A Spring Boot Application for Securing a REST API with JSON Web Token (JWT)

To run the application

- Make sure you have Maven and Java 1.8 or greater
- Make sure you have created a database in Mysql. You can modify the properties of database in application.properties file.

Postman Demo: (POST, GET, PUT/UPDATE, DELETE)

Register two users with information.

POST: http://localhost:8080/register

{

"username":"user1",

"password":"pass1",

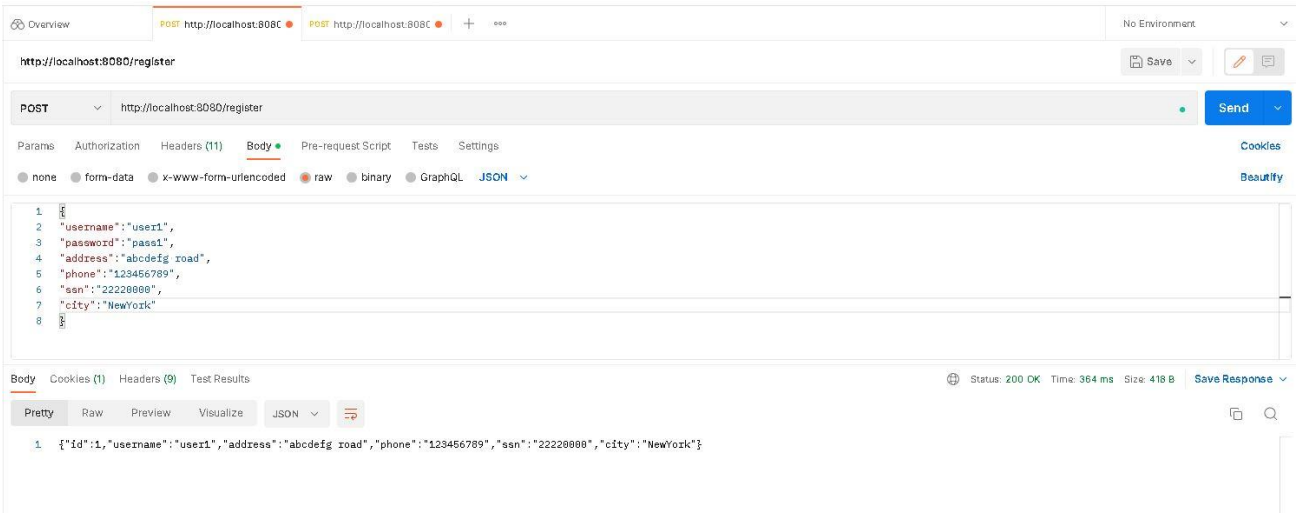
"address":"abcdefg road",

"phone":"123456789",

"ssn":"22220000",

"city":"NewYork"

}



{

"username":"user2",

"password":"pass2",

"address":"ghjkl road",

"phone":"100000000",

"ssn":"00008888",

"city":"San Francisco"

}

Try to get token.

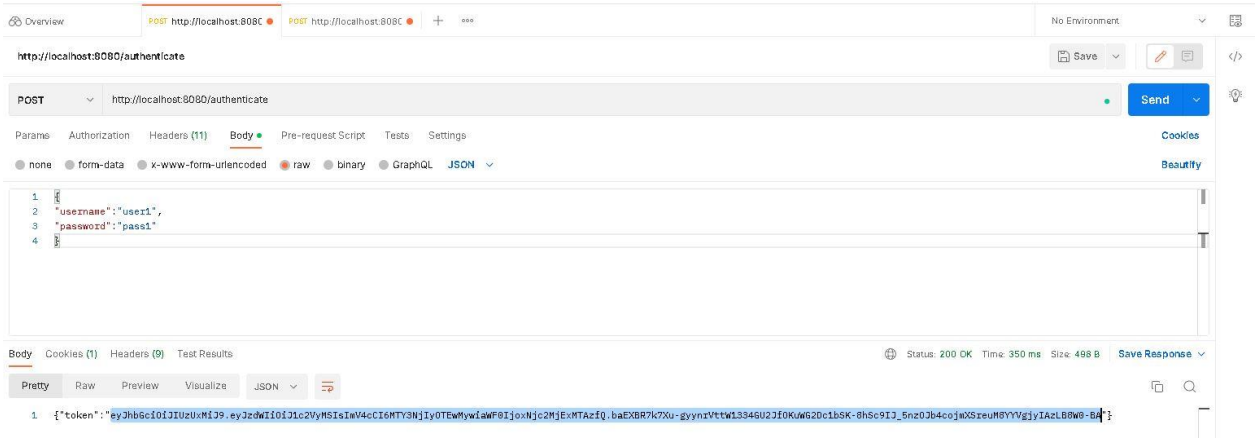
POST: http://localhost:8080/authenticate

{

"username":"user1",

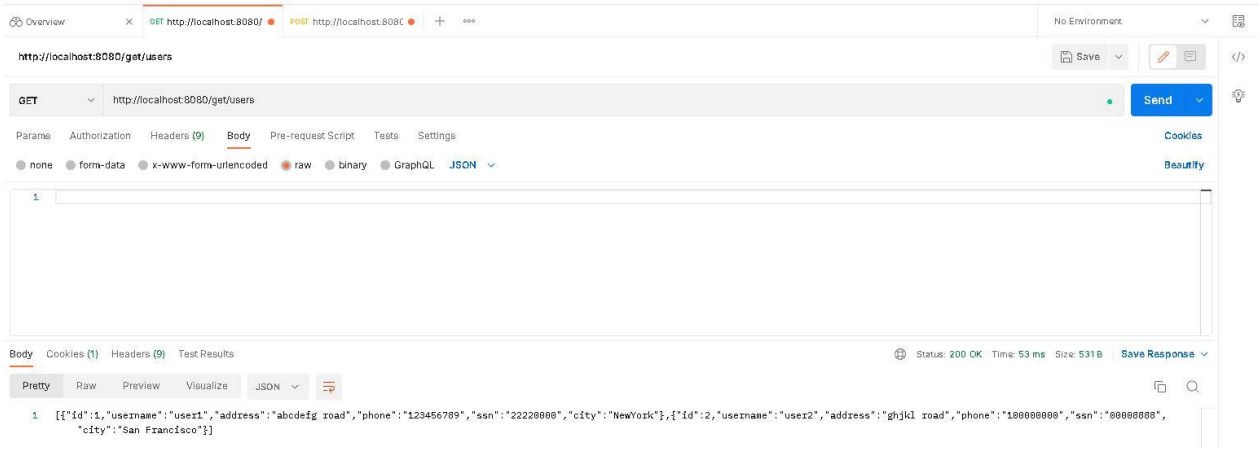
"password":"pass1"

}



Copy and enter the token to the header, and get all of user's information.

GET: http://localhost:8080/get/users



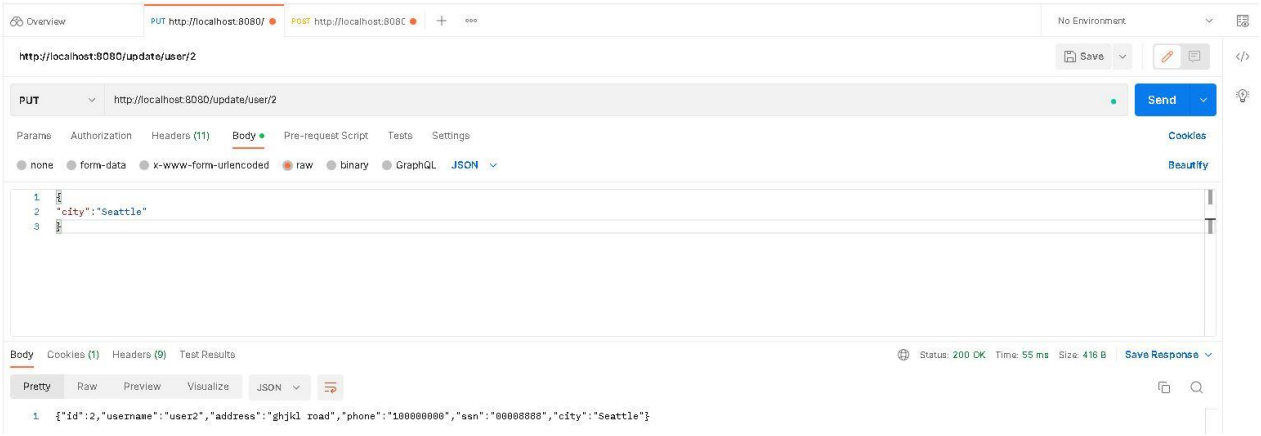
Enter the token in header, and update the city of user2 to "Seattle".

PUT/UPDATE: http://localhost:8080/update/user/2

{

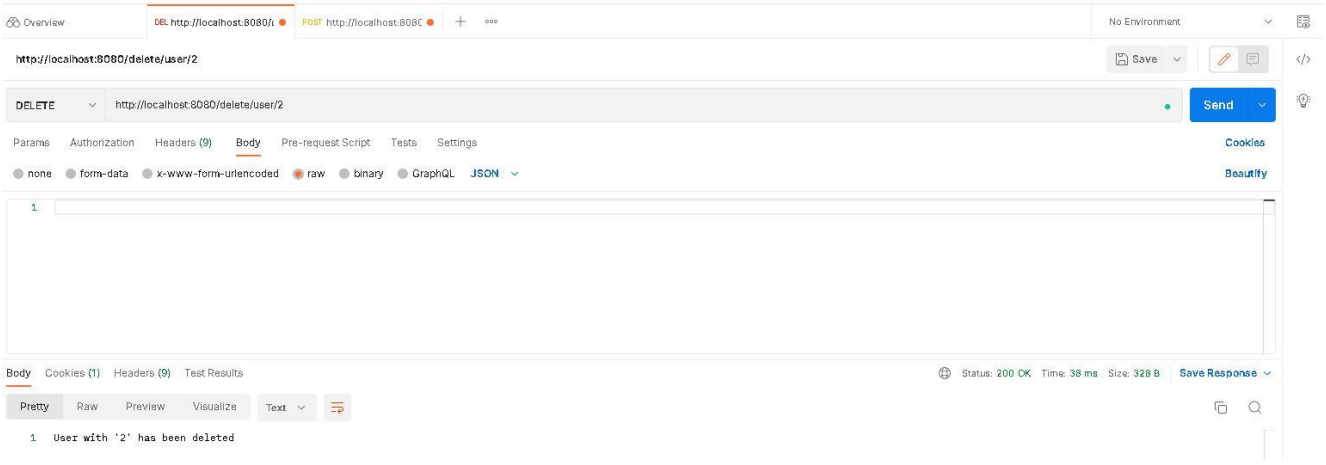
"city":"Seattle"

}



Enter the token in header, and delete user2.

DELETE: http://localhost:8080/delete/user/2



Properties of Java class

- JwtTokenUtil (config, class) - JWT operations such as creation and validation are handled by the JwtTokenUtil.

- JwtUserDetailsService (service, class) - obtain the user details from the database during the authentication.
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- UserService (service, class) - contains the methods of save User, get Users, delete users and so on.
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- HelloWorldController(controller, class) - a Controller class for exposing a GET, POST, UPDATE and DELETE REST API.
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- JwtAuthenticationController (controller, class) - In the POST API, the client sends the username and password as part of the request body. The Spring Authentication Manager verifies these credentials, and if they are correct, a JWT token is produced by the JWTTokenUtil and returned to the client.
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- JwtRequest(model, class) - It stores the username and password that recieved from the client.
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- JwtResponse(model, class) -The JWT is placed into a response, which is then sent back to the user.
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- JwtRequestFilter(config, class) - The JwtRequestFilter inherits from the Spring Web Filter OncePerRequestFilter class and is executed for every incoming request. It verifies if the request contains a valid JWT token and, if so, sets the authentication context to indicate that the current user has been authenticated.
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- JwtAuthenticationEntryPoint(config, class) - By extending the Spring AuthenticationEntryPoint class and overriding its commence method, this class denies all unauthenticated requests and sends an error code 401.
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- WebSecurityConfig(config, class) - This class extends the WebSecurityConfigurerAdapter, which provides a convenient method for customizing both WebSecurity and HttpSecurity.