

Project Objective:As a developer, build Authentication Provider in Spring Security.

Step 1:pom.xml

```
-----
<?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>2.7.3</version>
        <relativePath/> <!-- lookup parent from repository -->
    </parent>
    <groupId>com.simplilearn.security</groupId>
    <artifactId>Spring-boot-security-learn</artifactId>
    <version>0.0.1-SNAPSHOT</version>
    <name>Spring-boot-security-learn</name>
    <description>Demo project for Spring Boot</description>
    <properties>
        <java.version>11</java.version>
    </properties>
    <dependencies>
        <dependency>
            <groupId>org.springframework.boot</groupId>
            <artifactId>spring-boot-starter-web</artifactId>
        </dependency>
        <dependency>
            <groupId>org.springframework.boot</groupId>
            <artifactId>spring-boot-starter-security </artifactId>
        </dependency>

        <dependency>
            <groupId>org.springframework.boot</groupId>
            <artifactId>spring-boot-starter-test</artifactId>
            <scope>test</scope>
        </dependency>
    </dependencies>

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

Step 2:com.simplilearn.security.SpringBootSecurityLearnApplication.java

```
package com.simplilearn.security;
```

```
import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;
```

```
@SpringBootApplication
public class SpringBootSecurityLearnApplication {
```

```

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

```

```

}
*****

```

Step 3:com.simplilearn.security.config.MySecurityConfig.java

```

-----
package com.simplilearn.security.config;

import org.springframework.context.annotation.Bean;
import org.springframework.context.annotation.Configuration;
import
org.springframework.security.config.annotation.authentication.builders.Authentic
ationManagerBuilder;
import org.springframework.security.config.annotation.web.builders.HttpSecurity;
import org.springframework.security.config.annotation.web.builders.WebSecurity;
import
org.springframework.security.config.annotation.web.configuration.EnableWebSecuri
ty;
import
org.springframework.security.config.annotation.web.configuration.WebSecurityConf
igurerAdapter;
import org.springframework.security.crypto.bcrypt.BCryptPasswordEncoder;
import org.springframework.security.crypto.password.NoOpPasswordEncoder;
import org.springframework.security.crypto.password.PasswordEncoder;

@Configuration
@EnableWebSecurity
public class MySecurityConfig extends WebSecurityConfigurerAdapter{
@Override
protected void configure(HttpSecurity http) throws Exception {
    // TODO Auto-generated method stub
    http
        .csrf().disable()
        .authorizeRequests()
        .antMatchers("/user/**").hasRole("Roles_User")
        .antMatchers("/admin/**").hasRole("Admin")
        .anyRequest()
        .authenticated()
        .and()
        .httpBasic();
}

@Override
protected void configure(AuthenticationManagerBuilder auth) throws
Exception {

auth.inMemoryAuthentication().withUser("user").password(this.passwordEncoder().e
ncode("user")).roles("Role_User");

auth.inMemoryAuthentication().withUser("Admin").password(this.passwordEncoder().
encode("Admin")).roles("Admin");
}

@Bean
public PasswordEncoder passwordEncoder() {
    return new BCryptPasswordEncoder(10);
}
}
*****

```

Step 4: com.simplilearn.security.controllerHomeController.java

package com.simplilearn.security.Controller;

```
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RestController;
```

```
@RestController
@RequestMapping("/user")
public class HomeController {

    @GetMapping("/home")
    public String home() {
        return "This is user portal";
    }

    @GetMapping("/login")
    public String login() {
        return "This is login page";
    }

    @GetMapping("/register")
    public String register() {
        return "This is registration page";
    }
}
```

Step 5: com.simplilearn.security.Controller.UserController

package com.simplilearn.security.Controller;

```
import java.util.List;
```

```
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.web.bind.annotation.GetMapping;
import org.springframework.web.bind.annotation.PathVariable;
import org.springframework.web.bind.annotation.PostMapping;
import org.springframework.web.bind.annotation.RequestBody;
import org.springframework.web.bind.annotation.RequestMapping;
import org.springframework.web.bind.annotation.RestController;
```

```
import com.simplilearn.security.Models.User;
import com.simplilearn.security.Services.UserService;
```

```
@RestController
@RequestMapping("/admin")
public class UserController {

    @Autowired
    private UserService userService;

    @GetMapping("/")
    public List<User> getAllUsers(){

        return this.userService.getAllUser();
    }
    @GetMapping("/homepage")
    public String Homepage() {
        return "You are in adminPortal";
    }
}
```

```

    }
}

*****
Step 6:com.simplilearn.security.Models.User.java
-----
package com.simplilearn.security.Models;

public class User {

    int id;
    public int getId() {
        return id;
    }
    public void setId(int id) {
        this.id = id;
    }
    String username;
    String password;
    String role;

    public String getUsername() {
        return username;
    }
    public User(int id,String username, String password, String role) {
        super();

        this.id=id;
        this.username = username;
        this.password = password;
        this.role = role;
    }
    public void setUsername(String username) {
        this.username = username;
    }
    public String getPassword() {
        return password;
    }
    public void setPassword(String password) {
        this.password = password;
    }
    public String getRole() {
        return role;
    }
    public void setRole(String role) {
        this.role = role;
    }
}
}
*****

```

Step 7:com.simplilearn.security.Services.UserService.java

```

-----
package com.simplilearn.security.Services;

import java.util.ArrayList;
import java.util.List;
import java.util.stream.Stream;

import org.springframework.stereotype.Service;

import com.simplilearn.security.Models.User;

```

```
@Service
public class UserService {

    List <User> list=new ArrayList<>();

    public UserService() {
        list.add(new User(1,"ankit","Ankit@1998","Admin"));
        list.add(new User(2,"Vaibhav","Vibhav@1998","User"));
    }

    public List<User> getAllUser(){

        return this.list;
    }

}
*****
```