ANGULAR JAVA PROJECT

❖ Prerequisites

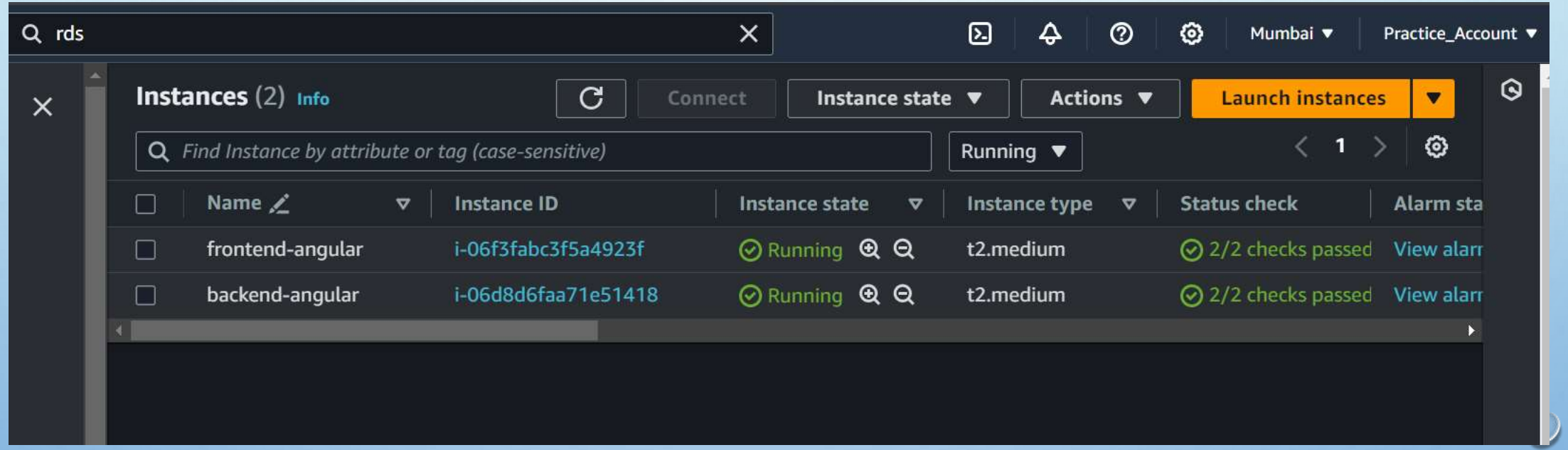
- Ubuntu Server
- Aws Account
- Admin Access

PROJECT DOCUMENT MADE BY:-

SAI PHAPALE

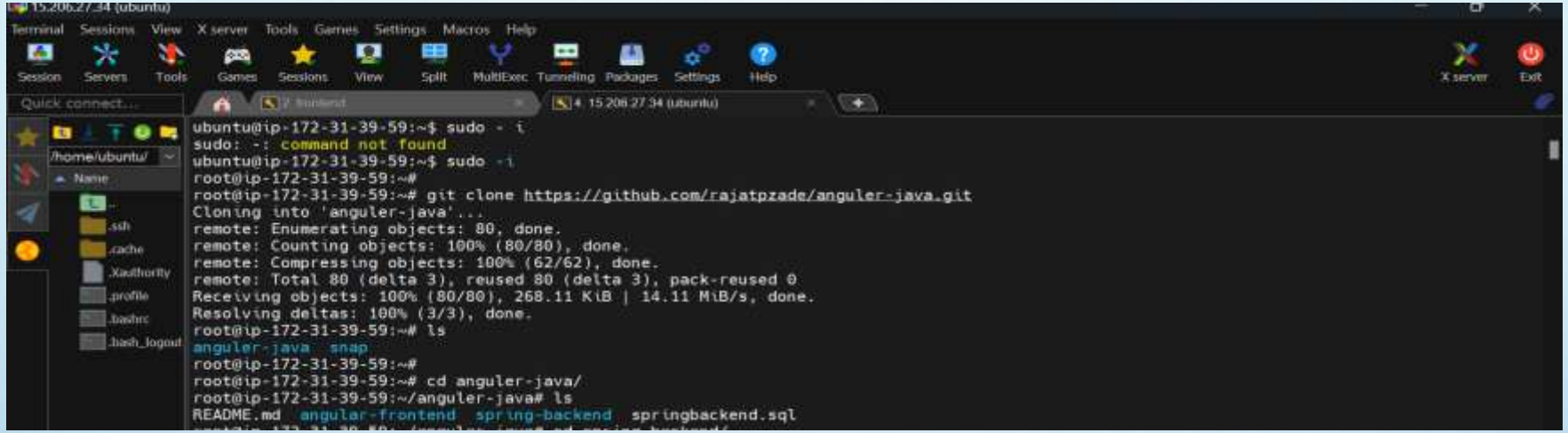
FOLLOW STEPS :-

- Login in into the AWS account Navigate to EC2 service
- Launch two instance with same Configuration named it as frontend-angular & backend-angular



- Connect your ubuntu server via ssh (EC2 direct connect , SSH Client , Mobaxterm , Cloudshell)

- Now Clone the repo in both Frontend and Backend Server using git clone command .



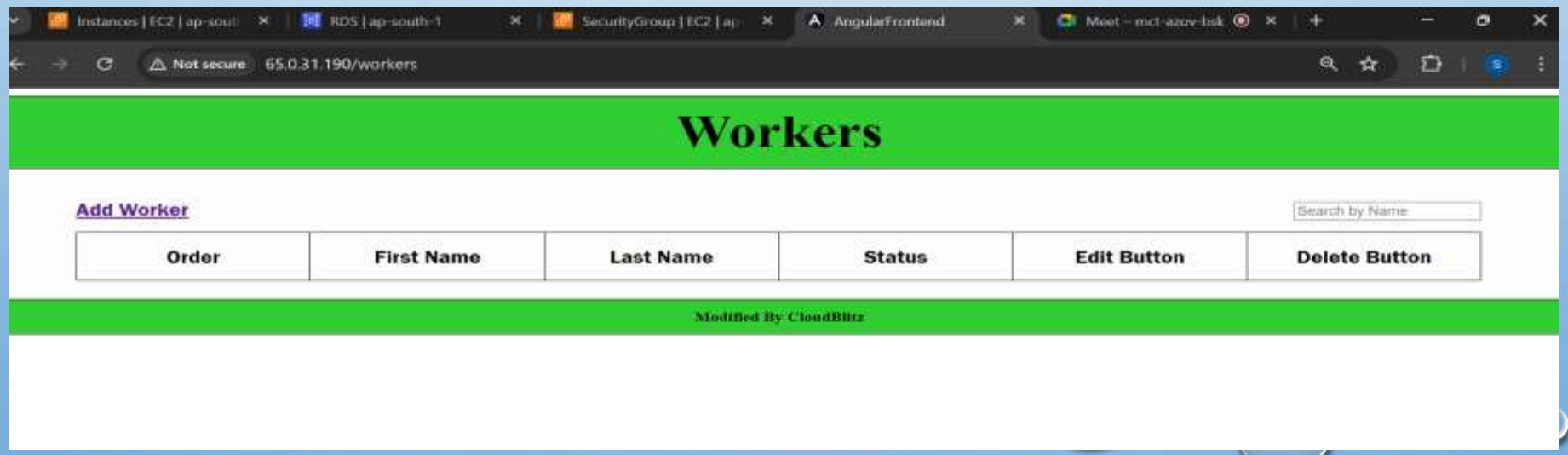
• Frontend Setup steps

- Install Nodejs and npm in the frontend server using command .
  sudo apt install nodejs npm
- To confirm installation of Node.js and npm use .
  node -v & npm -v
- Now install Angular CLI globally using
  sudo npm install -g @angular/cli@14.2.1

- Now its time to install dependence that required to our project
  - npm install
  - ng build
  - ng serve --host 0.0.0.0 --port=80

```
✓ Browser application bundle generation complete.

Initial Chunk Files   | Names         |  Raw Size
vendor.js             | vendor        |   2.47 MB |
polyfills.js          | polyfills     | 318.02 kB |
styles.css, styles.js | styles        | 210.10 kB |
main.js               | main          |  32.69 kB |
runtime.js            | runtime       |   6.53 kB |

                      | Initial Total |   3.03 MB

Build at: 2024-05-15T12:35:04.674Z - Hash: b237071b6c0acbab - Time: 23081ms

** Angular Live Development Server is listening on 0.0.0.0:80, open your browser on http://localhost:80/ **


✓ Compiled successfully.
```

- Now hit the public ip on the default browser you will See your Frontend has set-up successfully



• Backend Setup Steps:-

- First install openJdk 8 in your backend server using
  sudo apt install openjdk-8-jdk
- To build java code install maven
  sudo apt install maven
- Build the project using Maven
  mvn clean package -Dmaven.test.skip=true
- Finally run your Application using command
  java -jar target/spring-backend-v1.jar

```
[INFO] Not compiling test sources
[INFO]
[INFO] --- maven-surefire-plugin:2.22.2:test (default-test) @ spring-backend ---
[INFO] Tests are skipped.
[INFO]
[INFO] --- maven-jar-plugin:3.1.1:jar (default-jar) @ spring-backend ---
[INFO] Building jar: /root/anguler-java/spring-backend/target/spring-backend-v1.jar
[INFO]
[INFO] --- spring-boot-maven-plugin:2.7.4:repackage (repackage) @ spring-backend ---
[INFO] Replacing main artifact with repackaged archive
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  4.066 s
[INFO] Finished at: 2024-06-18T06:49:57Z
[INFO] ------------------------------------------------------------------------
root@ip-172-31-39-59:~/anguler-java/spring-backend#
root@ip-172-31-39-59:~/anguler-java/spring-backend# java -jar target/spring-backend-v1.jar

  .   ____          _            __ _ _
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 \\/  ___)| |_)| | | | | || (_| |  ) ) ) )
  '  |____| .__|_| |_|_| |_\__, | / / / /
 =========|_|==============|___/=/_/_/_/
 :: Spring Boot ::                (v2.7.4)

2024-06-18 06:50:14.457  INFO 5252 --- [           main] c.e.s.SpringBackendApplication           : Starting SpringBackendApplication vv1
using Java 1.8.0_412 on ip-172-31-39-59 with PID 5252 (/root/anguler-java/spring-backend/target/spring-backend-v1.jar started by root in /
root/anguler-java/spring-backend)
2024-06-18 06:50:14.480  INFO 5252 --- [           main] c.e.s.SpringBackendApplication           : No active profile set, falling back to
 1 default profile: "default"
2024-06-18 06:50:15.790  INFO 5252 --- [           main] .s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring Data JPA reposito
ries in DEFAULT mode.
2024-06-18 06:50:15.880  INFO 5252 --- [           main] .s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data repository scanni
ng in 72 ms. Found 1 JPA repository interfaces.
2024-06-18 06:50:16.839  INFO 5252 --- [           main] o.s.b.w.embedded.tomcat.TomcatWebServer  : Tomcat initialized with port(s): 8080
(http)
2024-06-18 06:50:16.858  INFO 5252 --- [           main] o.apache.catalina.core.StandardService   : Starting service [Tomcat]
2024-06-18 06:50:16.859  INFO 5252 --- [           main] org.apache.catalina.core.StandardEngine  : Starting Servlet engine: [Apache Tomca
t/9.0.65]
2024-06-18 06:50:16.972  INFO 5252 --- [           main] o.a.c.c.C.[Tomcat].[localhost].[/]       : Initializing Spring embedded WebApplic
ationContext
2024-06-18 06:50:16.972  INFO 5252 --- [           main] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initializa
tion completed in 2379 ms
```
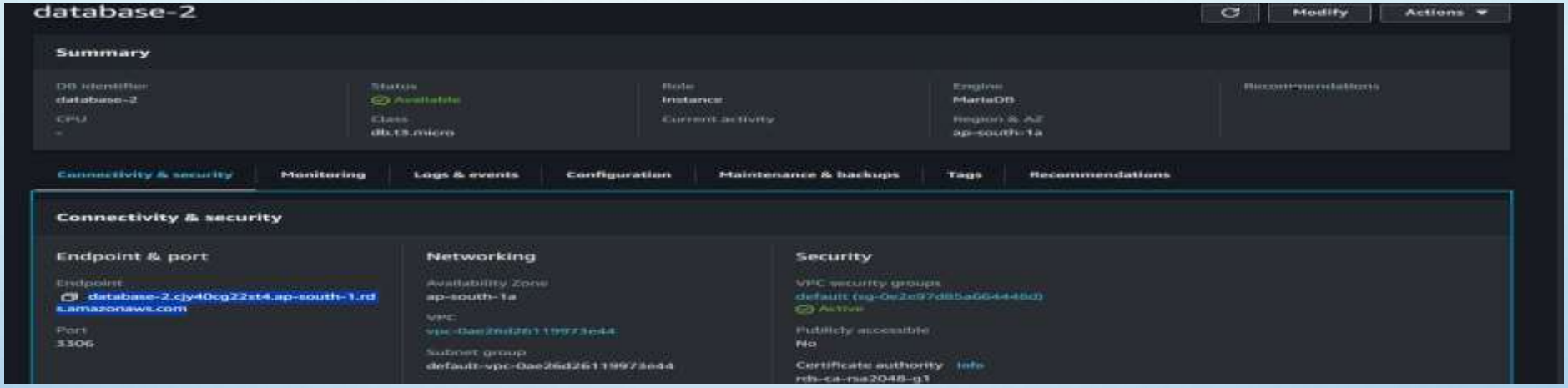

- Installing MariaDB, Setting Password, and Importing Database on Ubuntu Linux
- Now, Nagivate to AWS RDS service to create the database , After successfully creating the database we will get the endpoint



- Install the MariaDB server on the backend server using commands
- sudo apt update
- sudo apt install mariadb-server
- sudo systemctl start mariadb
- sudo systemctl enable mariadb
- sudo mysql_secure_installation
- After installing MariaDB login in to database using RDS end point that we have got .
- mysql -h (rds-Endpoint) -u (username) -p(password)

```
2. frontend                                   4. 15.206.27.34 (ubuntu)
root@ip-172-31-39-59:~# mysql -h database-2.cjy40cg22st4.ap-south-1.rds.amazonaws.com -u admin -pdemo1234
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 241
Server version: 10.11.6-MariaDB-log managed by https://aws.amazon.com/rds/

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]>
```

- This output we will get when we enter inside database.

• Connectors Configuration for frontend and Backend

- Frontend-Server

- PATH = " **cd /root/anguler-java/angular-frontend/src/app/services** "
- You will the file "**worker.service.ts**" enter the file put your public Ip of backend server

(On next page is content of worker.service.ts file)

```
import { HttpClient } from '@angular/common/http';
import { Injectable } from '@angular/core';
import { Observable } from 'rxjs';
import { map } from 'rxjs/operators';
import { Worker } from '../models/worker';

@Injectable({
  providedIn: 'root'
})
export class WorkerService {

  private getUrl: string = "http://15.206.27.34:8080/api/v1/workers";

  constructor(private _httpClient: HttpClient) { }

  getWorkers(): Observable<Worker[]> {
    return this._httpClient.get<Worker[]>(this.getUrl).pipe(
      map(response => response)
    )
  }

  saveWorkers(worker: Worker): Observable<Worker> {
    return this._httpClient.post<Worker>(this.getUrl, worker);
  }

  getWorker(id: Number): Observable<Worker> {
    return this._httpClient.get<Worker>(`${this.getUrl}/${id}`).pipe(
      map(response => response)
    )
  }
```

- Where I have selected ip replace it with Public Ip of your backend server .
- Rebuild the dependences using
- ng build
- ng serve --host 0.0.0.0 --port=80

• Backend-Server

• PATH = " **cd /root/anguler-java/spring-backend/src/main/resource/**"

• You will the file " **application.properties** " enter the file put your endpoint of RDS database with username and password . (As shown in below)

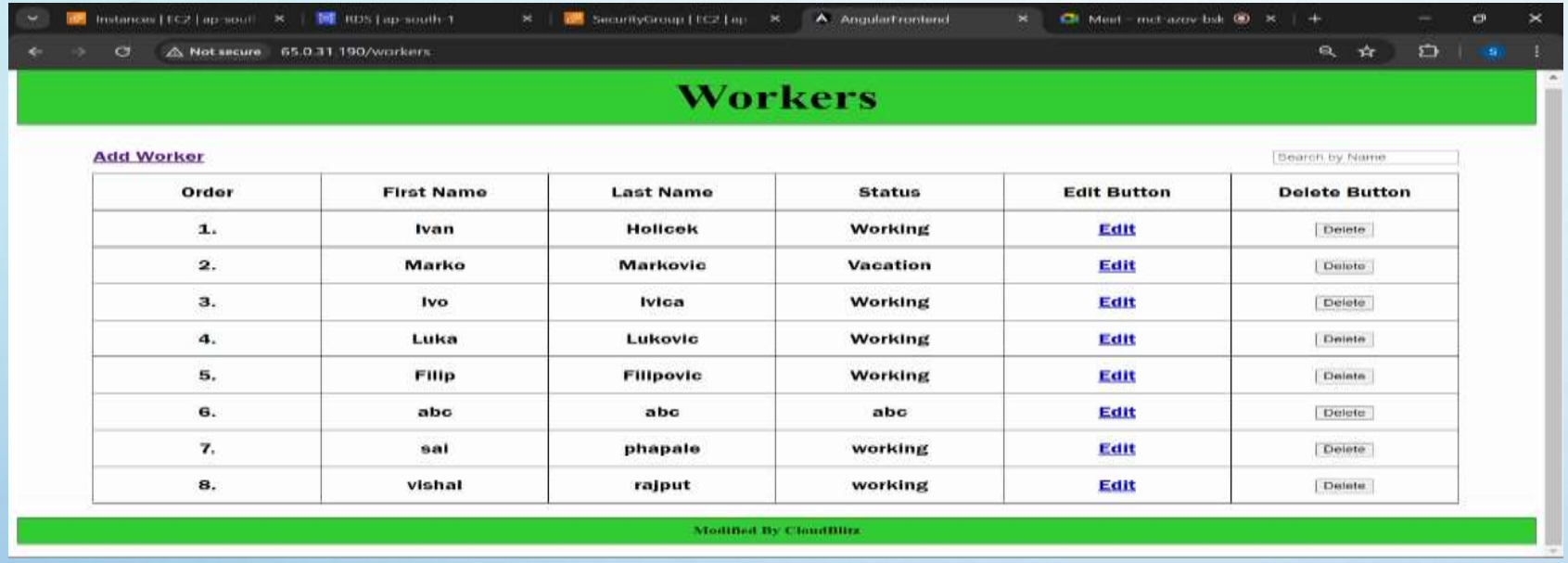
```
spring.datasource.url=jdbc:mysql://database-2.cjy40cg22st4.ap-south-1.rds.amazonaws.com:3306/springbackend?useSSL=false
spring.datasource.username=admin
spring.datasource.password=demo1234

spring.jpa.generate-ddl=true
~
~
~
~
~
```

• Rebuild the project of maven and run application using commands

• mvn clean package -Dmaven.test.skip=true

• java -jar target/spring-backend-v1.jar

- After doing all changes Properly, the Application Will work these are some Outputs :-



This is application output where we can add, edit , delete workers .

```
MariaDB [(none)]> use springbackend;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [springbackend]> show tables;
+-----------------------+
| Tables_in_springbackend |
+-----------------------+
| tbl_workers           |
+-----------------------+
1 row in set (0.001 sec)

MariaDB [springbackend]> select * from tbl_workers;
+----+----------+-------------+-------------+
| id | status   | workerfname | workerlname |
+----+----------+-------------+-------------+
| 37 | Vacation | Marko       | Markovic    |
| 40 | Working  | Ivo         | Ivica       |
| 41 | Working  | Luka        | Lukovic     |
| 42 | Working  | Filip       | Filipovic   |
| 43 | abc      | abc         | abc         |
| 45 | working  | vishal      | rajput      |
| 46 | working  | vishal      | rajput      |
+----+----------+-------------+-------------+
7 rows in set (0.004 sec)

MariaDB [springbackend]> ^DBye
```

The Workers data is also successfully stored inside database springbackend .