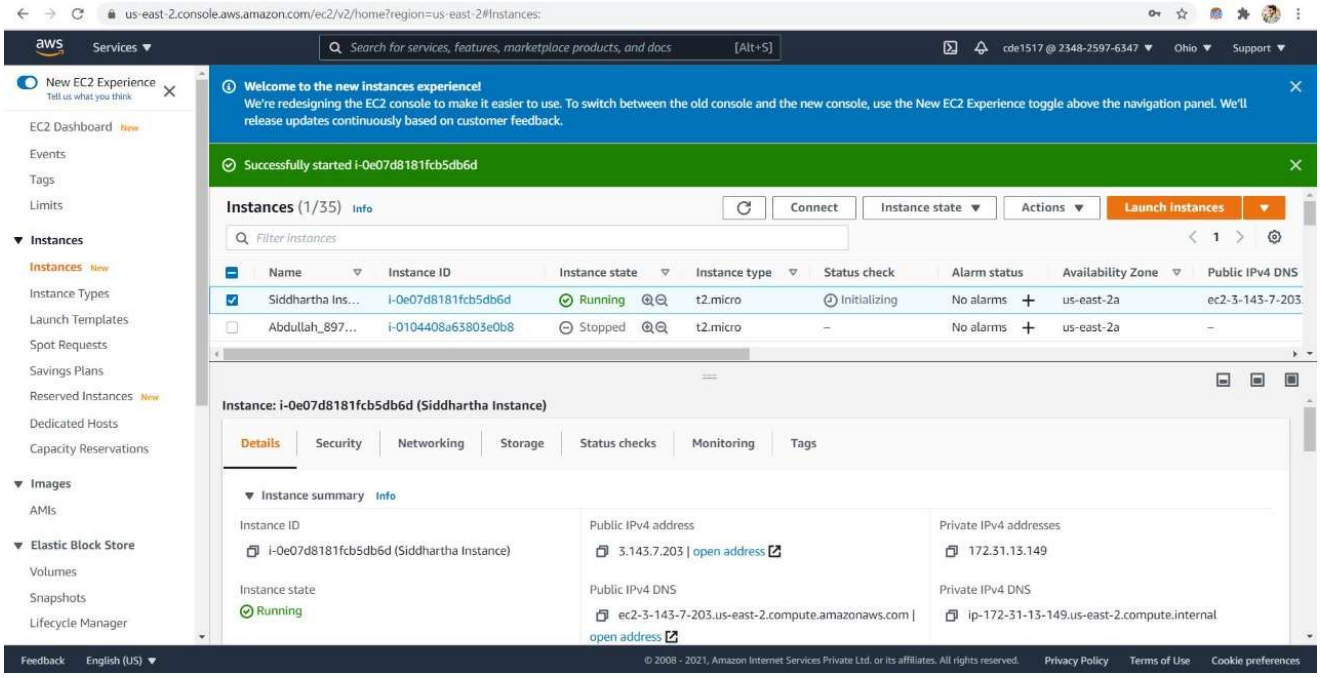
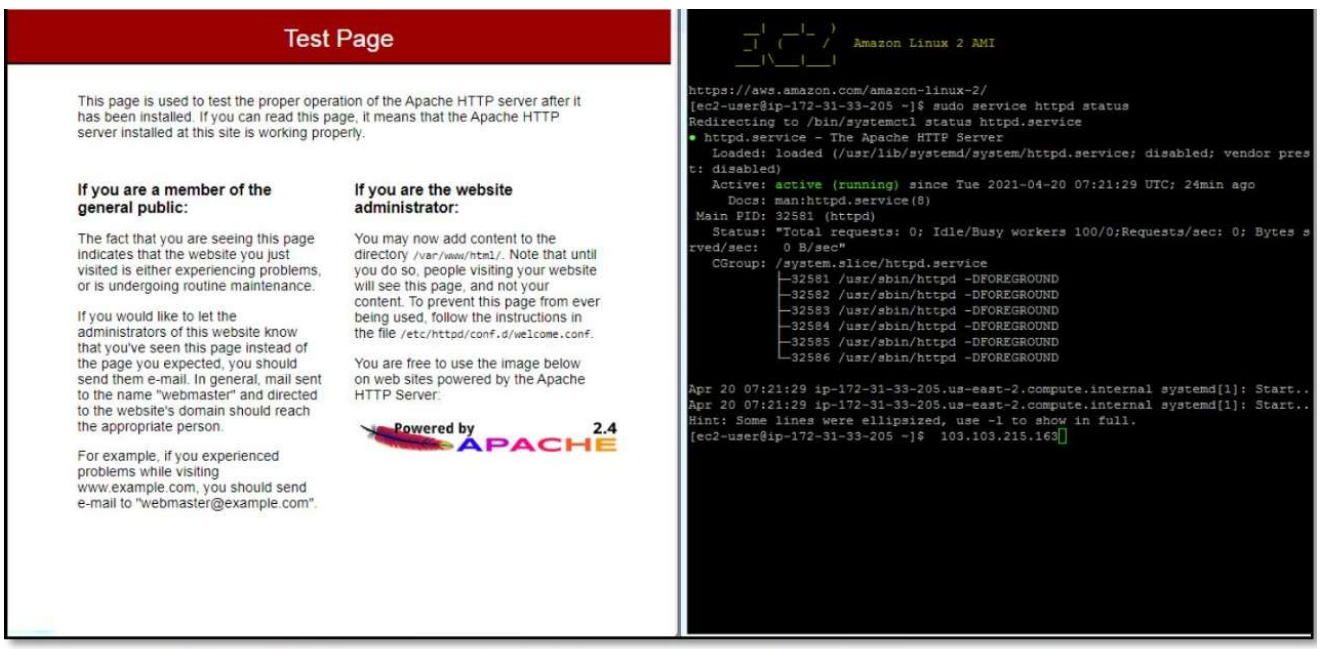
AWS HandsOn

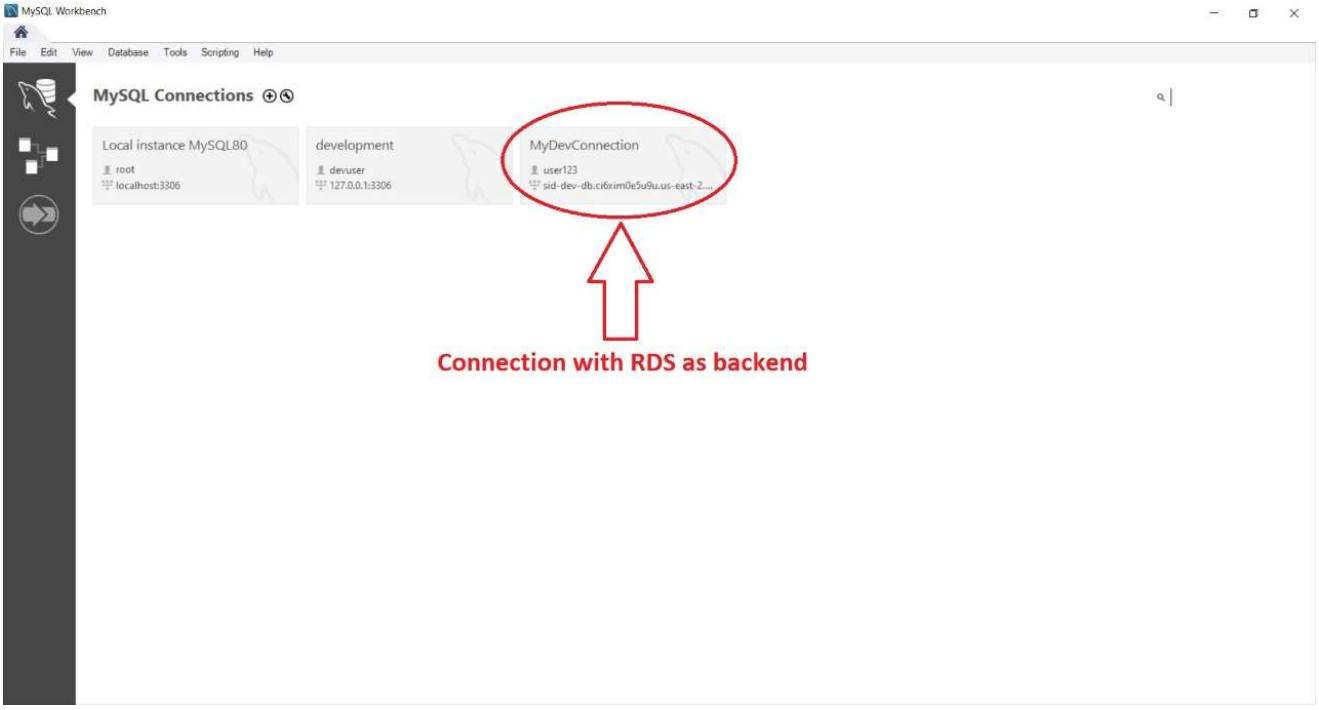
EC2 HandsOn





Type the public IPV4 address on the browser url bar and we should get the above shown screen

RDS HandsOn

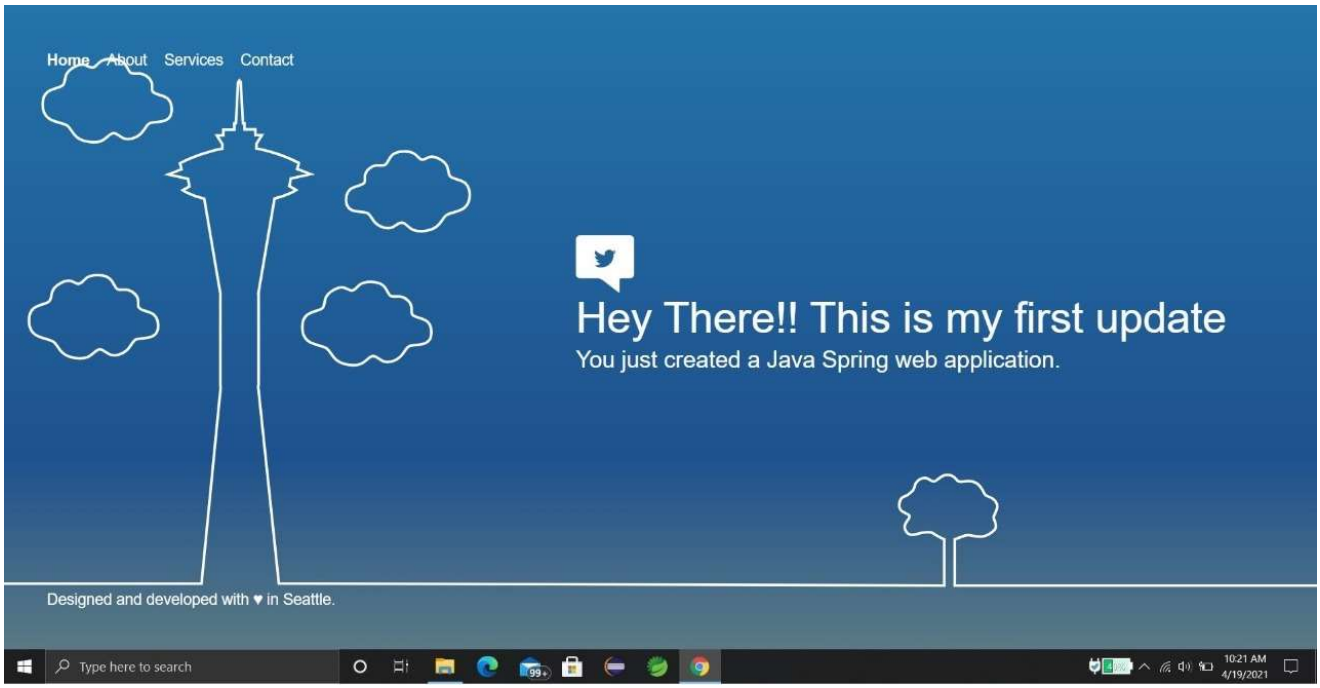


Data in RDS

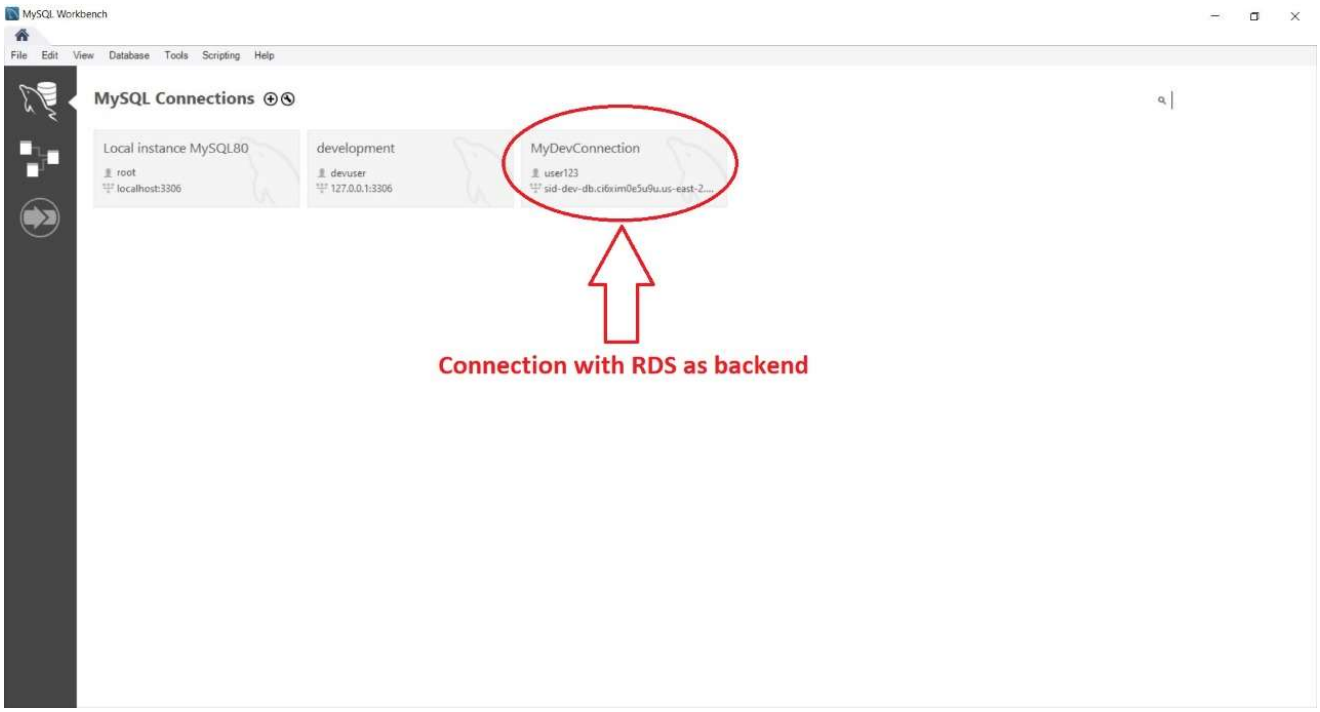
```
create database empdb;
use empdb;
create table Employee(id int primary Key,
                      name varchar(50),
                      gender varchar(50),
                      age int,
                      salary double);
insert into Employee values(1,'Manu','Male',23,34000);
insert into Employee values(2,'Chitra','Female',33,40000);
```

CI/CD HandsOn

Output:-



Spring-Rest-with-RDS-Backend



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                      name varchar(50),
                      gender varchar(50),
                      age int,
                      salary double);
insert into Employee values(1,'Manu','Male',23,34000);
insert into Employee values(2,'Chitra','Female',33,40000);
```

```
package com.cognizant.controller;

import java.util.List;

@RestController
@RequestMapping("/employees")
public class EmployeeController {

    @Autowired
    EmployeeService employeeService;

    @GetMapping
    public List<Employee> getAllEmployee(){
        return employeeService.getAllEmployee();
    }

    @PostMapping
    public String addEmployee(@RequestBody Employee employee) {
        return employeeService.addEmployee(employee);
    }

    @DeleteMapping("/{id}")
    public String deleteEmployee(@PathVariable int id) {
        return employeeService.deleteEmployee(id);
    }

    @PutMapping
    public String updateEmployee(@RequestBody Employee employee) {
        return employeeService.updateEmployee(employee);
    }

    @GetMapping("/{id}")
    public Employee getEmployeeBy(@PathVariable int id) {
        return employeeService.getEmployeeBy(id);
    }
```

```
2021-04-23 11:57:48.223 DEBUG 7112 --- [nio-8080-exec-3] org.hibernate.SQL                          : select employee0_.id as id1_0_0_, employee0_.age as age
2021-04-23 11:57:48.228 TRACE 7112 --- [nio-8080-exec-3] o.h.type.descriptor.sql.BasicBinder         : binding parameter [1] as [INTEGER] - [4]
2021-04-23 11:57:48.247 TRACE 7112 --- [nio-8080-exec-3] o.h.type.descriptor.sql.BasicExtractor       : extracted value ([age2_0_0_] : [INTEGER]) - [32]
```

We have created a “employee” microservice to test the RDS Database.

Swagger HandsOn

Step-1:- Add Dependencies

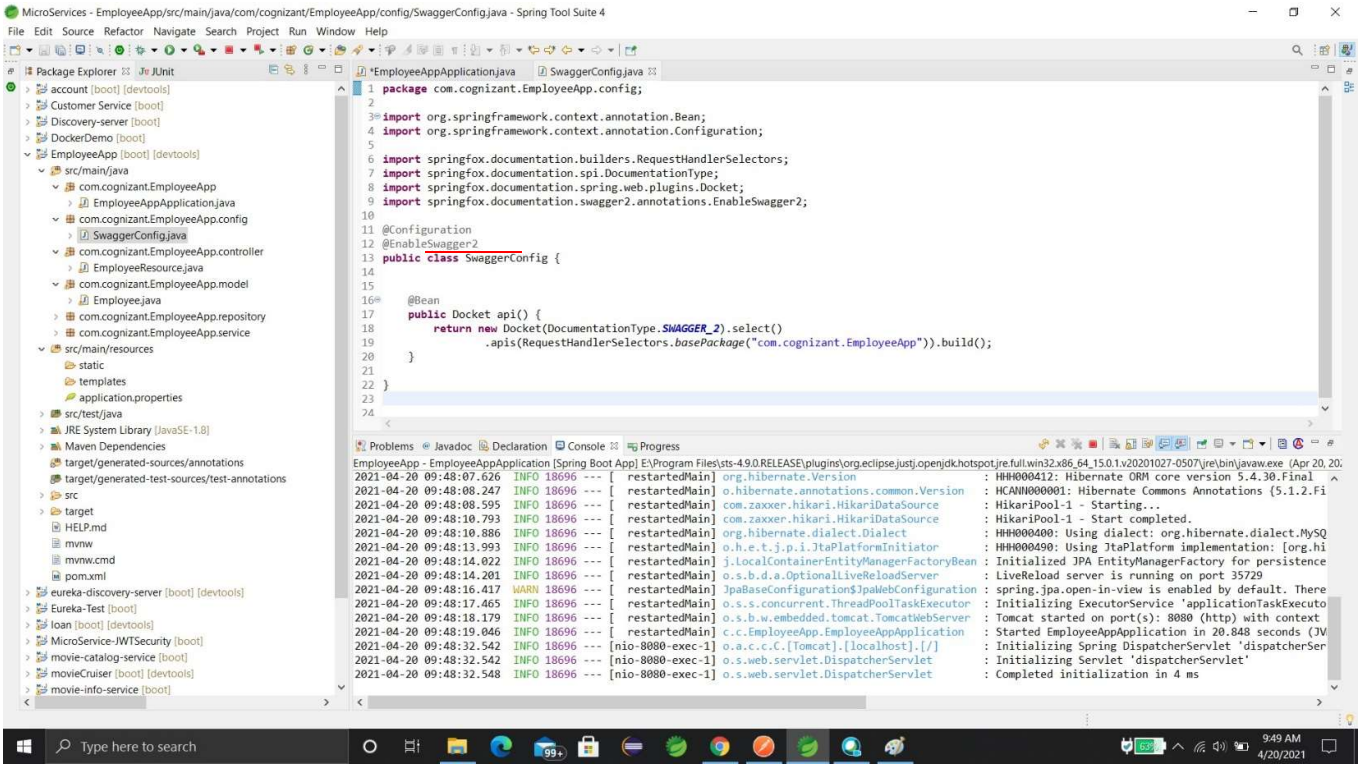
```
    <dependency>
        <groupId>org.projectlombok</groupId>
        <artifactId>lombok</artifactId>
        <optional>true</optional>
    </dependency>
    <dependency>
        <groupId>org.springframework.boot</groupId>
        <artifactId>spring-boot-starter-test</artifactId>
        <scope>test</scope>
    </dependency>
    <dependency>
        <groupId>org.springframework.boot</groupId>
        <artifactId>spring-boot-starter-data-jpa</artifactId>
    </dependency>
    <dependency>
        <groupId>io.springfox</groupId>
        <artifactId>springfox-swagger-ui</artifactId>
        <version>3.0.0</version>
    </dependency>

    <dependency>
        <groupId>io.springfox</groupId>
        <artifactId>springfox-swagger2</artifactId>
        <version>3.0.0</version>
    </dependency>
</dependencies>

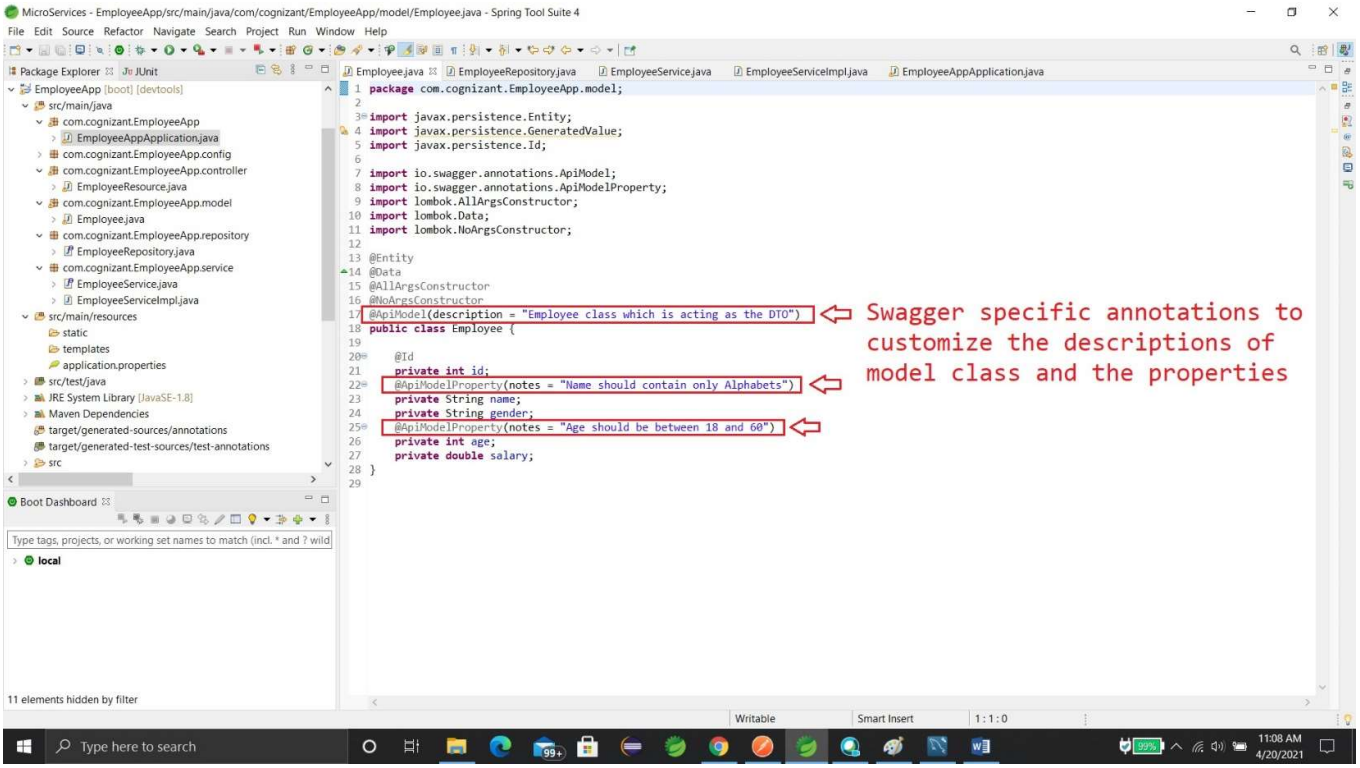
<build>
    <plugins>
        <plugin>
            <groupId>org.springframework.boot</groupId>
            <artifactId>spring-boot-maven-plugin</artifactId>
```

Swagger Dependencies

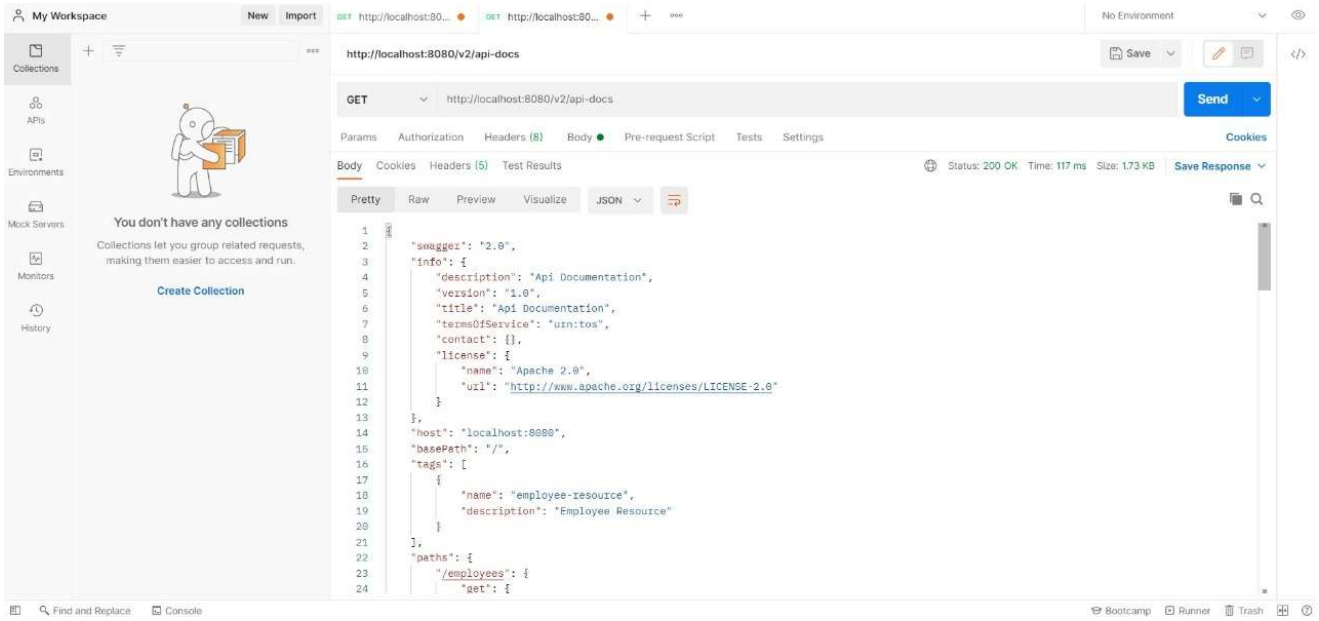
Step 2:- Create a Swagger configuration class



Step 3:- use Swagger specific annotations to customize the descriptions of model class and the properties.

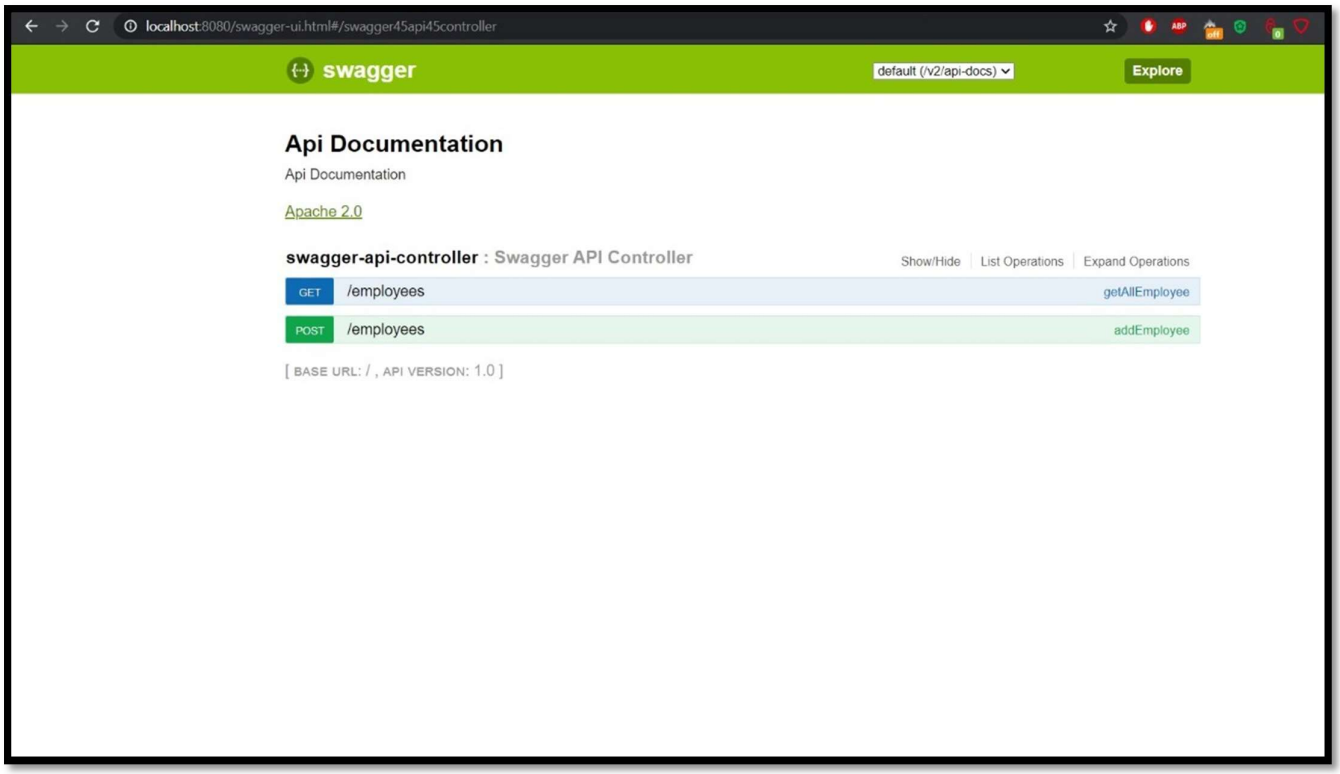


"**localhost:8080/v2/api-docs**" and you can see the complete API documentation of your service.



Now, hit the URL in your web browser and see the Swagger API functionalities.

http://localhost:8080/swagger-ui.html



Spring MVC Client For Spring REST Service

Note:- We have already created a microservice(employee) in our local System. Now, we are just creating another microservice which will consume the rest service of our previous employee microservice.

First we have to add “openfeign” dependency

```
    <dependencies>
        <dependency>
            <groupId>org.springframework.boot</groupId>
            <artifactId>spring-boot-starter-web</artifactId>
        </dependency>
        <dependency>
            <groupId>org.springframework.cloud</groupId>
            <artifactId>spring-cloud-starter-openfeign</artifactId>
        </dependency>

        <dependency>
            <groupId>org.springframework.boot</groupId>
            <artifactId>spring-boot-devtools</artifactId>
            <scope>runtime</scope>
            <optional>true</optional>
        </dependency>
        <dependency>
            <groupId>org.projectlombok</groupId>
            <artifactId>lombok</artifactId>
            <optional>true</optional>
        </dependency>
        <dependency>
            <groupId>org.springframework.boot</groupId>
            <artifactId>spring-boot-starter-test</artifactId>
            <scope>test</scope>
        </dependency>
```

Feign Client dependecy

Note:-

The *value* argument passed in the *@FeignClient* annotation is a mandatory, arbitrary client name, while with the *url* argument, we specify the API base URL.

Furthermore, since this interface is a Feign client, we can use the Spring Web annotations to declare the APIs that we want to reach out to.

EmployeeRepository.java | EmployeeFeign.java | MvcController.java | application.properties

```java
package com.cts.feign;

import java.util.List;

@FeignClient(name = "emp-spring", url = "${feign.url-employee-spring}")
public interface EmployeeFeign {

    @GetMapping
    public List<Employee> getAllEmployee();

    @GetMapping("/{id}")
    public Employee getEmployeeByID(@PathVariable int id);

    @DeleteMapping("/{id}")
    public String deleteEmployee(@PathVariable int id);

    @PostMapping
    public String addEmployee(@RequestBody Employee employee);

    @PutMapping
    public String updateEmployee(@RequestBody Employee employee);
}
```

Declaring this interface as Feign Client

EmployeeRepository.java | EmployeeFeign.java | MvcController.java | application.properties | EmployeeMvcApplication.java

```java
package com.cts;

import org.springframework.boot.SpringApplication;

@SpringBootApplication
@EnableFeignClients
public class EmployeeMvcApplication {

    public static void main(String[] args) {
        SpringApplication.run(EmployeeMvcApplication.class, args);
    }

}
```

With this annotation, we enable component scanning for interfaces that declare they are Feign clients.

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Output:-

output:-