LAB- OAuth2

Step 1 -- Setting up Authorization Server

In this step, you will be working on
11-05-oauth2-auth-resource-server-start project

In this step , you will be setting up authorization server to generate tokens

we will be using InMemory token store.

1) Open AuthorizationServerConfig.java and complete TODO-1 and TODO-2

2) Inside AuthorizationServerConfig.java , write the below code

```
@Autowired
  private AuthenticationManager authManager;

  @Override
  public void configure(AuthorizationServerEndpointsConfigurer endpoints) throws
Exception {
        endpoints.authenticationManager(authManager);
  }
```

3) Inside AuthorizationServerConfig.java , configure Client details in memory as shown below :

```
@Override
  public void configure(ClientDetailsServiceConfigurer clients) throws Exception {

  clients.inMemory().withClient("way2learn").secret("way2learn").authorizedGrantTy
pes("password").scopes("read,write,trust");
  }
```

4) Open WebSecurity Config and complete all the TODOs

5) configure server.port inside application.properties as 9090

Open Application.java and run it.

6) Now open postman and select POST request and give the url as
localhost:8080/oauth/token

Select Basic Auth and give credentials and click on update request.

Select params button and give below request params.

grant_type=password
username=siva
password=siva

Make a request and observe that you get the json which contains access_token

Step 2 -- Setting up Resource Server

In this step, you will be modifying 11-05-oauth2-auth-resource-server-start project

1) Open ResourceServerConfig.java and complete all TODOs
2) Open MyController.java and complete all TODOs

3) Now make request to /hello and observe that access is denied .

4) Now get the access token by passing admin credentials.
Use this access token to retest /hello.
You should be allowed to access the resource.

Step 3 -- OAuth2 Client

In this step, you will be modifying 11-06-oauth2-client-start project

1) Open oAuthClientApplication.java and complete TODO-1,TODO-2 and TODO-3

2) Open application.properties and observe that security is disabled for /clienthello

3) Observe execute method and its @RequestMapping .

Run the application and give a request to http://localhost:8080/clienthello

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Step 4 -- Setting up Authorization Server using JDBC Token Store

In this step, you will be working on 11-07-oauth2-auth-server-jdbcstore-start

1) Open Schemaold.sql in src/main/resources and observe the DDLs
2)Create a database with name oauth and execute the DDLs present in schemaold.sql on that database
3) Open application.yml and observe that we have already configured datasource related configuration for you.

4)Open AuthorizationServerConfig.java and complete all the TODOs

Now run AuthServer.java and make a request to get access token to the following URL from POSTMAN.

localhost:9090/oauth/token?grant_type=password&username=admin&password=admin
Make sure that you select Basic Authentication and give username/password as way2learn/way2learn

You should get Access token in json response.

Now go to database and see that there is entry in oauth_access_token table for this generated accesstoken

Step 5 -- Setting up Resource Server using JDBC Token Store

In this step, you will be working on 11-08-oauth2-resourceserver-jdbcstore-start

1) When ever request comes to resource server, it expects access_token . If access_token is not present in request, it will not allow access to the resource.

If access_token is present in request, this token has to be validated.

There are 2 options for verifying the tokens.

First Option : Using RemoteTokenServices

You have to configure a bean of type Remote TokenServices by completing TODO-1 in ResourceServerConfig.java

Configure resourceId for the resource server by completing TODO-2

Start OAuthResourceApplication.java and make a request to **http://localhost:7070/resource/hello?access_token= the generated access token in previous step**

You should be granted access.

Second Option : Pointing the resource server to the same token store as the one used by authorization server

Comment out the tokenService bean and complete TODO -3

Start OAuthResourceApplication.java and make a request to **http://localhost:7070/resource/hello?access_token= the generated access token in previous step**

You should be granted access.

CONGRATULATIONS YOU KNOW HOW TO SECURE YOUR REST API USING OAUTH2