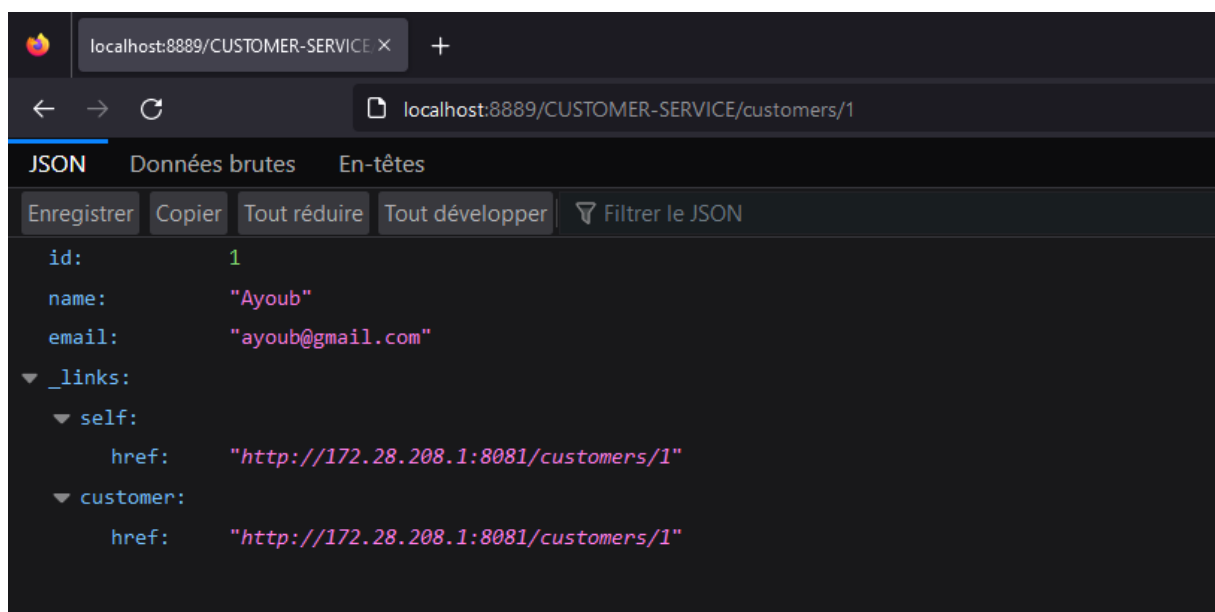
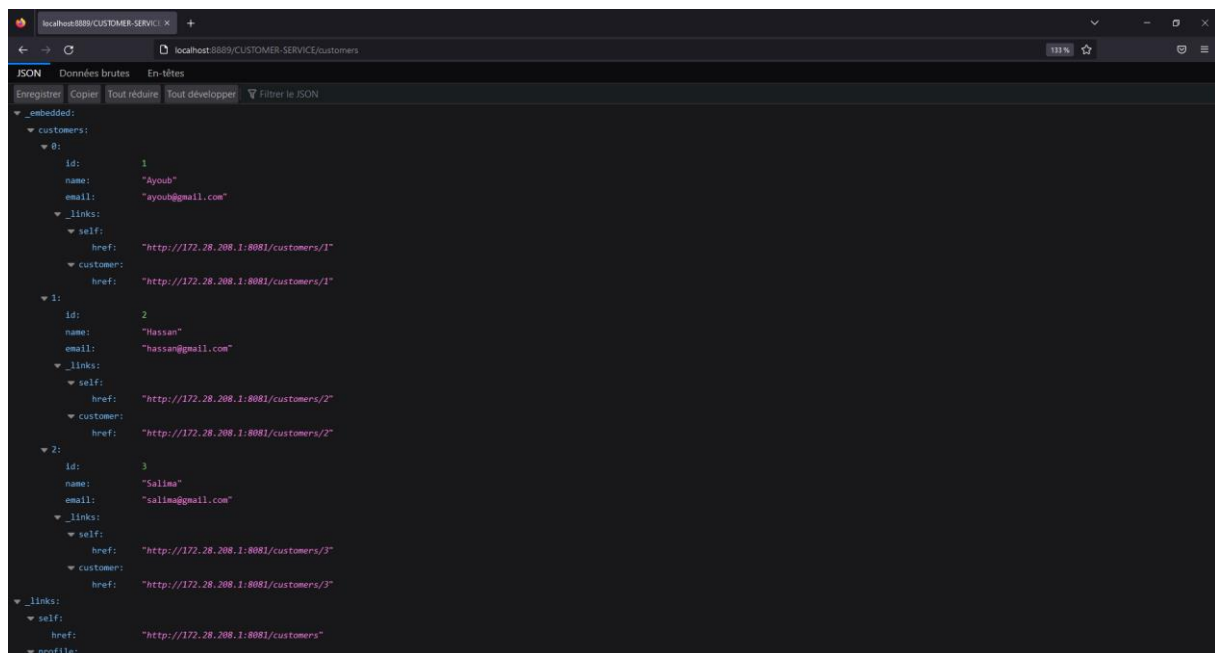


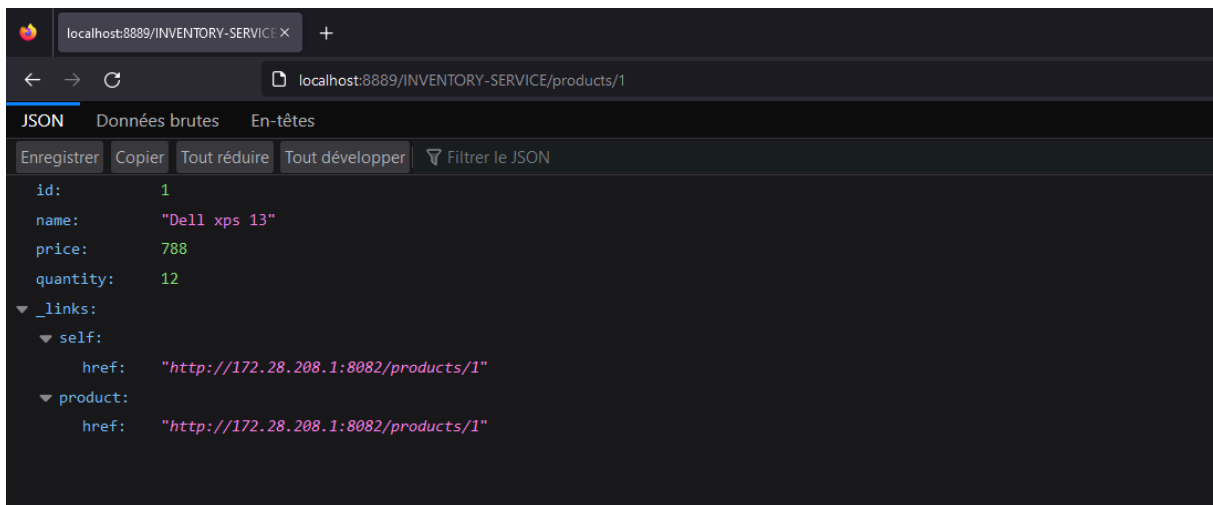
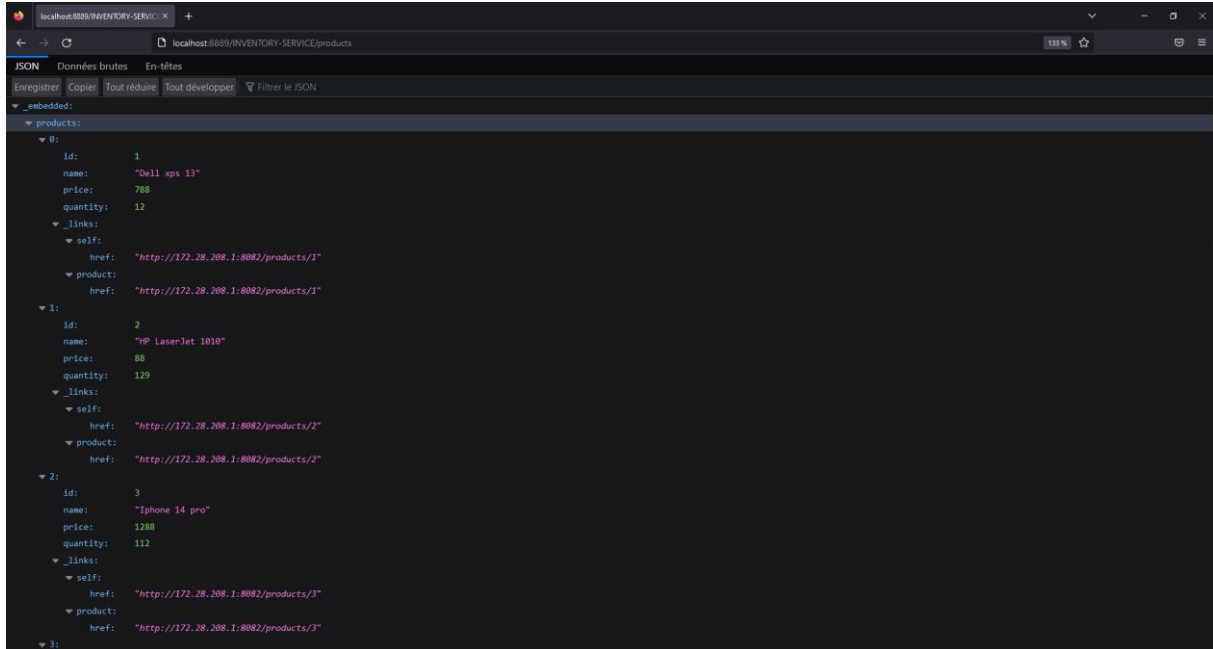
**NOM ET PRÉNOM : KHYATI AYOUB    GROUPE: 5IIR G2**

## Architectures Micro-services avec Spring Cloud

### 1. Créer le micro-service customer-service qui permet de gérer les clients



## 2. Créer le micro-service inventory-service qui permet de gérer les produits



## 3. Créer la Gateway Spring cloud Gateway avec une Configuration statique du système de routage

```

2
3     @Bean
4     DiscoveryClientRouteDefinitionLocator definitionLocator(
5         ReactiveDiscoveryClient rdc,
6         DiscoveryLocatorProperties properties
7     ){
8         return new DiscoveryClientRouteDefinitionLocator(rdc,properties);
9     }
10
11 }
12

```

```

1     server.port=8889
2     spring.application.name=gateway-service
3     spring.cloud.discovery.enabled=true
4     eureka.instance.preferIpAddress=true
5
6     spring.main.web-application-type=reactive
7     #spring.main.allow-bean-definition-overriding=true
8
9

```

```

1  spring:
2    cloud:
3      gateway:
4        globalcors:
5          corsConfigurations:
6            '[/**]':
7              allowedOrigins: "http://localhost:4200/"
8              allowedHeaders: "*"
9              allowedMethods:
10               - GET
11               - POST
12               - PUT
13               - DELETE
14      routes:
15        - id: r1
16          uri: http://localhost:8081/
17          predicates:
18            - Path= /customers/**
19        - id: r2
20          uri: http://localhost:8082/
21          predicates:
22            - Path= /products/**
23        - id: r3
24          uri: http://localhost:8083/
25          predicates:
26            - Path= /bills/**
27

```

## 4. Créer l'annuaire Eureka Discovery Service

```

EurekaDiscoveryApplication.java x pom.xml (eureka-discovery) x application.properties x
1 package com.sid.eurekadiscovery;
2
3 import ...
4
5
6
7 @SpringBootApplication
8 @EnableEurekaServer
9 public class EurekaDiscoveryApplication {
10
11     public static void main(String[] args) { SpringApplication.run(EurekaDiscoveryApplication.class, args); }
12
13
14
15 }
16

```

Application	AMIs	Availability Zones	Status
BILLING-SERVICE	n/a (1)	(1)	UP (1) - <a href="#">localhost:billing-service:8083</a>
CUSTOMER-SERVICE	n/a (1)	(1)	UP (1) - <a href="#">localhost:customer-service:8081</a>
GATEWAY-SERVICE	n/a (1)	(1)	UP (1) - <a href="#">DESKTOP-QLBHPT9:gateway-service:8889</a>
INVENTORY-SERVICE	n/a (1)	(1)	UP (1) - <a href="#">DESKTOP-QLBHPT9:inventory-service:8082</a>
UNKNOWN	n/a (1)	(1)	UP (1) - <a href="#">DESKTOP-QLBHPT9:8761</a>

## 5. Faire une configuration dynamique des routes de la gateway

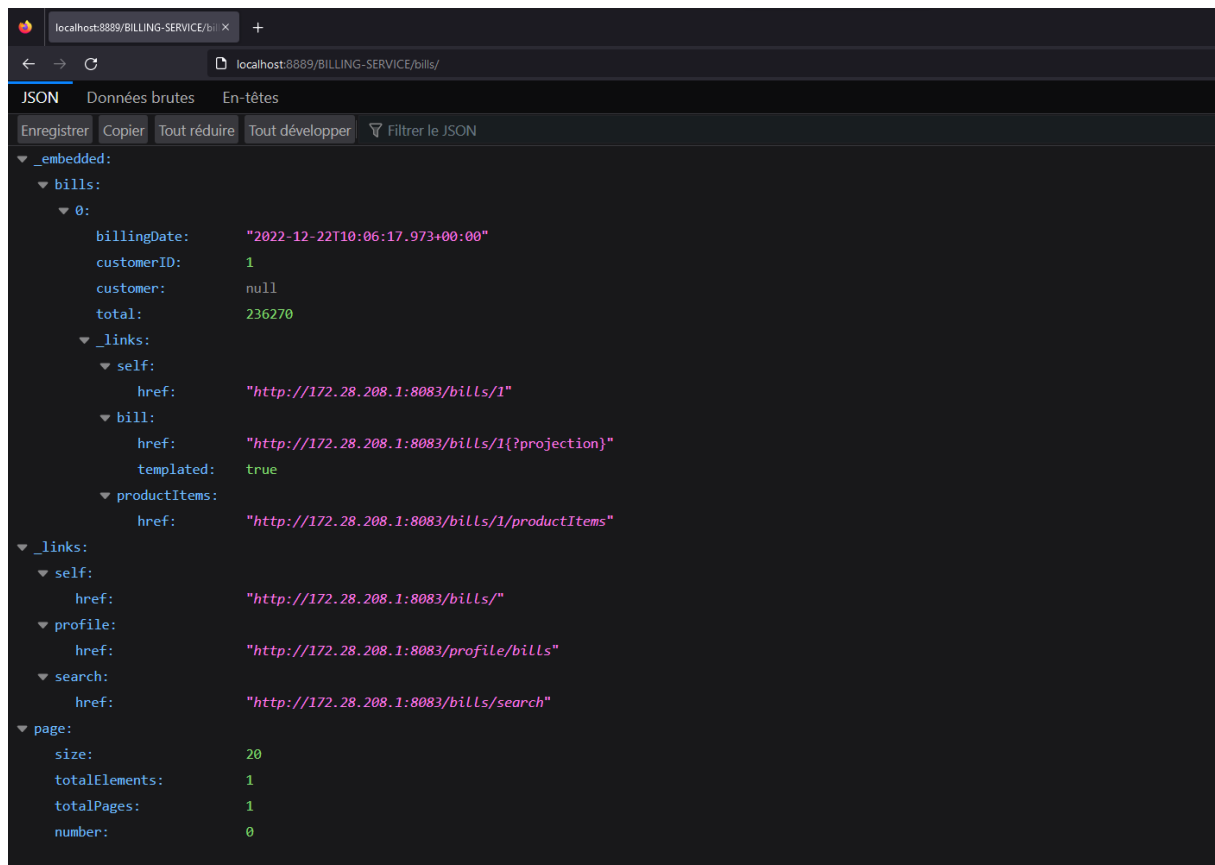
```

application.yml x GatewayApplication.java x pom.xml (gateway) x application.properties x
8 import org.springframework.cloud.gateway.discovery.DiscoveryLocatorProperties;
9 import org.springframework.cloud.gateway.route.RouteLocator;
10 import org.springframework.cloud.gateway.route.builder.RouteLocatorBuilder;
11 import org.springframework.context.annotation.Bean;
12
13
14
15 @SpringBootApplication
16 public class GatewayApplication {
17
18     public static void main(String[] args) { SpringApplication.run(GatewayApplication.class, args); }
19
20
21
22
23     @Bean
24     DiscoveryClientRouteDefinitionLocator definitionLocator(
25         ReactiveDiscoveryClient rdc,
26         DiscoveryLocatorProperties properties
27     ){
28         return new DiscoveryClientRouteDefinitionLocator(rdc,properties);
29     }
30
31 }
32

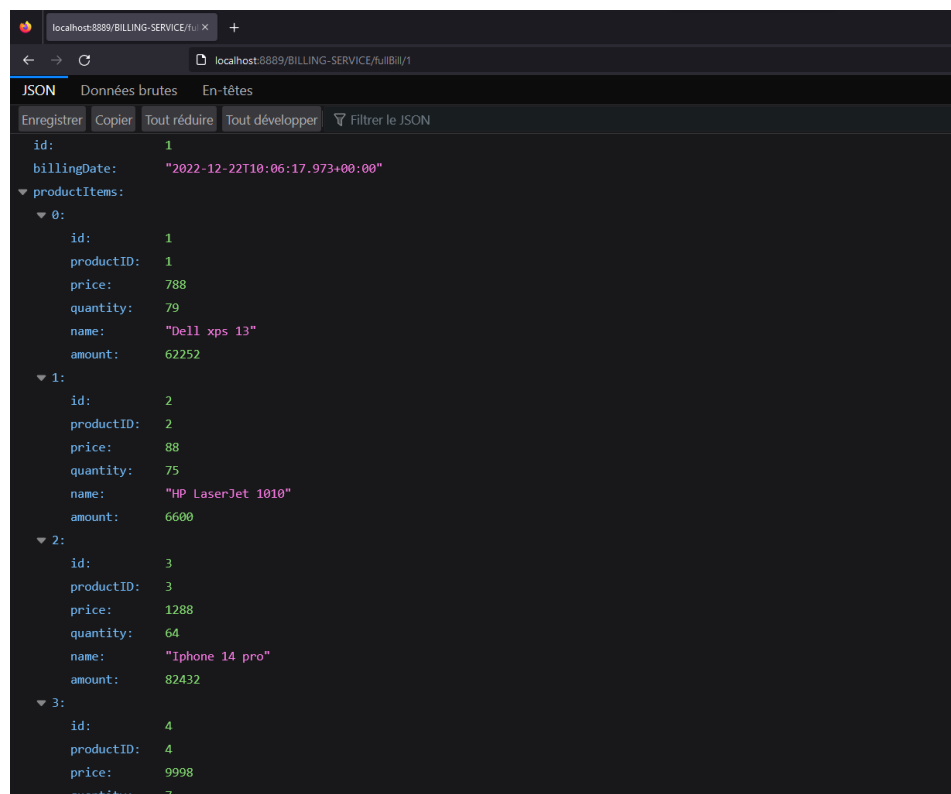
```

## 6. Créer le service de facturation Billing-Service en utilisant Open Feign

<http://localhost:8889/BILLING-SERVICE/bills>



<http://localhost:8889/BILLING-SERVICE/fullBill/1>



## 7. Créer un client Web Angular (Clients, Produits, Factures)

AYOUB-KHYATI-ECOM-WEB-APP

ProductsCustomersAdd BillUserName

Welcome to **Products Management**!

Add new product

Product Name

Product Price

Product Quantity


Add Product

Search

Search your product ...

ID	Name	Price	Quantity	Actions
PROD-1	Dell xps 13	\$ 788	12	Delete
PROD-2	HP LaserJet 1010	\$ 88	129	Delete
PROD-3	Iphone 14 pro	\$ 1288	112	Delete
PROD-4	Mac Book Pro	\$ 9998	30	Delete
PROD-5	Samsung TV 50	\$ 5000	240	Delete

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BOULEVARD EL KHAYAT EL KHAZNAJ  
RABAT

HomeProductsCustomers

AYOUB-KHYATI-ECOM-WEB-APP

ProductsCustomersAdd BillUserName

Welcome to **Customers Management**!

Add new customer

Customer Name

Customer Email


Add Customer

Search

Search customer ...

ID	Name	Email	Actions
CUST-1	Ayoub	ayoub@gmail.com	Show BillsDeleteEdit
CUST-2	Hassan	hassan@gmail.com	Show BillsDeleteEdit
CUST-3	Salima	salima@gmail.com	Show BillsDeleteEdit

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BOULEVARD EL KHAYAT EL KHAZNAJ  
RABAT

HomeProductsCustomers


AYOUB-KHYATI-ECOM-WEB-APP

ProductsCustomersAdd BillUserName

List Of **Bills** Of Customer : 1

ID	CustomerID	Date	Action
1	1	2022-12-22T10:06:17.973+00:00	Bill Details

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RABAT

HomeProductsCustomers

AYOUB-KHYATI-ECOM-WEB-APP
Products
Customers
Add Bill
UserName

Bill Details Of Bill: 1

Bill ID: 1

Date Bill: 2022-12-22T10:06:17.973+00:00

Customer ID: 1


Customer Name: Ayoub

Customer Email: ayoub@gmail.com

Product Items

Product ID	Name	Quantity	Price	Amount
PROD-1	Dell xps 13	79	788	62252 MAD
PROD-2	HP Laserjet 1010	75	88	6600 MAD
PROD-3	Iphone 14 pro	64	1288	82432 MAD
PROD-4	Mac Book Pro	7	9998	69986 MAD
PROD-5	Samsung TV 50	3	5000	15000 MAD
Total				236270 MAD

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Home
Products
Customers

- ### 8. Déployer le serveur keycloak :
- Créer un Realm
  - Créer un client à sécuriser
  - Créer des utilisateurs
  - Créer des rôles
  - Affecter les rôles aux utilisateurs
  - Tester les différents modes d'authentification avec Postman en montrant les contenus de Access-Token, Refresh Token

```

Git CMD - docker run -e KEYC
C:\Users\hp>docker run -e KEYCLOAK_USER=admin -e KEYCLOAK_PASSWORD=password -p 8080:8080 jboss/keycloak
Unable to find image 'jboss/keycloak:latest' locally
latest: Pulling from jboss/keycloak
ac10f00499d5: Pull complete
96d53117c12e: Pull complete
1d929376eb7f: Pull complete
93e1e1b6d192: Pull complete
f353ba0db29e: Pull complete
Digest: sha256:abdb1aea6c671f61a594af599f63f6e78c9631767886d9030bc774d908422d0a
Status: Downloaded newer image for jboss/keycloak:latest
Added 'admin' to '/opt/jboss/keycloak/standalone/configuration/keycloak-add-user.json', restart server to load user
-b 0.0.0.0

=====

Using Embedded H2 database

=====

JBoss Bootstrap Environment

JBOSS_HOME: /opt/jboss/keycloak

JAVA: java
  
```

KEYCLOAK

Master

Configure

Realm Settings

Clients

Client Scopes

Roles

Identity Providers

User Federation

Authentication

Manage

Groups

Users

Sessions

Events

Import

Export

Master

General

Login

Keys

Email

Themes

Localization

Cache

Tokens

Client Registration

Client Policies

Security Defenses

Name

Display name

HTML Display name

Frontend URL

Enabled

User-Managed Access

Endpoints

Save

Cancel

## Add realm

Import

Select file

Name

wallet-realm

Enabled

ON

Create

Cancel

Direct Access Grants Enabled

ON

OAuth 2.0 Device Authorization Grant Enabled

OFF

Front Channel Logout

OFF

Root URL

Valid Redirect URIs

http://localhost:4200/\*

Base URL

http://localhost:4200/

Admin URL

Logo URL

Policy URL

Terms of service URL

Web Origins

\*

Backchannel Logout URL

http://localhost:4200/

Backchannel Logout Session Required

ON

Backchannel Logout Revoke Offline Sessions

OFF

Fine Grain OpenID Connect Configuration



## Add user

ID	<input type="text"/>
Created At	
Username *	<input type="text" value="user1"/>
Email	<input type="text" value="user1@gmail.com"/>
First Name	<input type="text" value="user1"/>
Last Name	<input type="text" value="ud"/>
User Enabled ⓘ	<input checked="" type="checkbox"/> ON
Email Verified ⓘ	<input type="checkbox"/> OFF
Groups ⓘ	<div><div>Select existing group...</div><div>No group selected</div></div>
Required User Actions ⓘ	<div><div>Select an action...</div><div><input type="button" value="Save"/> <input type="button" value="Cancel"/></div></div>

## User1

[Details](#) [Attributes](#) [Credentials](#) [Role Mappings](#) [Groups](#) [Consents](#) [Sessions](#)

### Manage Credentials

Position	Type	User Label	Data
<div>^ v</div>	password	<input type="text"/>	

### Reset Password

Password	<input type="password"/>
Password Confirmation	<input type="password"/>
Temporary ⓘ	<input checked="" type="checkbox"/> ON
<input type="button" value="Reset Password"/>	

### Credential Reset

Reset Actions ⓘ	<div><div>Select an action...</div></div>
Expires In ⓘ	<div><div>12</div><div>Hours</div><div>v</div></div>
Reset Actions Email ⓘ	<input type="button" value="Send email"/>

## Add user

ID	<input type="text"/>
Created At	
Username *	<input type="text" value="ayoub"/>
Email	<input type="text" value="ayoub@gmail.com"/>
First Name	<input type="text" value="AYOUB"/>
Last Name	<input type="text" value="KHYATI"/>
User Enabled ⓘ	<input checked="" type="checkbox"/> ON
Email Verified ⓘ	<input type="checkbox"/> OFF
Groups ⓘ	<div><div>Select existing group...</div><div>No group selected</div></div>
Required User Actions ⓘ	<div><div>Select an action...</div><div><div>Save</div><div>Cancel</div></div></div>

ayoub

☒ Enabled

Action ▾

Details	Attributes	Credentials	Role mapping	Groups	Consents	Identity provider links	Sessions
<div>Credential Reset</div>							
ⓘ	Type	User label	Data				
ⓘ	Password	My password	Show data		Reset password		ⓘ

[Realm roles](#) > [Create role](#)

## Create role

Role name *	<input type="text" value="USER"/>
Description	<div></div>
	<div><div>Save</div><div>Cancel</div></div>

KEYCLOAK

admin

Role created

Realm roles > Role details

ADMIN

Action

DetailsAttributesUsers in rolePermissions

Role name \*ADMIN

Description

SaveRevert

KEYCLOAK

admin

Users > User details

user1

Enabled

Action

DetailsAttributesCredentialsRole mappingGroupsConsentsIdentity provider linksSessions

Assign roles to user1 account

Filter by realm roles

Search by role name

1 - 4

☐ NameDescription

☐ ADMIN

☐ offline\_access\${role\_offline-access}

☐ uma\_authorization\${role\_uma\_authorization}

☒ USER

1 - 4

AssignCancel

ayoub

Enabled

Action

Details

Attributes

Credentials

Role mapping

Groups

Consents

Identity provider links

Sessions

Assign roles to ayoub account

Filter by realm roles

Search by role name

1-4

<input type="checkbox"/>	Name	Description
<input checked="" type="checkbox"/>	ADMIN	
<input type="checkbox"/>	offline_access	`\${role_offline-access}`
<input type="checkbox"/>	uma_authorization	`\${role_uma_authorization}`
<input checked="" type="checkbox"/>	USER	

Assign

Cancel

localhost:8080/realm/wallet-realm

localhost:8080/realm/wallet-realm/.well-known/openid-configuration

JSON

Données brutes

En-têtes

Enregistrer

Copier

Tout réduire

Tout développer

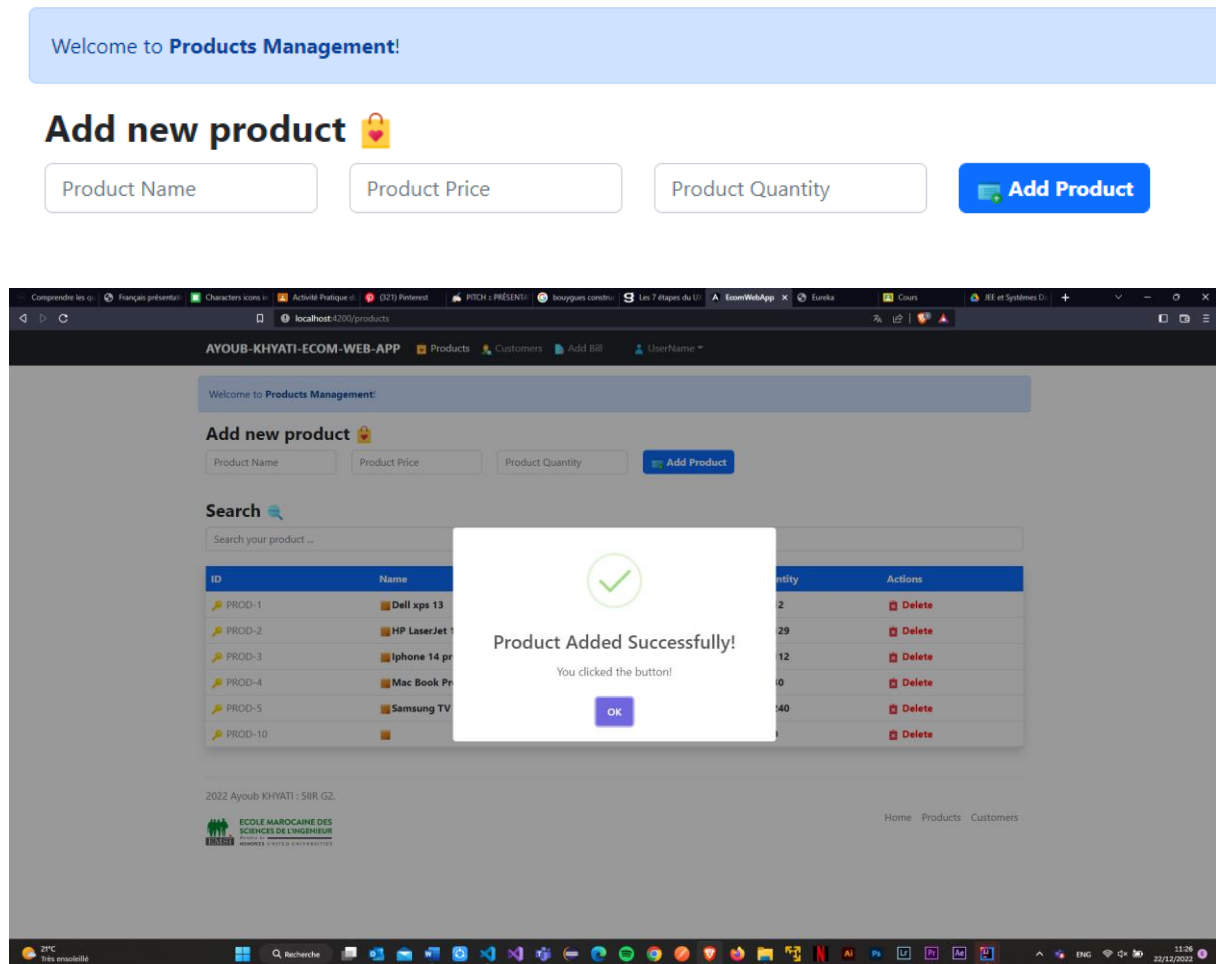
Filtrer le JSON

```
{  "issuer": "http://localhost:8080/realm/wallet-realm",  "authorization_endpoint": "http://localhost:8080/realm/wallet-realm/protocol/openid-connect/auth",  "token_endpoint": "http://localhost:8080/realm/wallet-realm/protocol/openid-connect/token",  "introspection_endpoint": "http://localhost:8080/realm/wallet-realm/protocol/openid-connect/token/introspect",  "userinfo_endpoint": "http://localhost:8080/realm/wallet-realm/protocol/openid-connect/userinfo",  "end_session_endpoint": "http://localhost:8080/realm/wallet-realm/protocol/openid-connect/logout",  "frontchannel_logout_session_supported": true,  "frontchannel_logout_supported": true,  "jwks_uri": "http://localhost:8080/realm/wallet-realm/protocol/openid-connect/certs",  "check_session_iframe": "http://localhost:8080/realm/wallet-realm/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"  ]}
```

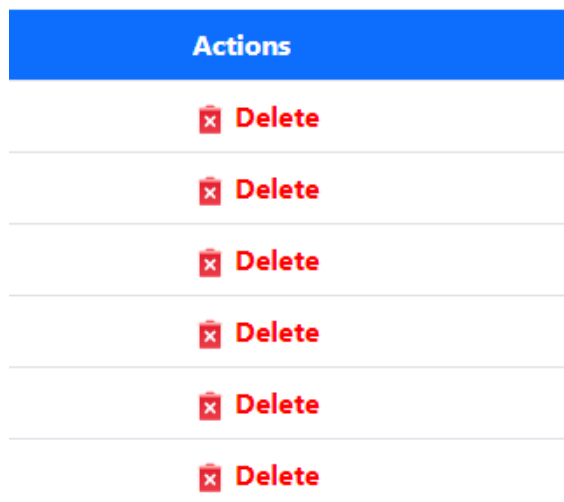


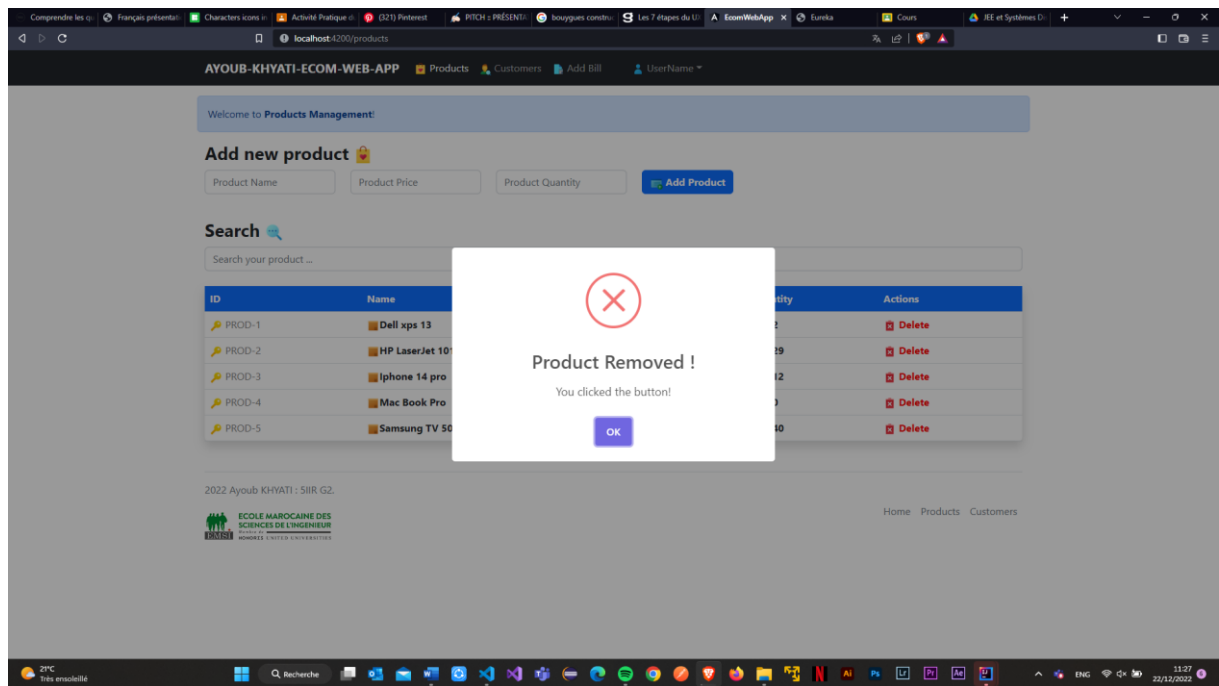
## 10. Ajouter des Fonctionnalités supplémentaires de votre choix

### ADD PRODUCT



### DELETE PRODUCT



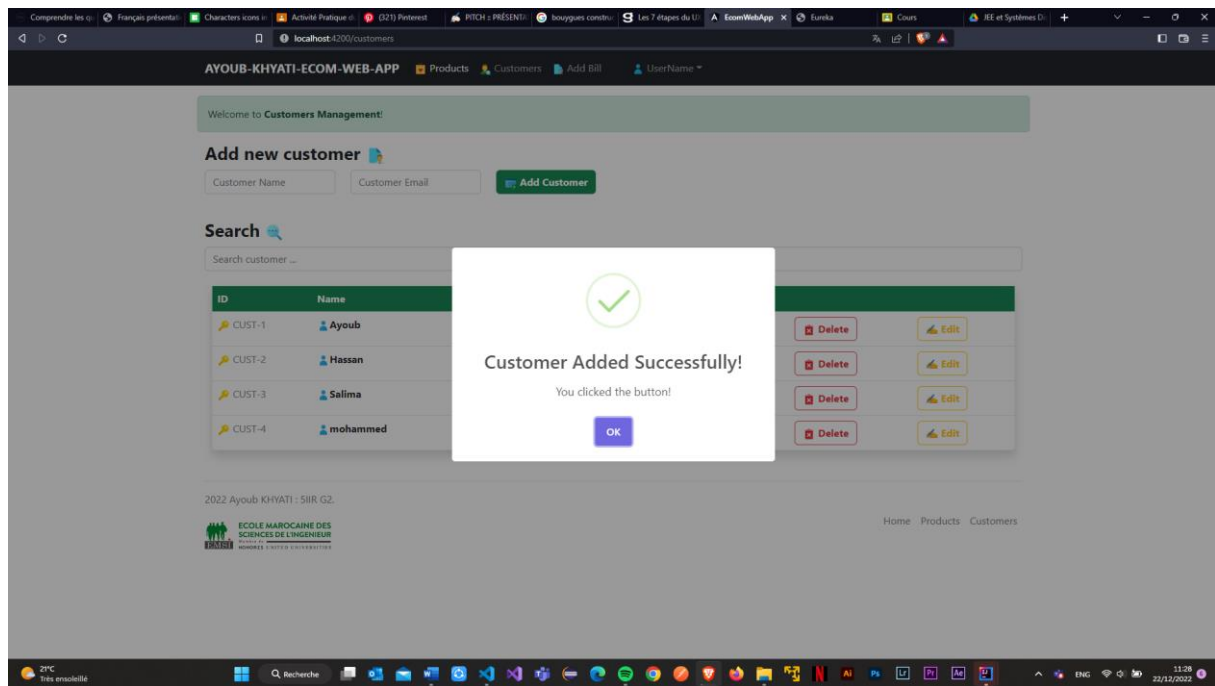


## ADD CUSTOMER

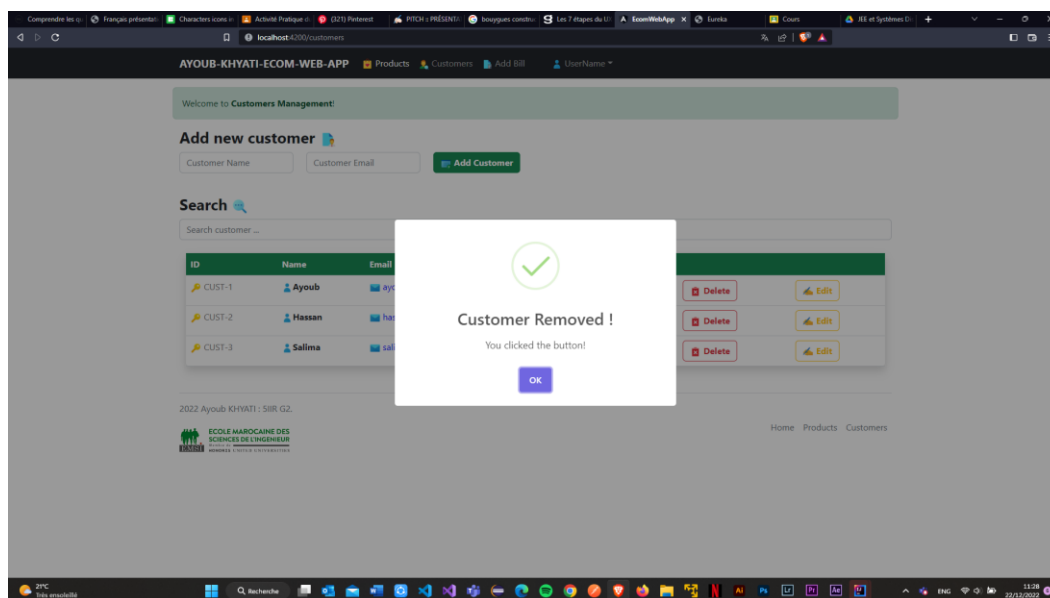
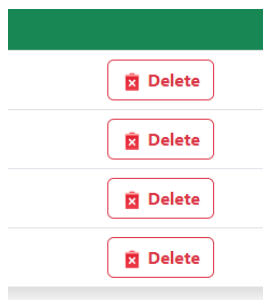
Welcome to **Customers Management!**

### Add new customer

Add Customer



## DELETE CUSTOMER





# ADD BILL

AYOUB-KHYATI-ECOM-WEB-APP

ProductsCustomersAdd BillUserName

Welcome to **Add Bill** !

Add new bill

Add Bill

Select customer

Ayoub

Select products

Dell xps 13

price: \$ 788 12

Add to Cart

HP LaserJet 1010

price: \$ 88 129

Add to Cart

Iphone 14 pro

price: \$ 1288 112

Add to Cart

Mac Book Pro

price: \$ 9998 30

Add to Cart

Samsung TV 50

price: \$ 5000 240

Add to Cart

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ROYAL JORDANIAN UNIVERSITY

HomeProductsCustomers

