

**Naffiou KADIRI**

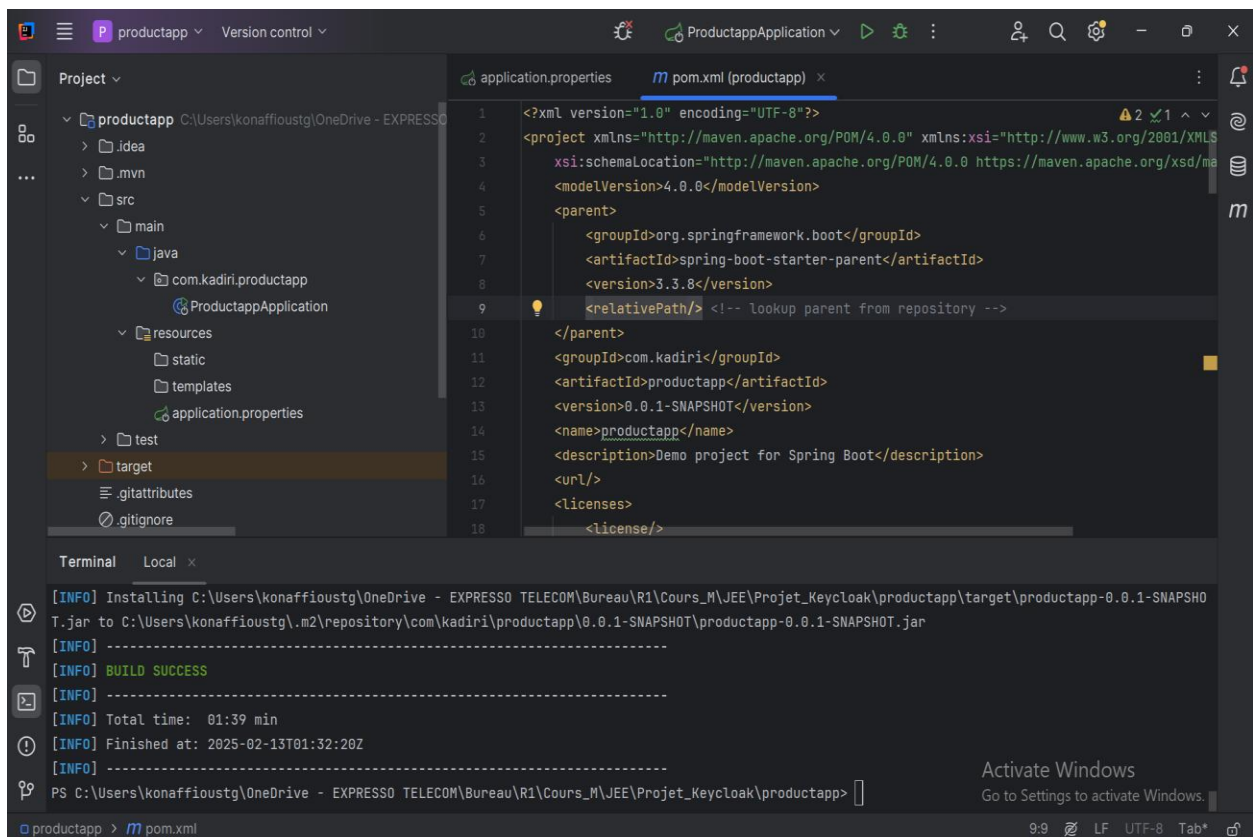
**M2GL**

## JEE TP Keycloak

Sécurité des applications avec Keycloak (Spring MVC)

Lien Gitlab : <https://gitlab.com/devoir-ns-jee/devoir-keycloak/projet-keycloak.git>

### Projet productapp



### ProductController

The screenshot shows the IntelliJ IDEA IDE with the `ProductController.java` file open. The file is located in the package `com.kadiri.productapp.controller`. The code defines a `ProductController` class with two methods: `getAllProducts()` and `getProductById()`. The `getAllProducts()` method returns a `List<Product>` by calling `productService.getAllProducts()`. The `getProductById()` method returns a `ResponseEntity<Product>` by calling `productService.getProductById()`. The terminal window at the bottom shows the build process, including the installation of the application to the target directory and the successful completion of the build.

```
7 import org.springframework.web.bind.annotation.*;
8
9 import java.util.List;
10
11 @RestController
12 @RequestMapping("/api/products")
13 public class ProductController {
14     @Autowired
15     private ProductService productService;
16
17     @GetMapping
18     public List<Product> getAllProducts() {
19         return productService.getAllProducts();
20     }
21
22     @GetMapping("/{id}")
23     public ResponseEntity<Product> getProductById(@PathVariable Long id) {
24         return productService.getProductById(id).Optional<Product>
```

Terminal output:

```
[INFO] Installing C:\Users\konaffioustg\OneDrive - EXPRESSO TELECOM\Bureau\R1\Cours_M\JEE\Projet_Keycloak\productapp\target\productapp-0.0.1-SNAPSHOT.jar to C:\Users\konaffioustg\m2\repository\com\kadiri\productapp\0.0.1-SNAPSHOT\productapp-0.0.1-SNAPSHOT.jar
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 7.072 s
[INFO] Finished at: 2025-02-13T12:49:37Z
[INFO] -----
PS C:\Users\konaffioustg\OneDrive - EXPRESSO TELECOM\Bureau\R1\Cours_M\JEE\Projet_Keycloak\productapp>
```

## Product

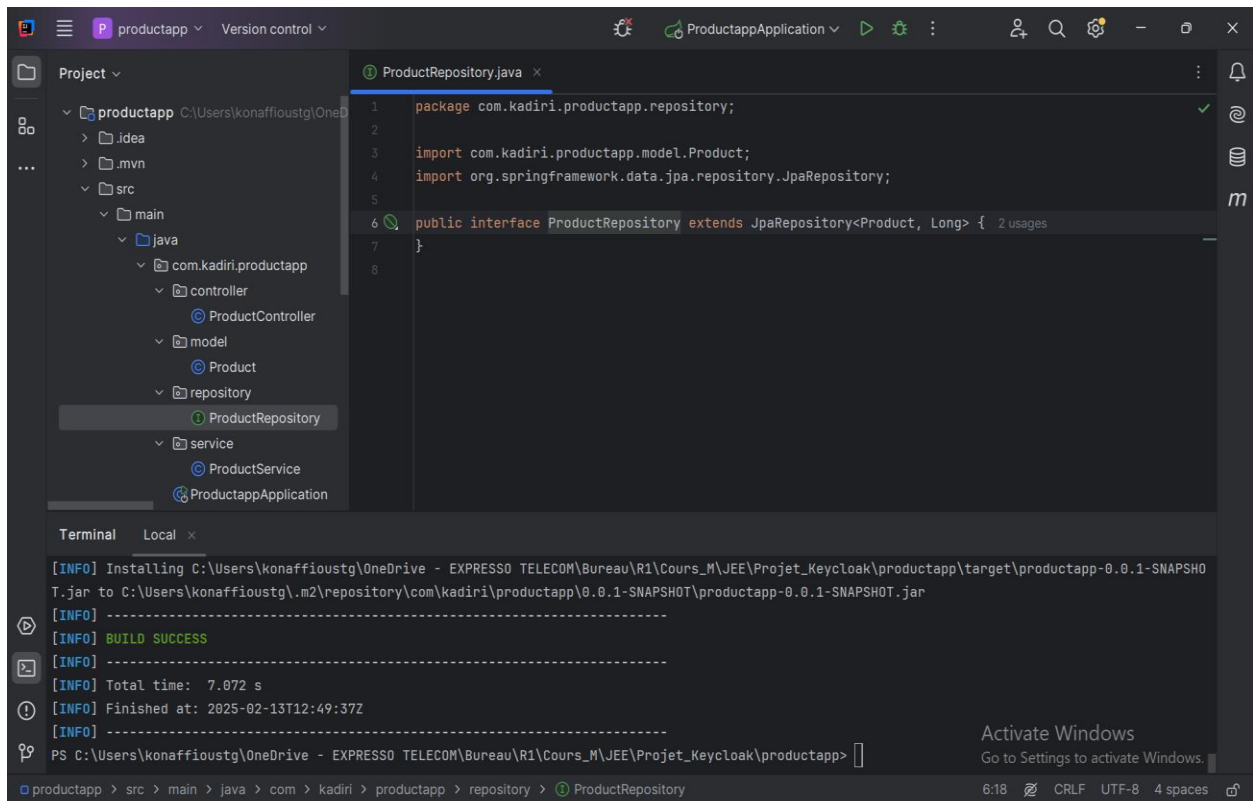
The screenshot shows the IntelliJ IDEA IDE with the `Product.java` file open. The file is located in the package `com.kadiri.productapp.model`. The code defines a `Product` class with the following attributes: `id` (Long), `name` (String), `price` (double), and `description` (String). The `id` attribute is annotated with `@Id` and `@GeneratedValue(strategy = GenerationType.IDENTITY)`. The `name` attribute is annotated with `@Data`. The `price` attribute is annotated with `@Data`. The `description` attribute is annotated with `@Data`. The terminal window at the bottom shows the build process, including the installation of the application to the target directory and the successful completion of the build.

```
1 package com.kadiri.productapp.model;
2
3 import jakarta.persistence.Entity;
4 import jakarta.persistence.GeneratedValue;
5 import jakarta.persistence.GenerationType;
6 import lombok.Data;
7 import org.springframework.data.annotation.Id;
8
9 @Data
10 @Entity
11 public class Product {
12     @Id
13     @GeneratedValue(strategy = GenerationType.IDENTITY)
14     private Long id;
15     private String name;
16     private double price;
17     private String description;
18 }
```

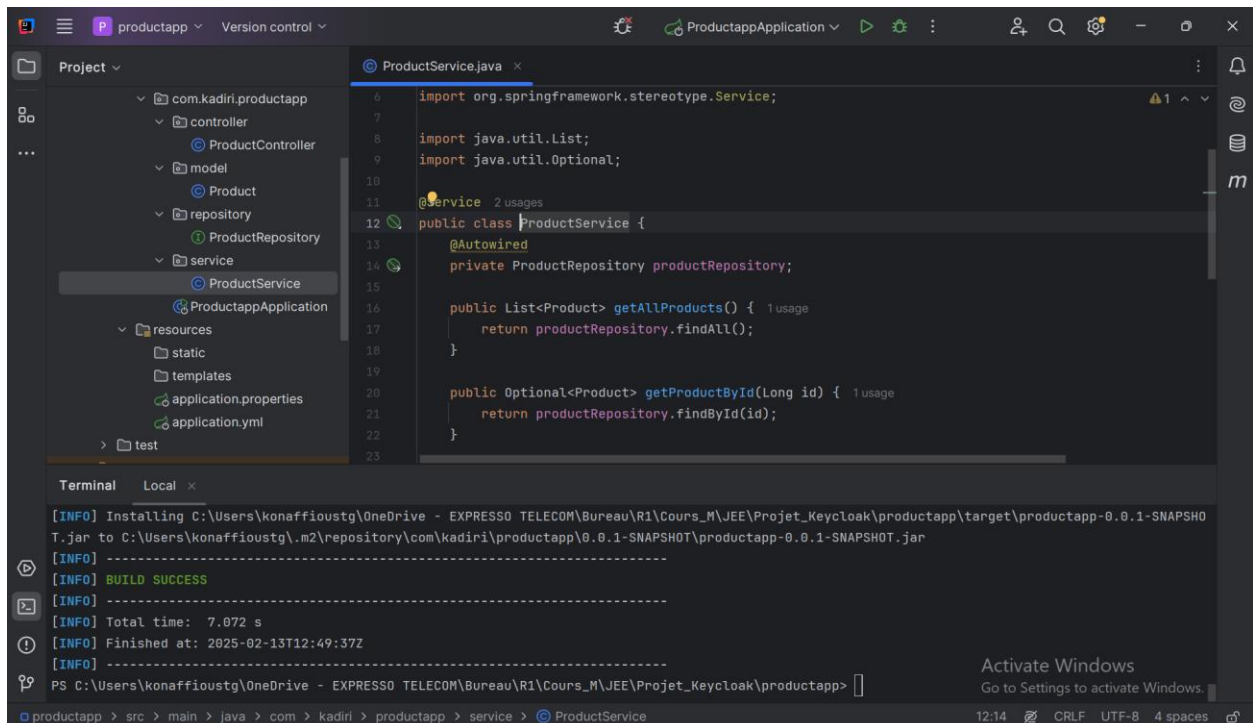
Terminal output:

```
[INFO] Installing C:\Users\konaffioustg\OneDrive - EXPRESSO TELECOM\Bureau\R1\Cours_M\JEE\Projet_Keycloak\productapp\target\productapp-0.0.1-SNAPSHOT.jar to C:\Users\konaffioustg\m2\repository\com\kadiri\productapp\0.0.1-SNAPSHOT\productapp-0.0.1-SNAPSHOT.jar
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 7.072 s
[INFO] Finished at: 2025-02-13T12:49:37Z
[INFO] -----
PS C:\Users\konaffioustg\OneDrive - EXPRESSO TELECOM\Bureau\R1\Cours_M\JEE\Projet_Keycloak\productapp>
```

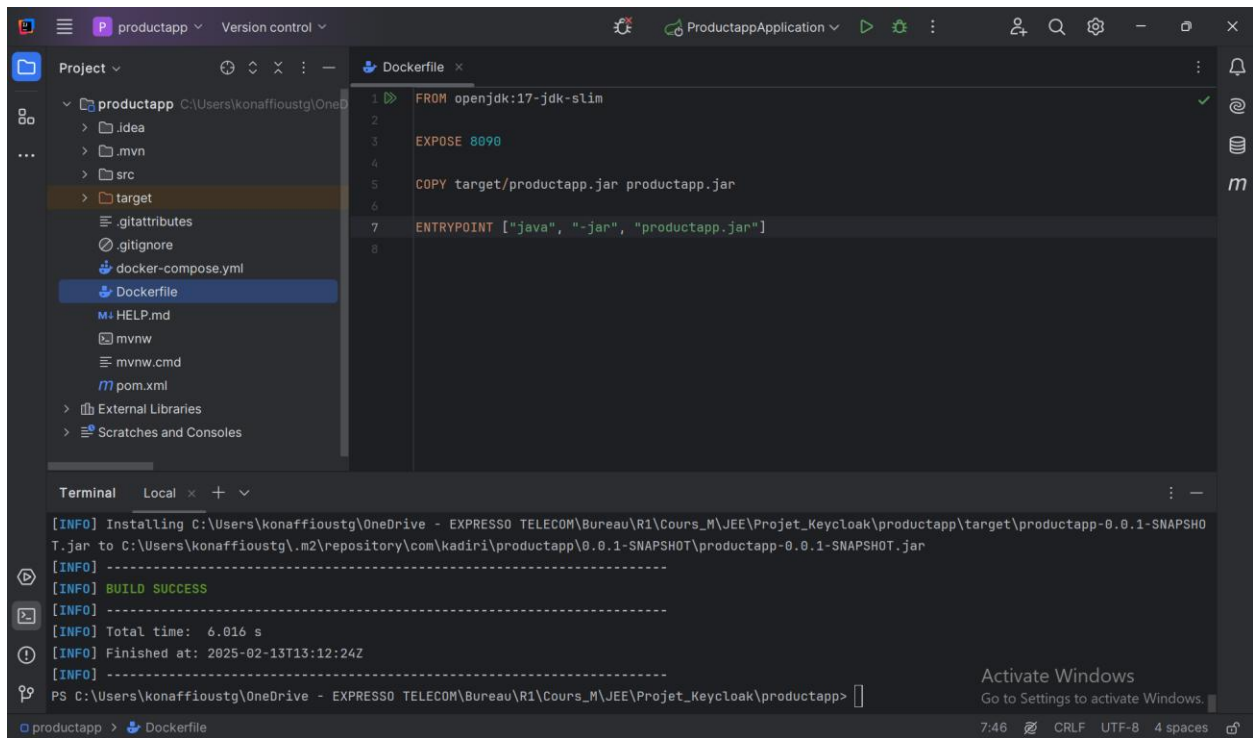
## ProductRepository



## ProductService



## Dockerfile



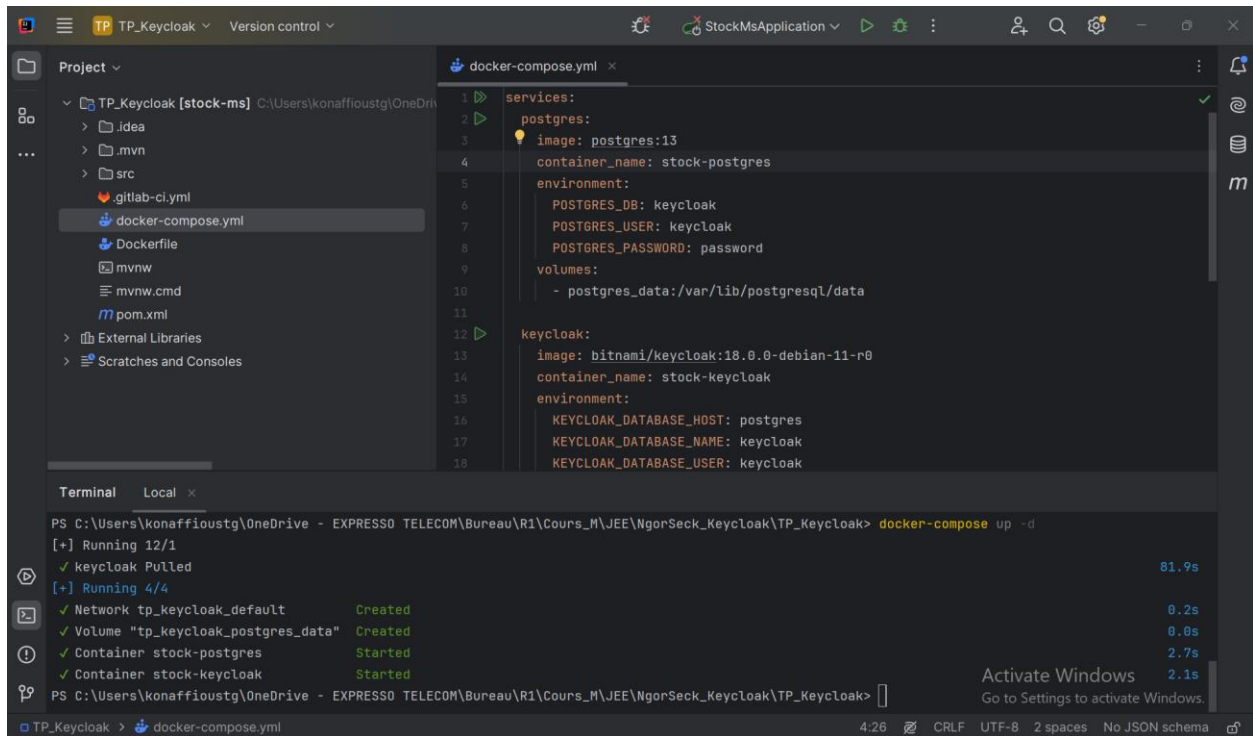
The screenshot shows an IDE with a project named 'productapp'. The 'Dockerfile' is open in the editor, and the terminal shows the build output.

```
FROM openjdk:17-jdk-slim
EXPOSE 8090
COPY target/productapp.jar productapp.jar
ENTRYPOINT ["java", "-jar", "productapp.jar"]
```

The terminal output shows the build process:

```
[INFO] Installing C:\Users\konaffioustg\OneDrive - EXPRESSO TELECOM\Bureau\R1\Cours_M\JEE\Projet_Keycloak\productapp\target\productapp-0.0.1-SNAPSHOT.jar to C:\Users\konaffioustg\m2\repository\com\kadiri\productapp\0.0.1-SNAPSHOT\productapp-0.0.1-SNAPSHOT.jar
[INFO] BUILD SUCCESS
[INFO] Total time: 6.016 s
[INFO] Finished at: 2025-02-13T13:12:24Z
```

## Docker-compose up -d



The screenshot shows an IDE with a project named 'TP\_Keycloak'. The 'docker-compose.yml' file is open in the editor, and the terminal shows the output of the 'docker-compose up -d' command.

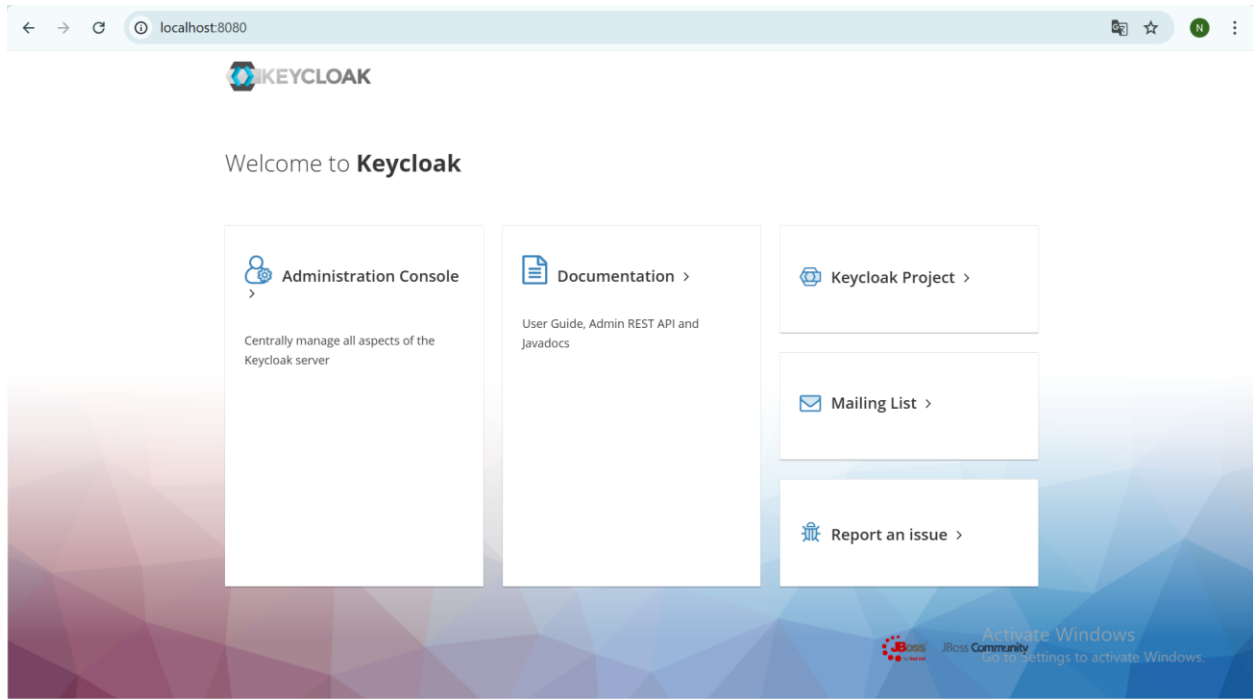
```
services:
  postgres:
    image: postgres:13
    container_name: stock-postgres
    environment:
      POSTGRES_DB: keycloak
      POSTGRES_USER: keycloak
      POSTGRES_PASSWORD: password
    volumes:
      - postgres_data:/var/lib/postgresql/data
  keycloak:
    image: bitnami/keycloak:18.0.0-debian-11-r0
    container_name: stock-keycloak
    environment:
      KEYCLOAK_DATABASE_HOST: postgres
      KEYCLOAK_DATABASE_NAME: keycloak
      KEYCLOAK_DATABASE_USER: keycloak
```

The terminal output shows the execution of the command:

```
PS C:\Users\konaffioustg\OneDrive - EXPRESSO TELECOM\Bureau\R1\Cours_M\JEE\NgorSeck_Keycloak\TP_Keycloak> docker-compose up -d
[+] Running 12/1
  keycloak Pulled
[+] Running 4/4
  Network tp_keycloak_default Created
  Volume "tp_keycloak_postgres_data" Created
  Container stock-postgres Started
  Container stock-keycloak Started
```

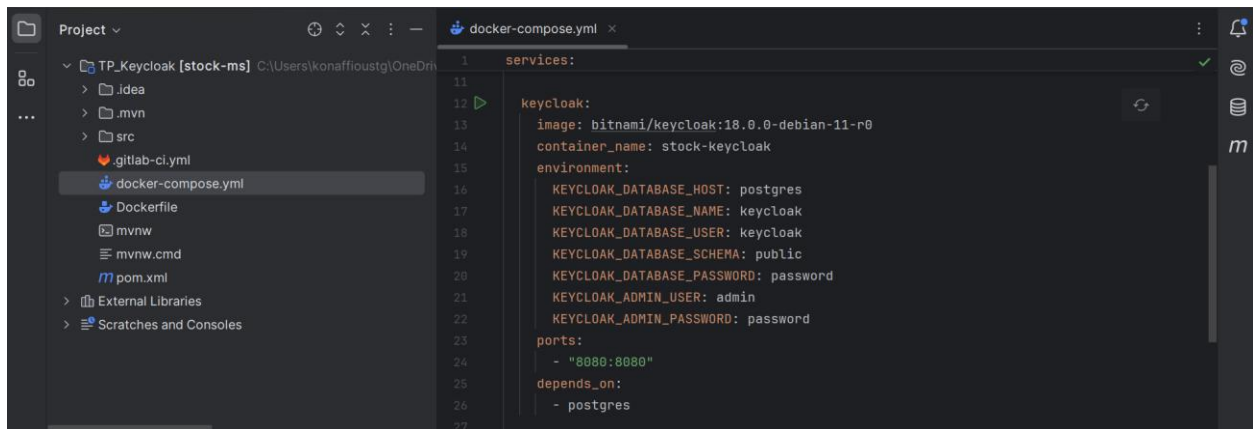
## Démarrage du service keycloak

Comme le port exposé est 8080, visitons ce lien <http://localhost:8080/>

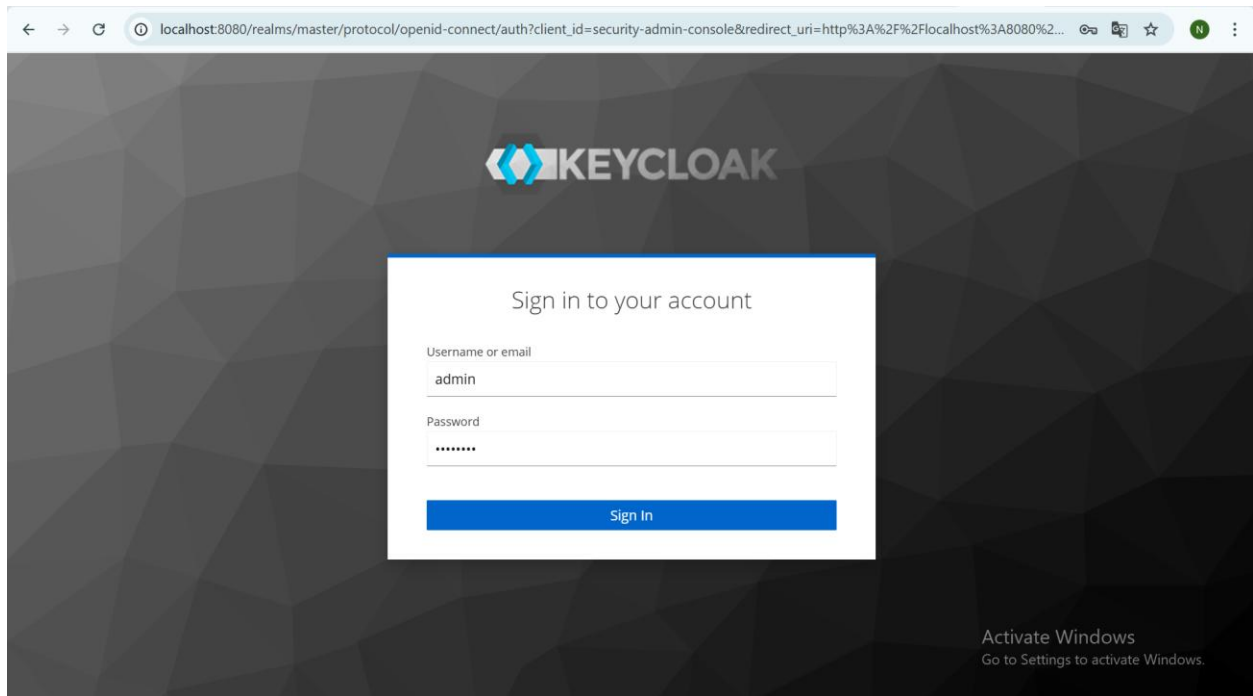


Puis nous pouvons cliquer sur Administration Console

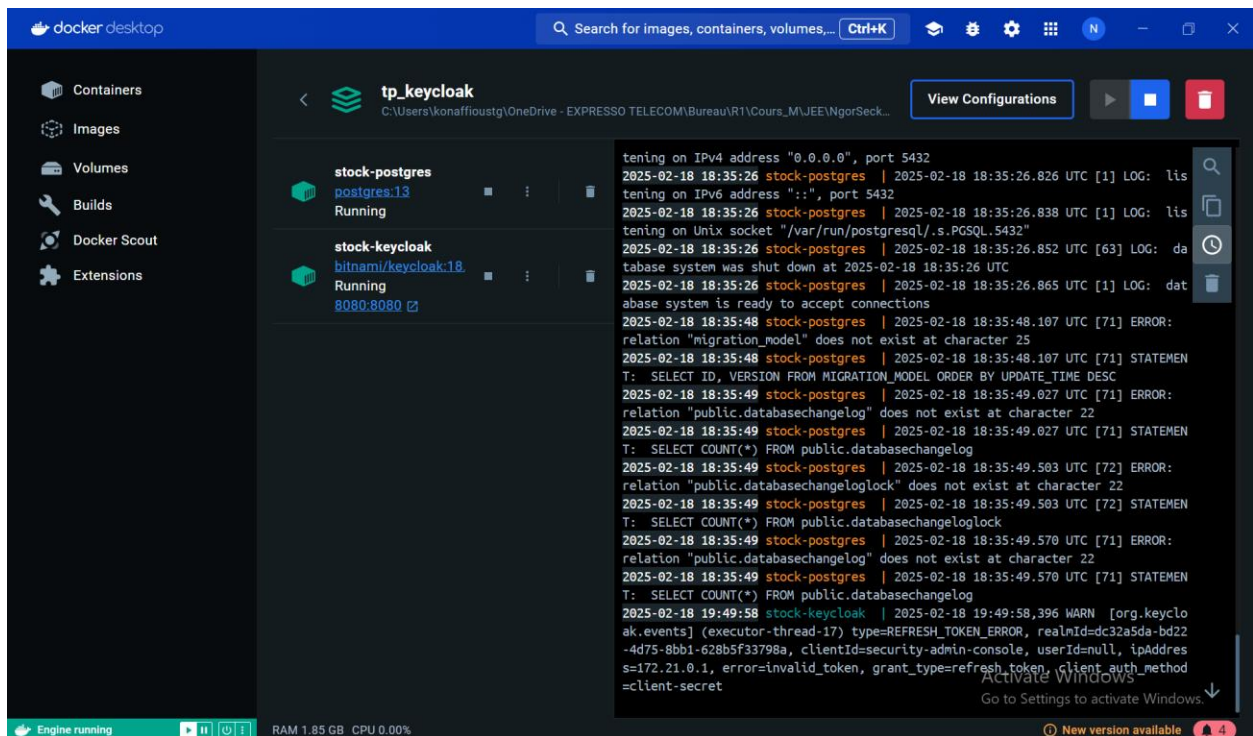
Nous allons saisir : admin/password comme identifiant (ref : fichier docker-compose)



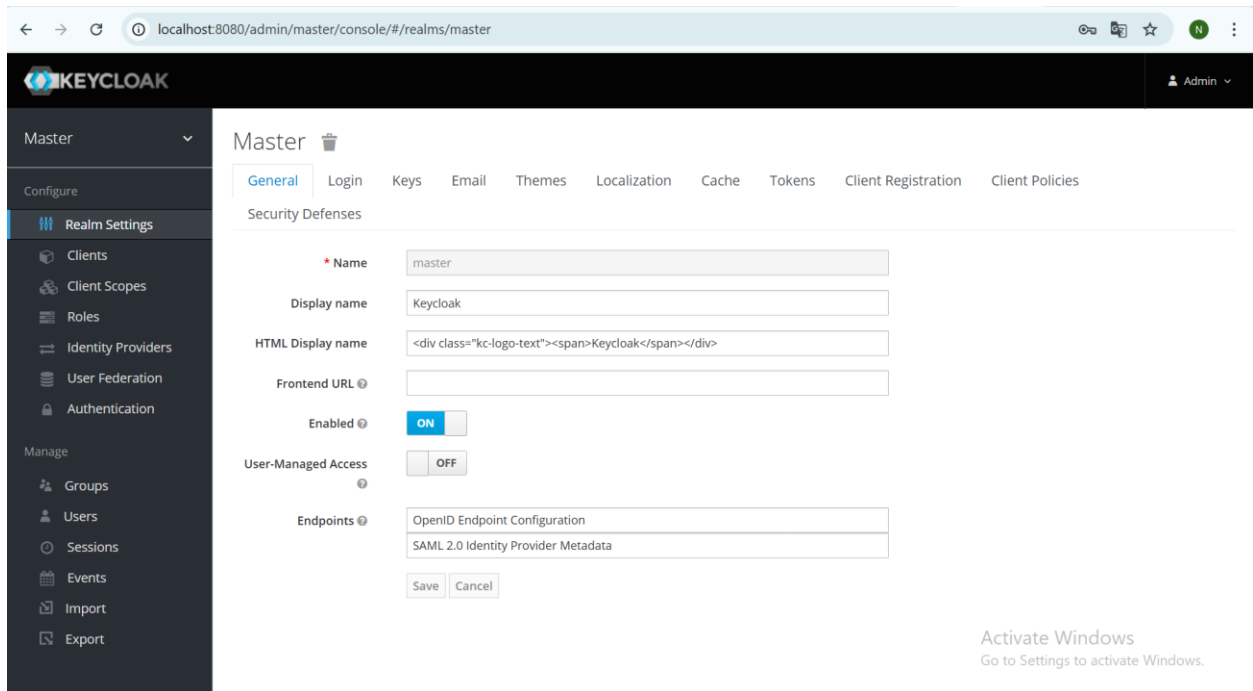




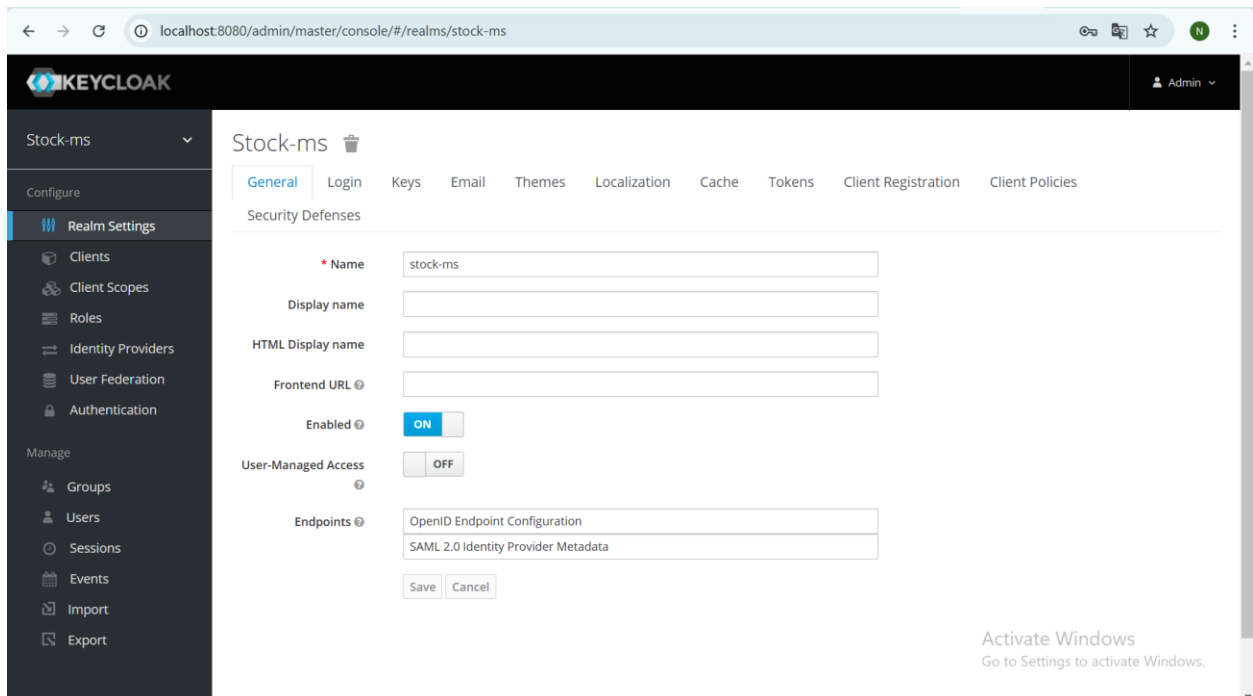
## Docker



Et nous aurons cette page d'administration



## Création de realm : stock-ms



## General

localhost:8080/admin/master/console/#/realms/stock-ms

KEYCLOAK Admin

Stock-ms

Configure

Realm Settings

Clients

Client Scopes

Roles

Identity Providers

User Federation

Authentication

Manage

Groups

Users

Sessions

Events

Import

Export

Stock-ms

General Login Keys Email Themes Localization Cache Tokens Client Registration Client Policies

Security Defenses

Name stock-ms

Display name

HTML Display name

Frontend URL

Enabled ON

User-Managed Access OFF

Endpoints

OpenID Endpoint Configuration

SAML 2.0 Identity Provider Metadata

Save Cancel

Activate Windows  
Go to Settings to activate Windows.

localhost:8080/admin/master/console/#/realms/stock-ms/smp-settings

## Login

localhost:8080/admin/master/console/#/realms/stock-ms/login-settings

KEYCLOAK Admin

Stock-ms

Configure

Realm Settings

Clients

Client Scopes

Roles

Identity Providers

User Federation

Authentication

Manage

Groups

Users

Sessions

Events

Import

Export

Stock-ms

General Login Keys Email Themes Localization Cache Tokens Client Registration Client Policies

Security Defenses

User registration ON

Email as username ON

Edit username ON

Forgot password ON

Remember Me ON

Verify email OFF

Login with email ON

Require SSL external requests

ACR to LOA Mapping

ACR LOA

Save Cancel

Activate Windows  
Go to Settings to activate Windows.

## Client



KEYCLOAK

Admin

Stock-ms

Configure

Realm Settings

Clients

Client Scopes

Roles

Identity Providers

User Federation

Authentication

Manage

Groups

Users

Sessions

Events

Import

Export

Clients

Lookup

Search...

Q

Create

Activate Windows  
Go to Settings to activate Windows.

KEYCLOAK

Admin

Stock-ms

Configure

Realm Settings

Clients

Client Scopes

Roles

Identity Providers

User Federation

Authentication

Manage

Groups

Users

Sessions

Events

Import

Export

Clients &gt; account

Account

SettingsKeysRolesClient ScopesMappersScopeRevocationSessionsOffline AccessInstallation

Client ID

account

Name

\$(client\_account)

Description

Enabled

ON

Always Display in Console

OFF

Consent Required

OFF

Login Theme

Client Protocol

openid-connect

Access Type

confidential

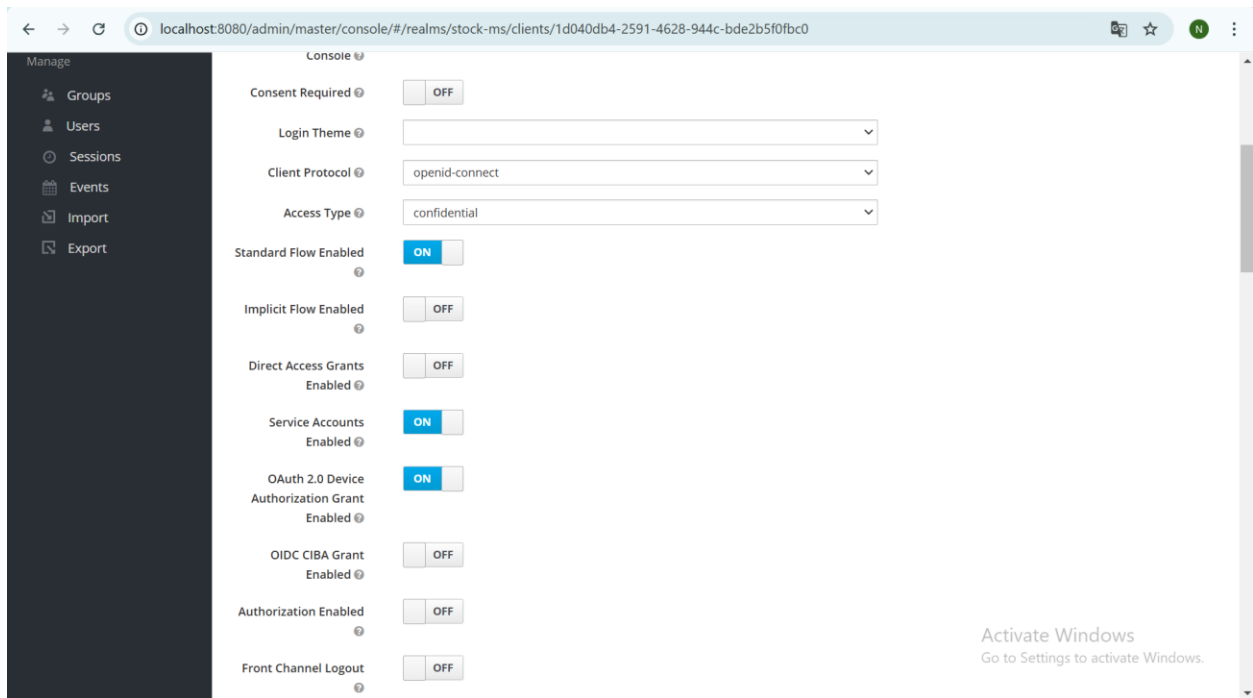
Standard Flow Enabled

ON

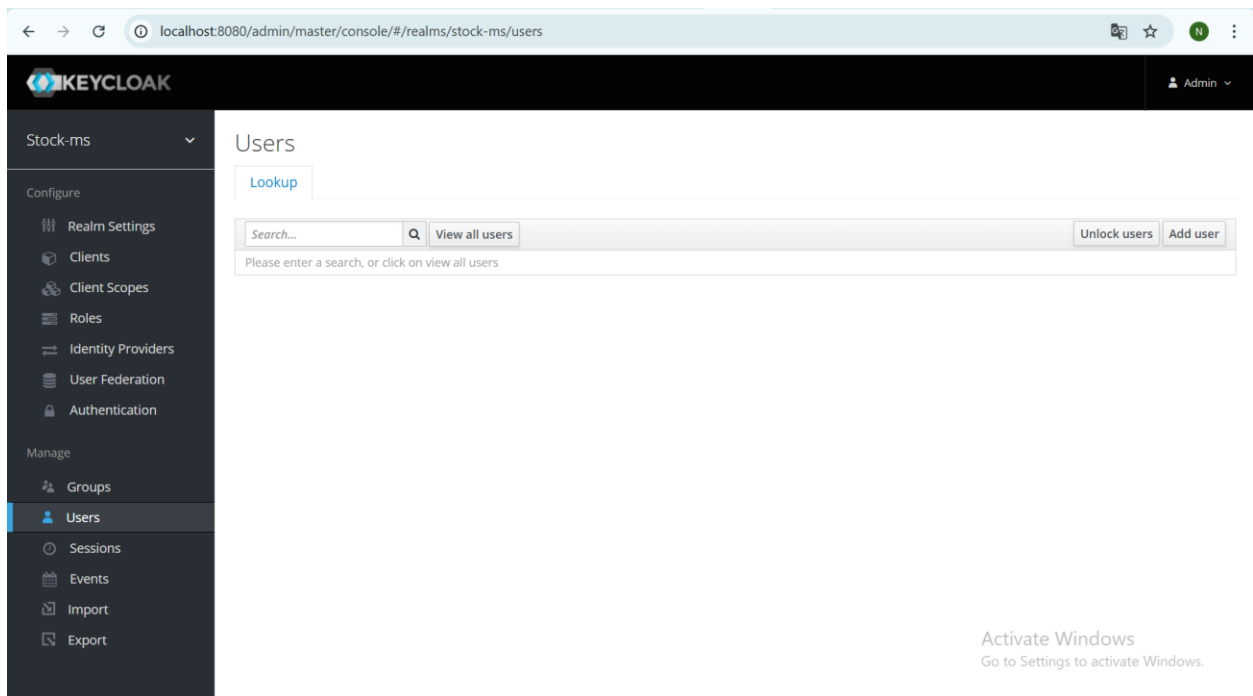
Implicit Flow Enabled

OFF

Activate Windows  
Go to Settings to activate Windows.



## Creation User



localhost:8080/admin/master/console/#/create/user/stock-ms

KEYCLOAK Admin

Stock-ms

Users > Add user

### Add user

ID

Created At

Email

First Name

Last Name

User Enabled ☒ ON

Email Verified ☐ OFF

Groups   
No group selected

Required User Actions

[Save](#) [Cancel](#)

Activate Windows  
Go to Settings to activate Windows.

localhost:8080/admin/master/console/#/create/user/stock-ms

KEYCLOAK Admin

Stock-ms

Users > Add user

### Add user

ID

Created At

Email

First Name

Last Name

User Enabled ☒ ON

Email Verified ☐ OFF

Groups   
No group selected

Required User Actions

[Save](#) [Cancel](#)

Activate Windows  
Go to Settings to activate Windows.

localhost:8080/admin/master/console/#/realms/stock-ms/users/1ed931ac-990b-4dd9-9097-0ba7262eda30/user-credentials

KEYCLOAK Admin

Stock-ms

Configure

- Realm Settings
- Clients
- Client Scopes
- Roles
- Identity Providers
- User Federation
- Authentication

Manage

- Groups
- Users**
- Sessions
- Events
- Import
- Export

Users > kadnaf001@gmail.com

Kadnaf001@gmail.com

Details Attributes **Credentials** Role Mappings Groups Consents Sessions

### Manage Credentials

| Position | Type | User Label | Data | Actions |
|----------|------|------------|------|---------|
|----------|------|------------|------|---------|

### Set Password

Password:

Password Confirmation:

Temporary: ☒

Set Password

### Credential Reset

Reset Actions:

Expires In:  Hours

Activate Windows  
Go to Settings to activate Windows.

localhost:8080/admin/master/console/#/realms/stock-ms/users/1ed931ac-990b-4dd9-9097-0ba7262eda30/role-mappings

KEYCLOAK Admin

Stock-ms

Configure

- Realm Settings
- Clients
- Client Scopes
- Roles
- Identity Providers
- User Federation
- Authentication

Manage

- Groups
- Users**
- Sessions
- Events
- Import
- Export

Users > kadnaf001@gmail.com

Kadnaf001@gmail.com

Details Attributes Credentials **Role Mappings** Groups Consents Sessions

Realm Roles

Available Roles:

Assigned Roles:

Effective Roles:

Client Roles:

Activate Windows  
Go to Settings to activate Windows.

## OpenID Endpoint Configuration

```
localhost:8080/realms/stock-ms/well-known/openid-configuration

{
  "issuer": "http://localhost:8080/realms/stock-ms",
  "authorization_endpoint": "http://localhost:8080/realms/stock-ms/protocol/openid-connect/auth",
  "token_endpoint": "http://localhost:8080/realms/stock-ms/protocol/openid-connect/token",
  "introspection_endpoint": "http://localhost:8080/realms/stock-ms/protocol/openid-connect/token/introspect",
  "userinfo_endpoint": "http://localhost:8080/realms/stock-ms/protocol/openid-connect/userinfo",
  "end_session_endpoint": "http://localhost:8080/realms/stock-ms/protocol/openid-connect/logout",
  "frontchannel_logout_supported": true,
  "frontchannel_logout_supported": true,
  "jwks_uri": "http://localhost:8080/realms/stock-ms/protocol/openid-connect/certs",
  "check_session_iframe": "http://localhost:8080/realms/stock-ms/protocol/openid-connect/login-status-iframe.html",
  "grant_types_supported": [
    "authorization_code",
    "implicit",
    "refresh_token",
    "password",
    "client_credentials",
    "urn:ietf:params:oauth:grant-type:device_code",
    "urn:openid:params:grant-type:ciba"
  ],
  "acr_values_supported": [
    "0",
    "1"
  ],
  "response_types_supported": [
    "code",
    "none",
    "id_token",
    "token",
    "id_token token",
    "code id_token",
    "code token",
    "code id_token token"
  ],
  "subject_types_supported": [
    "public",
    "pairwise"
  ],
  "id_token_signing_alg_values_supported": [
    "PS384",
    "ES384"
  ]
}
```

issuer

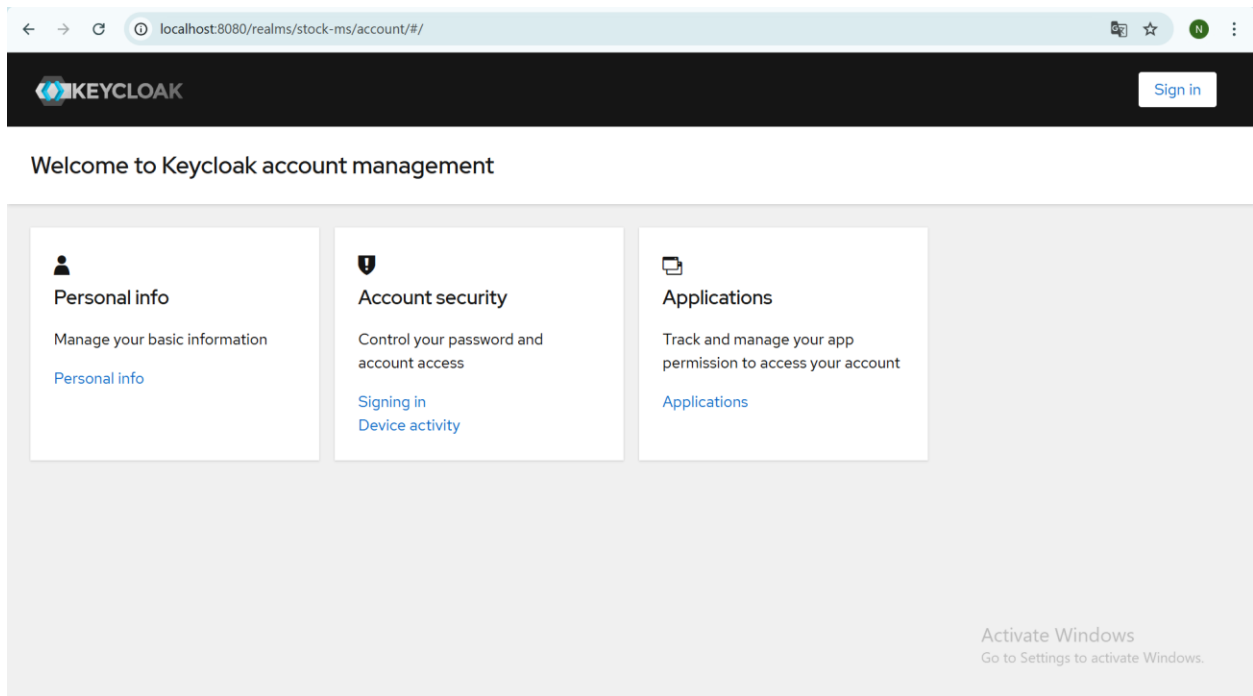
http://localhost:8080/realms/stock-ms

```
localhost:8080/realms/stock-ms

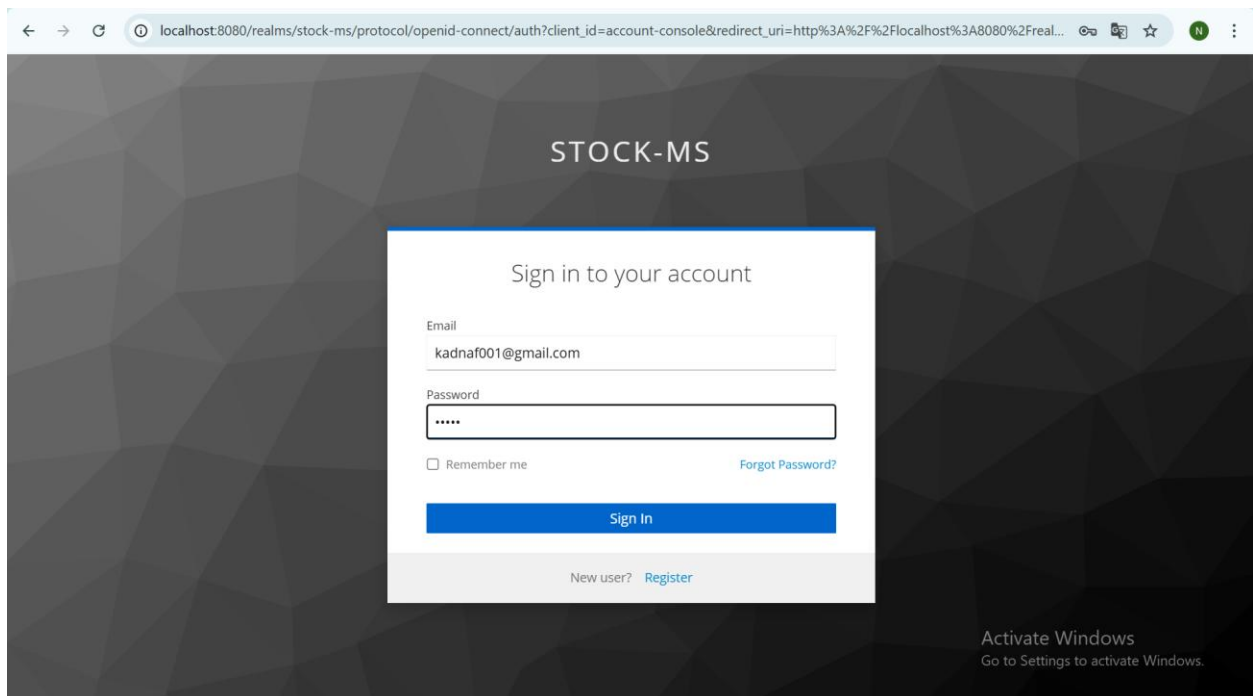
{
  "realm": "stock-ms",
  "public_key": "MIIBIjANBgkqhkiG9w0BAQFAAQ8AMIIBCgKCAQEAY2ewHP8M1FhHnDXKcJaQ677pKf3Los+IoGMUghVY7mi+uERiIMkdKa9IDPcQR6sIBsGw1UBWJ1AignbTnivCG1edDzsSQoTQuDYuOX3s4GqWpMekqAKIEIwpTu+eMKxCF/W7n4UCxuh02oXBFlab8bvPNZQNuJjf8x4paIWVYvverXPB1ugXRwh3sQ/JEiUgfvXYEihQrvFCF4tL13h90v4Pz2pE9wLgUK4htjke7uUeGYUaZnOSk13dtdUVtrykvHKq4GkiYA6IELzQ6R0rLABc/Ktnp4+SvYIYjkmiJEMh8cSzUBzkz4oP40bLCilIU8oVLS8q1Sqf3EKQIDAQAB",
  "token-service": "http://localhost:8080/realms/stock-ms/protocol/openid-connect",
  "account-service": "http://localhost:8080/realms/stock-ms/account",
  "tokens-not-before": 0
}
```

account-service

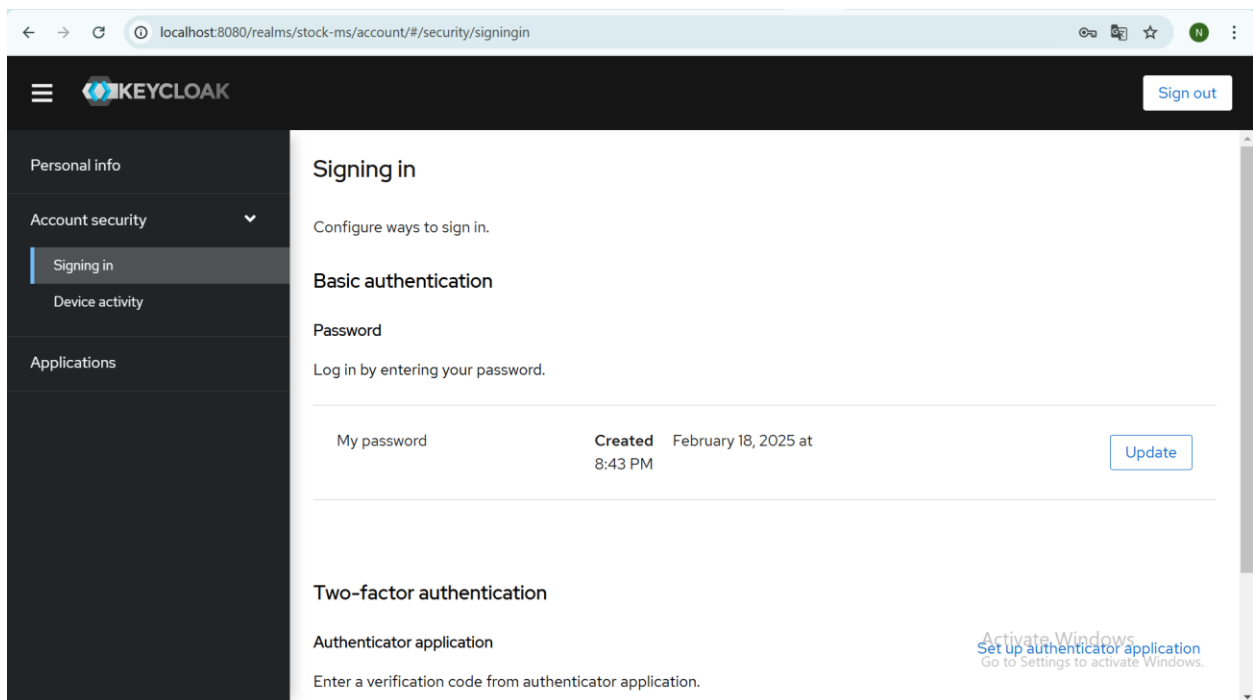
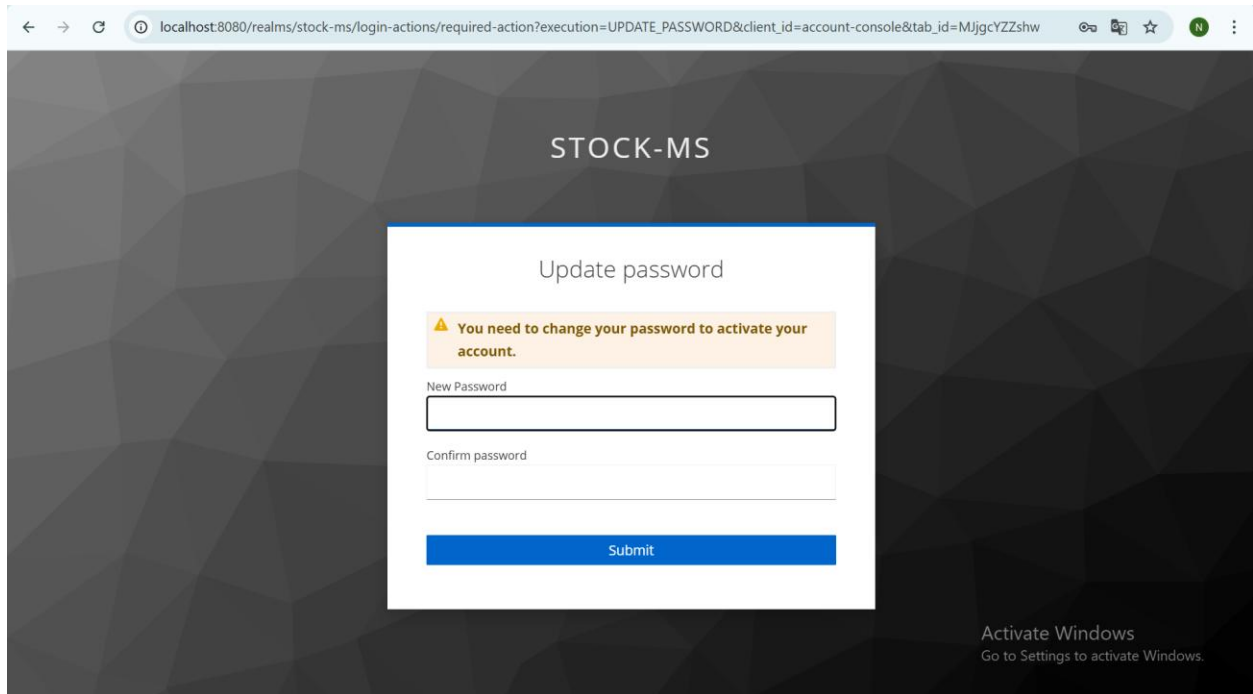
http://localhost:8080/realms/stock-ms/account



## Signing in



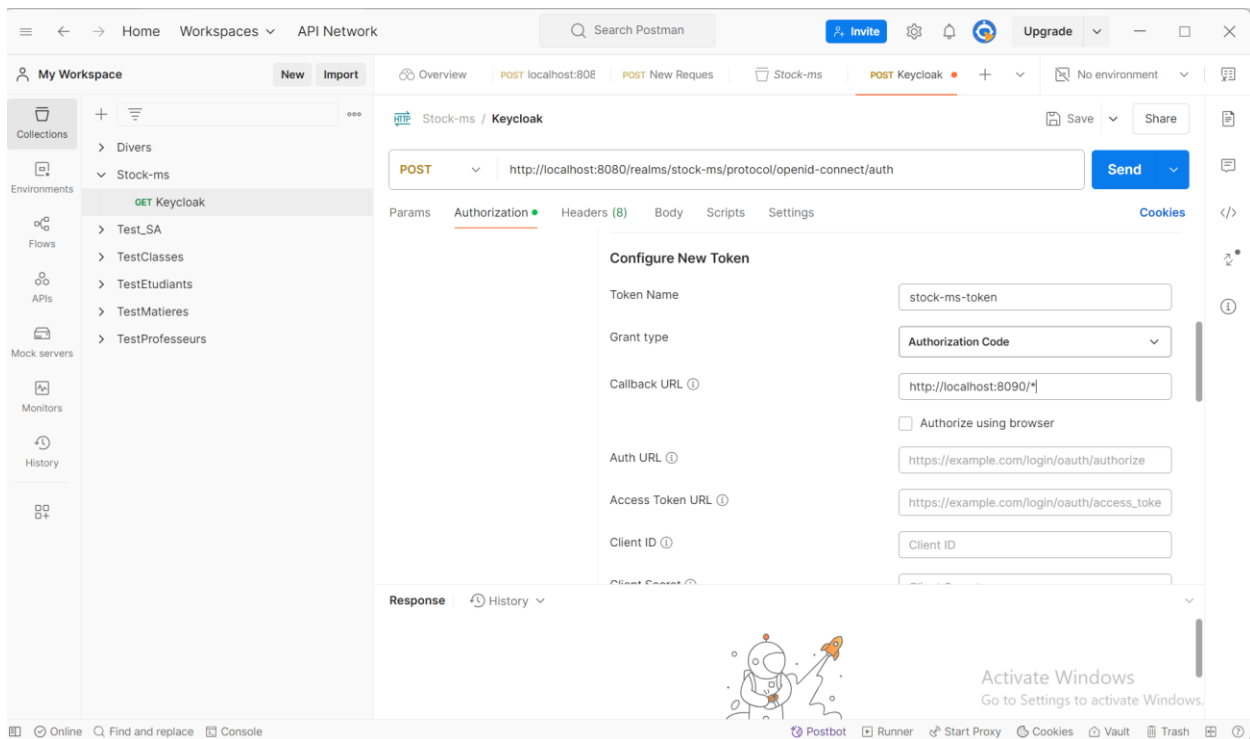
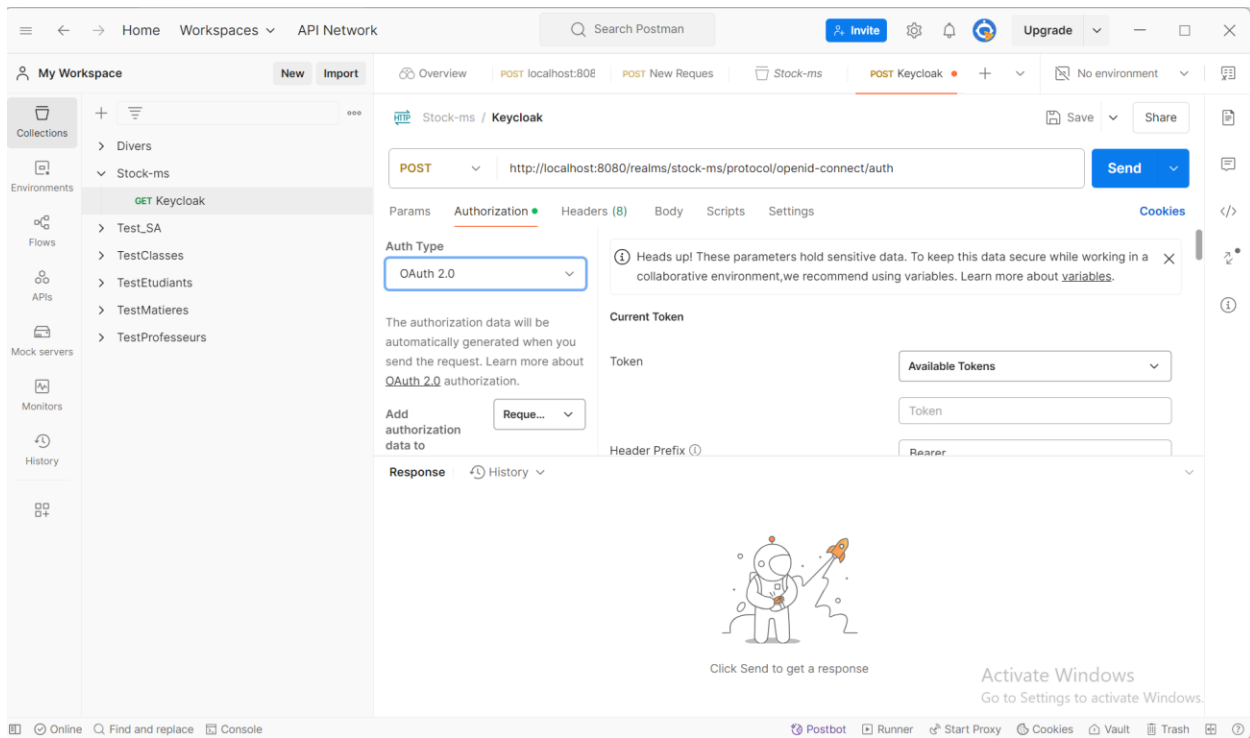


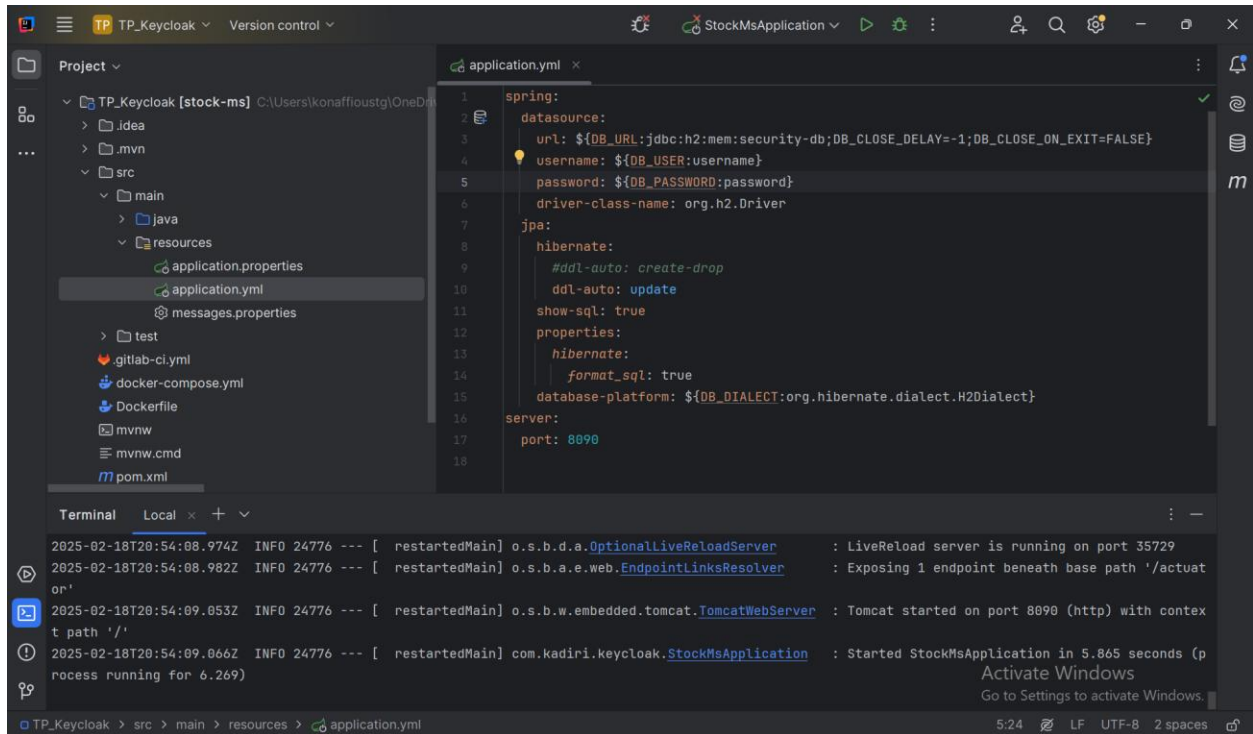


Utilisation de keycloak dans postman

Nous devons faire quelques configurations sur postman :

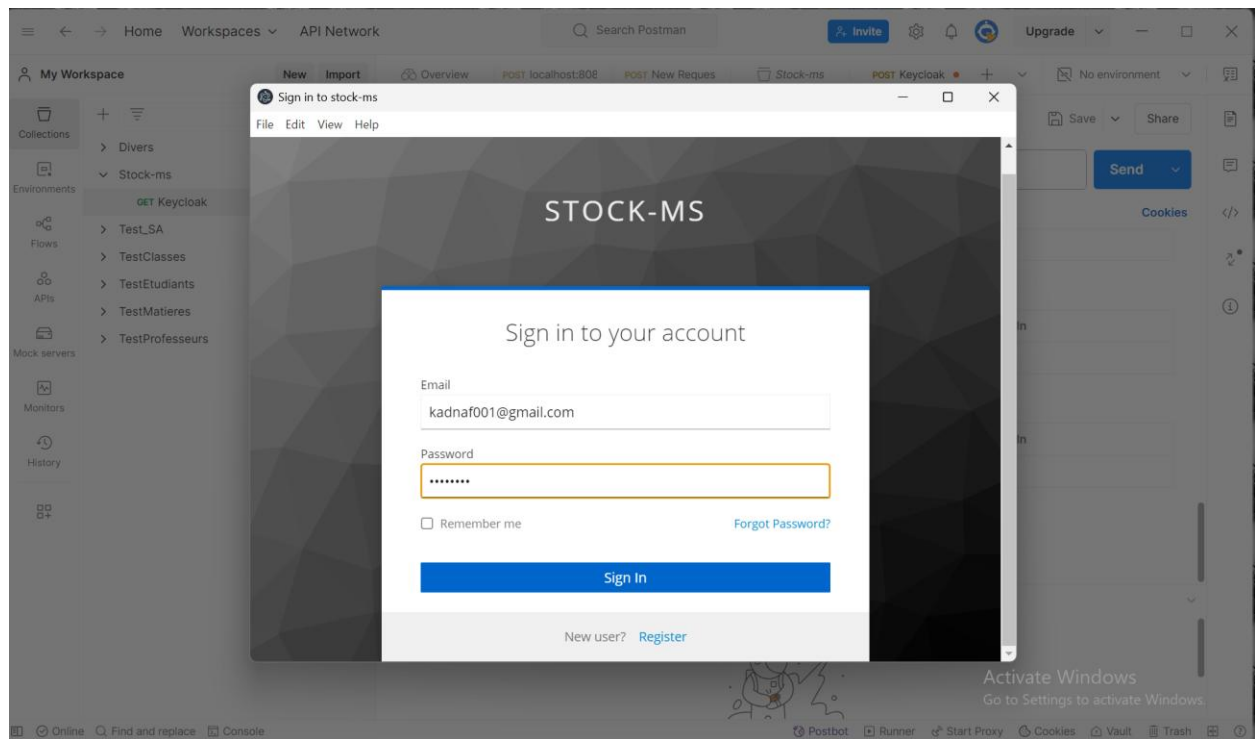
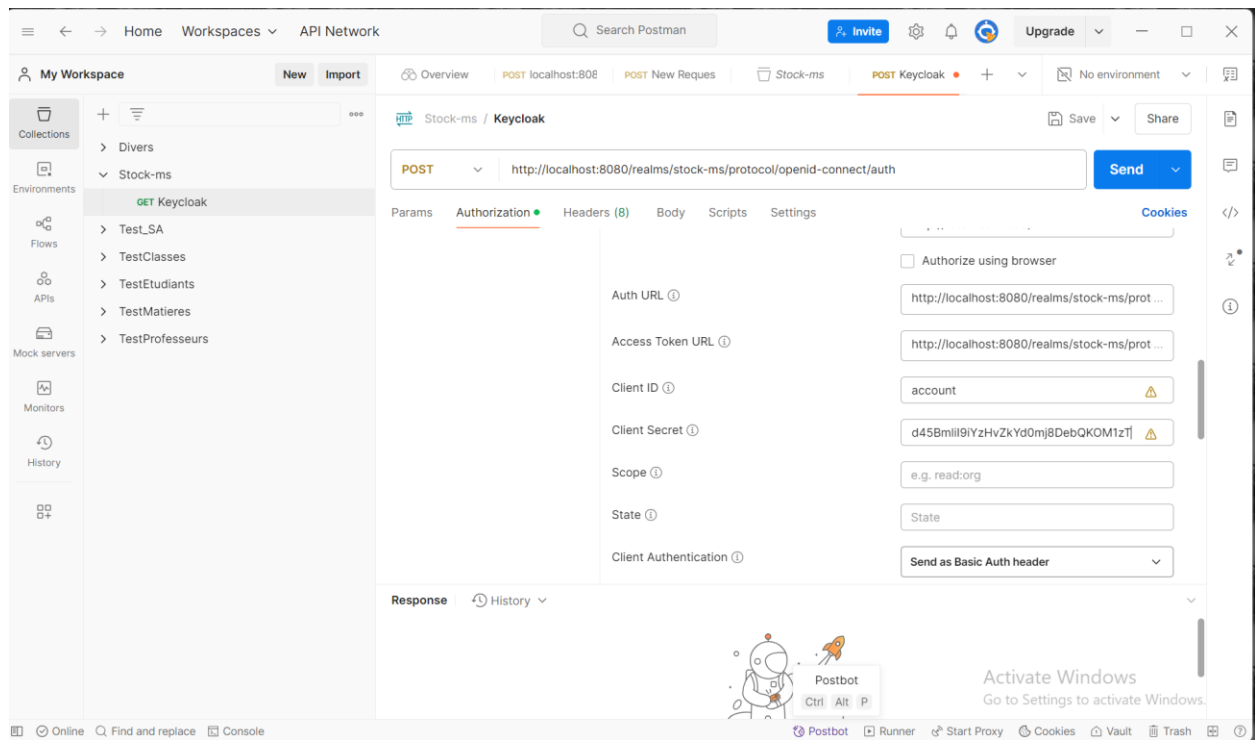
authorization\_endpoint : <http://localhost:8080/realms/stock-ms/protocol/openid-connect/auth>

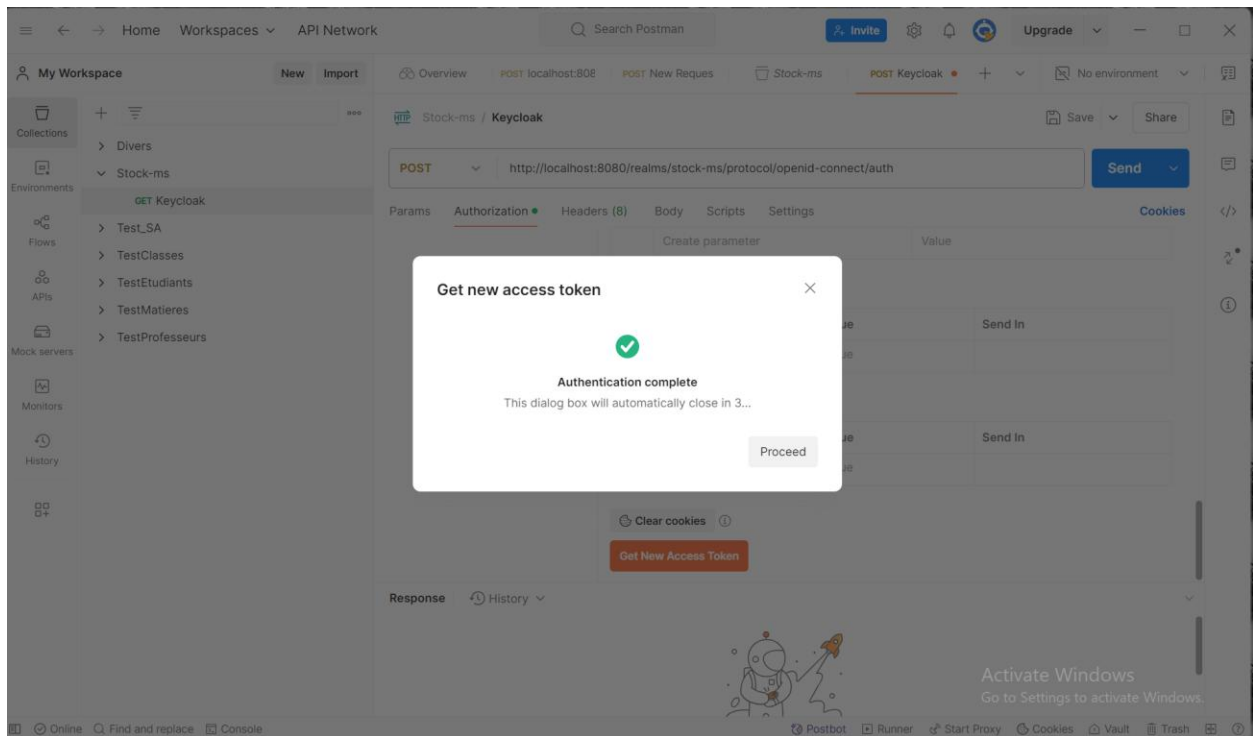




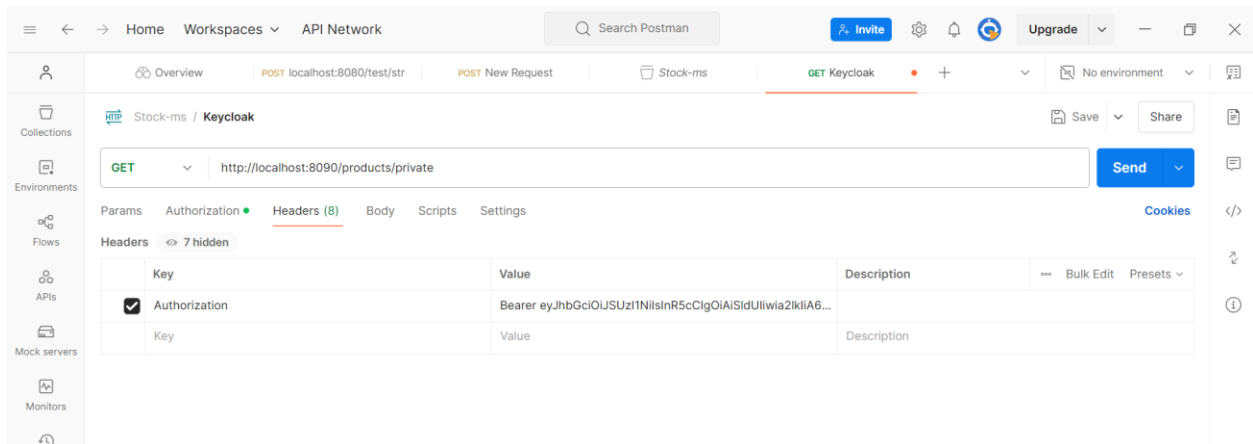
"authorization\_endpoint": "http://localhost:8080/realms/stock-ms/protocol/openid-connect/auth",

"token\_endpoint": "http://localhost:8080/realms/stock-ms/protocol/openid-connect/token",





Vous pouvez l'utiliser pour vos requetes  
Test des end point et visualisation des données



HomeWorkspacesAPI Network

Search Postman

Invite

Upgrade

OverviewPOST localhost:8080/test/strPOST New RequestStock-msGET Keycloak

No environment

Stock-ms / Keycloak

SaveShare

GET

http://localhost:8090/products/{ref}

Send

ParamsAuthorizationHeaders (8)BodyScriptsSettings

Cookies

Headers 7 hidden

|                                     | Key           | Value  | Description | Bulk EditPresets |
|-------------------------------------|---------------|--|-------------|------------------|
| <input checked="" type="checkbox"/> | Authorization | Bearer eyJhbGciOiJSUzI1NiIsInR5cCI6IkpzZW50L3NpdUUiLCJhdWQiOiA6... |             |                  |
|                                     | Key           | Value  | Description |                  |

