**Exercise 1: centralized auth oauth2**

**Project structure:**

centralized-auth-oauth2/

├── pom.xml

├── src/

│ ├── main/

│ │ ├── java/

│ │ │ └── com/

│ │ │ └── example/

│ │ │ └── demo/

│ │ │ ├── DemoApplication.java <-- Main class

│ │ │ ├── SecurityConfig.java <-- Security config (OAuth2 login)

│ │ │ └── UserController.java <-- REST controller

│ │ └── resources/

│ │ ├── application.yml <-- OAuth2 client config

│ │

**SecurityConfig.java**

package com.example.demo;

import org.springframework.context.annotation.Configuration;

import org.springframework.security.config.annotation.web.builders.HttpSecurity;

import org.springframework.security.config.annotation.web.configuration.EnableWebSecurity;

import org.springframework.security.config.annotation.web.configuration.WebSecurityConfigurerAdapter;

@Configuration

@EnableWebSecurity

public class SecurityConfig extends WebSecurityConfigurerAdapter {

    @Override

    protected void configure(HttpSecurity http) throws Exception {

        http

            .authorizeRequests()

                .anyRequest().authenticated()

                .and()

            .oauth2Login();

    }

}

**UserController.java**

package com.example.demo;

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

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

import java.security.Principal;

@RestController

public class UserController {

    @GetMapping("/user")

    public Principal user(Principal principal) {

        return principal;

    }

}

**DemoApplication.java**

package com.example.demo;

import org.springframework.boot.SpringApplication;

import org.springframework.boot.autoconfigure.SpringBootApplication;

@SpringBootApplication

public class DemoApplication {

    public static void main(String[] args) {

        SpringApplication.run(DemoApplication.class, args);

    }

}

**Application.yml**

spring:

  security:

    oauth2:

      client:

        registration:

          google:

            client-id: 219009321076-hgrpq0kom76sggri6lhqnmo9enu8mlja.apps.googleusercontent.com

            client-secret: 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

            scope: openid, profile, email

            authorization-grant-type: authorization\_code

            redirect-uri: "{baseUrl}/login/oauth2/code/{registrationId}"

        provider:

          google:

            authorization-uri: https://accounts.google.com/o/oauth2/auth

            token-uri: https://oauth2.googleapis.com/token

            user-info-uri: https://openidconnect.googleapis.com/v1/userinfo

            user-name-attribute: sub

**pom.xml**

<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

                             http://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>2.7.18</version>

        <relativePath/> <!-- lookup parent from repository -->

    </parent>

    <groupId>com.example</groupId>

    <artifactId>centralized-auth-oauth2</artifactId>

    <version>0.0.1-SNAPSHOT</version>

    <name>centralized-auth-oauth2</name>

    <description>OAuth2/OIDC Login Example</description>

    <properties>

        <java.version>11</java.version> <!-- or 17 if you use Java 17 -->

    </properties>

    <dependencies>

        <dependency>

            <groupId>org.springframework.boot</groupId>

            <artifactId>spring-boot-starter-security</artifactId>

        </dependency>

        <dependency>

            <groupId>org.springframework.boot</groupId>

            <artifactId>spring-boot-starter-oauth2-client</artifactId>

        </dependency>

        <dependency>

            <groupId>org.springframework.boot</groupId>

            <artifactId>spring-boot-starter-web</artifactId>

        </dependency>

    </dependencies>

    <build>

        <plugins>

            <plugin>

                <groupId>org.springframework.boot</groupId>

                <artifactId>spring-boot-maven-plugin</artifactId>

                <configuration>

                    <mainClass>com.example.demo.DemoApplication</mainClass>

                </configuration>

            </plugin>

        </plugins>

    </build>

</project>

**Output:**





