Authentication service returning JWT:

Steps:

1. AuthController.java:

```java
package com.example.jwtauth.controller;


import com.example.jwtauth.util.JwtUtil;

import com.example.jwtauth.model.TokenResponse;


import org.springframework.http.ResponseEntity;

import org.springframework.web.bind.annotation.GetMapping;

import org.springframework.web.bind.annotation.RestController;


import javax.servlet.http.HttpServletRequest;

import java.util.Base64;


@RestController

public class AuthController {


    @GetMapping("/authenticate")

    public ResponseEntity<?> authenticate(HttpServletRequest
request) {

        String authHeader = request.getHeader("Authorization");
        if (authHeader != null && authHeader.startsWith("Basic ")) {
            String base64Credentials = authHeader.substring("Basic
".length());
            byte[] credDecoded =
Base64.getDecoder().decode(base64Credentials);
            String credentials = new String(credDecoded);
            String[] values = credentials.split(":", 2);


            if (values.length == 2) {
                String username = values[0];
                String password = values[1];


                // Replace with actual user validation
                if ("user".equals(username) &&
"pwd".equals(password)) {
                    String token = JwtUtil.generateToken(username);
                    return ResponseEntity.ok(new
TokenResponse(token));
                }
            }
        }


        return ResponseEntity.status(401).body("Invalid
credentials");
```

```
    }

}
```

2. SecurityConfig.java:

```
package com.example.jwtauth.config;


import org.springframework.context.annotation.Bean;

import org.springframework.context.annotation.Configuration;

import
org.springframework.security.config.annotation.web.builders.HttpSecu
rity;

import org.springframework.security.web.SecurityFilterChain;


@Configuration

public class SecurityConfig {


    @Bean

    public SecurityFilterChain filterChain(HttpSecurity http) throws
Exception {

        http.csrf().disable()

            .authorizeHttpRequests(auth ->
auth.anyRequest().permitAll());

        return http.build();

    }

}
```

3. TokenResponse.java:

```java
package com.example.jwtauth.model;


public class TokenResponse {

    private String token;


    public TokenResponse(String token) {

        this.token = token;

    }


    public String getToken() {

        return token;

    }


    public void setToken(String token) {

        this.token = token;

    }

}
```

4. JwtUtil.java:

```java
package com.example.jwtauth.util;


import io.jsonwebtoken.Jwts;

import io.jsonwebtoken.SignatureAlgorithm;

import io.jsonwebtoken.security.Keys;


import java.security.Key;

import java.util.Date;

import java.util.HashMap;

import java.util.Map;


public class JwtUtil {


    // Key must be at least 256 bits for HS256

    private static final Key SECRET_KEY =
Keys.hmacShaKeyFor("supersecretkey1234567890supersecretkey".getBytes
());


    public static String generateToken(String username) {

        Map<String, Object> claims = new HashMap<>();

        claims.put("sub", username);

        claims.put("role", "USER");

        claims.put("created", new Date());
        return Jwts.builder()
                .setClaims(claims)
                .setIssuedAt(new Date())
                .setExpiration(new Date(System.currentTimeMillis() + 10 * 60 * 1000)) // 10 mins
                .signWith(SECRET_KEY, SignatureAlgorithm.HS256)
                .compact();
    }
}
```

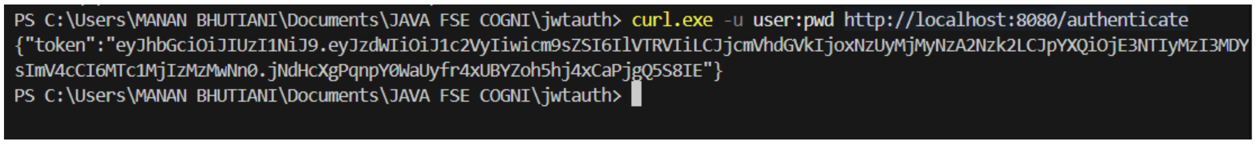
5. JwtauthApplication.java:

```java
package com.example.jwtauth;

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

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

Output:



```
PS C:\Users\MANAN BHUTIANI\Documents\JAVA FSE COGNI\jwtauth> curl.exe -u user:pwd http://localhost:8080/authenticate
{"token":"eyJhbGciOiJIUzI1NiJ9.eyJzdWIiOiJ1c2VyIiwicm9sZSI6IlVTRVIiLCJjcmVhdGVkIjoxNzUyMjMyNzA2Nzk2LCJpYXQiOjE3NTIyMzI3MDY
sImV4cCI6MTc1MjIzMzMwNn0.jNdHcXgPqnpY0WaUyfr4xUBYZoh5hj4xCaPjgQ5S8IE"}
PS C:\Users\MANAN BHUTIANI\Documents\JAVA FSE COGNI\jwtauth>
```