

## HANDLING USER AUTHENTICATION

### Open pom.xml add dependencies

```
<?xml version="1.0" encoding="UTF-8"?>
<project xmlns="http://maven.apache.org/POM/4.0.0"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
  https://maven.apache.org/xsd/maven-4.0.0.xsd">
  <modelVersion>4.0.0</modelVersion>
  <parent>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-parent</artifactId>
    <version>2.4.3</version>
    <relativePath /> <!-- lookup parent from repository -->
  </parent>
  <groupId>com.project</groupId>
  <artifactId>Authentication</artifactId>
  <version>0.0.1-SNAPSHOT</version>
  <name>Authentication</name>
  <description>Demo project for Spring Boot</description>
  <properties>
    <java.version>1.8</java.version>
  </properties>
  <dependencies>
    <dependency>
      <groupId>org.springframework.boot</groupId>
      <artifactId>spring-boot-starter-data-jpa</artifactId>
    </dependency>
    <dependency>
      <groupId>org.springframework.boot</groupId>
      <artifactId>spring-boot-starter-jersey</artifactId>
    </dependency>
    <dependency>
      <groupId>org.springframework.boot</groupId>
      <artifactId>spring-boot-starter-web</artifactId>
    </dependency>
    <dependency>
      <groupId>org.springframework.boot</groupId>
      <artifactId>spring-boot-devtools</artifactId>
      <scope>runtime</scope>
      <optional>true</optional>
    </dependency>
    <dependency>
      <groupId>org.springframework.boot</groupId>
      <artifactId>spring-boot-starter-test</artifactId>
      <scope>test</scope>
    </dependency>
  </dependencies>

```

```
<dependency>
    <groupId>org.apache.tomcat.embed</groupId>
    <artifactId>tomcat-embed-jasper</artifactId>
    <scope>provided</scope>
</dependency>

<dependency>
    <groupId>javax.xml.bind</groupId>
    <artifactId>jaxb-api</artifactId>
</dependency>

<dependency>
    <groupId>org.javassist</groupId>
    <artifactId>javassist</artifactId>
    <version>3.25.0-GA</version>
</dependency>
<dependency>
    <groupId>javax.servlet</groupId>
    <artifactId>jstl</artifactId>
    <version>1.2</version>
</dependency>
<dependency>
    <groupId>org.projectlombok</groupId>
    <artifactId>lombok-maven-plugin</artifactId>
    <version>1.18.18.0</version>
    <type>maven-plugin</type>
</dependency>

<dependency>
    <groupId>com.h2database</groupId>
    <artifactId>h2</artifactId>
    <scope>runtime</scope>
</dependency>
</dependencies>

<build>
    <plugins>
        <plugin>
            <groupId>org.springframework.boot</groupId>
            <artifactId>spring-boot-maven-plugin</artifactId>
            <configuration>
                </configuration>
        </plugin>
        <plugin>
            <groupId>org.projectlombok</groupId>
            <artifactId>lombok-maven-plugin</artifactId>
            <version>1.18.18.0</version>
        </plugin>
    </plugins>
</build>

</project>
```

**Create package com.project.Authentication**

**Create AuthenticationApplication.java**

```
package com.project.Authentication;

import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;
import org.springframework.context.annotation.Import;
import com.project.Authentication.controllers.AuthenticationController;
import com.project.Authentication.entities.User;
import com.project.Authentication.exceptions.UserNotFoundException;
import com.project.Authentication.services.AuthenticationService;

@SpringBootApplication
@Import({
    AuthenticationController.class,
    UserNotFoundException.class,
    AuthenticationService.class,
    User.class
})
public class AuthenticationApplication {

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

**Create package com.project.Authentication.controller**

**Create AuthenticationController.java**

```
package com.project.Authentication.controllers;

import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Controller;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.PostMapping;
import org.springframework.web.bind.annotation.RequestParam;
import com.project.Authentication.entities.User;
```

```
import com.project.Authentication.services.AuthenticationService;

@Controller

public class AuthenticationController{

    Logger logger = LoggerFactory.getLogger(AuthenticationController.class);

    @Autowired

    AuthenticationService authService;

    @GetMapping("/")

    public String showGreeting(){

        return "greeting";

    }

    @GetMapping("/Auth")

    public String showLogin(){

        return "authenticate";

    }

    @PostMapping("/Auth")

    public String authenticateUser(@RequestParam("username") String username,
@RequestParam("password") String pswd){

        User user = authService.GetUserByName(username);

        logger.info(user.getName() + " attempted to login with " + user.getPassword());

        String path = (authService.isValidPassword(pswd, user.getPassword())) ? "success" : "failure";

        logger.info("The path return: " + path);

        return path;

    }

}
```

**Create package com.project.Authentication.entities**

**Create User.java**

```
package com.project.Authentication.entities;
```

```
import javax.persistence.Column;
import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.Id;
import javax.persistence.Table;
import javax.validation.constraints.NotNull;

@Entity
@Table(name = "user")
public class User {

    @Id
    @GeneratedValue(strategy= GenerationType.AUTO)
    @NotNull
    private Integer id;

    @Column(name = "name")
    @NotNull
    private String name;

    @Column(name = "email")
    @NotNull
    private String email;

    @Column(name = "password")
    @NotNull
    private String password;
```

```
public User() {
    super();
}

public User(@NotNull String name, @NotNull String password) {
    this.name = name;
    this.password = password;
}

public User(@NotNull String name, @NotNull String email, @NotNull String password) {
    super();
    this.name = name;
    this.email = email;
    this.password = password;
}

public Integer getId() {
    return id;
}

public void setId(Integer id) {
    this.id = id;
}

public String getName() {
    return name;
}
```

```
public void setName(String name){  
    this.name = name;  
}  
  
public String getEmail(){  
    return email;  
}  
  
public void setEmail(String email){  
    this.email = email;  
}  
  
public String getPassword(){  
    return password;  
}  
  
public void setPassword(String password){  
    this.password = password;  
}  
  
@Override  
public String toString(){  
    return "User [id=" + id + ", name=" + name + ", email=" + email + ", password=" +  
password + "]";  
}  
}
```

**Create package com.project.Authentication.exceptions**

**Create UserNotFoundException.java**

```
package com.project.Authentication.exceptions;
```

```
public class UserNotFoundException extends RuntimeException {  
    private static final long serialVersionUID = 1L;  
}
```

### Create package com.project.Authentication.repositories

#### Create AuthenticationRepository.java

```
package com.project.Authentication.repositories;  
  
import java.util.Optional;  
  
import org.springframework.data.repository.CrudRepository;  
  
import org.springframework.stereotype.Repository;  
  
import com.project.Authentication.entities.User;  
  
@Repository  
  
public interface AuthenticationRepository extends CrudRepository<User, Integer> {  
  
    public Optional<User> findUserByName(String name);  
  
}
```

### Create package com.project.Authentication.services

#### Create AuthenticationService.java

```
package com.project.Authentication.services;  
  
import java.util.Optional;  
  
import org.springframework.beans.factory.annotation.Autowired;  
  
import org.springframework.stereotype.Service;  
  
import com.project.Authentication.entities.User;  
  
import com.project.Authentication.exceptions.UserNotFoundException;  
  
import com.project.Authentication.repositories.AuthenticationRepository;  
  
@Service  
  
public class AuthenticationService {  
  
    @Autowired  
  
    AuthenticationRepository authRepo;  
  
    public User GetUserByName(String name) {
```

```

Optional<User> found = authRepo.findUserByName(name);

if(found.isPresent()) return found.get();

else throw new UserNotFoundException();

}

public Boolean isValidPassword(String cmp, String actual) {

return ((cmp.equals(actual)) ? true : false);

}
}

```

## Src/main/resources

### application.properties

```

spring.jpa.hibernate.ddl-auto=update
spring.datasource.url=jdbc:mysql://localhost:3306/mywork
spring.datasource.username=root
spring.datasource.password=password

logging.level.org.springframework.web: DEBUG
spring.mvc.view.prefix=/WEB-INF/jsp/
spring.mvc.view.suffix=.jsp
server.port=8080

```

## Open src/main/webapp/jsp

### Create authenticate.jsp

```

<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
pageEncoding="ISO-8859-1"%>
<%@ taglib prefix="form" uri="http://www.springframework.org/tags/form"%>

<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Authentication Page</title>
</head>
<h2>Login Page</h2>
<body>
welcome to the authentication page

<form:form action="Auth" method="post" commandName="login">
    <label for="username">Username:</label>
    <input name="username" id="username" type="text" placeholder="Username" required/>

```

```

<label for="password">Password:</label>
<input name="password" id="password" type="password" placeholder="Password" required/>
<input type="submit" name="Submit"/>
</form>
</body>
</html>

```

### Create failure.jsp

```

<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Failed Login</title>
</head>
<body>
<h1>You failed your login pal!
</h1><br/>
<a href="/Auth">Attempt Login again</a>
</body>
</html>

```

### Create greeting.jsp

```

<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Landing Page</title>
</head>
<h2>Welcome Page</h2>
<body>
you reached the landing page
<a href="Auth">Login</a>
</body>
</html>

```

### Create success.jsp

```

<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Successful Login Page</title>
</head>
<body>

```

```
<h1>Successful Login</h1>
</body>
</html>
```