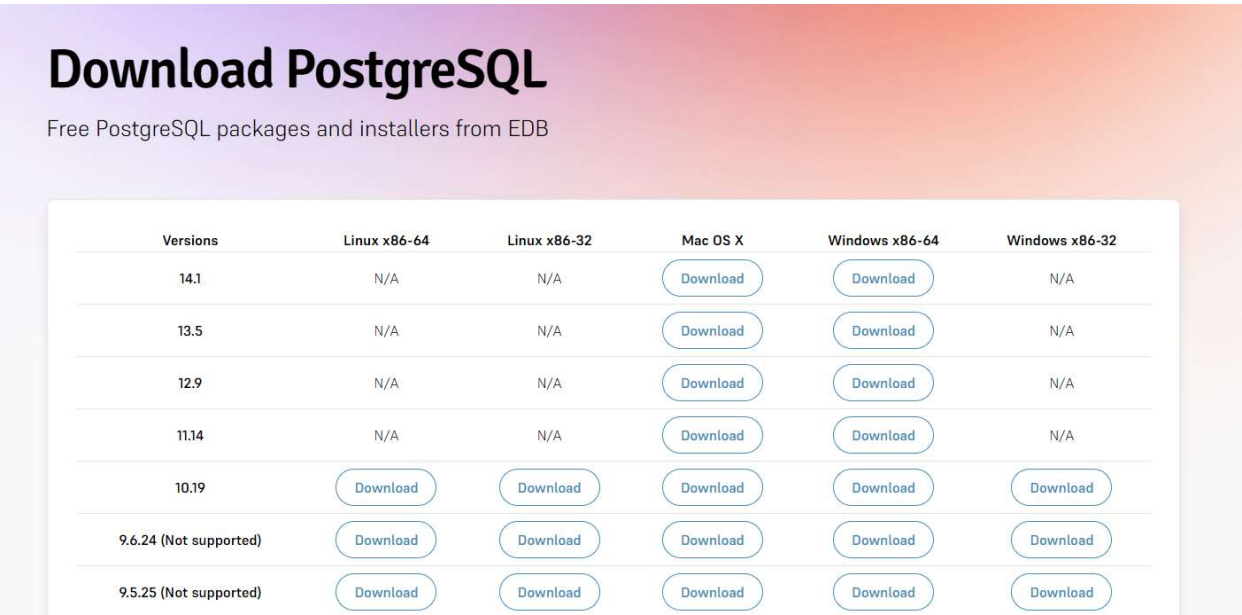
Spring Security SECURITY
Highly customizable authentication and access-control framework for Spring applications.

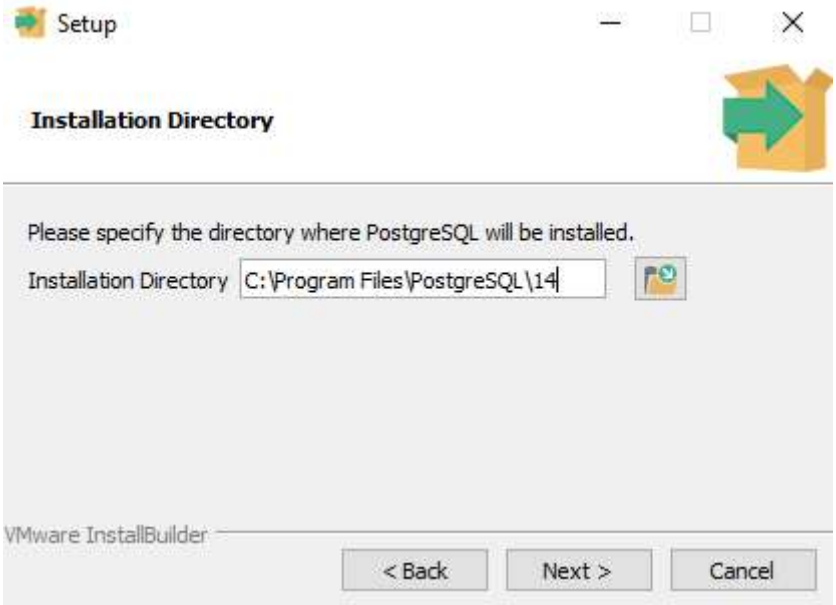
GENERATE CTRL + ⏎ | EXPLORE CTRL + SPACE | SHARE...

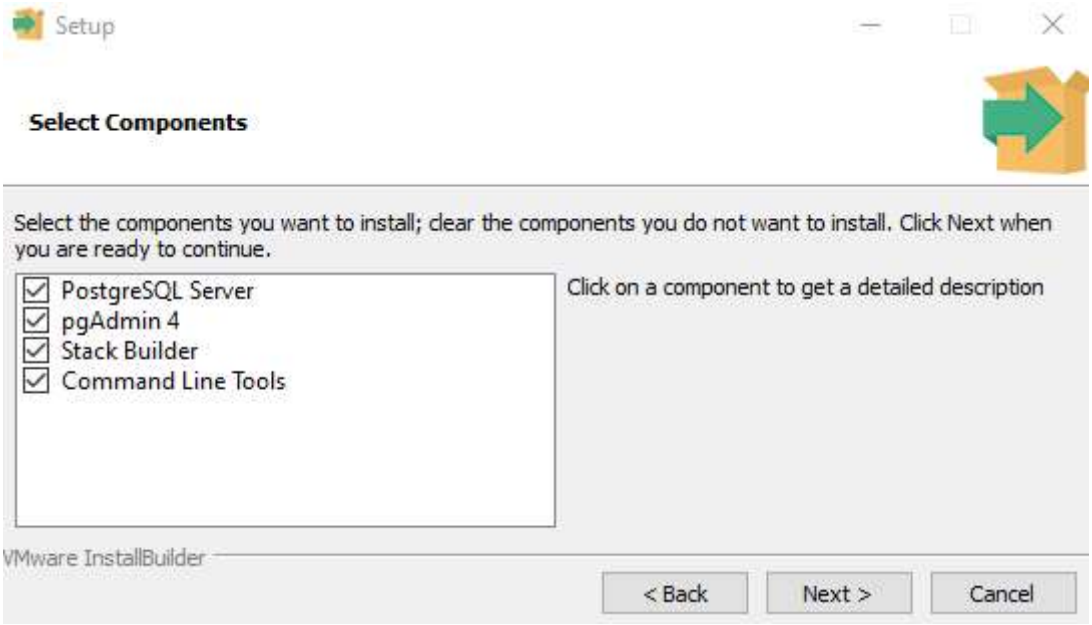

Project
Project Files
demo C:\Users\User\Downloads\demo
.idea
.mvn
src
main
java
com
example
demo
DemoApplication
resources
static
templates
application.properties
test
java
com
example
demo
DemoApplicationTests
.gitignore
HELP.md
mvnw
mvnw.cmd
pom.xml
Structure
Favorites

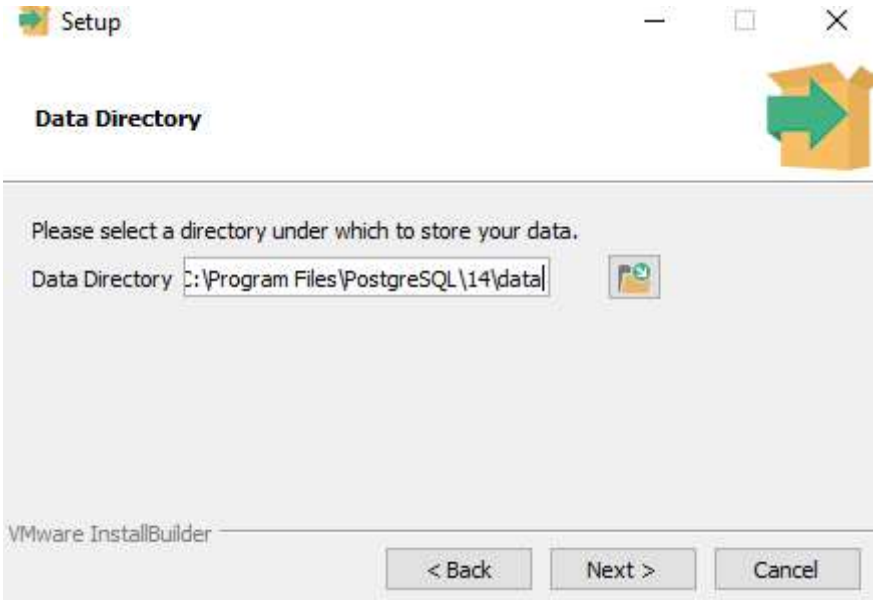

New Project
Java
Maven
Gradle
Android
IntelliJ Platform Plugin
JavaFX
Java Enterprise
Spring Initializr
Quarkus
Micronaut
MicroProfile
Ktor
Groovy
Grails App Forge
Kotlin
Web
JavaScript
Empty Project
Server URL: start.spring.io
Name: demo1
Location: ~\IdeaProjects\demo1
Language: Java Kotlin Groovy
Type: Maven Gradle
Group: com.example
Artifact: demo1
Package name: com.example.demo
Project SDK: 17 version 17.0.1
Java: 11
Packaging: Jar War
Previous
Next
Cancel
Help

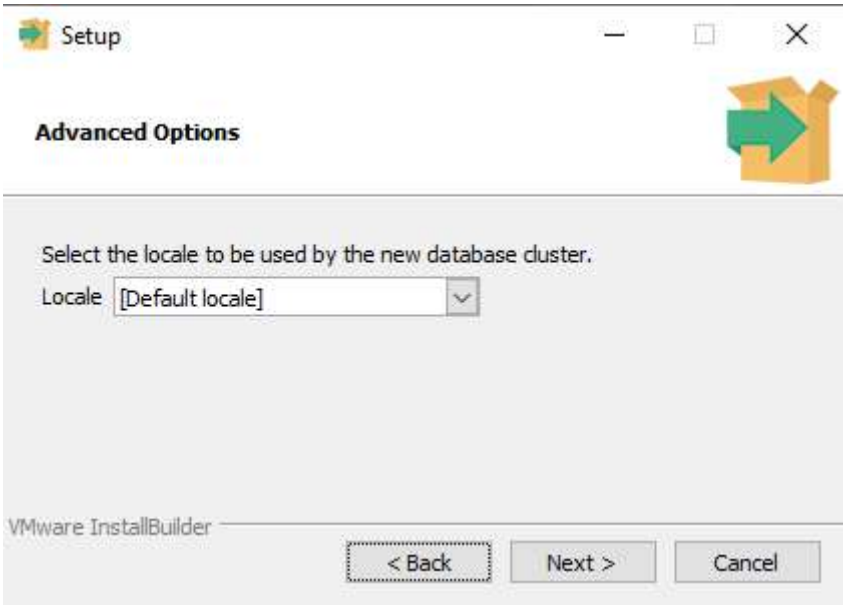
Chapter 4: Setting Up the Database and Spring Data JPA





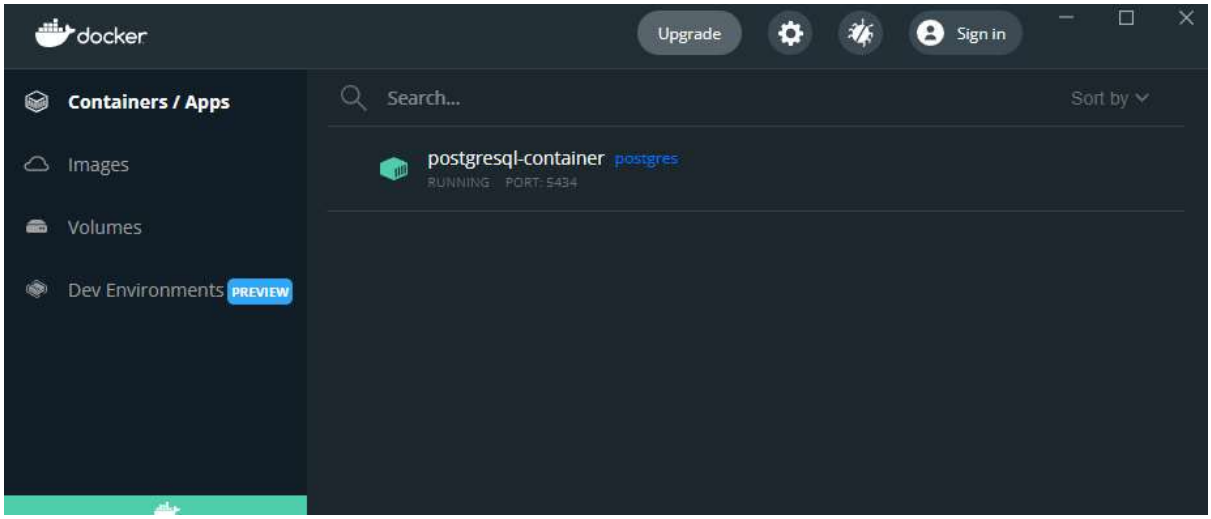

Setup
Select Components
Select the components you want to install; clear the components you do not want to install. Click Next when you are ready to continue.
PostgreSQL Server
pgAdmin 4
Stack Builder
Command Line Tools
Click on a component to get a detailed description
VMware InstallBuilder
< Back
Next >
Cancel

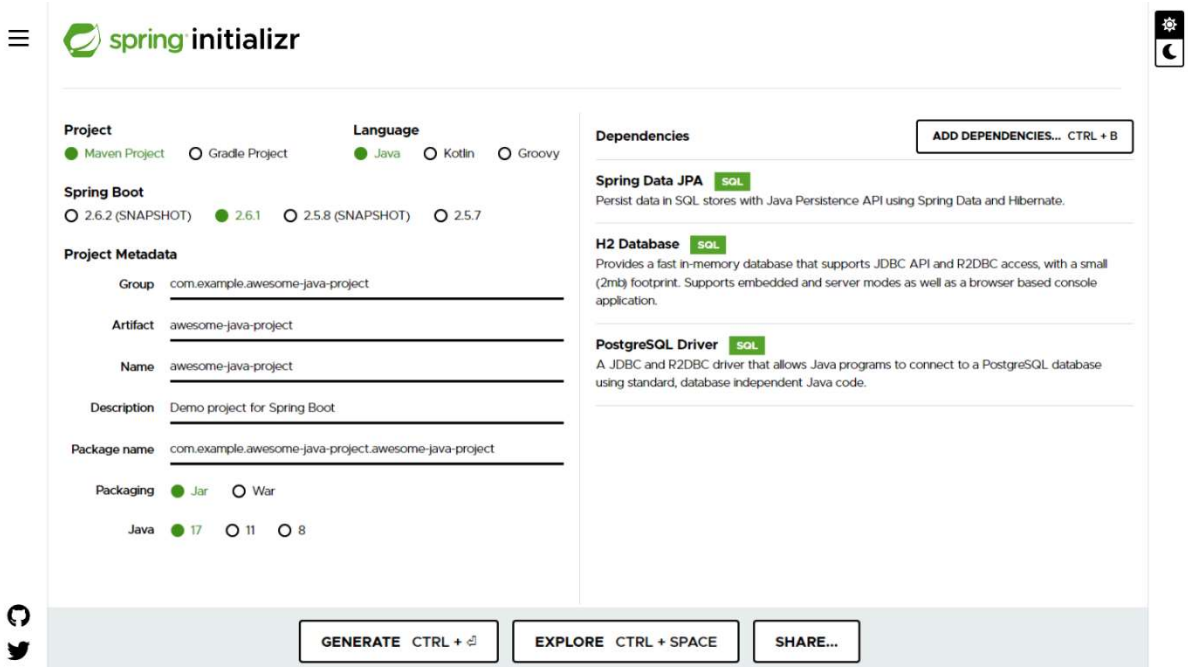

Setup
Data Directory
Please select a directory under which to store your data.
Data Directory
C:\Program Files\PostgreSQL\14\data
VMware InstallBuilder
< Back
Next >
Cancel

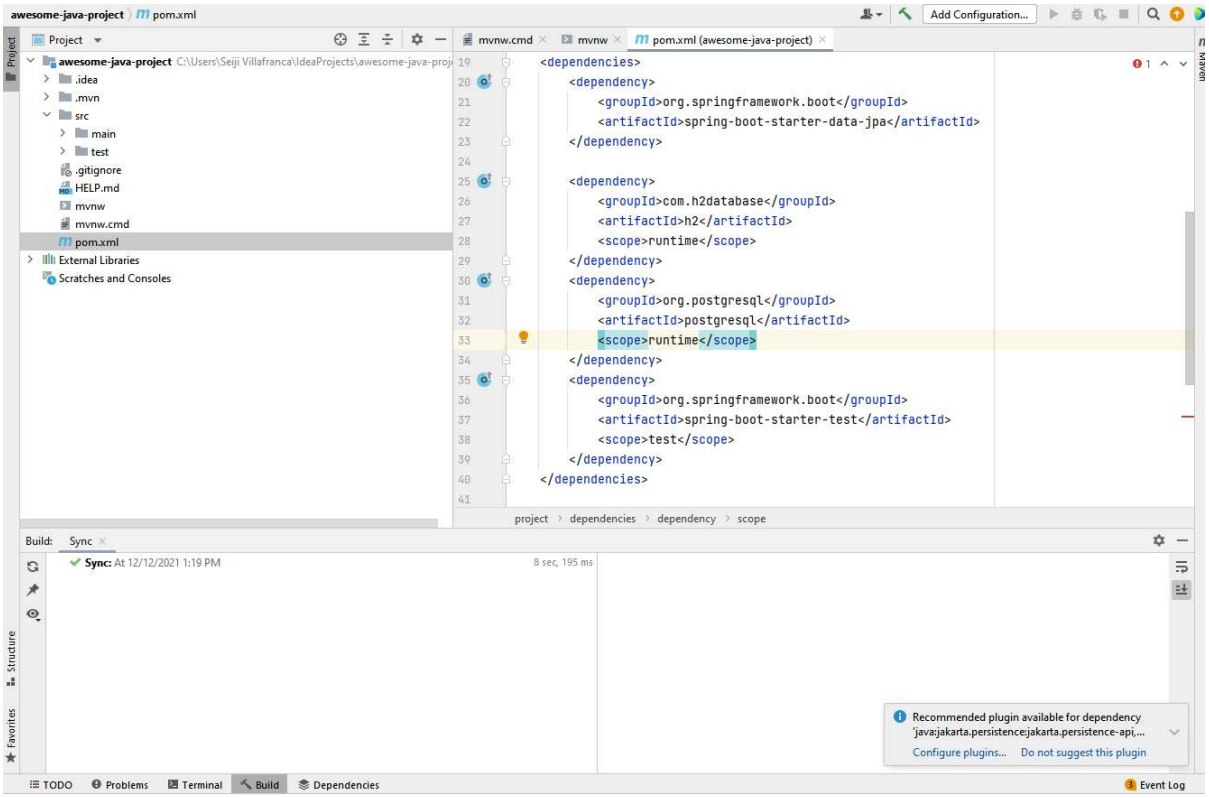


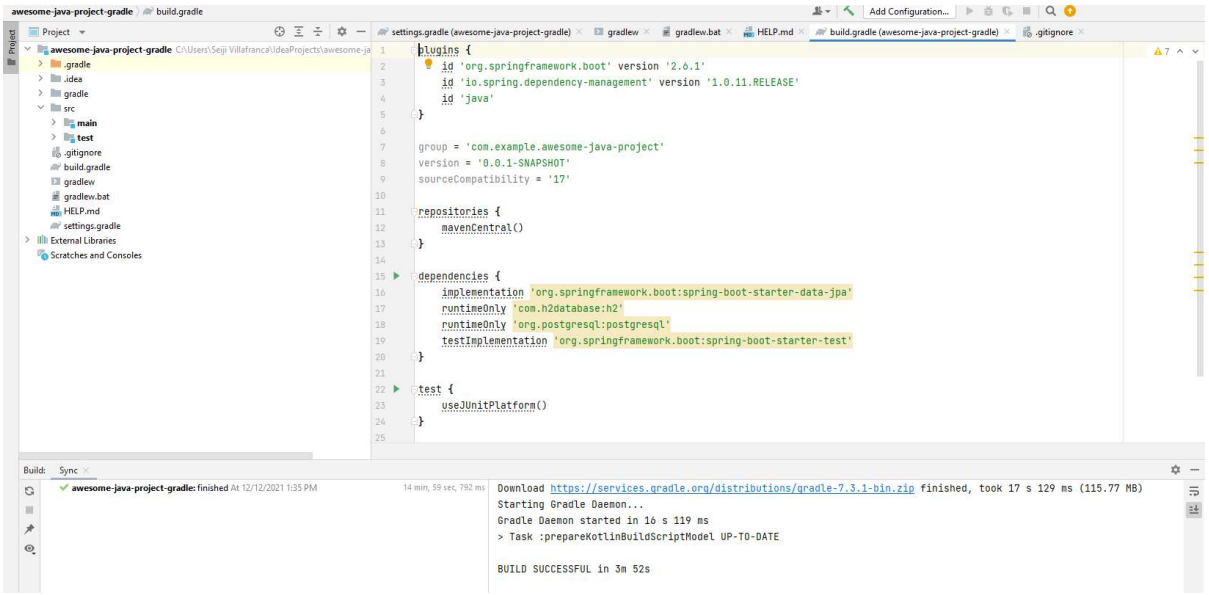

```
Server [localhost]:
Database [postgres]:
Port [5432]:
Username [postgres]:
Password for user postgres:
psql (13.4)
WARNING: Console code page (437) differs from Windows code page (1252)
         8-bit characters might not work correctly. See psql reference
         page "Notes for Windows users" for details.
Type "help" for help.

postgres=# select version();
                           version
-----------------------------------------------------------
 PostgreSQL 13.4, compiled by Visual C++ build 1914, 64-bit
(1 row)


postgres=#
```

```
C:\Users\Seiji Villafranca>docker ps -a
CONTAINER ID   IMAGE      COMMAND                  CREATED              STATUS              PORTS
       NAMES
fccc91ee479f   postgres   "docker-entrypoint.s…"   About a minute ago   Up About a minute   5432/tcp, 0.0.0.0:5434->5434
/tcp   postgresql-container

C:\Users\Seiji Villafranca>
```

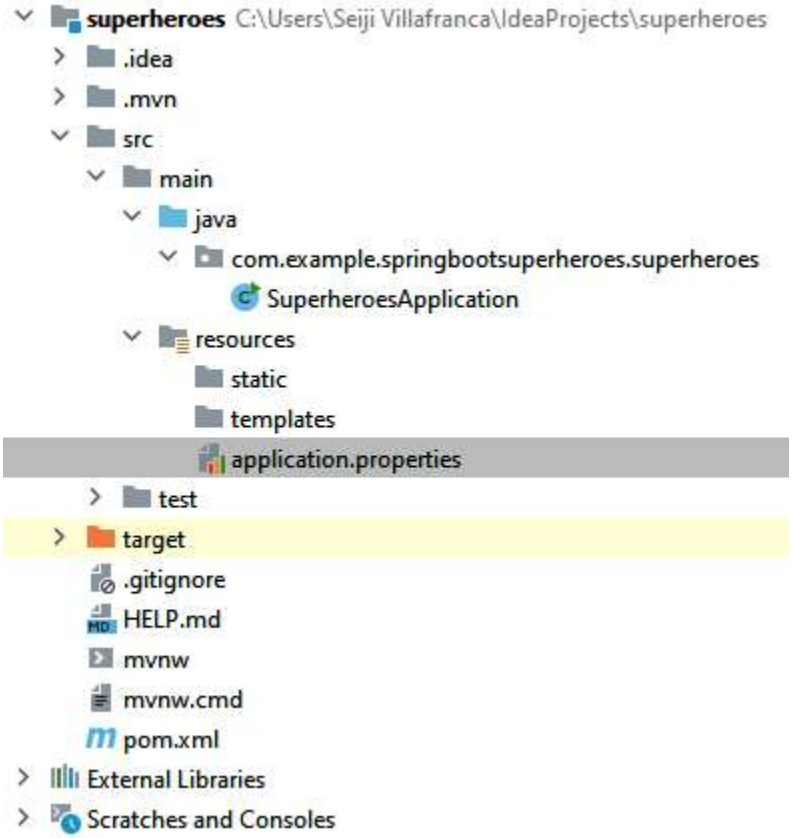

docker
Upgrade
Sign in
Containers / Apps
Images
Volumes
Dev Environments PREVIEW
Search...
Sort by
postgresql-container postgres
RUNNING PORT: 5434

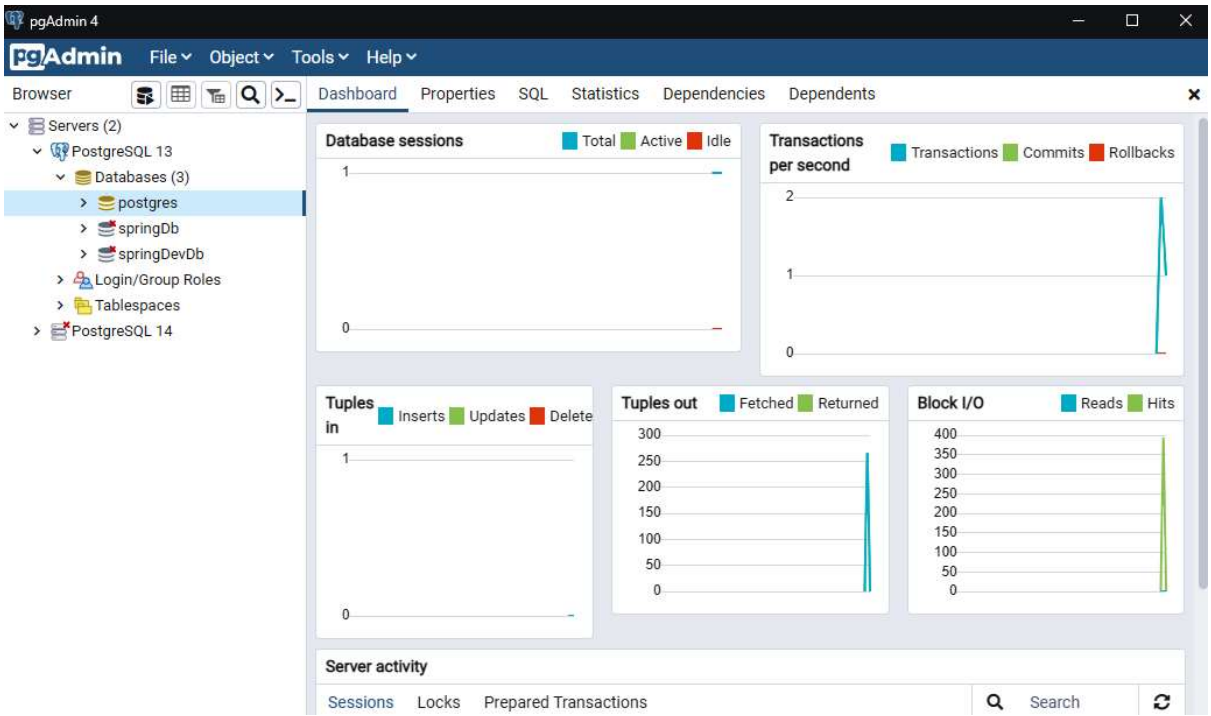

spring initializr
Project
Maven Project
Gradle Project
Language
Java
Kotlin
Groovy
Spring Boot
2.6.2 (SNAPSHOT)
2.6.1
2.5.8 (SNAPSHOT)
2.5.7
Project Metadata
Group com.example.awesome-java-project
Artifact awesome-java-project
Name awesome-java-project
Description Demo project for Spring Boot
Package name com.example.awesome-java-project.awesome-java-project
Packaging Jar War
Java 17 11 8
Dependencies
ADD DEPENDENCIES... CTRL + B
Spring Data JPA SQL
Persist data in SQL stores with Java Persistence API using Spring Data and Hibernate.
H2 Database SQL
Provides a fast in-memory database that supports JDBC API and R2DBC access, with a small (2mb) footprint. Supports embedded and server modes as well as a browser based console application.
PostgreSQL Driver SQL
A JDBC and R2DBC driver that allows Java programs to connect to a PostgreSQL database using standard, database independent Java code.
GENERATE CTRL + ⏎
EXPLORE CTRL + SPACE
SHARE...

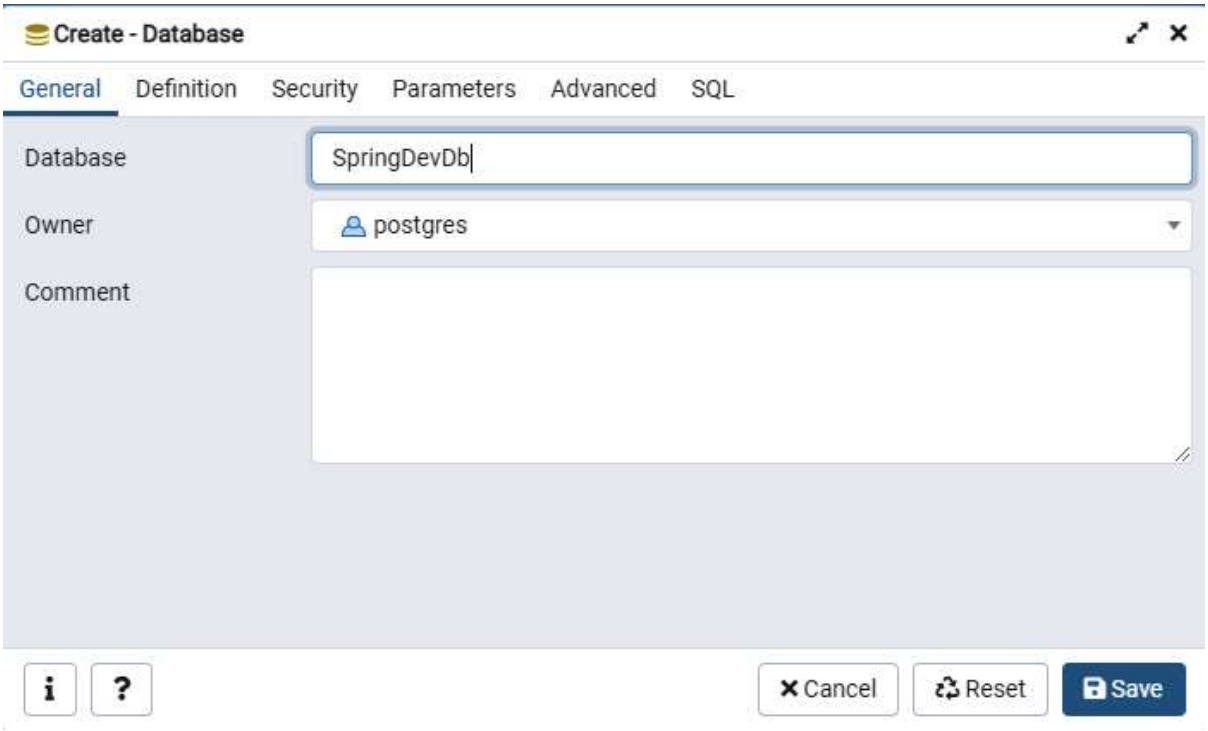

awesome-java-project › pom.xml
Add Configuration...
Project
awesome-java-project C:\Users\Seiji Villafranca\IdeaProjects\awesome-java-proj
.idea
.mvn
src
main
test
.gitignore
HELP.md
mvnw
mvnw.cmd
pom.xml
External Libraries
Scratches and Consoles
mvnw.cmd
mvnw
pom.xml (awesome-java-project)
<dependencies>
<dependency>
<groupId>org.springframework.boot</groupId>
<artifactId>spring-boot-starter-data-jpa</artifactId>
</dependency>
<dependency>
<groupId>com.h2database</groupId>
<artifactId>h2</artifactId>
<scope>runtime</scope>
</dependency>
<dependency>
<groupId>org.postgresql</groupId>
<artifactId>postgresql</artifactId>
<scope>runtime</scope>
</dependency>
<dependency>
<groupId>org.springframework.boot</groupId>
<artifactId>spring-boot-starter-test</artifactId>
<scope>test</scope>
</dependency>
</dependencies>
project › dependencies › dependency › scope
Build: Sync
Sync: At 12/12/2021 1:19 PM
8 sec, 195 ms
Recommended plugin available for dependency 'java:jakarta.persistence:jakarta.persistence-api,...
Configure plugins...
Do not suggest this plugin
TODO
Problems
Terminal
Build
Dependencies
Event Log

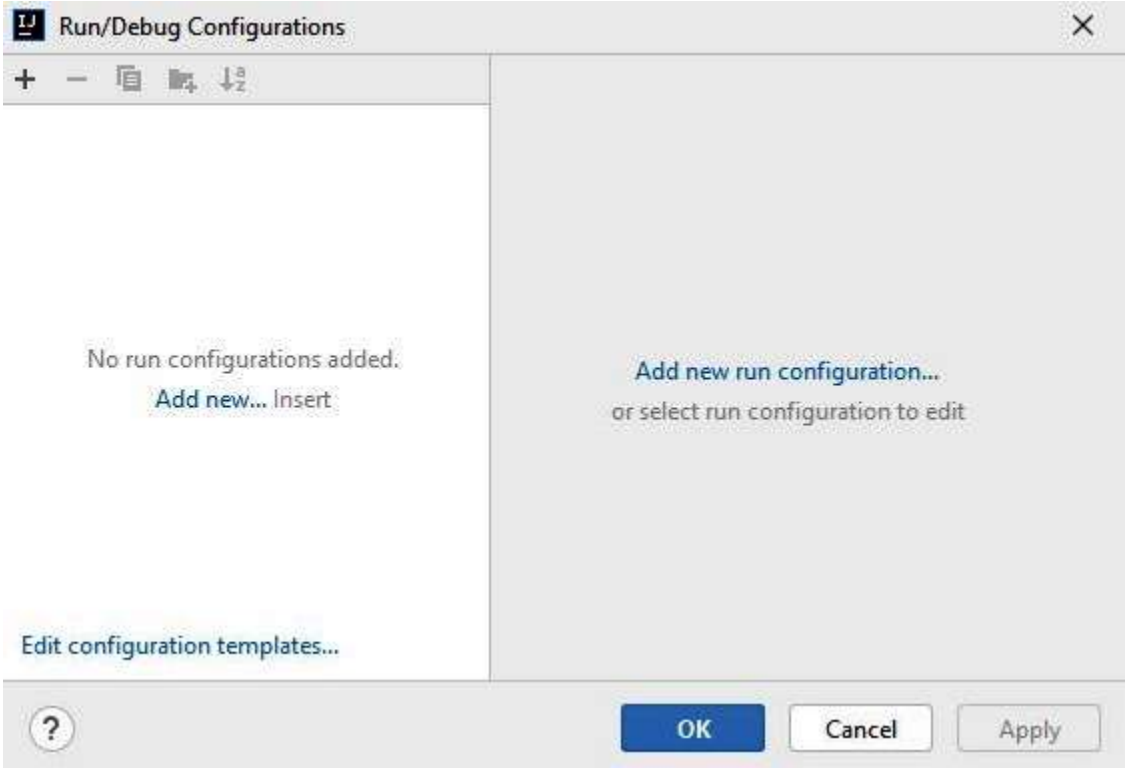

awesome-java-project-gradle › build.gradle
Add Configuration...
Project
awesome-java-project-gradle C:\Users\Seiji Villafranca\IdeaProjects\awesome-ja
.gradle
.idea
gradle
src
main
test
.gitignore
build.gradle
gradlew
gradlew.bat
HELP.md
settings.gradle
External Libraries
Scratches and Consoles
settings.gradle (awesome-java-project-gradle)
gradlew
gradlew.bat
HELP.md
build.gradle (awesome-java-project-gradle)
.gitignore
plugins {
id 'org.springframework.boot' version '2.6.1'
id 'io.spring.dependency-management' version '1.0.11.RELEASE'
id 'java'
}
group = 'com.example.awesome-java-project'
version = '0.0.1-SNAPSHOT'
sourceCompatibility = '17'
repositories {
mavenCentral()
}
dependencies {
implementation 'org.springframework.boot:spring-boot-starter-data-jpa'
runtimeOnly 'com.h2database:h2'
runtimeOnly 'org.postgresql:postgresql'
testImplementation 'org.springframework.boot:spring-boot-starter-test'
}
test {
useJUnitPlatform()
}
Build: Sync
awesome-java-project-gradle: finished At 12/12/2021 1:35 PM
14 min, 59 sec, 792 ms
Download https://services.gradle.org/distributions/gradle-7.3.1-bin.zip finished, took 17 s 129 ms (115.77 MB)
Starting Gradle Daemon...
Gradle Daemon started in 16 s 119 ms
> Task :prepareKotlinBuildScriptModel UP-TO-DATE
BUILD SUCCESSFUL in 3m 52s

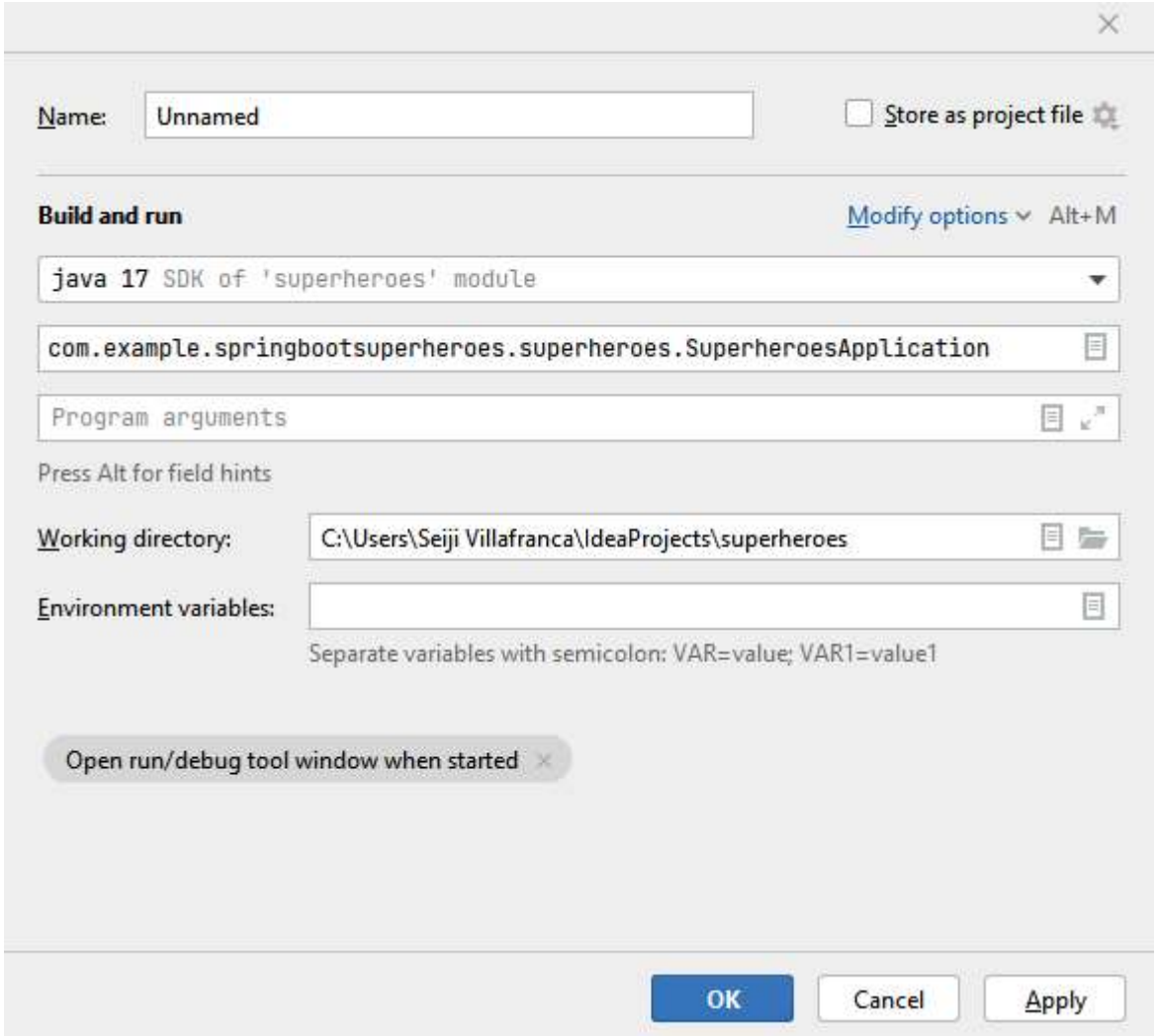
Chapter 5: Building APIs with Spring



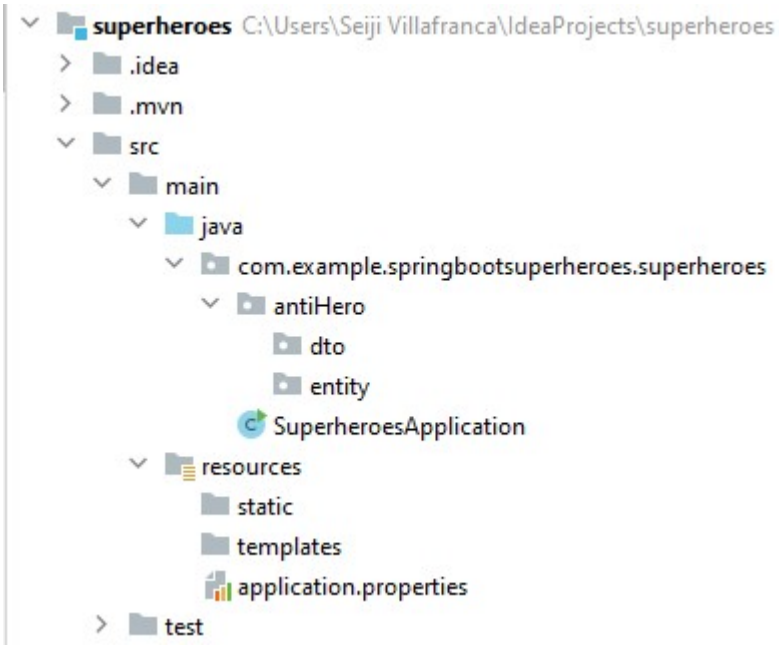


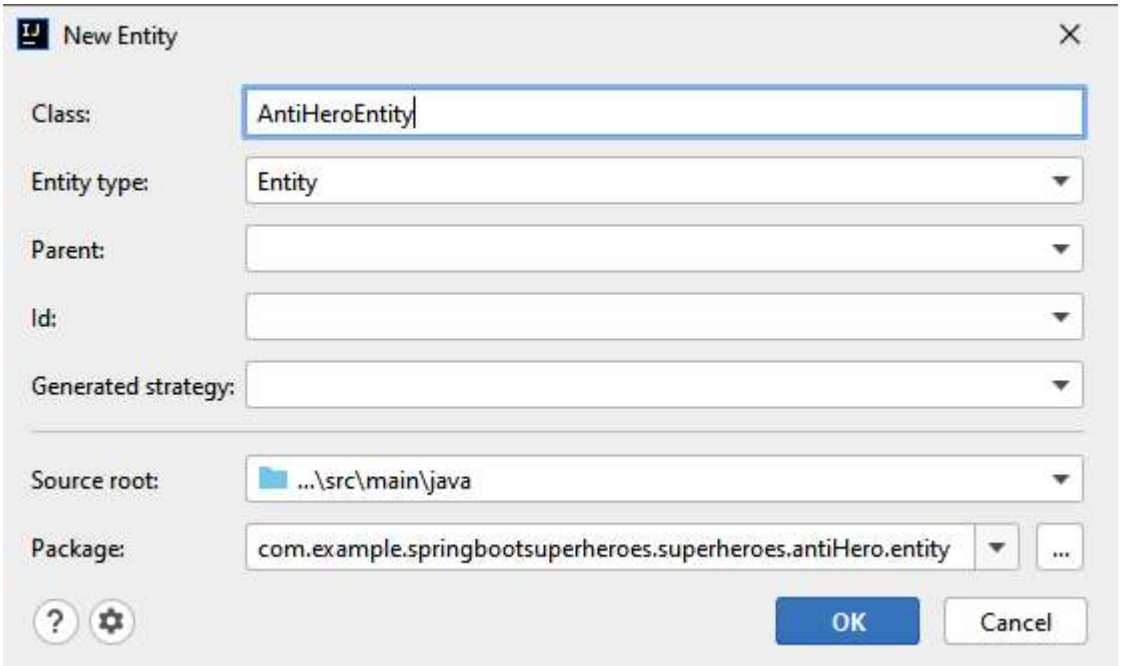

Create - Database
General
Definition
Security
Parameters
Advanced
SQL
Database
SpringDevDb
Owner
postgres
Comment
Cancel
Reset
Save


Run/Debug Configurations
No run configurations added.
Add new... Insert
Edit configuration templates...
Add new run configuration...
or select run configuration to edit
OK
Cancel
Apply

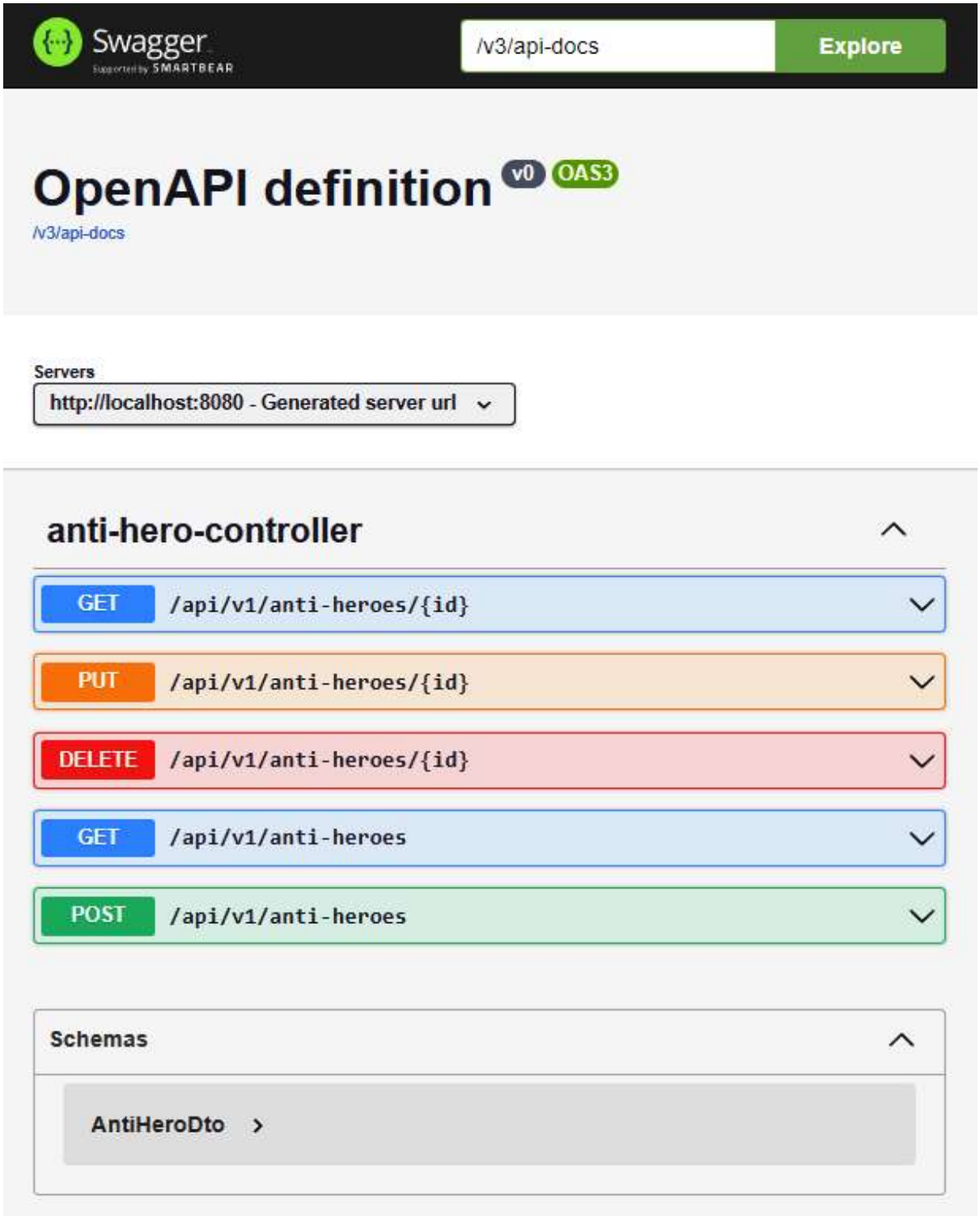



```
  .   ____          _            __ _ _
 /\\ / ___'_ __ _ _(_)_ __  __ _ \ \ \ \
( ( )\___ | '_ | '_| | '_ \/ _` | \ \ \ \
 \\/  ___)| |_)| | | | | || (_| |  ) ) ) )
  '  |____| .__|_| |_|_| |_\__, | / / / /
 =========|_|==============|___/=/_/_/_/
 :: Spring Boot ::                (v2.6.2)

2022-01-19 13:20:24.981  INFO 31652 --- [  restartedMain] c.e.s.s.SuperheroesApplication           : Starting SuperheroesApplication using Java 17 on LAPTOP-NEIIT559 with PID 3
2022-01-19 13:20:24.982  INFO 31652 --- [  restartedMain] c.e.s.s.SuperheroesApplication           : No active profile set, falling back to default profiles: default
2022-01-19 13:20:25.074  INFO 31652 --- [  restartedMain] .e.DevToolsPropertyDefaultsPostProcessor : Devtools property defaults active! Set 'spring.devtools.add-properties' to
2022-01-19 13:20:25.074  INFO 31652 --- [  restartedMain] .e.DevToolsPropertyDefaultsPostProcessor : For additional web related logging consider setting the 'logging.level.web'
2022-01-19 13:20:26.221  INFO 31652 --- [  restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Multiple Spring Data modules found, entering strict repository configuratio
2022-01-19 13:20:26.223  INFO 31652 --- [  restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring Data JPA repositories in DEFAULT mode.
2022-01-19 13:20:26.253  INFO 31652 --- [  restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data repository scanning in 10 ms. Found 0 JPA repository i
2022-01-19 13:20:26.282  INFO 31652 --- [  restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Multiple Spring Data modules found, entering strict repository configuratio
2022-01-19 13:20:26.284  INFO 31652 --- [  restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring Data Redis repositories in DEFAULT mode.
2022-01-19 13:20:26.306  INFO 31652 --- [  restartedMain] .s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data repository scanning in 2 ms. Found 0 Redis repository
2022-01-19 13:20:27.650  INFO 31652 --- [  restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer  : Tomcat initialized with port(s): 8080 (http)
2022-01-19 13:20:27.674  INFO 31652 --- [  restartedMain] o.apache.catalina.core.StandardService   : Starting service [Tomcat]
2022-01-19 13:20:27.674  INFO 31652 --- [  restartedMain] org.apache.catalina.core.StandardEngine  : Starting Servlet engine: [Apache Tomcat/9.0.56]
2022-01-19 13:20:27.836  INFO 31652 --- [  restartedMain] o.a.c.c.C.[Tomcat].[localhost].[/]       : Initializing Spring embedded WebApplicationContext
2022-01-19 13:20:27.837  INFO 31652 --- [  restartedMain] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 2762 ms
2022-01-19 13:20:27.884  INFO 31652 --- [  restartedMain] com.zaxxer.hikari.HikariDataSource       : HikariPool-1 - Starting...
2022-01-19 13:20:28.182  INFO 31652 --- [  restartedMain] com.zaxxer.hikari.HikariDataSource       : HikariPool-1 - Start completed.
2022-01-19 13:20:28.195  INFO 31652 --- [  restartedMain] o.s.b.a.h2.H2ConsoleAutoConfiguration    : H2 console available at '/h2-console'. Database available at 'jdbc:postgres
2022-01-19 13:20:28.580  INFO 31652 --- [  restartedMain] o.hibernate.jpa.internal.util.LogHelper  : HHH000204: Processing PersistenceUnitInfo [name: default]
2022-01-19 13:20:28.724  INFO 31652 --- [  restartedMain] org.hibernate.Version                    : HHH000412: Hibernate ORM core version 5.6.3.Final
2022-01-19 13:20:29.063  INFO 31652 --- [  restartedMain] o.hibernate.annotations.common.Version   : HCANN000001: Hibernate Commons Annotations {5.1.2.Final}
2022-01-19 13:20:29.284  INFO 31652 --- [  restartedMain] org.hibernate.dialect.Dialect            : HHH000400: Using dialect: org.hibernate.dialect.PostgreSQLDialect
2022-01-19 13:20:29.627  INFO 31652 --- [  restartedMain] o.h.e.t.j.p.i.JtaPlatformInitiator       : HHH000490: Using JtaPlatform implementation: [org.hibernate.engine.transact
2022-01-19 13:20:29.637  INFO 31652 --- [  restartedMain] j.LocalContainerEntityManagerFactoryBean : Initialized JPA EntityManagerFactory for persistence unit 'default'
2022-01-19 13:20:29.692  WARN 31652 --- [  restartedMain] JpaBaseConfiguration$JpaWebConfiguration : spring.jpa.open-in-view is enabled by default. Therefore, database queries
2022-01-19 13:20:30.712  INFO 31652 --- [  restartedMain] o.s.b.d.a.OptionalLiveReloadServer       : LiveReload server is running on port 35729
2022-01-19 13:20:30.790  INFO 31652 --- [  restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer  : Tomcat started on port(s): 8080 (http) with context path ''
2022-01-19 13:20:30.805  INFO 31652 --- [  restartedMain] c.e.s.s.SuperheroesApplication           : Started SuperheroesApplication in 6.566 seconds (JVM running for 7.327)
```


superheroes C:\Users\Seiji Villafranca\IdeaProjects\superheroes
.idea
.mvn
src
main
java
com.example.springbootsuperheroes.superheroes
antiHero
dto
entity
SuperheroesApplication
resources
static
templates
application.properties
test


New Entity
Class:
AntiHeroEntity
Entity type:
Entity
Parent:
Id:
Generated strategy:
Source root:
...\src\main\java
Package:
com.example.springbootsuperheroes.superheroes.antiHero.entity
...
OK
Cancel

Chapter 6: Documenting APIs with OpenAPI Specification



POST /api/v1/anti-heroes

Parameters

Try it out

No parameters

Request body required

application/json

Example Value | Schema

```
{
  "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
  "firstName": "string",
  "lastName": "string",
  "house": "string",
  "knownAs": "string"
}
```

Responses

Code	Description	Links
200	OK Media type */* Controls Accept header. Example Value | Schema	*No links*

```
{
  "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
  "firstName": "string",
  "lastName": "string",
  "house": "string",
  "knownAs": "string"
}
```

Responses

Curl

```
curl -X 'POST' \
  'http://localhost:8080/api/v1/anti-heroes' \
  -H 'accept: */*' \
  -H 'Content-Type: application/json' \
  -d '{
  "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6",
  "firstName": "string",
  "lastName": "string",
  "house": "string",
  "knownAs": "string"
}'
```

Request URL

```
http://localhost:8080/api/v1/anti-heroes
```

Server response

Code	Details
200	Response body

```
{
  "id": "33e124aa-567c-42d0-afec-0e033880b1bb",
  "firstName": "string",
  "lastName": "string",
  "house": "string",
  "knownAs": "string"
}
```

Download

Response headers

```
connection: keep-alive
content-type: application/json
date: Sat,12 Feb 2022 04:06:24 GMT
keep-alive: timeout=60
transfer-encoding: chunked
```

No limit

springDevDb/postgres@PostgreSQL 13

Query Editor | Query History | Scratch Pad

```
SELECT * FROM public.anti_hero_entity
ORDER BY id ASC
```

Data Output | Explain | Messages | Notifications

	id [PK] uuid	created_at character varying (255)	first_name character varying (255)	house character varying (255)	known_as character varying (255)	last_name character varying (255)
1	33e124aa-567c-42d0-afec-0e033880b1bb	12-02-2022 12:06:24 SGT	string	string	string	string

OpenAPI definition v0 OAS3

/v3/api-docs

Servers

http://localhost:8080 - Generated server url

anti-hero-controller

DELETE /api/v1/anti-heroes/{id}

GET /api/v1/anti-heroes/{id}

GET /api/v1/anti-heroes

POST /api/v1/anti-heroes

PUT /api/v1/anti-heroes/{id}

Schemas

AntiHeroDto

GET /api/v1/anti-heroes

Parameters

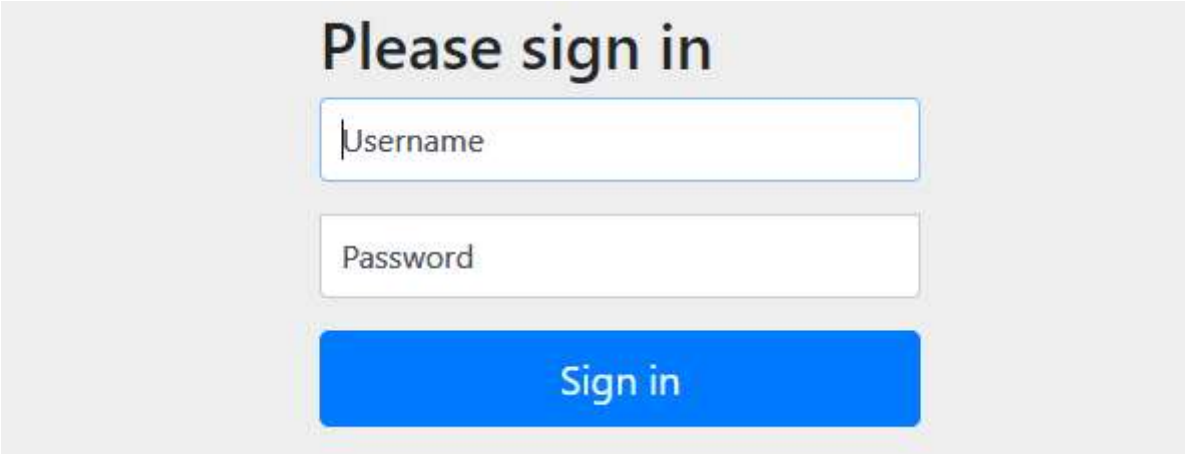
Try it out

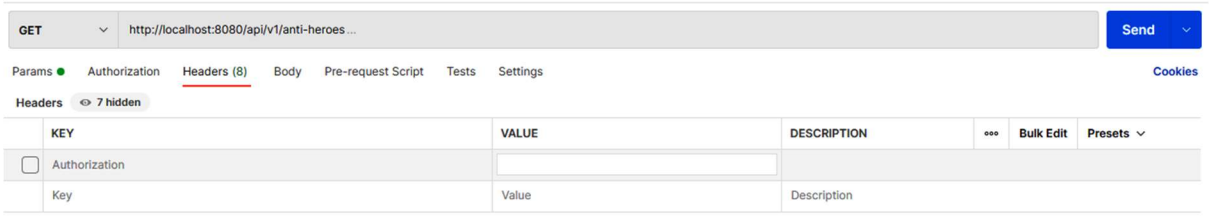
Name	Description

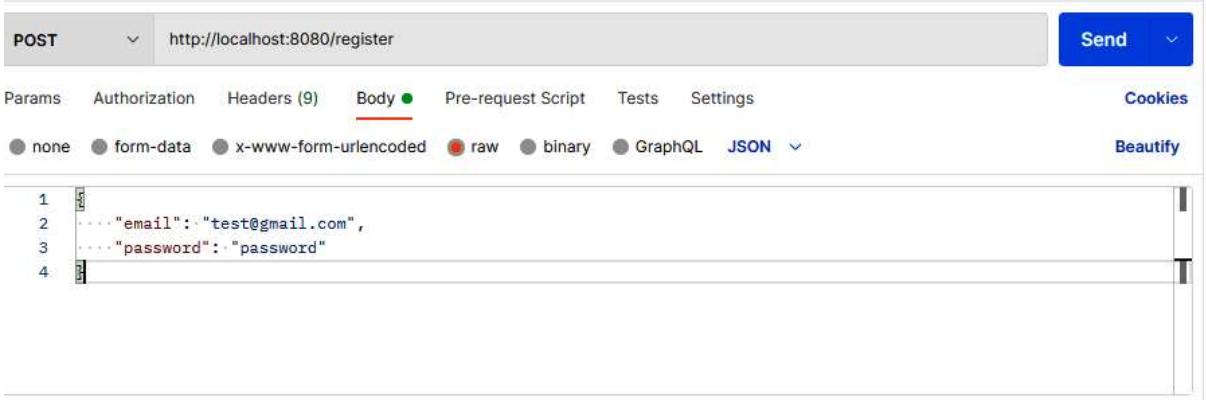
pageable * required
object
(query)
	{
	"page": 0,
	"size": 2,
	"sort": [
	"string"
	]
	}

Responses

Chapter 7: Adding Spring Boot Security with JWT







POST http://localhost:8080/authenticate

Send

Cookies

Beautify

Params Authorization Headers (9) Body Pre-request Script Tests Settings

none form-data x-www-form-urlencoded raw binary GraphQL JSON

```
{
    "email": "test@gmail.com",
    "password": "password"
}
```

Body Cookies (1) Headers (14) Test Results

Status: 201 Created Time: 512 ms Size: 595 B Save Response

Pretty Raw Preview Visualize JSON


```
{
  "token": "eyJhbGciOiJIUzI1NiJ9.eyJzdWIiOiJ0ZXN0QGdtYWlsLmNvbSIsImlhdCI6MTY0NzQwNDQ5MiwiZXhwIjoxNjQ3NDQwNDkyfQ.EC1KPOPslQKSQno9RRg_yvHKT0oQcUVVDlj3EN7F_0Q"
}
```


Full Stack Java and Angular Book / Get Anti Heroes

Save

GET http://localhost:8080/api/v1/anti-heroes ...

Send

Params Authorization Headers (8) Body Pre-request Script Tests Settings

Cookies

Headers 7 hidden

	KEY	VALUE	DESCRIPTION	...	Bulk Edit	Presets
☑	Authorization	Bearer eyJhbGciOiJIUzI1NiJ9.eyJzdWIiOiJ0ZXN0QGdtYWlsLmNvbSIsImlhdCI				
	Key	Value	Description			

Body Cookies (1) Headers (14) Test Results

Status: 200 OK Time: 342 ms Size: 928 B Save Response

Pretty Raw Preview Visualize JSON


```
[
    {
        "id": "33e124aa-567c-42d0-afec-0e033880b1bb",
        "firstName": "string",
        "lastName": "string",
        "house": "string",
        "knownAs": "string"
    },
    {
        "id": "83160259-817f-4db8-9c29-39771125bfe2",
        "firstName": "string",
        "lastName": "string",
        "house": "string",
        "knownAs": "string"
    },
```

Chapter 8: Logging Events in Spring Boot

```
2022-03-29 12:04:04,687 INFO  [background-preinit] org.hibernate.validator.internal.util.Version: HV000001: Hibernate Validator 6.2.0.Final
2022-03-29 12:04:04,728 INFO  [restartedMain] org.springframework.boot.StartupInfoLogger: Starting SuperheroesApplication using Java 17 on LAPTOP-NEIIT559 with PID 9512 (C:\Users\Sei
2022-03-29 12:04:04,728 DEBUG [restartedMain] org.springframework.boot.StartupInfoLogger: Running with Spring Boot v2.6.2, Spring v5.3.14
2022-03-29 12:04:04,729 INFO  [restartedMain] org.springframework.boot.SpringApplication: No active profile set, falling back to default profiles: default
2022-03-29 12:04:04,805 INFO  [restartedMain] org.springframework.boot.logging.DeferredLog: Devtools property defaults active! Set 'spring.devtools.add-properties' to 'false' to disa
2022-03-29 12:04:04,805 INFO  [restartedMain] org.springframework.boot.logging.DeferredLog: For additional web related logging consider setting the 'logging.level.web' property to 'D
2022-03-29 12:04:06,376 INFO  [restartedMain] org.springframework.data.repository.config.RepositoryConfigurationDelegate: Multiple Spring Data modules found, entering strict reposito
2022-03-29 12:04:06,379 INFO  [restartedMain] org.springframework.data.repository.config.RepositoryConfigurationDelegate: Bootstrapping Spring Data JPA repositories in DEFAULT mode.
```

```
2022-03-29T12:49:34,334 INFO  [restartedMain] o.a.j.l.DirectJDKLog: Initializing Spring embedded WebApplicationContext
2022-03-29T12:49:34,334 INFO  [restartedMain] o.s.b.w.s.c.ServletWebServerApplicationContext: Root WebApplicationContext: initialization
2022-03-29T12:49:34,409 INFO  [restartedMain] c.z.h.HikariDataSource: HikariPool-1 - Starting...
2022-03-29T12:49:34,765 INFO  [restartedMain] c.z.h.HikariDataSource: HikariPool-1 - Start completed.
2022-03-29T12:49:34,780 INFO  [restartedMain] o.s.b.a.h.H2ConsoleAutoConfiguration: H2 console available at '/h2-console'. Database
2022-03-29T12:49:35,008 INFO  [restartedMain] o.h.j.i.u.LogHelper: HHH000204: Processing PersistenceUnitInfo [name: default]
2022-03-29T12:49:35,156 INFO  [restartedMain] o.h.Version: HHH000412: Hibernate ORM core version 5.6.3.Final
2022-03-29T12:49:35,536 INFO  [restartedMain] o.h.a.c.r.j.JavaReflectionManager: HCANN000001: Hibernate Commons Annotations {5.1.2.Final
2022-03-29T12:49:35,827 INFO  [restartedMain] o.h.d.Dialect: HHH000400: Using dialect: org.hibernate.dialect.PostgreSQLDialect
2022-03-29T12:49:36,775 INFO  [restartedMain] o.h.e.t.j.p.i.JtaPlatformInitiator: HHH000490: Using JtaPlatform implementation: [org.hibe
2022-03-29T12:49:36,782 INFO  [restartedMain] o.s.o.j.AbstractEntityManagerFactoryBean: Initialized JPA EntityManagerFactory for persist
2022-03-29T12:49:37,464 DEBUG [restartedMain] o.s.w.f.GenericFilterBean: Filter 'jwtRequestFilter' configured for use
```

Chapter 9: Writing Tests in Spring Boot

No Images..

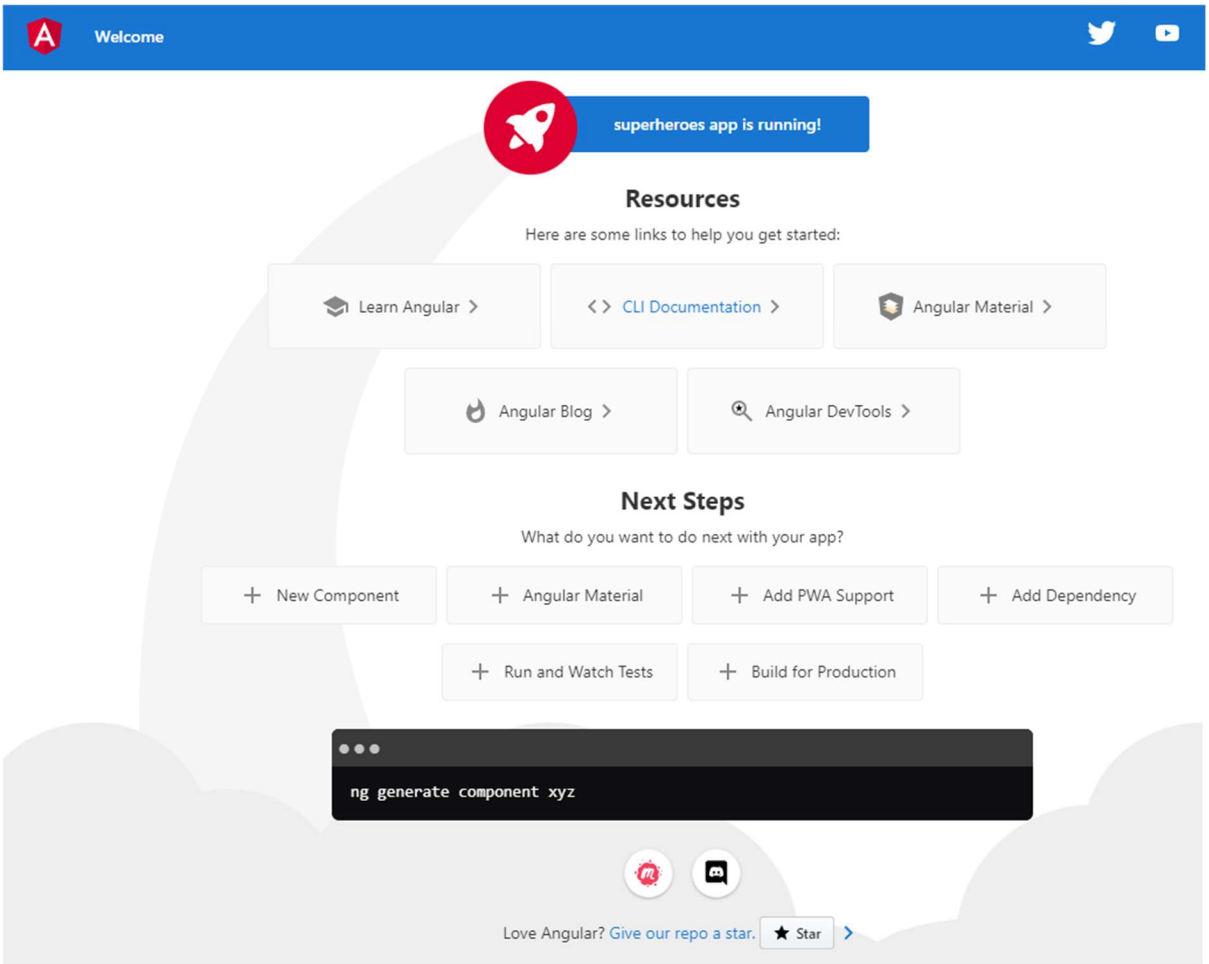
Chapter 10: Setting Up Angular Project and Architecture

```
Angular CLI: 13.3.4
Node: 14.17.3
Package Manager: npm 6.14.13
OS: win32 x64

Angular:
...

Package                      Version
---------------------------------------------------------
@angular-devkit/architect    0.1303.4
@angular-devkit/core         13.3.4
@angular-devkit/schematics   13.3.4
@schematics/angular          13.3.4
```

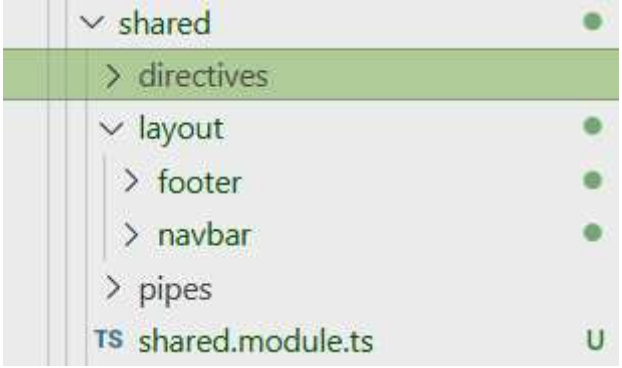
```
> .angular
> .vscode
> node_modules
v src
  v app
    TS app-routing.module.ts
    app.component.html
    app.component.scss
    TS app.component.spec.ts
    TS app.component.ts
    TS app.module.ts
  > assets
  > environments
    favicon.ico
    index.html
    TS main.ts
    TS polyfills.ts
    styles.scss
    TS test.ts
  .browserslistrc
  .editorconfig
  .gitignore
  angular.json                M
  karma.conf.js
  package-lock.json
  package.json
  README.md
  tsconfig.app.json
  tsconfig.json
  tsconfig.spec.json
```

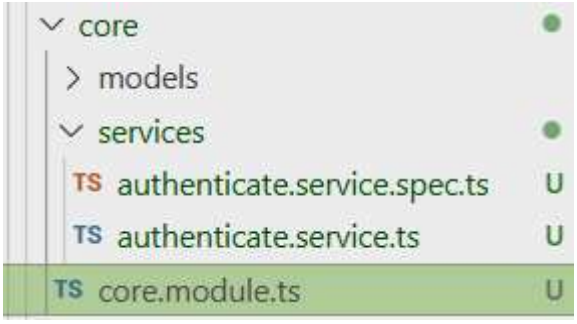
```
You, 6 minutes ago | 1 author (You)
1  {
2    "name": "superheroes",
3    "version": "0.0.0",
     ▷ Debug
4    "scripts": {
5      "ng": "ng",
6      "start": "ng serve",
7      "build": "ng build",
8      "watch": "ng build --watch --configuration development",
9      "test": "ng test"
10   },
11   "private": true,
12   "dependencies": {
13     "@angular/animations": "~13.3.0",
14     "@angular/common": "~13.3.0",
15     "@angular/compiler": "~13.3.0",
16     "@angular/core": "~13.3.0",
17     "@angular/forms": "~13.3.0",
18     "@angular/platform-browser": "~13.3.0",
19     "@angular/platform-browser-dynamic": "~13.3.0",
20     "@angular/router": "~13.3.0",
21     "rxjs": "~7.5.0",
22     "tslib": "^2.3.0",
23     "zone.js": "~0.11.4"
24   },
25   "devDependencies": {
26     "@angular-devkit/build-angular": "~13.3.4",
27     "@angular/cli": "~13.3.4",
28     "@angular/compiler-cli": "~13.3.0",
29     "@types/jasmine": "~3.10.0",
30     "@types/node": "^12.11.1",
31     "jasmine-core": "~4.0.0",      You, 6 minutes ago • initial commit …
32     "karma": "~6.3.0",
33     "karma-chrome-launcher": "~3.1.0",
34     "karma-coverage": "~2.1.0",
35     "karma-jasmine": "~4.0.0",
36     "karma-jasmine-html-reporter": "~1.7.0",
37     "typescript": "~4.6.2"
38   }
39 }
40
```

```
> ng serve

✓ Browser application bundle generation complete.

Initial Chunk Files   | Names         |  Raw Size
vendor.js             | vendor        |   1.97 MB |
polyfills.js          | polyfills     | 294.85 kB |
styles.css, styles.js | styles        | 173.69 kB |
main.js               | main          |  50.13 kB |
runtime.js            | runtime       |   6.52 kB |

                      | Initial Total |   2.49 MB

Build at: 2022-05-01T06:57:57.874Z - Hash: 5cb655001d470ea8 - Time: 3719ms

** Angular Live Development Server is listening on localhost:4200, open your browser on http://localhost:4200/ **


√ Compiled successfully.
```

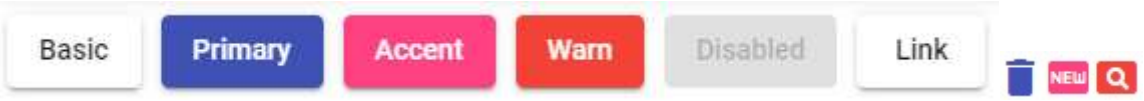


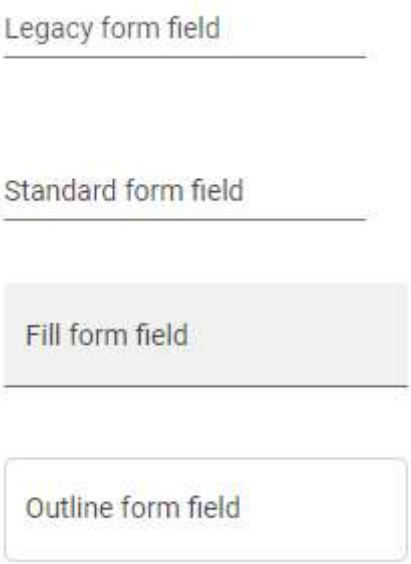
app
anti-hero
components
directives
pages
form
form.component.html
form.component.scss
form.component.spec.ts
form.component.ts
list
list.component.html
list.component.scss
list.component.spec.ts
list.component.ts
pipes
anti-hero-routing.module.ts
anti-hero.module.ts

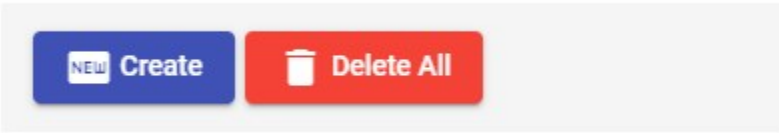

shared
directives
layout
footer
navbar
pipes
shared.module.ts
U


core
models
services
authenticate.service.spec.ts
U
authenticate.service.ts
U
core.module.ts
U

First Name	Last Name	House	Known As
Eddie	Brock	New York	Venom







Chapter 11: Building Reactive Forms

First Name:

Last Name:

Known As:

Street:

City:

Country:

Powers

Power Name

Delete

Add

Create Hero

First Name

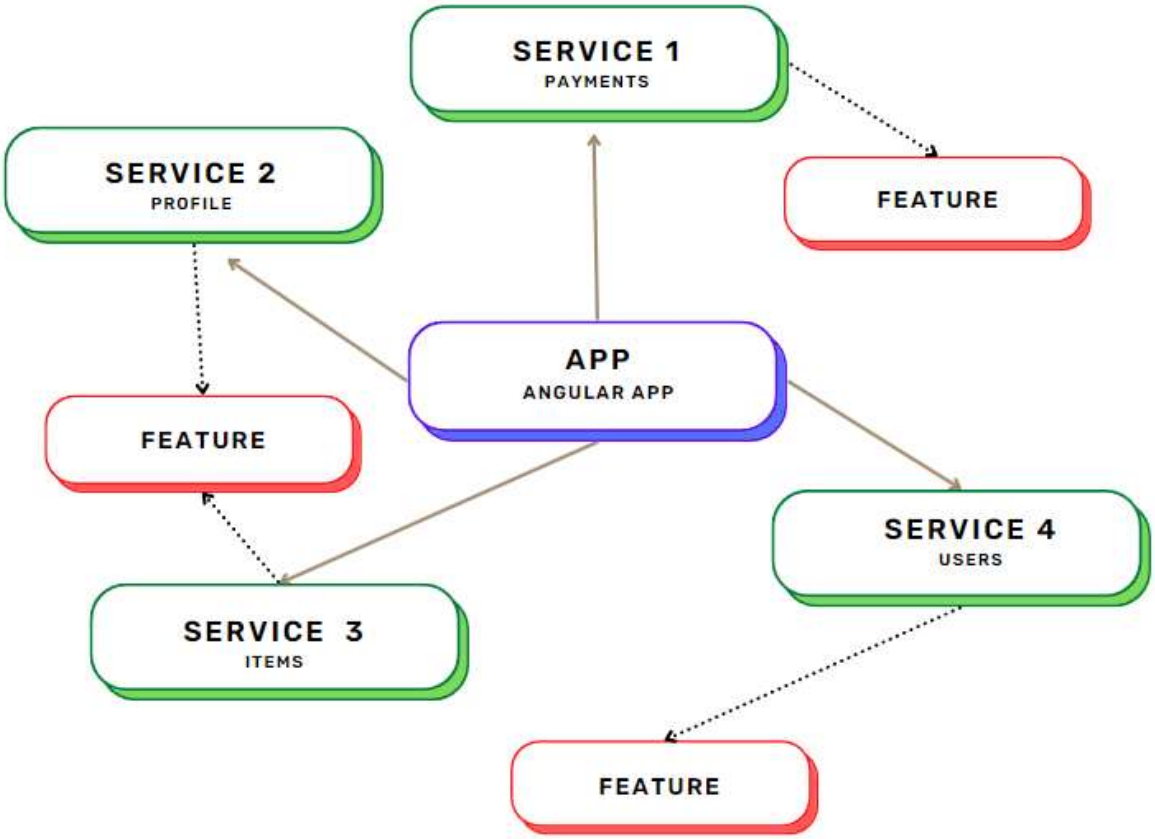
Last Name

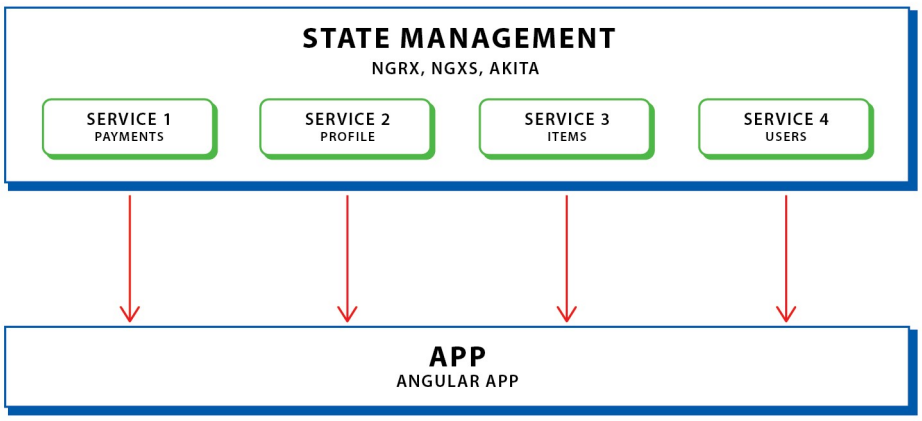
House

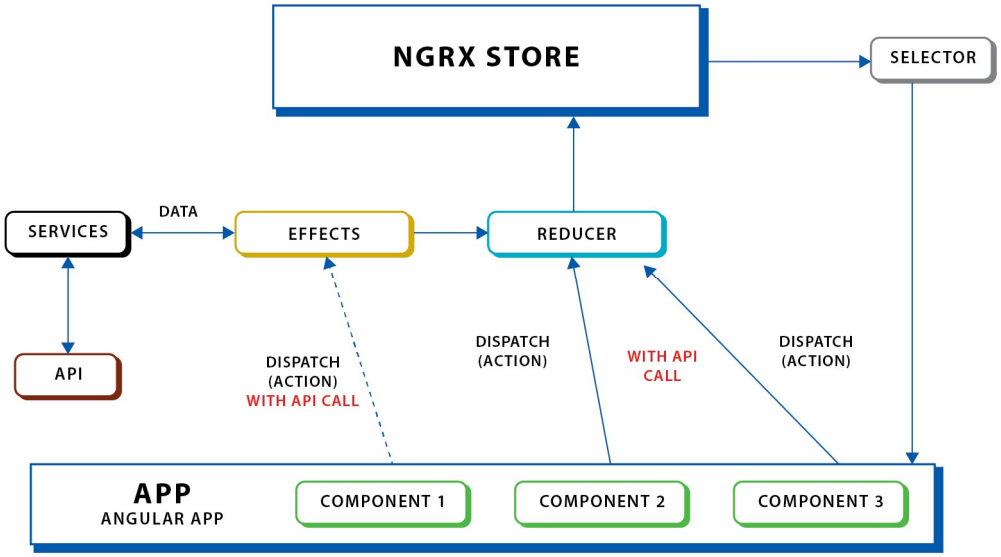
Known As

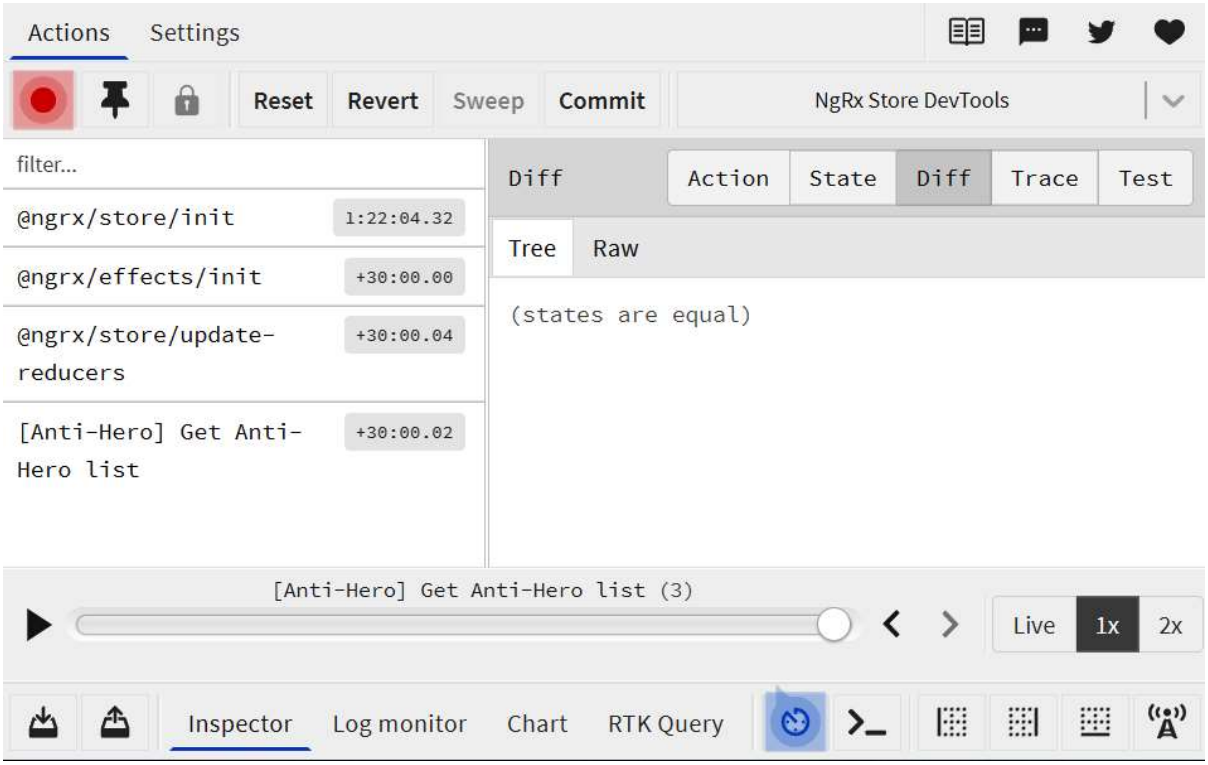
Clear Create

Chapter 12: Managing States with NgRx





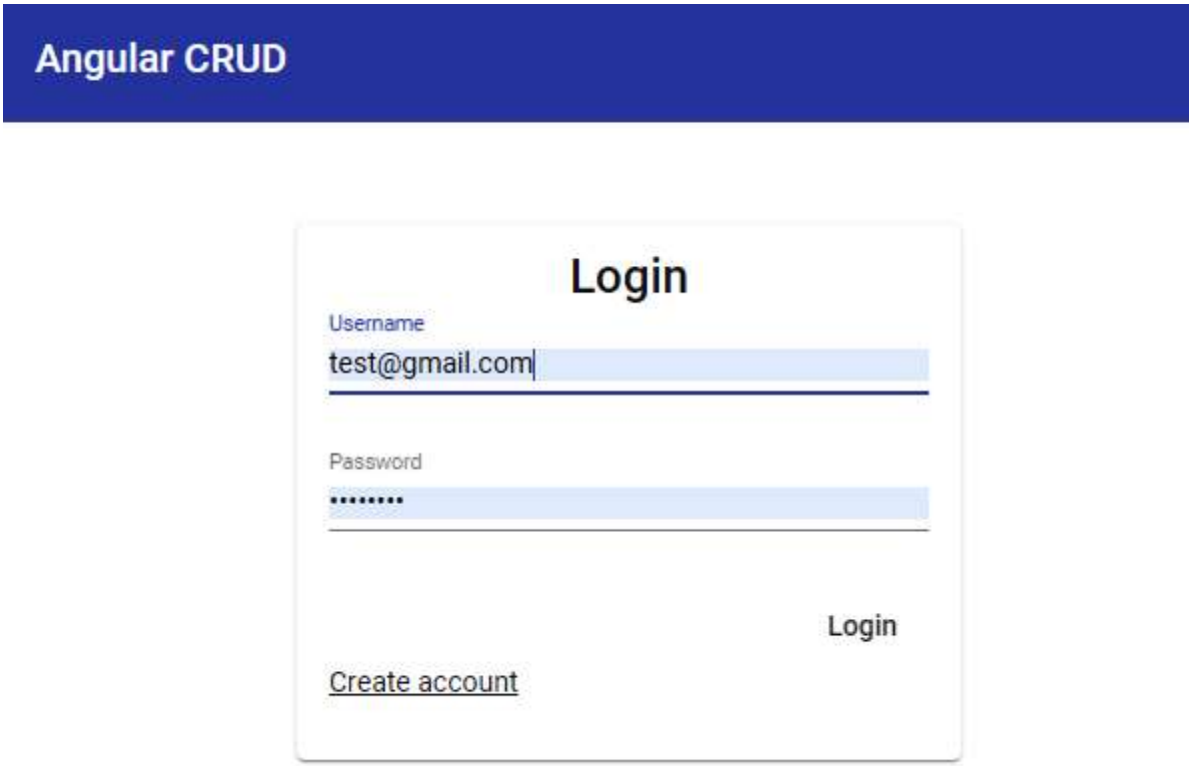

NGRX STORE
SELECTOR
SERVICES
DATA
EFFECTS
REDUCER
API
DISPATCH
(ACTION)
WITH API CALL
DISPATCH
(ACTION)
WITH API
CALL
DISPATCH
(ACTION)
APP
ANGULAR APP
COMPONENT 1
COMPONENT 2
COMPONENT 3

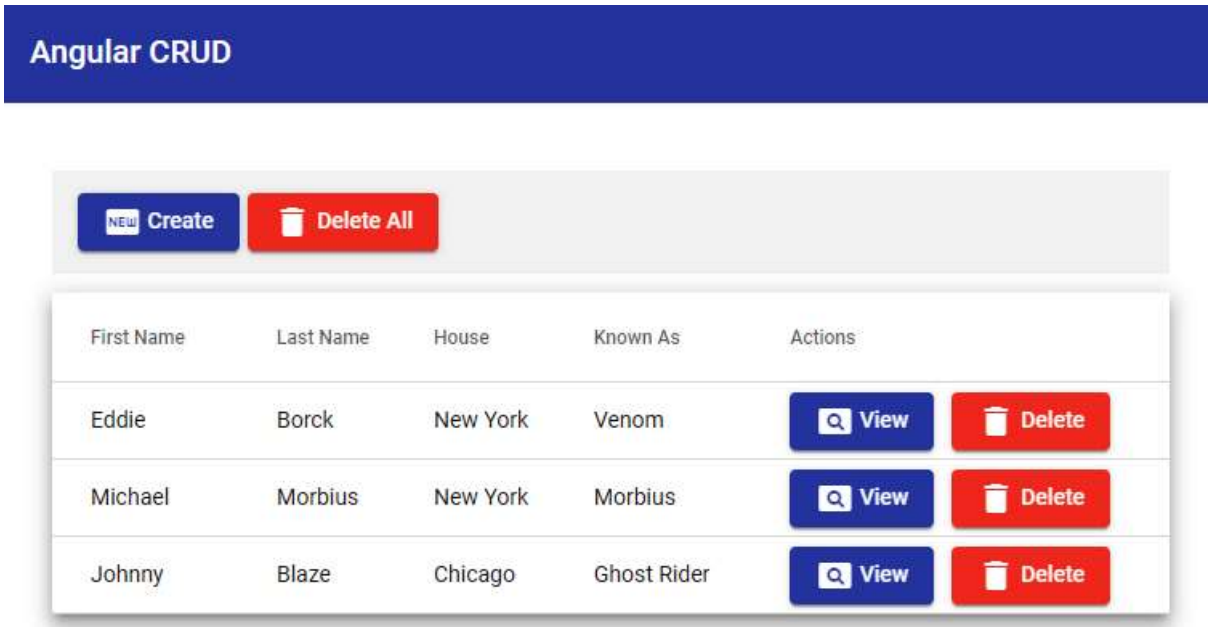

Actions
Settings
Reset
Revert
Sweep
Commit
NgRx Store DevTools
filter...
@ngrx/store/init
1:22:04.32
@ngrx/effects/init
+30:00.00
@ngrx/store/update-reducers
+30:00.04
[Anti-Hero] Get Anti-Hero list
+30:00.02
Diff
Action
State
Diff
Trace
Test
Tree
Raw
(states are equal)
[Anti-Hero] Get Anti-Hero list (3)
Live
1x
2x
Inspector
Log monitor
Chart
RTK Query

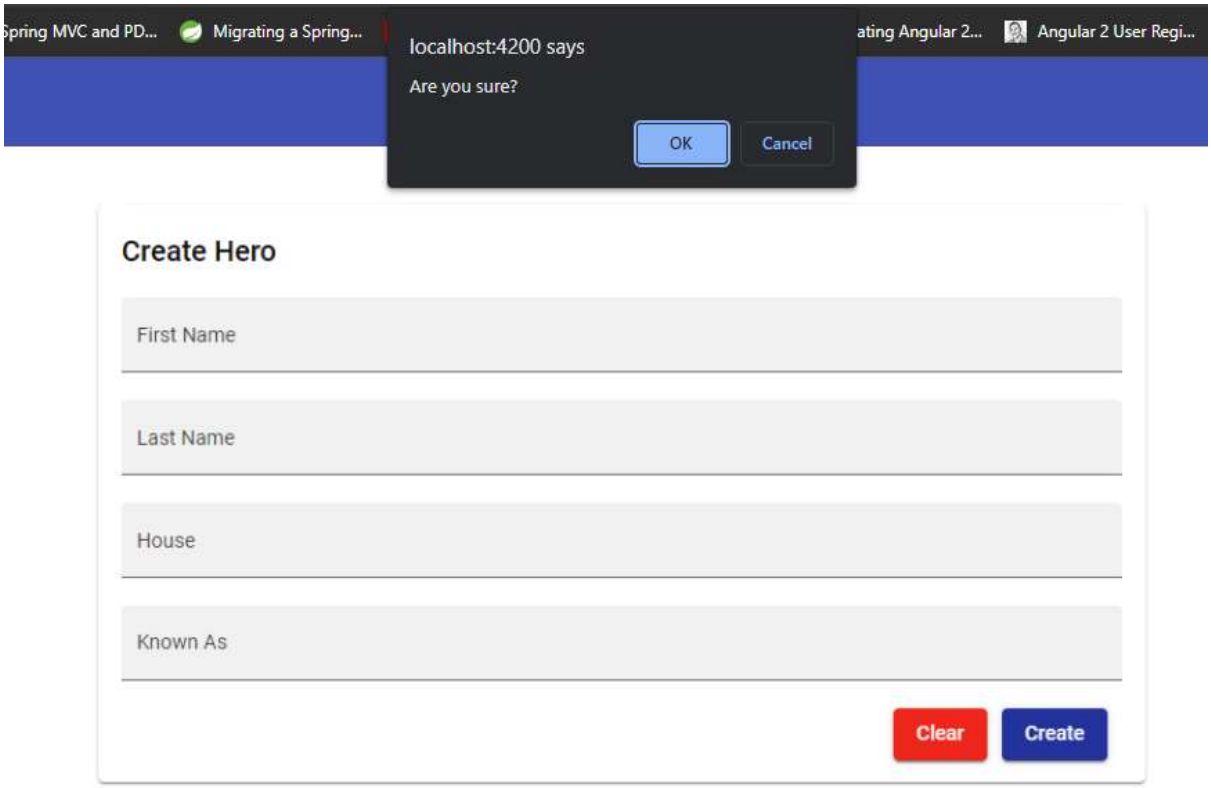
Chapter 13: Saving, Deleting, and Updating Using NgRx

No Images…

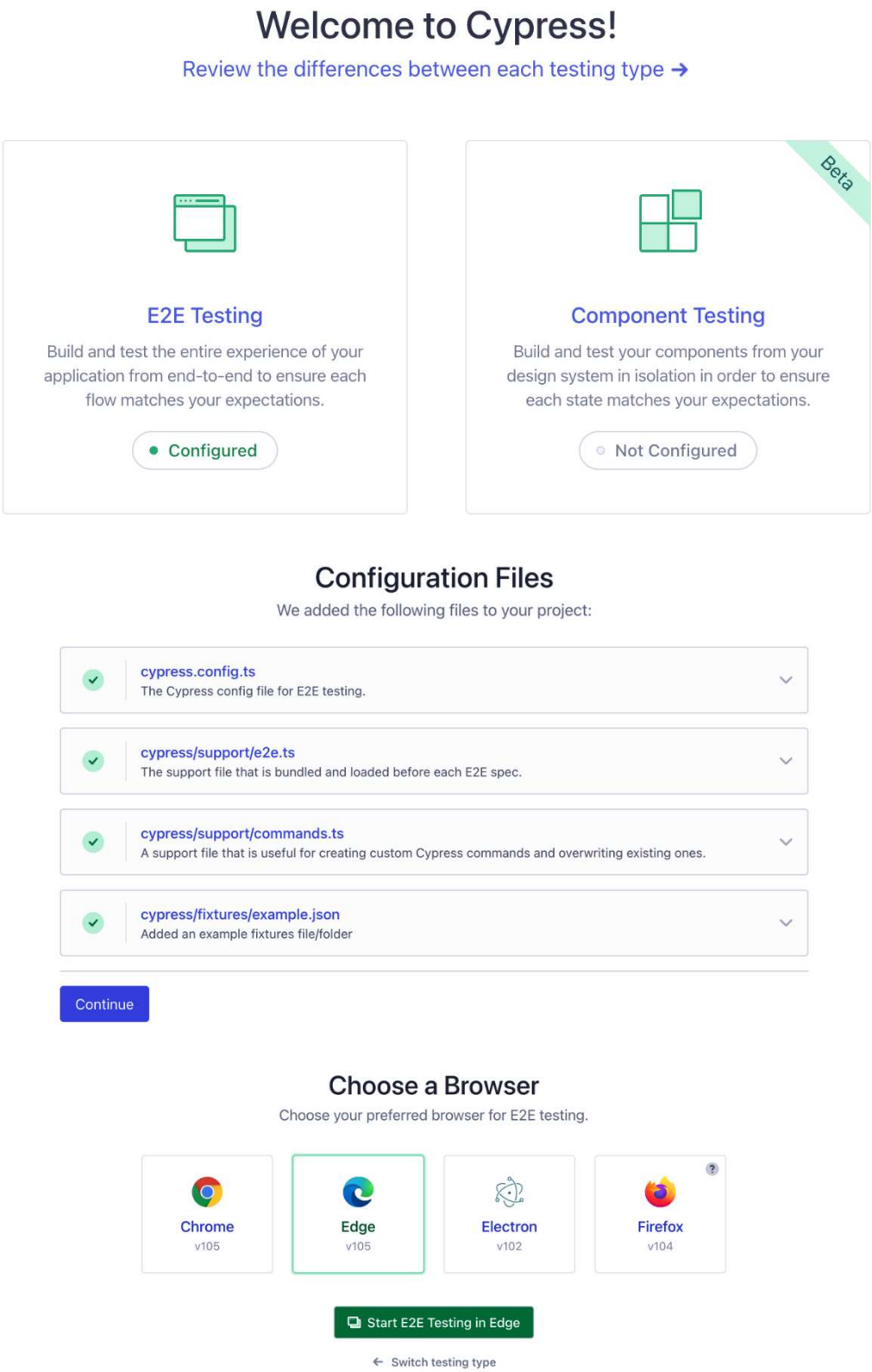
Chapter 14: Adding Authentication in Angular

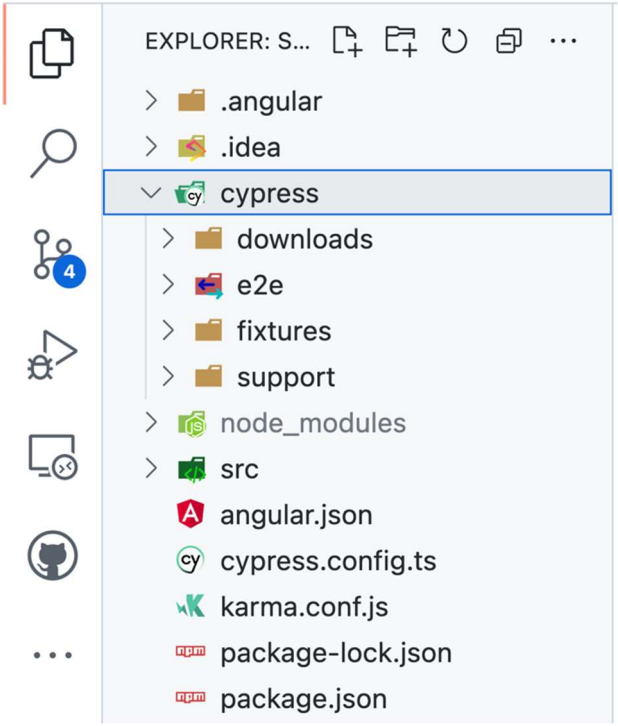


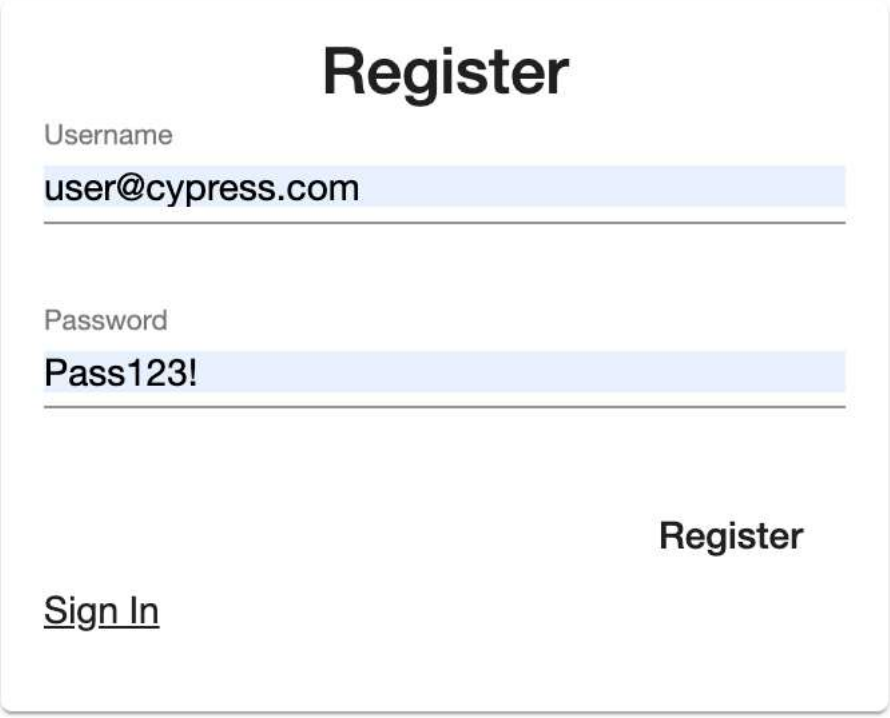


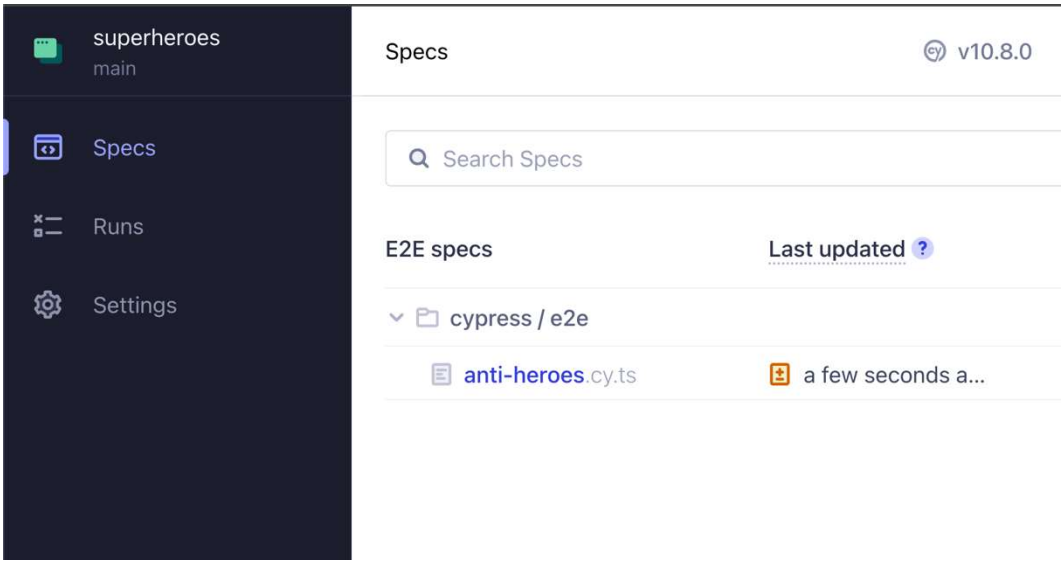

Spring MVC and PD...
Migrating a Spring...
ating Angular 2...
Angular 2 User Regi...
localhost:4200 says
Are you sure?
OK
Cancel
Create Hero
First Name
Last Name
House
Known As
Clear
Create

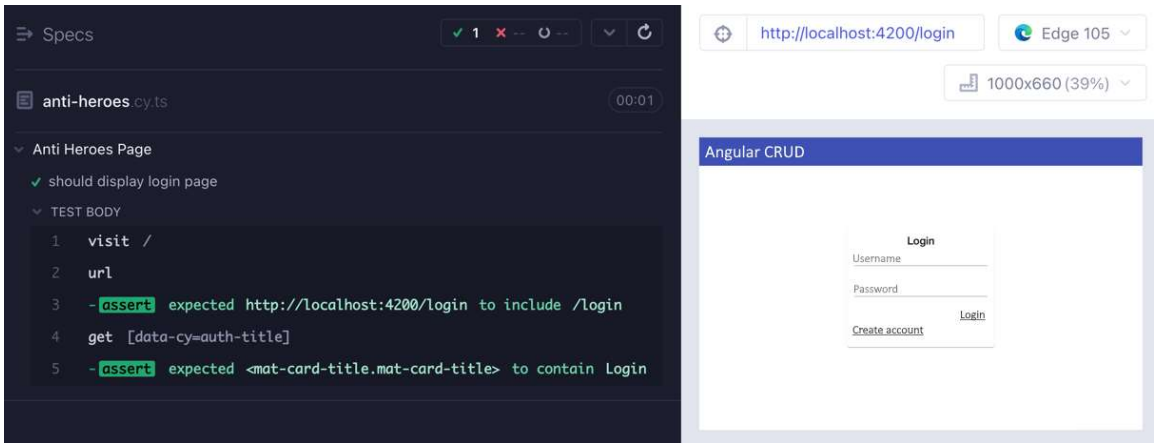
Chapter 15: Writing Tests in Angular

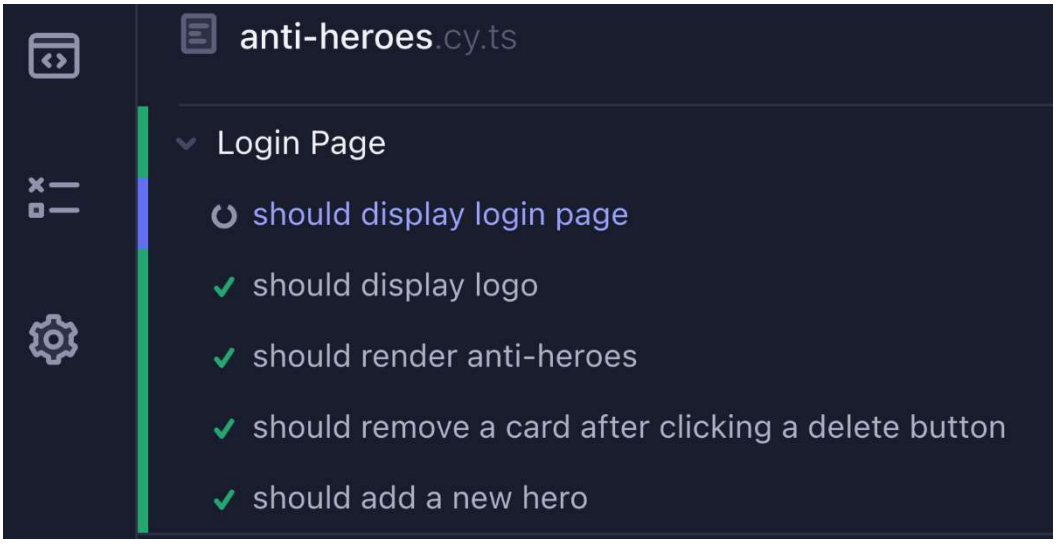



EXPLORER: S...
.angular
.idea
cypress
downloads
e2e
fixtures
support
node_modules
src
angular.json
cypress.config.ts
karma.conf.js
package-lock.json
package.json


Register
Username
user@cypress.com
Password
Pass123!
Register
Sign In


superheroes
main
Specs
Runs
Settings
Specs
v10.8.0
Search Specs
E2E specs
Last updated
cypress / e2e
anti-heroes.cy.ts
a few seconds a...


Specs
1
anti-heroes.cy.ts
00:01
Anti Heroes Page
should display login page
TEST BODY
1 visit /
2 url
3 -assert expected http://localhost:4200/login to include /login
4 get [data-cy=auth-title]
5 -assert expected <mat-card-title.mat-card-title> to contain Login
http://localhost:4200/login
Edge 105
1000x660 (39%)
Angular CRUD
Login
Username
Password
Login
Create account

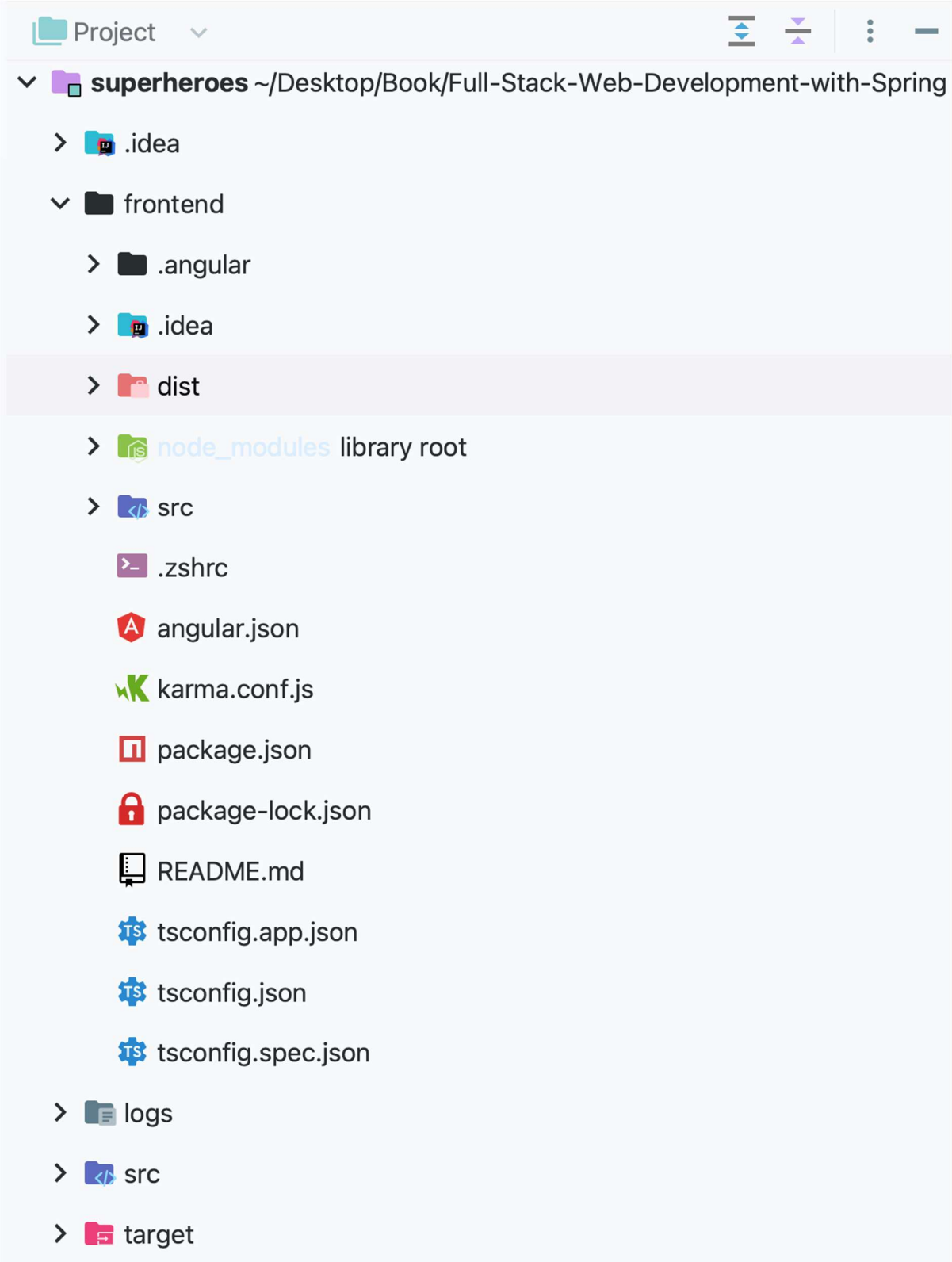

anti-heroes.cy.ts
Login Page
should display login page
should display logo
should render anti-heroes
should remove a card after clicking a delete button
should add a new hero

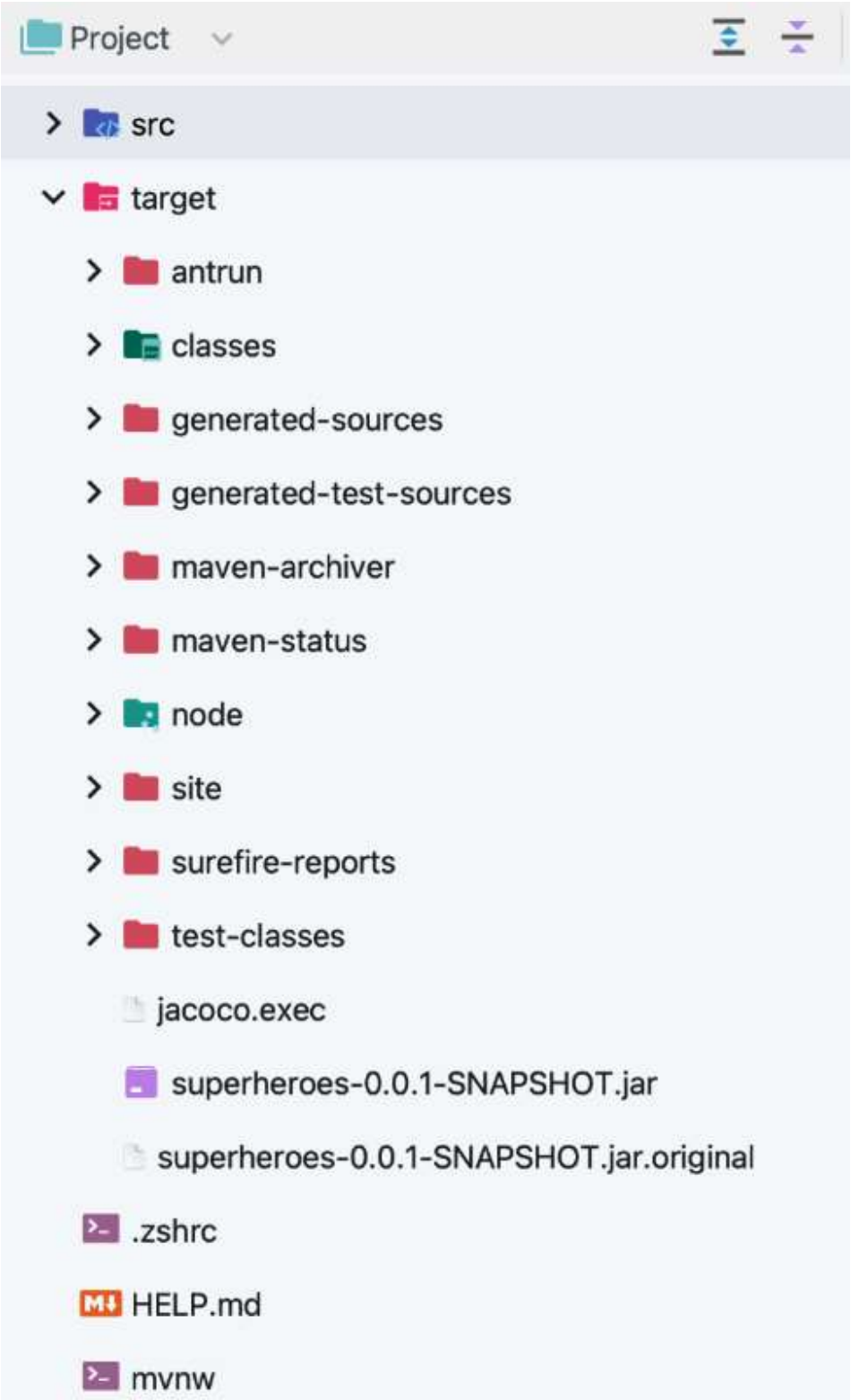
```
✓ should remove a card after clicking a delete button
> ROUTES (2)
v BEFORE EACH
1  visit /
2  get [data-cy=email]
3  -type user@cypress.com
4  get [data-cy=password]
5  -type Pass123!
6  get [data-cy=submit-login]
7  -click
   (xhr) POST 201 http://localhost:8080/authenticate
   (new url) http://localhost:4200/anti-heroes
   (xhr) GET 200 http://localhost:8080/api/v1/anti-heroes   no alias
```

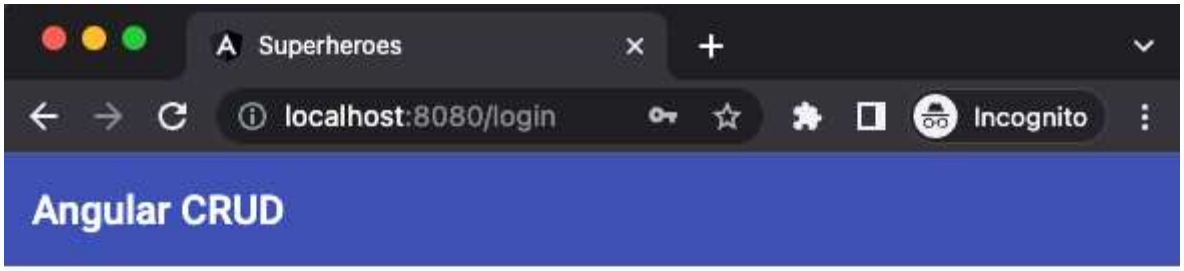
```
v TEST BODY
1  get [data-cy=delete]                                                    6
2  -eq 1
3  -click
   (xhr) DELETE 200 http://localhost:8080/api/v1/anti-heroes/9greg7t767g   no alias
4  get [data-cy=row]                                                       20
   -assert expected [ <td.mat-cell.cdk-cell.cdk-column-firstName.mat-column-firstName.ng-star-inserted>, 19 more... ] to have a length of 20   20
```

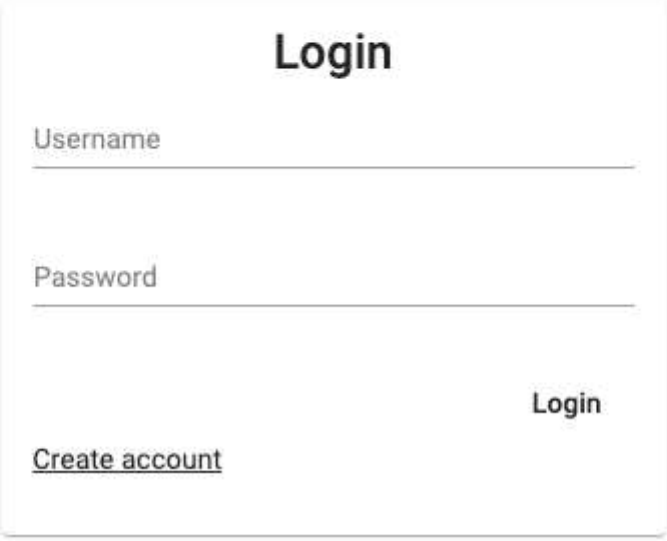
```
v AFTER EACH
1  get [data-cy=logout]
2  -click
   (new url) http://localhost:4200/login
```

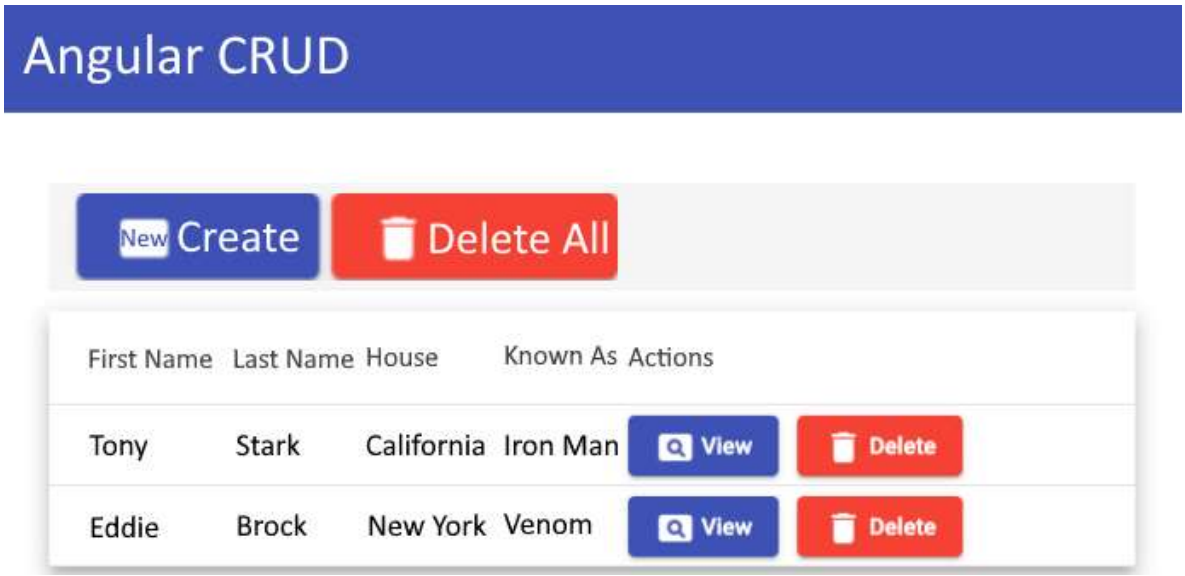
Chapter 16: Packaging Backend and Frontend with Maven



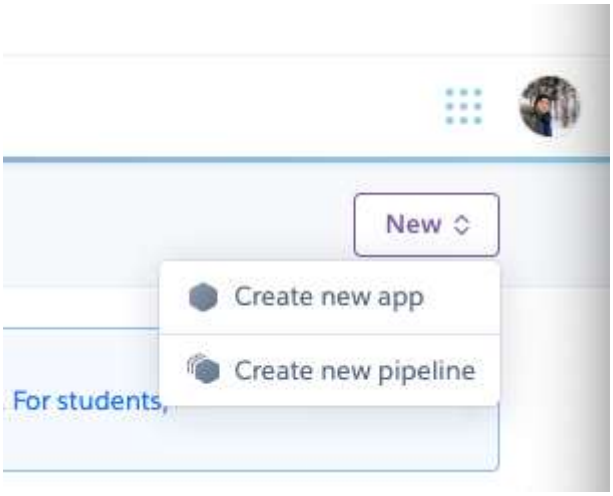

Project
src
target
antrun
classes
generated-sources
generated-test-sources
maven-archiver
maven-status
node
site
surefire-reports
test-classes
jacoco.exec
superheroes-0.0.1-SNAPSHOT.jar
superheroes-0.0.1-SNAPSHOT.jar.original
.zshrc
HELP.md
mvnw

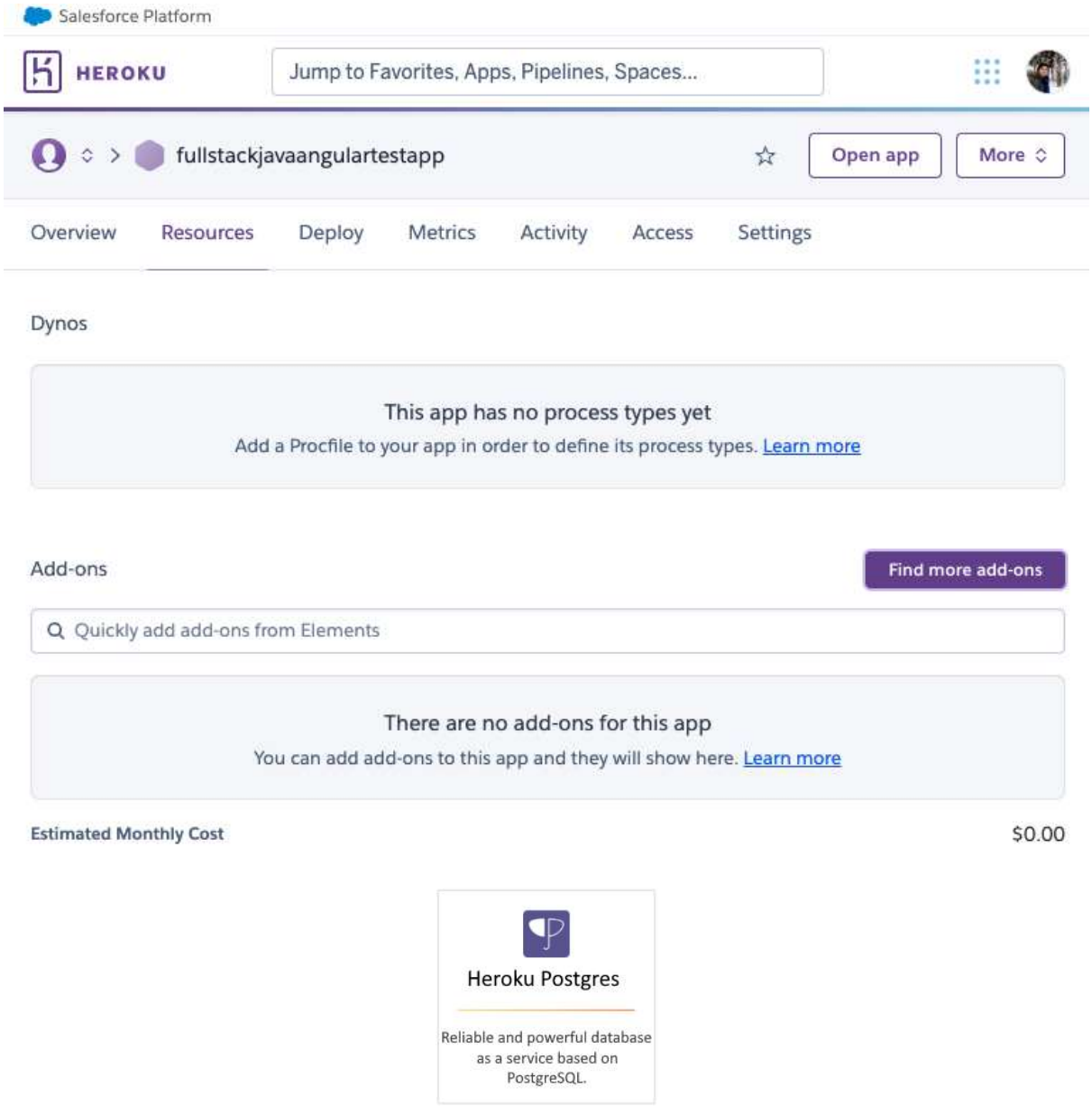

Superheroes
localhost:8080/login
Incognito
Angular CRUD


Login
Username
Password
Login
Create account


Angular CRUD
New Create
Delete All
First Name
Last Name
House
Known As
Actions
Tony
Stark
California
Iron Man
View
Delete
Eddie
Brock
New York
Venom
View
Delete

Chapter 17: Deploying Spring Boot and Angular App





Domains

You can add custom domains to any Heroku app, then visit Configuring DNS to setup your DNS target.

Your app can be found at
https://fullstackjavaangulartestapp.herokuapp.com/

Add domain

Filter domains

Config Vars

Config vars change the way your app behaves. In addition to creating your own, some add-ons come with their own.

Reveal Config Vars

Salesforce Platform

HEROKU

Jump to Favorites, Apps, Pipelines, Spa

Config Vars

Config vars change the way your app behaves. In addition to creating your own, some add-ons come with their own.

Config Vars

CLIENT_URL

DATABASE_URL

KEY

Edit config variable

Key

CLIENT_URL

Value

https://fullstackjavaangulartestapp.herokuapp.com

Dev Center: Help with Config Vars

fullstackjavaangulartestapp

Open app | More

Overview | Resources | Deploy | Metrics | Activity | Access | Settings

Add this app to a pipeline

Create a new pipeline or choose an existing one and add this app to a stage in it.

Add this app to a stage in a pipeline to enable additional features

Pipelines let you connect multiple apps together and **promote code** between them. Learn more.

Pipelines connected to GitHub can enable **review apps**, and create apps for new pull requests. Learn more.

Choose a pipeline

Deployment method

Heroku Git
Use Heroku CLI

GitHub
Connect to GitHub

Container Registry
Use Heroku CLI

Connect to GitHub

Connect this app to GitHub to enable code diffs and deploys.

Search for a repository to connect to

webmasterdevlin | repo-name | Search

Missing a GitHub organization? Ensure Heroku Dashboard has team access.

Manual deploy

Deploy the current state of a branch to this app.

Deploy a GitHub branch

This will deploy the current state of the branch you specify below. Learn more.

Choose a branch to deploy

master | Deploy Branch

Elements Console Sources Network Performance » 4 6 1

Preserve log Disable cache No throttling

Filter Invert Hide data URLs

All Fetch/XHR JS CSS Img Media Font Doc WS Wasm Manifest Other Has blocked cookies

Blocked Requests 3rd-party requests

5000 ms 10000 ms 15000 ms 20000 ms 25000 ms 30000 ms 35000 ms

Name

- authenticate
- register
- messages.json
- contentScriptSiteDialog.html

× Headers Payload Preview Response Initiator Timing

▾ General

Request URL: `https://fullstackjavaangulartestapp.herokuapp.com/register`

Request Method: `POST`

Status Code: `201`

Remote Address: `34.241.115.67:443`

Referrer Policy: `strict-origin-when-cross-origin`

Code Issues Pull requests Actions Projects Wiki

Get started with GitHub Actions

Build, test, and deploy your code. Make code reviews, branch management, and issu

Skip this and set up a workflow yourself →

Categories

- Automation
- Continuous integration
- Deployment
- Security
- Pages

Publish Java Package

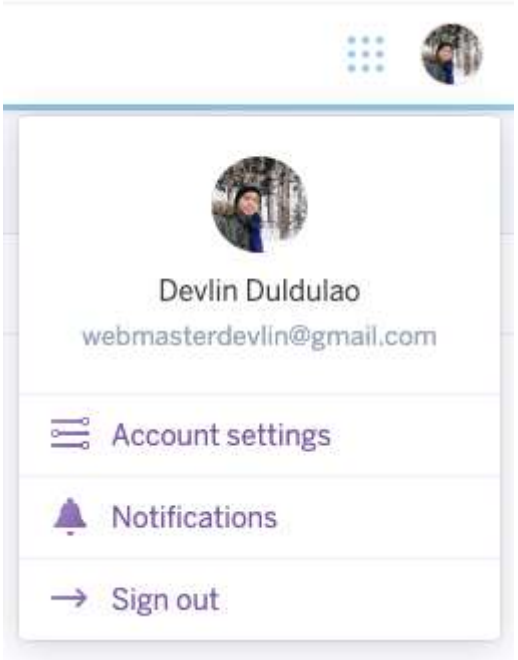
Found 4 workflows

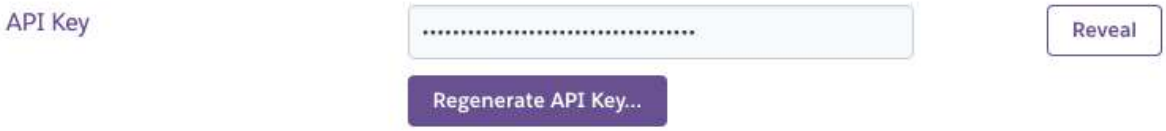
Publish Java Package with Maven

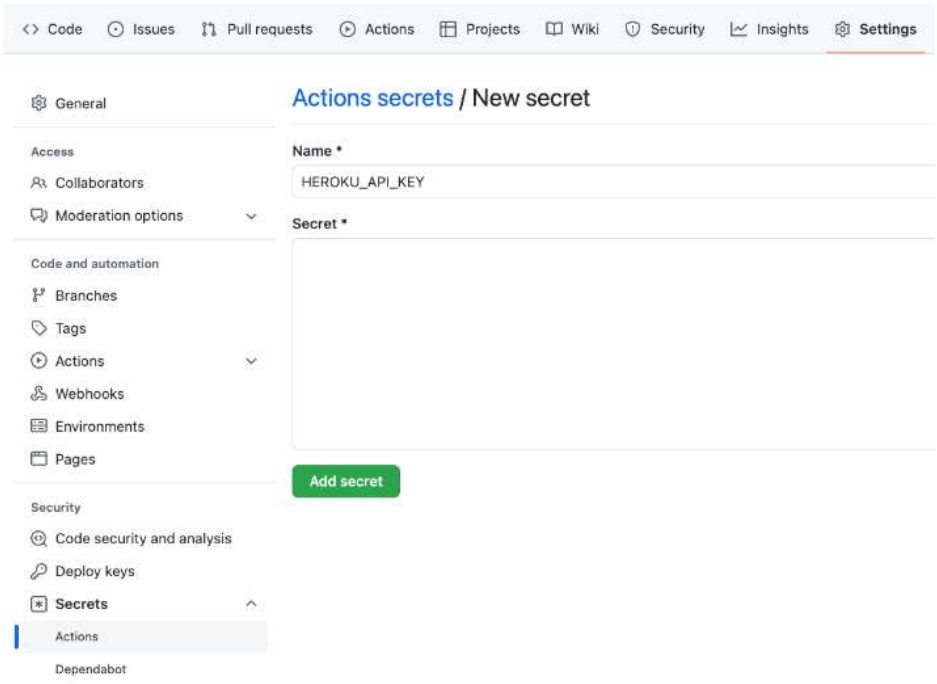
By GitHub Actions

Build a Java Package using Maven and publish to GitHub Packages.

Configure Java


Devlin Duldulao
webmasterdevlin@gmail.com
Account settings
Notifications
Sign out


API Key
Reveal
Regenerate API Key...


Code
Issues
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
General
Access
Collaborators
Moderation options
Code and automation
Branches
Tags
Actions
Webhooks
Environments
Pages
Security
Code security and analysis
Deploy keys
Secrets
Actions
Dependabot
Actions secrets / New secret
Name *
HEROKU_API_KEY
Secret *
Add secret

hts Settings

Cancel changes

Start commit

Commit new file

Create maven-publish.yml

Add an optional extended description...

Commit directly to the `master` branch.

Create a **new branch** for this commit and start a pull request. Learn more about pull requests.

Commit new file

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

Create maven-publish.yml CICD #1

Cancel workflow Latest #2

Summary

Jobs

Build and Test

Re-run triggered 12 seconds ago
webmasterdevlin f1eb350 `master`

Status
In progress

Total duration
–

Artifacts
–

maven-publish.yml
on: push

Build and Test 27s

Deploy to Heroku

Code | Issues | Pull requests | Actions | Projects | Wiki | Security | Insights | Settings

Create maven-publish.yml CICD #1

Cancel workflow | Latest #2

Summary

Jobs

Build and Test

Build and Test
Started 1m 13s ago

Search logs

- Set up job 3s
- Run actions/checkout@v2 5s
- Set up JDK 17 1s
- test with Maven 1m 4s

```
16060  [INFO]
16061  [INFO] added 979 packages, and audited 980 packages in 22s
16062  [INFO]
16063  [INFO] 105 packages are looking for funding
16064  [INFO]   run `npm fund` for details
```

Code | Issues | Pull requests | Actions | Projects | Wiki | Security | Insights | Settings

Workflows | New workflow

All workflows

CICD

All workflows

Showing runs from all workflows

Filter workflow runs

1 workflow run	Event	Status	Branch	Actor
Create maven-publish.yml CICD #1: Commit f1eb350 pushed by webmasterdevlin	master		8 hours ago 5m 36s	

Latest activity

webmasterdevlin@gmail.com: Deployed `f1eb3508`
Today at 8:33 AM · v11 · Compare diff

webmasterdevlin@gmail.com: Build succeeded
Today at 8:31 AM · View build log