# COMPTE RENDU
# PROJET DIGITAL BANKING
# SPRING ANGULAR


PRÉSENTÉ PAR : BENNABBOU WIAM

ENCADRÉ PAR: MR MOHAMED YOUSSFI



ECOLE MAROCAINE DES SCIENCES DE L'INGENIEUR
Membre de HONORIS UNITED UNIVERSITIES
EMSI

# PLAN:

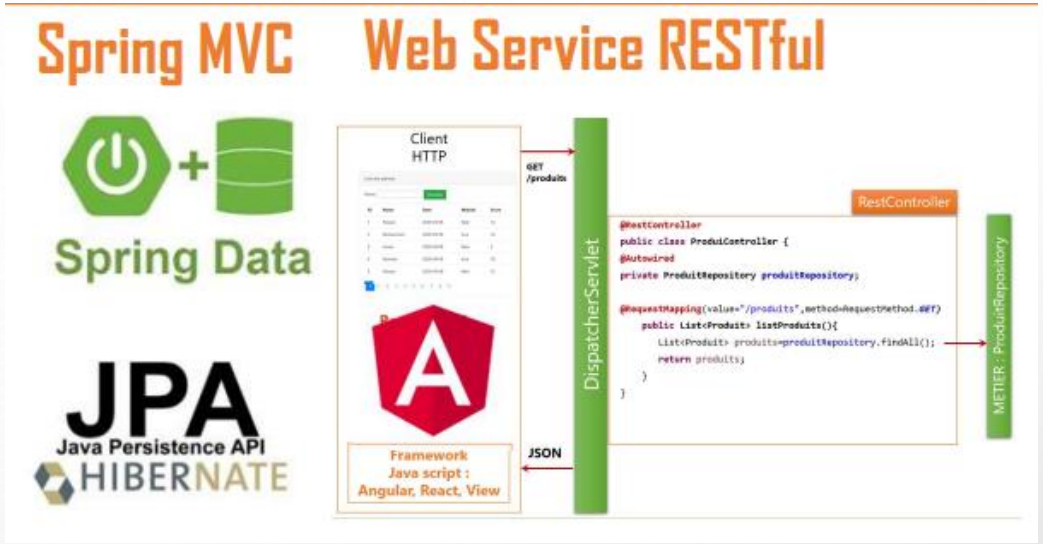
- INTRODUCTION
- ÉNONCÉ
- CONCEPTION
- CODE SOURCE
- TEST ET EXÉCUTION

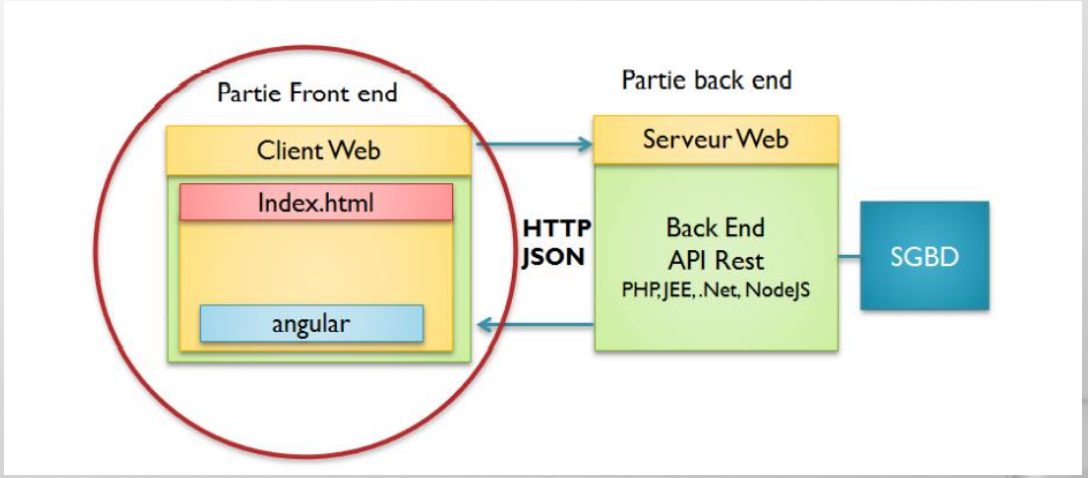
# INTRODUCTION :

## DÉVELOPPEMENT WEB FRONTEND

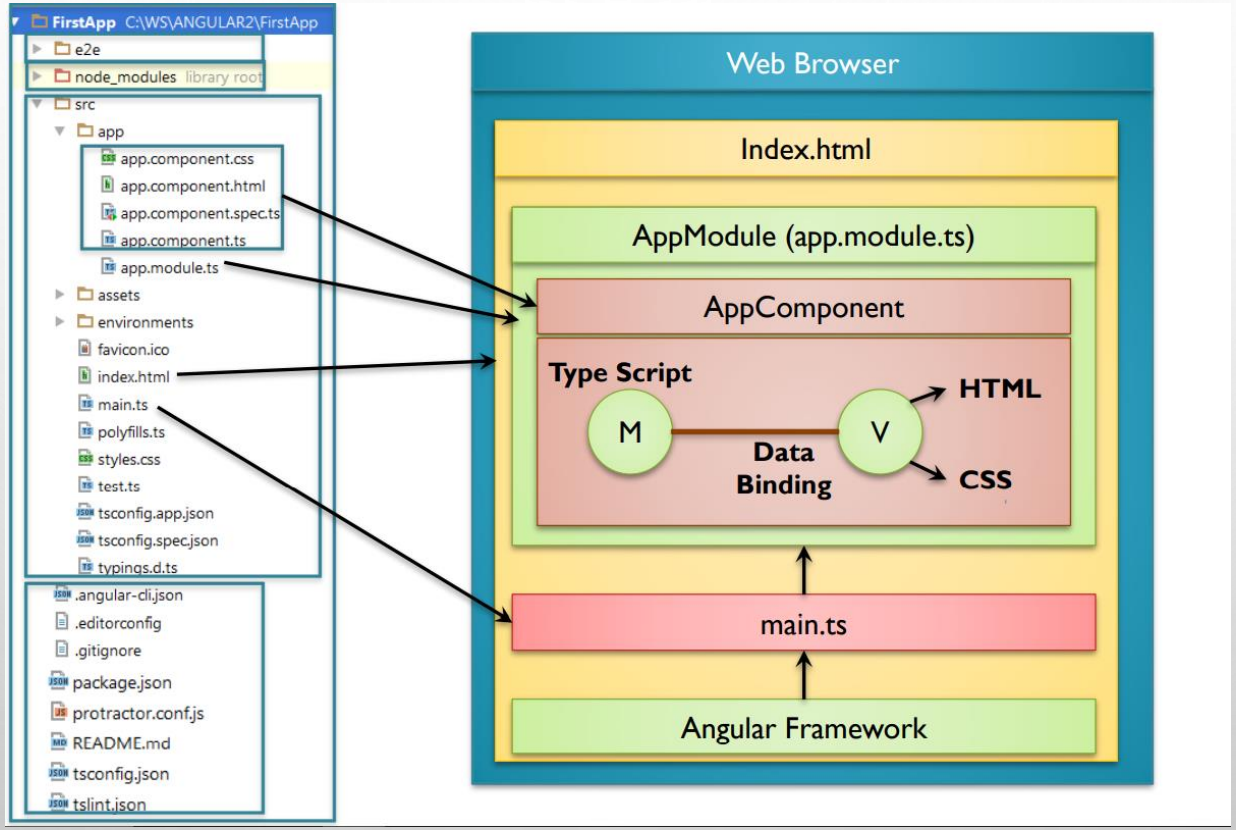
## FRAMEWORK ANGULAR

- ANGULAR PERMET DE CRÉER LA PARTIE FRONT END DES APPLICATIONS WEB DE TYPE SPA (SINGLE PAGE APPLICATION RÉACTIVE).
- UNE SPA EST UNE APPLICATION QUI CONTIENT UNE SEULE PAGE HTML (INDEX.HTML) RÉCUPÉRÉE DU SERVEUR.
- ANGULAR PERMET DE CRÉER LA PARTIE FRONT END DES APPLICATIONS WEB DE TYPE SPA (SINGLE PAGE APPLICATION).

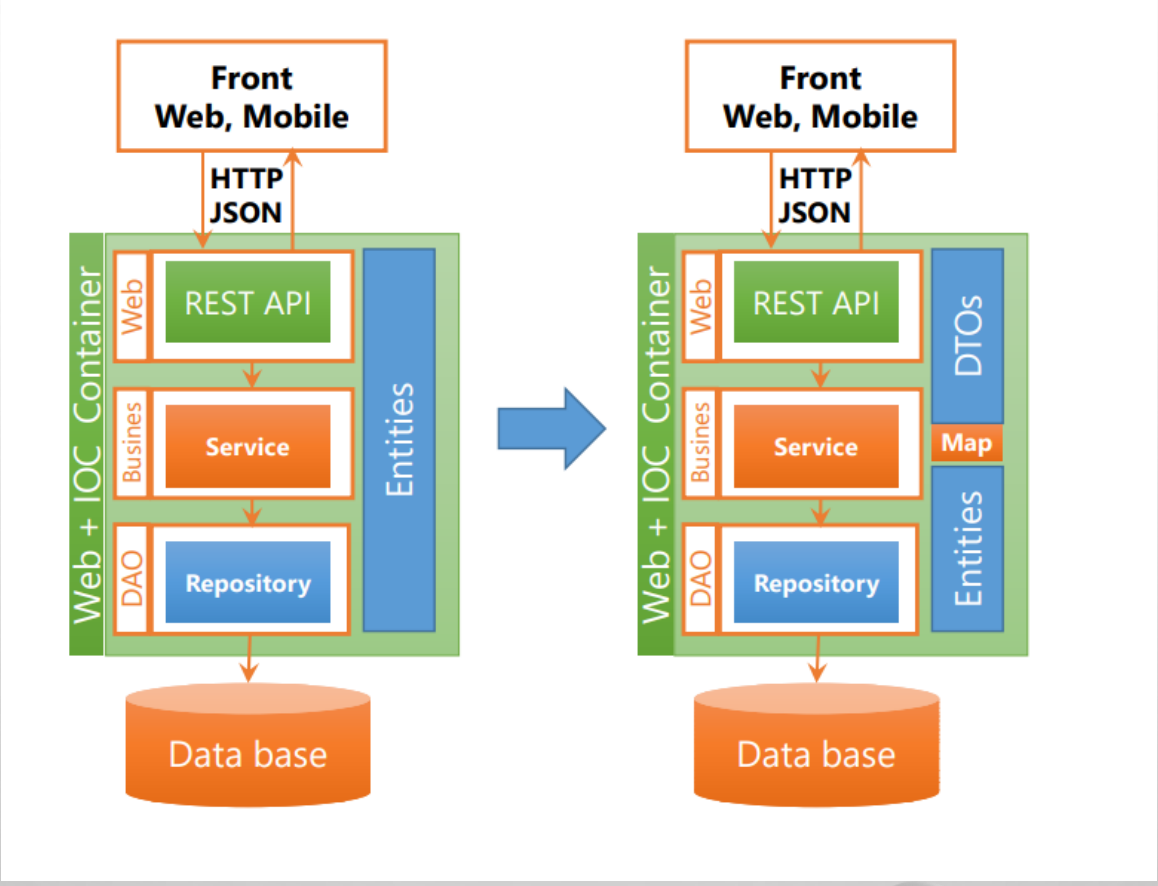


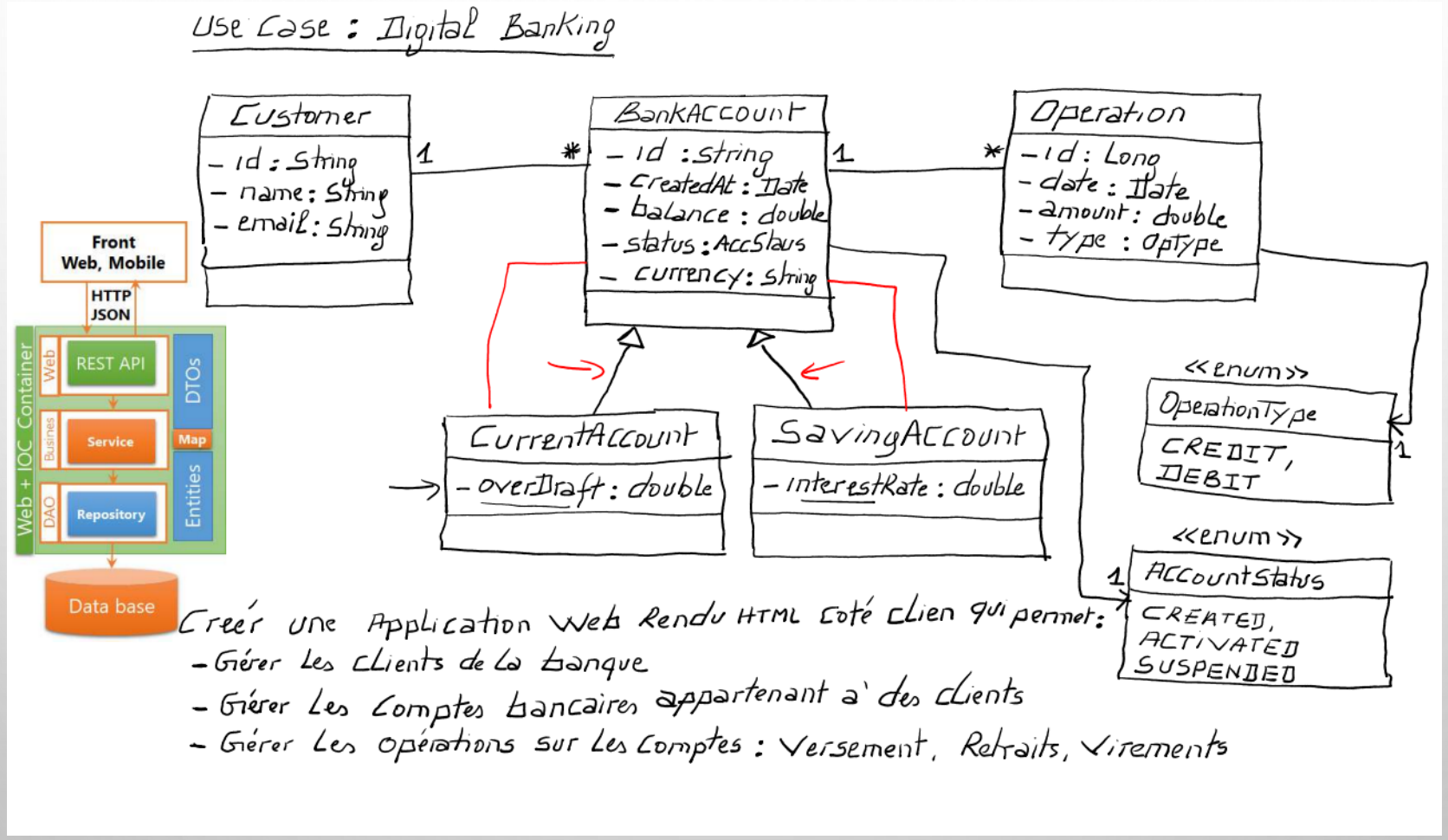
# STRUCTURE DU PROJET ANGULAR:



# DÉVELOPPEMENT BACKEND :



# ENONCÉ ET CONCEPTION :



# CODE SOURCE :

- LIEN GITHUB : LIEN 1 (BACKEND)

=> PROJECTS_JEE/EBANCKING-BACKEND AT MAIN · BENNABBOUWIAM/PROJECTS_JEE (GITHUB.COM)

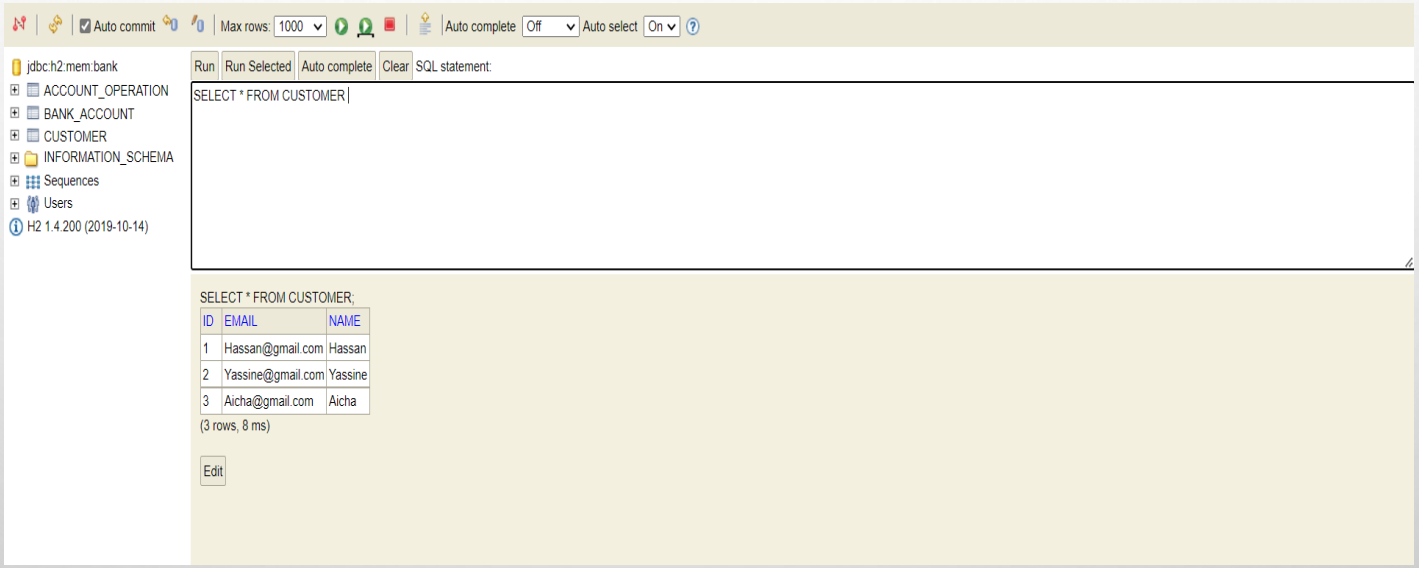
- LIEN GITHUB : LIEN 2 (FRONTEND)

=> BENNABBOUWIAM/PROJECTS_JEE AT MASTER (GITHUB.COM)

# EXÉCUTION:

## PARTIE BACKEND AVEC SPRING :

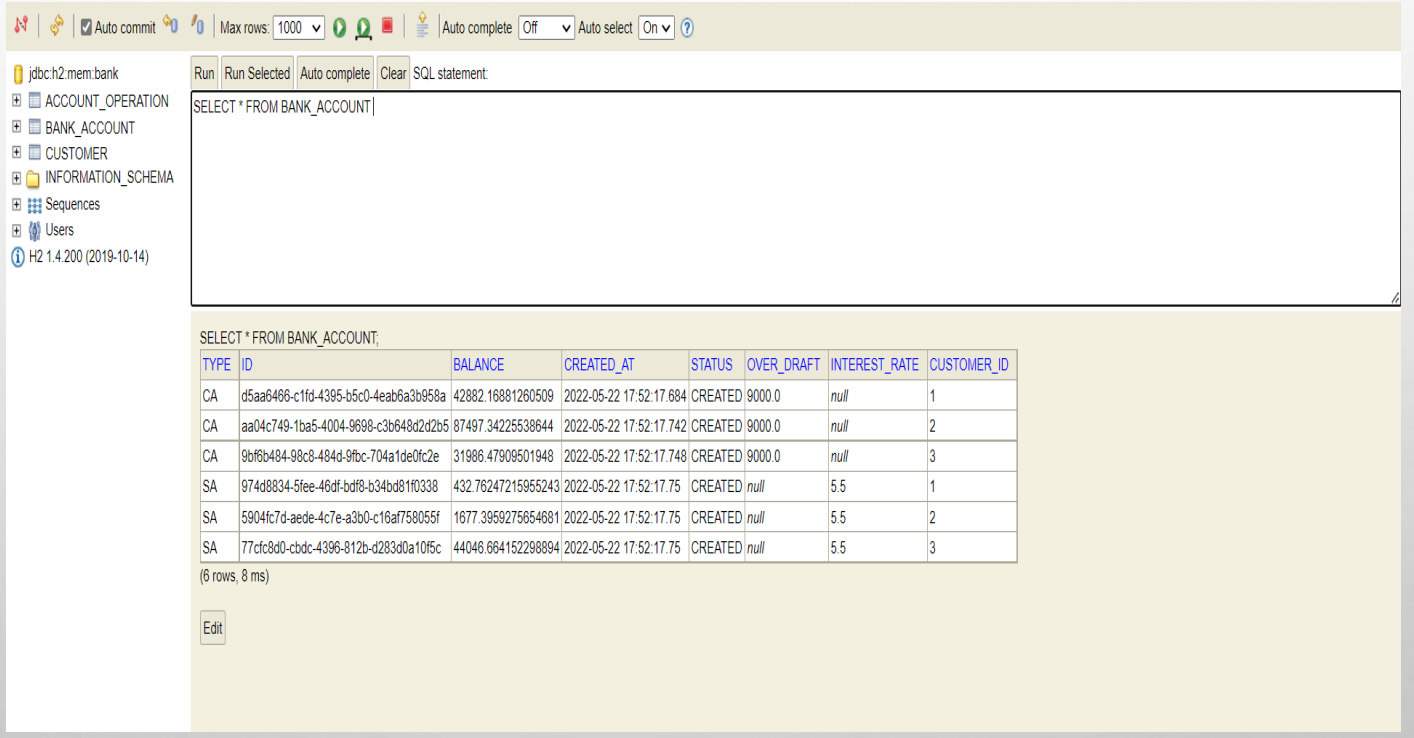
### SINGLE TABLE : LISTE DES CUSTOMERS



# EXÉCUTION:

## PARTIE BACKEND AVEC SPRING :

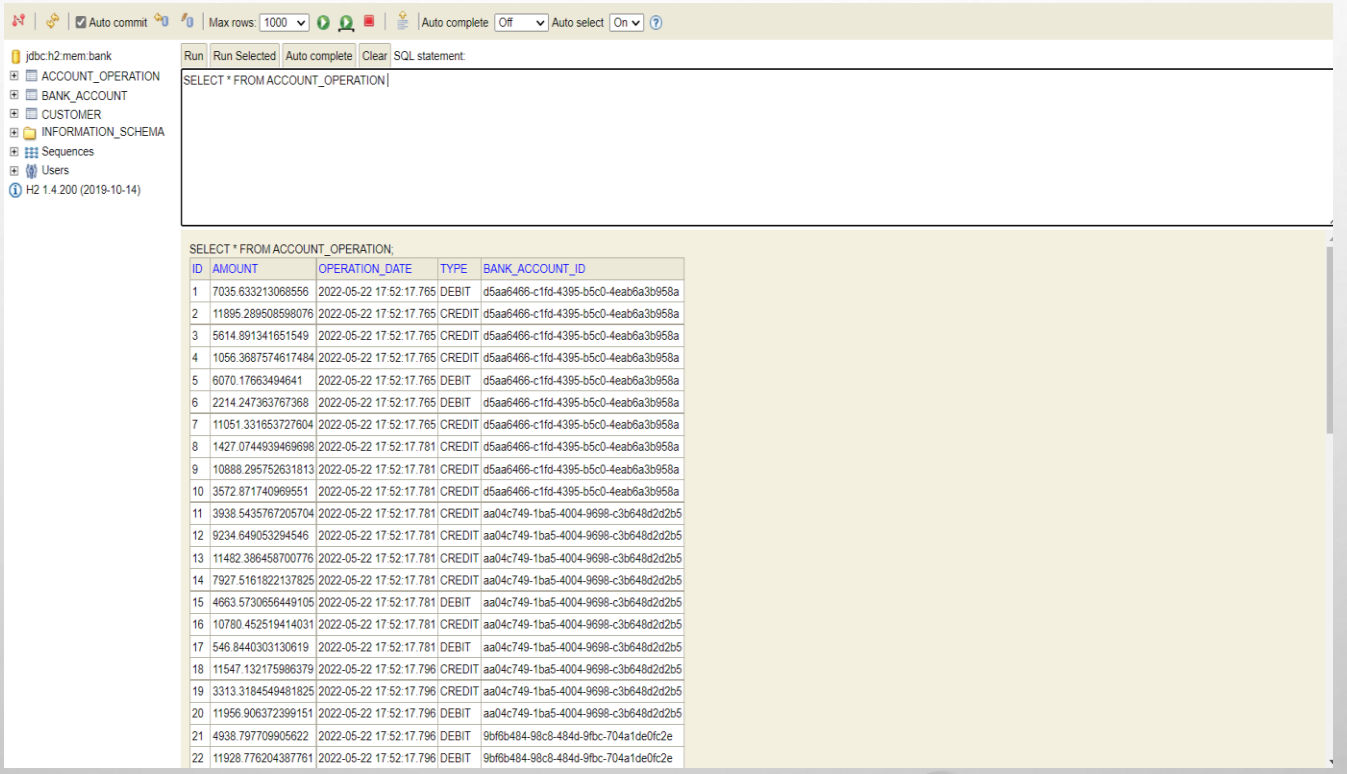
### SINGLE TABLE : LISTE DES BANKACCOUNTS



# EXÉCUTION:

## PARTIE BACKEND AVEC SPRING :

### SINGLE TABLE : LISTE DES ACCOUNT OPERATIONS



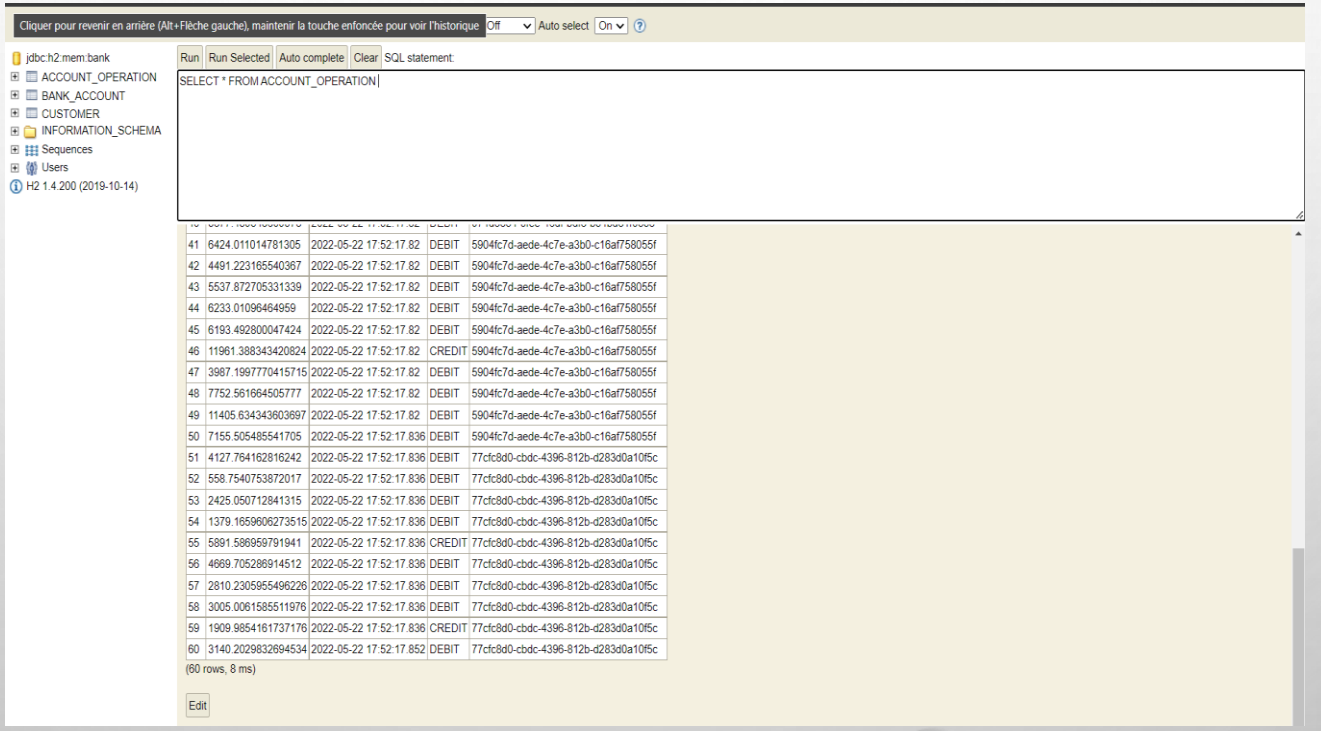

SELECT * FROM ACCOUNT_OPERATION;

| ID | AMOUNT | OPERATION_DATE | TYPE | BANK_ACCOUNT_ID |
|---|---|---|---|---|
| 1 | 7035.633213068556 | 2022-05-22 17:52:17.765 | DEBIT | d5aa6466-c1fd-4395-b5c0-4eab6a3b958a |
| 2 | 11895.289508598076 | 2022-05-22 17:52:17.765 | CREDIT | d5aa6466-c1fd-4395-b5c0-4eab6a3b958a |
| 3 | 5614.891341651549 | 2022-05-22 17:52:17.765 | CREDIT | d5aa6466-c1fd-4395-b5c0-4eab6a3b958a |
| 4 | 1056.3687574617484 | 2022-05-22 17:52:17.765 | CREDIT | d5aa6466-c1fd-4395-b5c0-4eab6a3b958a |
| 5 | 6070.17663494641 | 2022-05-22 17:52:17.765 | DEBIT | d5aa6466-c1fd-4395-b5c0-4eab6a3b958a |
| 6 | 2214.247363767368 | 2022-05-22 17:52:17.765 | DEBIT | d5aa6466-c1fd-4395-b5c0-4eab6a3b958a |
| 7 | 11051.331653727604 | 2022-05-22 17:52:17.765 | CREDIT | d5aa6466-c1fd-4395-b5c0-4eab6a3b958a |
| 8 | 1427.0744939469698 | 2022-05-22 17:52:17.781 | CREDIT | d5aa6466-c1fd-4395-b5c0-4eab6a3b958a |
| 9 | 10888.295752631813 | 2022-05-22 17:52:17.781 | CREDIT | d5aa6466-c1fd-4395-b5c0-4eab6a3b958a |
| 10 | 3572.871740969551 | 2022-05-22 17:52:17.781 | CREDIT | d5aa6466-c1fd-4395-b5c0-4eab6a3b958a |
| 11 | 3938.5435767205704 | 2022-05-22 17:52:17.781 | CREDIT | aa04c749-1ba5-4004-9698-c3b648d2d2b5 |
| 12 | 9234.649053294546 | 2022-05-22 17:52:17.781 | CREDIT | aa04c749-1ba5-4004-9698-c3b648d2d2b5 |
| 13 | 11482.386458700776 | 2022-05-22 17:52:17.781 | CREDIT | aa04c749-1ba5-4004-9698-c3b648d2d2b5 |
| 14 | 7927.5161822137825 | 2022-05-22 17:52:17.781 | CREDIT | aa04c749-1ba5-4004-9698-c3b648d2d2b5 |
| 15 | 4663.5730656449105 | 2022-05-22 17:52:17.781 | DEBIT | aa04c749-1ba5-4004-9698-c3b648d2d2b5 |
| 16 | 10780.452519414031 | 2022-05-22 17:52:17.781 | CREDIT | aa04c749-1ba5-4004-9698-c3b648d2d2b5 |
| 17 | 546.8440303130619 | 2022-05-22 17:52:17.781 | DEBIT | aa04c749-1ba5-4004-9698-c3b648d2d2b5 |
| 18 | 11547.132175986379 | 2022-05-22 17:52:17.796 | CREDIT | aa04c749-1ba5-4004-9698-c3b648d2d2b5 |
| 19 | 3313.3184549481825 | 2022-05-22 17:52:17.796 | CREDIT | aa04c749-1ba5-4004-9698-c3b648d2d2b5 |
| 20 | 11956.906372399151 | 2022-05-22 17:52:17.796 | DEBIT | aa04c749-1ba5-4004-9698-c3b648d2d2b5 |
| 21 | 4938.797709905622 | 2022-05-22 17:52:17.796 | DEBIT | 9bf6b484-98c8-484d-9fbc-704a1de0fc2e |
| 22 | 11928.776204387761 | 2022-05-22 17:52:17.796 | DEBIT | 9bf6b484-98c8-484d-9fbc-704a1de0fc2e |

# EXÉCUTION:

## PARTIE BACKEND AVEC SPRING :

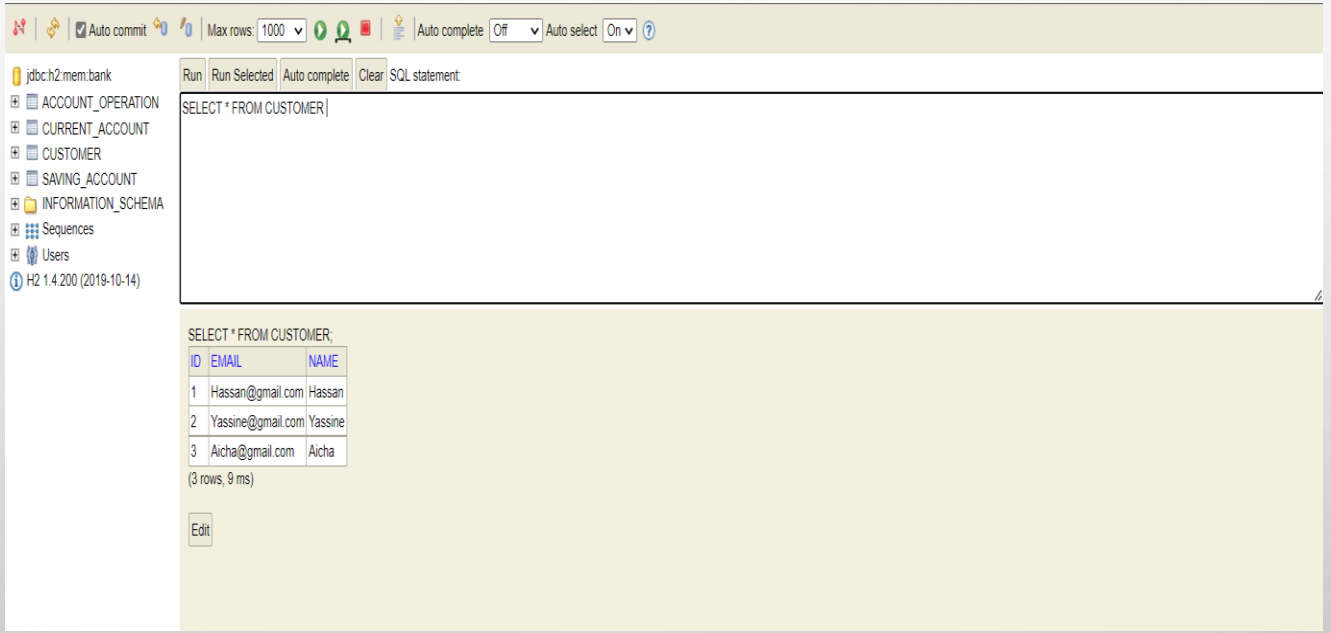
### SINGLE TABLE : LISTE DES ACCOUNT OPERATIONS



# EXÉCUTION:

## PARTIE BACKEND AVEC SPRING :

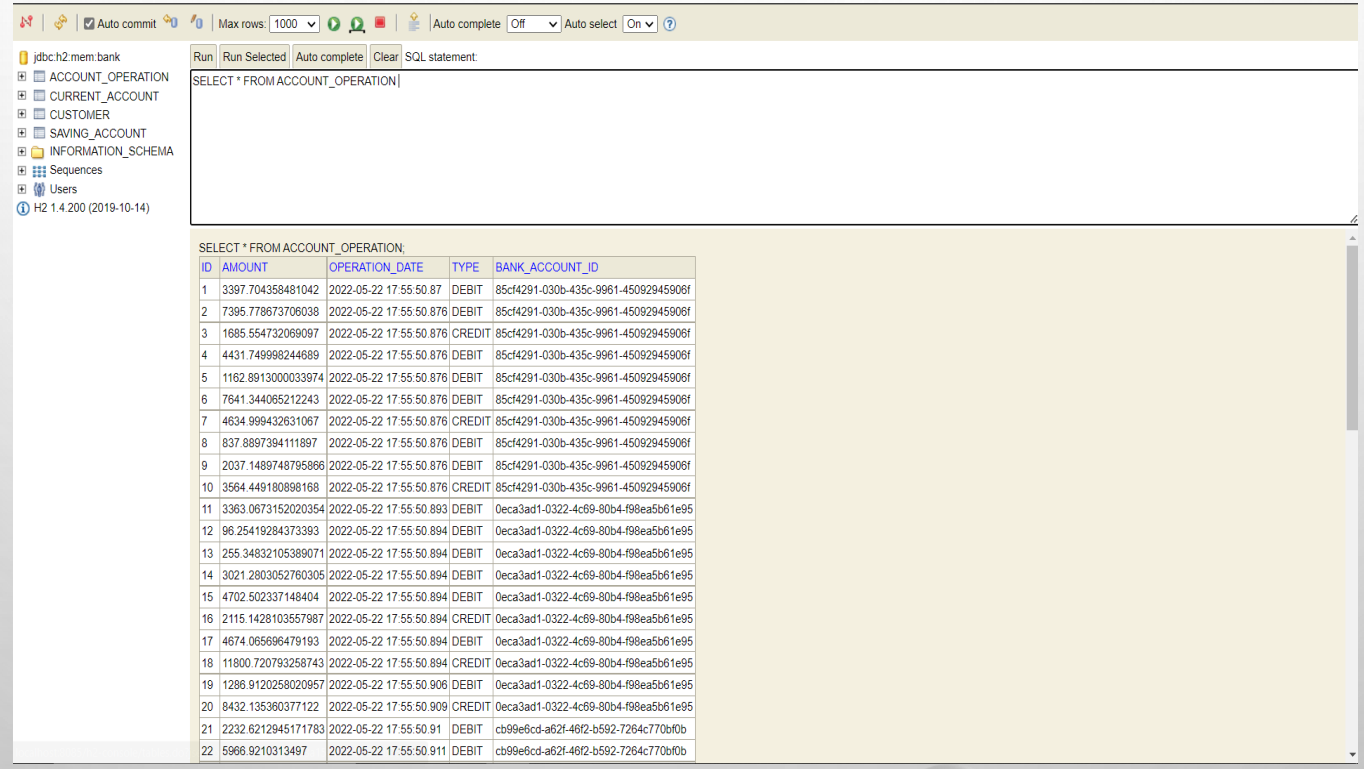
### PER CLASS : LISTE DES CUSTOMERS



# EXÉCUTION:

## PARTIE BACKEND AVEC SPRING :

### PER CLASS : LISTE DES ACCOUNT OPERATIONS

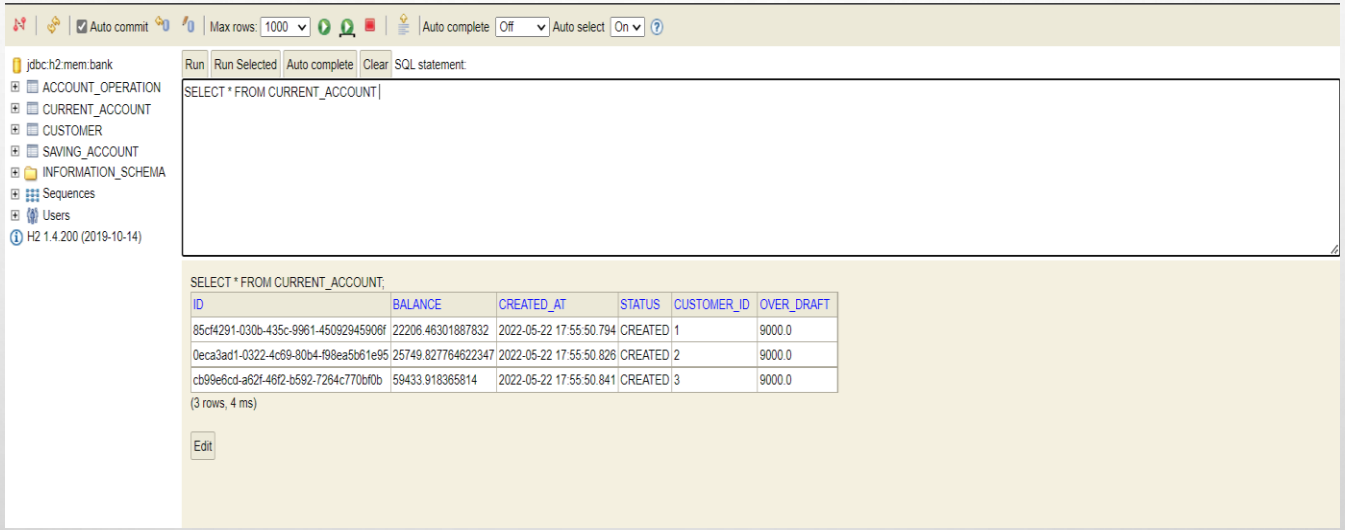



| ID | AMOUNT | OPERATION_DATE | TYPE | BANK_ACCOUNT_ID |
|---|---|---|---|---|
| 1 | 3397.704358481042 | 2022-05-22 17:55:50.87 | DEBIT | 85cf4291-030b-435c-9961-45092945906f |
| 2 | 7395.778673706038 | 2022-05-22 17:55:50.876 | DEBIT | 85cf4291-030b-435c-9961-45092945906f |
| 3 | 1685.554732069097 | 2022-05-22 17:55:50.876 | CREDIT | 85cf4291-030b-435c-9961-45092945906f |
| 4 | 4431.749998244689 | 2022-05-22 17:55:50.876 | DEBIT | 85cf4291-030b-435c-9961-45092945906f |
| 5 | 1162.8913000033974 | 2022-05-22 17:55:50.876 | DEBIT | 85cf4291-030b-435c-9961-45092945906f |
| 6 | 7641.344065212243 | 2022-05-22 17:55:50.876 | DEBIT | 85cf4291-030b-435c-9961-45092945906f |
| 7 | 4634.999432631067 | 2022-05-22 17:55:50.876 | CREDIT | 85cf4291-030b-435c-9961-45092945906f |
| 8 | 837.8897394111897 | 2022-05-22 17:55:50.876 | DEBIT | 85cf4291-030b-435c-9961-45092945906f |
| 9 | 2037.1489748795866 | 2022-05-22 17:55:50.876 | DEBIT | 85cf4291-030b-435c-9961-45092945906f |
| 10 | 3564.449180898168 | 2022-05-22 17:55:50.876 | CREDIT | 85cf4291-030b-435c-9961-45092945906f |
| 11 | 3363.0673152020354 | 2022-05-22 17:55:50.893 | DEBIT | 0eca3ad1-0322-4c69-80b4-f98ea5b61e95 |
| 12 | 96.25419284373393 | 2022-05-22 17:55:50.894 | DEBIT | 0eca3ad1-0322-4c69-80b4-f98ea5b61e95 |
| 13 | 255.34832105389071 | 2022-05-22 17:55:50.894 | DEBIT | 0eca3ad1-0322-4c69-80b4-f98ea5b61e95 |
| 14 | 3021.2803052760305 | 2022-05-22 17:55:50.894 | DEBIT | 0eca3ad1-0322-4c69-80b4-f98ea5b61e95 |
| 15 | 4702.502337148404 | 2022-05-22 17:55:50.894 | DEBIT | 0eca3ad1-0322-4c69-80b4-f98ea5b61e95 |
| 16 | 2115.1428103557987 | 2022-05-22 17:55:50.894 | CREDIT | 0eca3ad1-0322-4c69-80b4-f98ea5b61e95 |
| 17 | 4674.065696479193 | 2022-05-22 17:55:50.894 | DEBIT | 0eca3ad1-0322-4c69-80b4-f98ea5b61e95 |
| 18 | 11800.720793258743 | 2022-05-22 17:55:50.894 | CREDIT | 0eca3ad1-0322-4c69-80b4-f98ea5b61e95 |
| 19 | 1286.9120258020957 | 2022-05-22 17:55:50.906 | DEBIT | 0eca3ad1-0322-4c69-80b4-f98ea5b61e95 |
| 20 | 8432.135360377122 | 2022-05-22 17:55:50.909 | CREDIT | 0eca3ad1-0322-4c69-80b4-f98ea5b61e95 |
| 21 | 2232.6212945171783 | 2022-05-22 17:55:50.91 | DEBIT | cb99e6cd-a62f-46f2-b592-7264c770bf0b |
| 22 | 5966.9210313497 | 2022-05-22 17:55:50.911 | DEBIT | cb99e6cd-a62f-46f2-b592-7264c770bf0b |

# EXÉCUTION:

## PARTIE BACKEND AVEC SPRING :

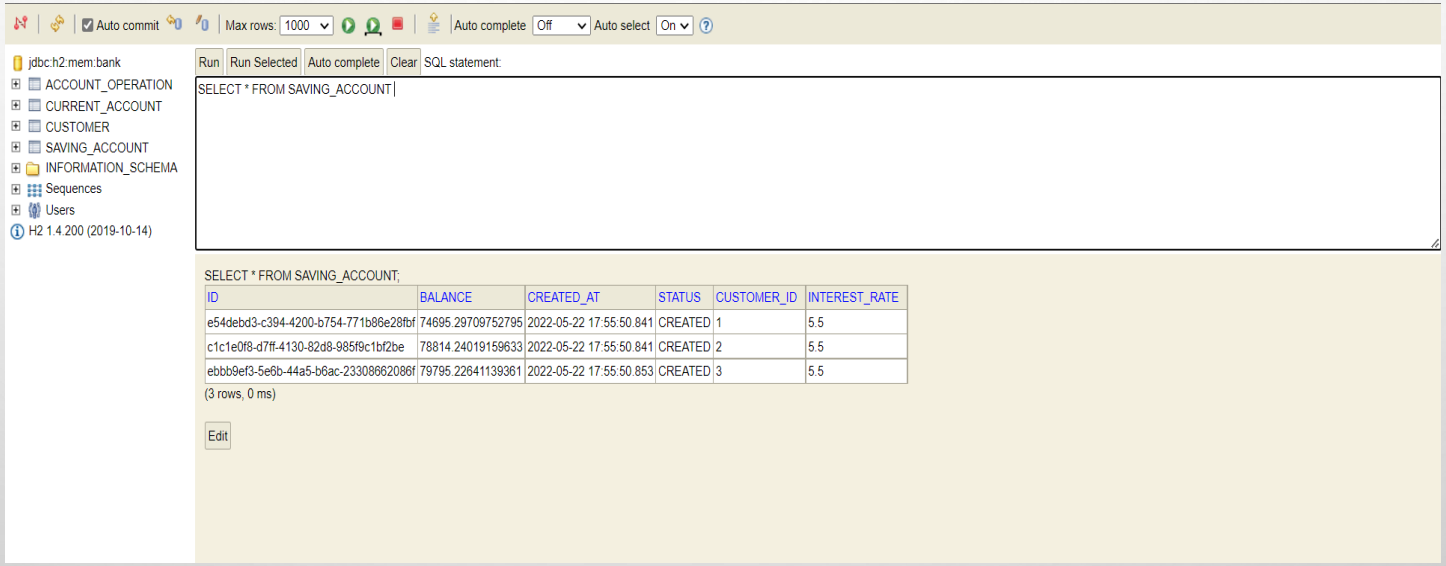
### PER CLASS : LISTE DES CURRENT ACCOUNTS



# EXÉCUTION:

## PARTIE BACKEND AVEC SPRING :

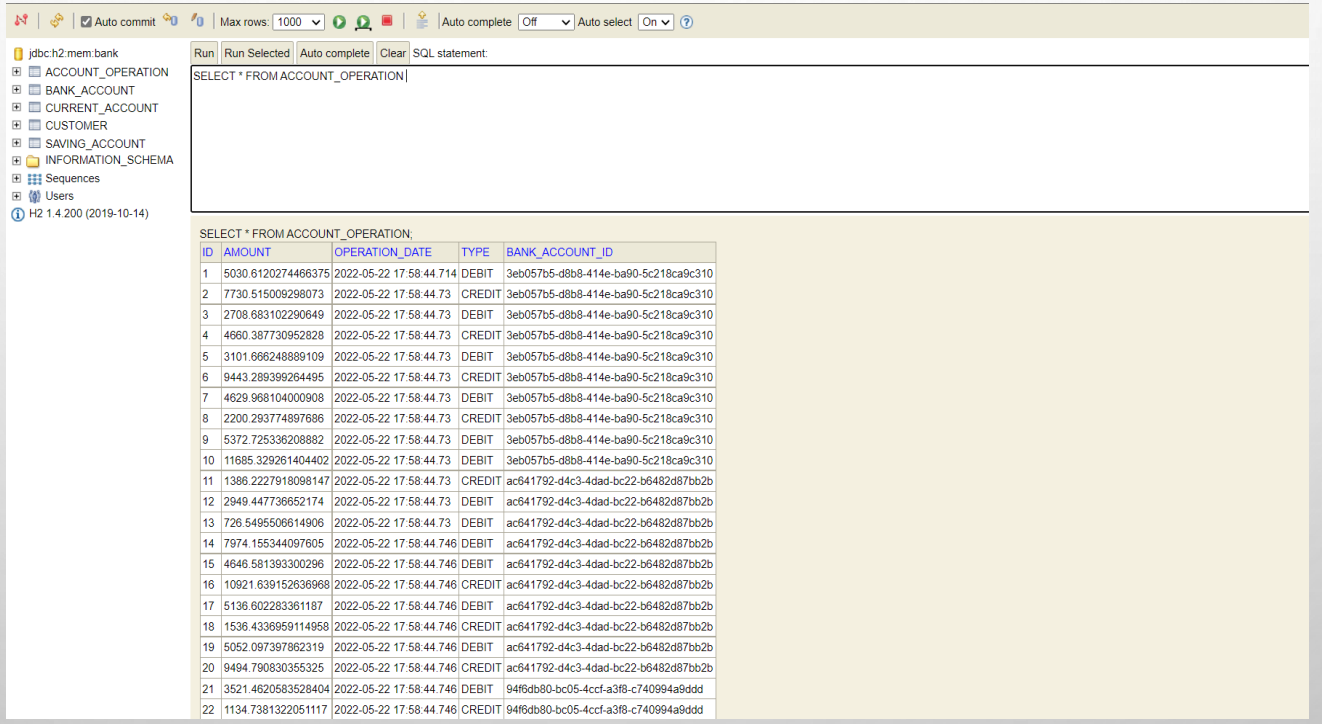
### PER CLASS : LISTE DES SAVING ACCOUNTS



# EXÉCUTION:

## PARTIE BACKEND AVEC SPRING :

### JOINED TABLE : LISTE DES ACCOUNT OPERATIONS



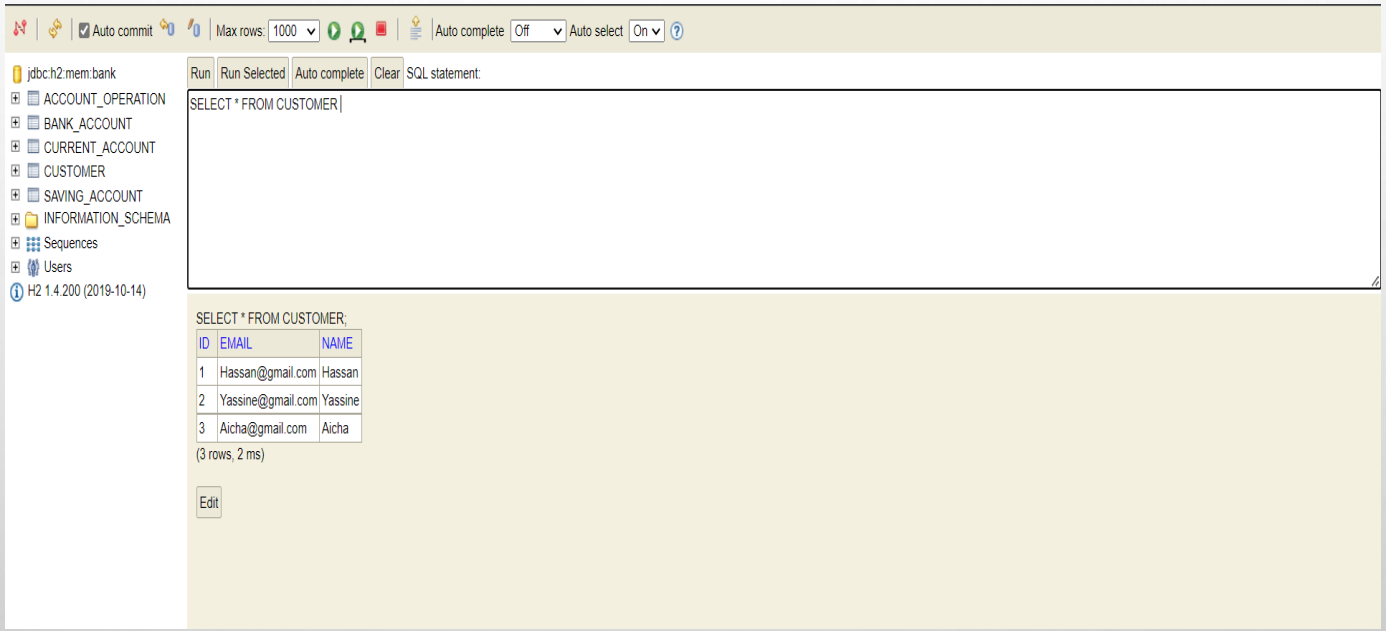

SELECT * FROM ACCOUNT_OPERATION;

| ID | AMOUNT | OPERATION_DATE | TYPE | BANK_ACCOUNT_ID |
|---|---|---|---|---|
| 1 | 5030.6120274466375 | 2022-05-22 17:58:44.714 | DEBIT | 3eb057b5-d8b8-414e-ba90-5c218ca9c310 |
| 2 | 7730.515009298073 | 2022-05-22 17:58:44.73 | CREDIT | 3eb057b5-d8b8-414e-ba90-5c218ca9c310 |
| 3 | 2708.683102290649 | 2022-05-22 17:58:44.73 | DEBIT | 3eb057b5-d8b8-414e-ba90-5c218ca9c310 |
| 4 | 4660.387730952828 | 2022-05-22 17:58:44.73 | CREDIT | 3eb057b5-d8b8-414e-ba90-5c218ca9c310 |
| 5 | 3101.666248889109 | 2022-05-22 17:58:44.73 | DEBIT | 3eb057b5-d8b8-414e-ba90-5c218ca9c310 |
| 6 | 9443.289399264495 | 2022-05-22 17:58:44.73 | CREDIT | 3eb057b5-d8b8-414e-ba90-5c218ca9c310 |
| 7 | 4629.968104000908 | 2022-05-22 17:58:44.73 | DEBIT | 3eb057b5-d8b8-414e-ba90-5c218ca9c310 |
| 8 | 2200.293774897686 | 2022-05-22 17:58:44.73 | CREDIT | 3eb057b5-d8b8-414e-ba90-5c218ca9c310 |
| 9 | 5372.725336208882 | 2022-05-22 17:58:44.73 | DEBIT | 3eb057b5-d8b8-414e-ba90-5c218ca9c310 |
| 10 | 11685.329261404402 | 2022-05-22 17:58:44.73 | DEBIT | 3eb057b5-d8b8-414e-ba90-5c218ca9c310 |
| 11 | 1386.2227918098147 | 2022-05-22 17:58:44.73 | CREDIT | ac641792-d4c3-4dad-bc22-b6482d87bb2b |
| 12 | 2949.447736652174 | 2022-05-22 17:58:44.73 | DEBIT | ac641792-d4c3-4dad-bc22-b6482d87bb2b |
| 13 | 726.5495506614906 | 2022-05-22 17:58:44.73 | DEBIT | ac641792-d4c3-4dad-bc22-b6482d87bb2b |
| 14 | 7974.155344097605 | 2022-05-22 17:58:44.746 | DEBIT | ac641792-d4c3-4dad-bc22-b6482d87bb2b |
| 15 | 4646.581393300296 | 2022-05-22 17:58:44.746 | DEBIT | ac641792-d4c3-4dad-bc22-b6482d87bb2b |
| 16 | 10921.639152636968 | 2022-05-22 17:58:44.746 | CREDIT | ac641792-d4c3-4dad-bc22-b6482d87bb2b |
| 17 | 5136.602283361187 | 2022-05-22 17:58:44.746 | DEBIT | ac641792-d4c3-4dad-bc22-b6482d87bb2b |
| 18 | 1536.4336959114958 | 2022-05-22 17:58:44.746 | CREDIT | ac641792-d4c3-4dad-bc22-b6482d87bb2b |
| 19 | 5052.097397862319 | 2022-05-22 17:58:44.746 | DEBIT | ac641792-d4c3-4dad-bc22-b6482d87bb2b |
| 20 | 9494.790830355325 | 2022-05-22 17:58:44.746 | CREDIT | ac641792-d4c3-4dad-bc22-b6482d87bb2b |
| 21 | 3521.4620583528404 | 2022-05-22 17:58:44.746 | DEBIT | 94f6db80-bc05-4ccf-a3f8-c740994a9ddd |
| 22 | 1134.7381322051117 | 2022-05-22 17:58:44.746 | CREDIT | 94f6db80-bc05-4ccf-a3f8-c740994a9ddd |

# EXÉCUTION:

## PARTIE BACKEND AVEC SPRING :

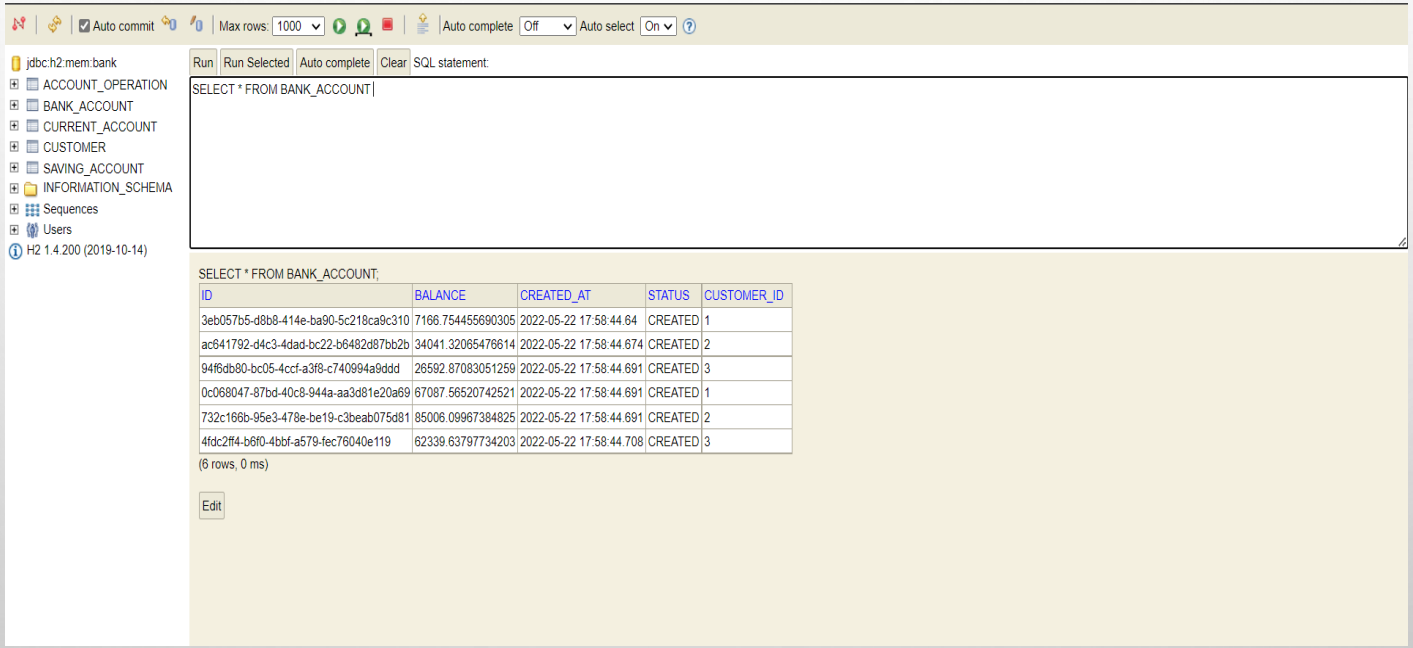
### JOINED TABLE : LISTE DES CUSTOMERS



# EXÉCUTION:

## PARTIE BACKEND AVEC SPRING :

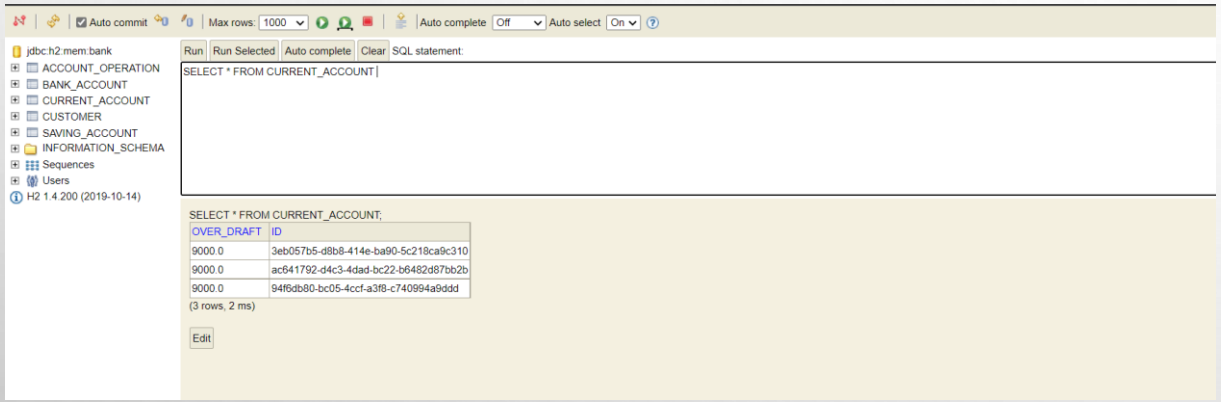
### JOINED TABLE : LISTE DES BANK ACCOUNTS

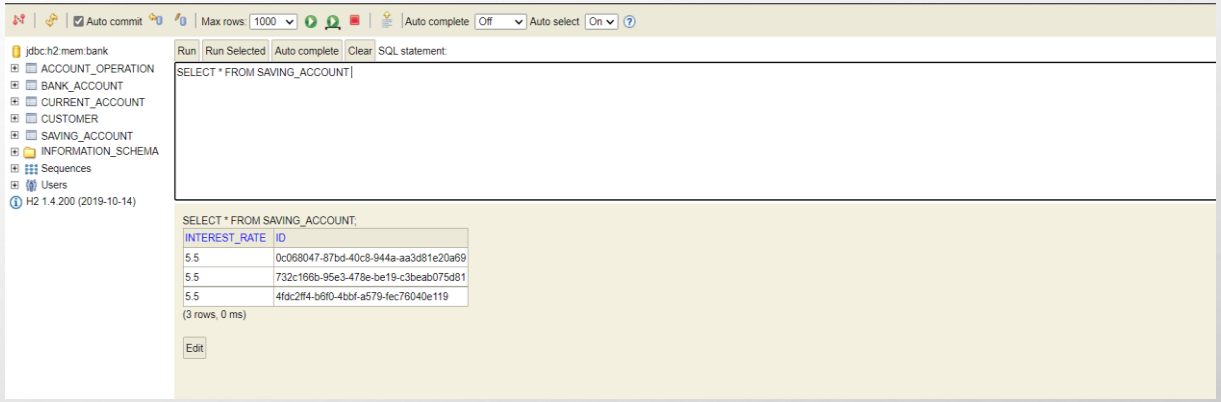


# EXÉCUTION:

## PARTIE BACKEND AVEC SPRING :

### JOINED TABLE : LISTE DES CURRENT & SAVING ACCOUNTS

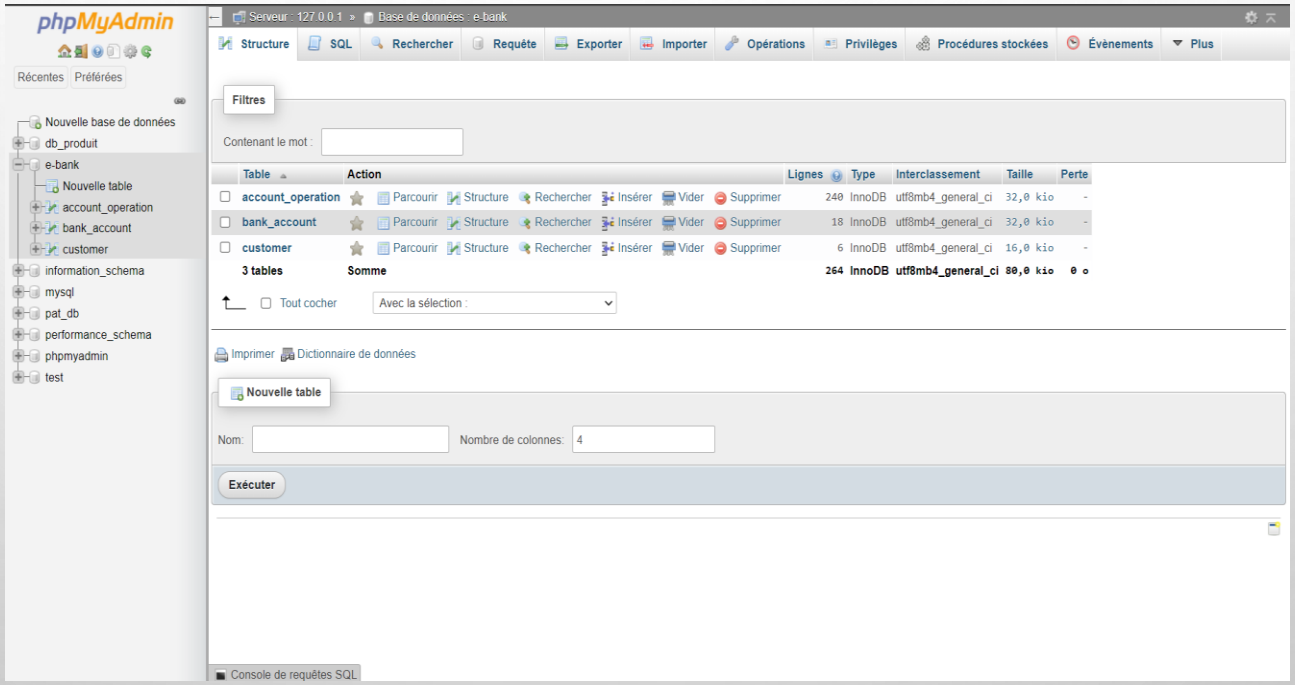


# EXÉCUTION:

## PARTIE BACKEND AVEC SPRING :

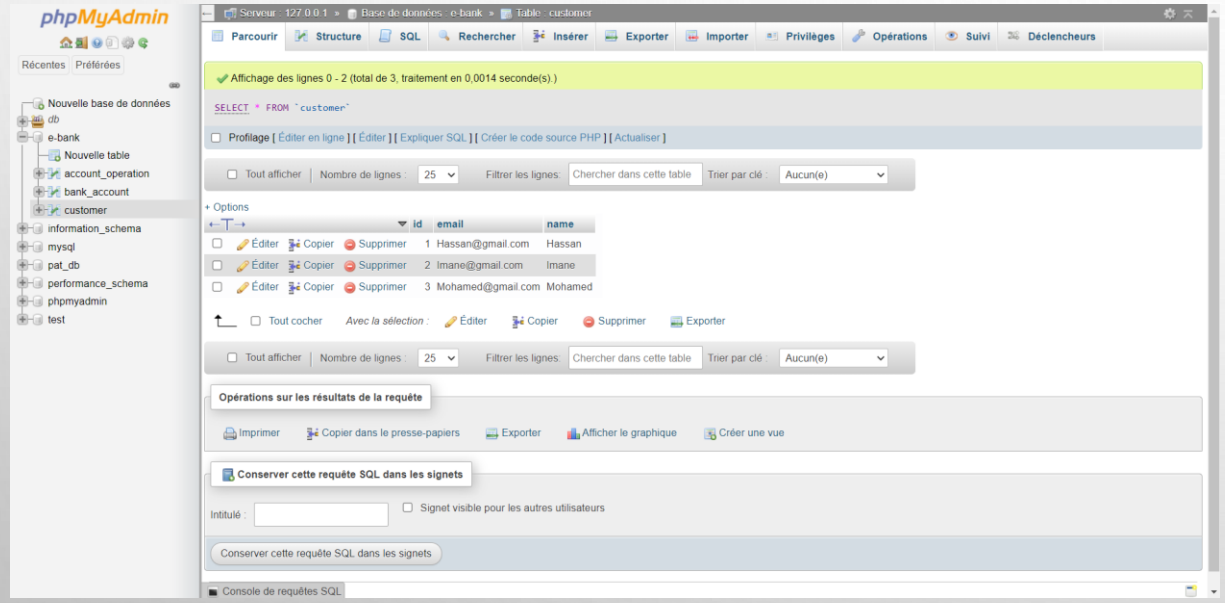
### MYSQL

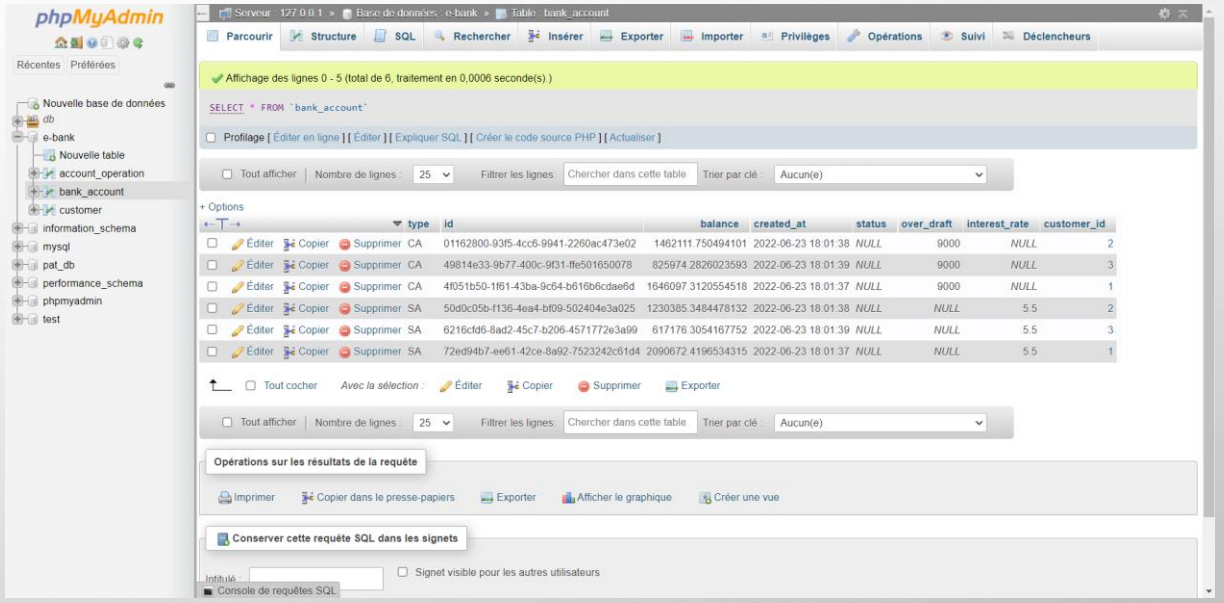


# EXÉCUTION:

## PARTIE BACKEND AVEC SPRING :

### MYSQL : CUSTOMER & BANK ACCOUNT



# EXÉCUTION:

## PARTIE BACKEND AVEC SPRING :

### COUCHE WEB CONTROLLER : LIST CUSTOMER

[{"id":1,"name":"Hassan","email":"Hassan@gmail.com"},{"id":2,"name":"Imane","email":"Imane@gmail.com"},{"id":3,"name":"Mohamed","email":"Mohamed@gmail.com"}]

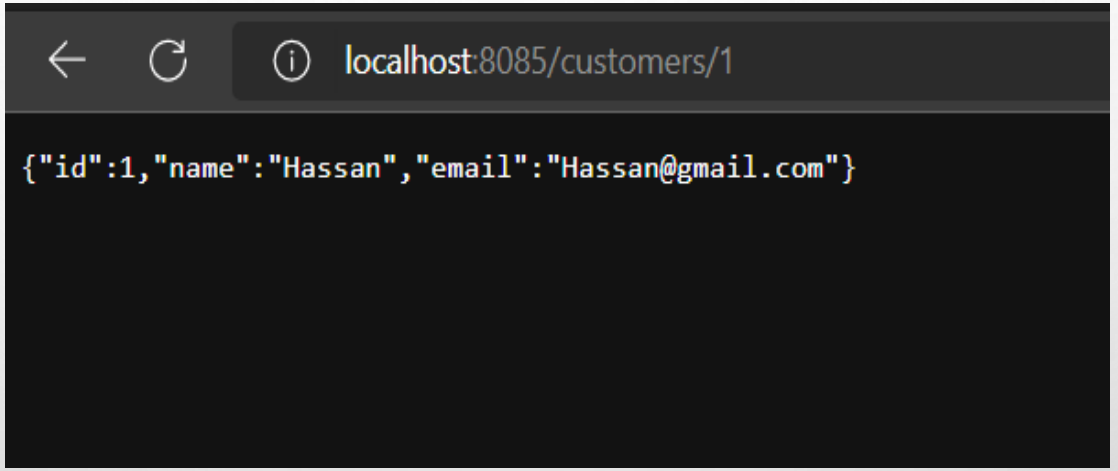
### LES DTOS

[{"id":1,"name":"Hassan","email":"Hassan@gmail.com"},{"id":2,"name":"Imane","email":"Imane@gmail.com"},{"id":3,"name":"Mohamed","email":"Mohamed@gmail.com"}]

# EXÉCUTION:

## PARTIE BACKEND AVEC SPRING :

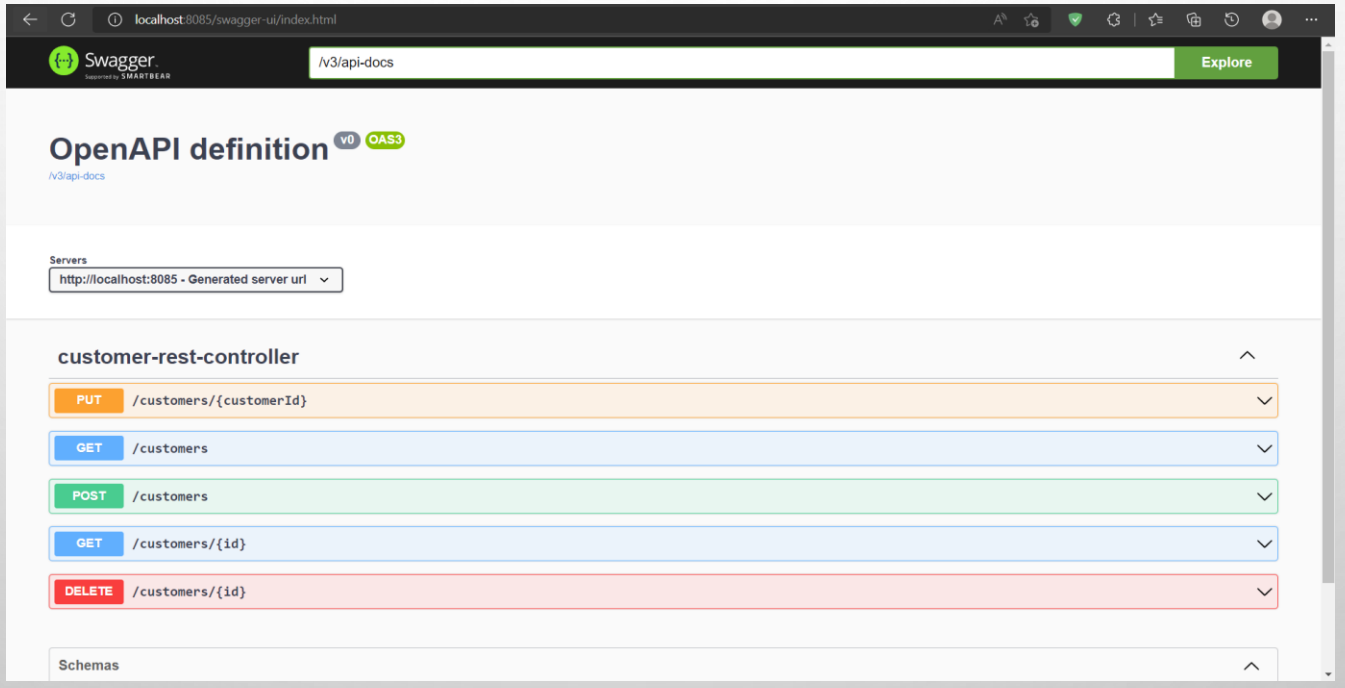
### LES DTOS : GET CUSTOMER ID



# EXÉCUTION:

## PARTIE BACKEND AVEC SPRING :

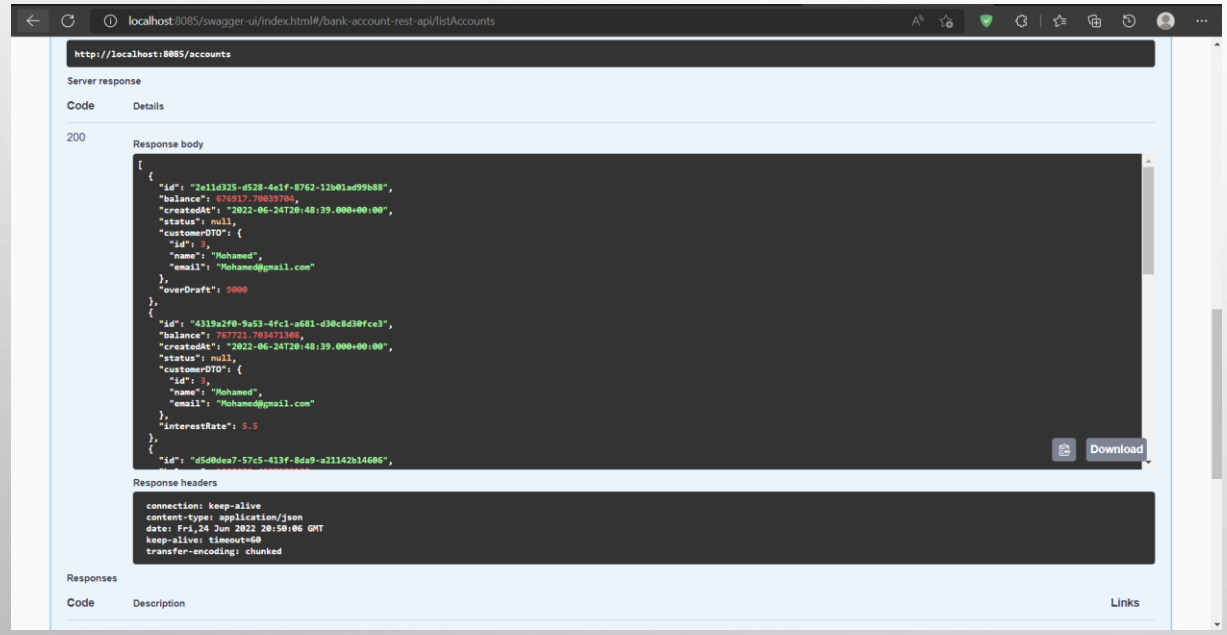
### TESTER LES MÉTHODES

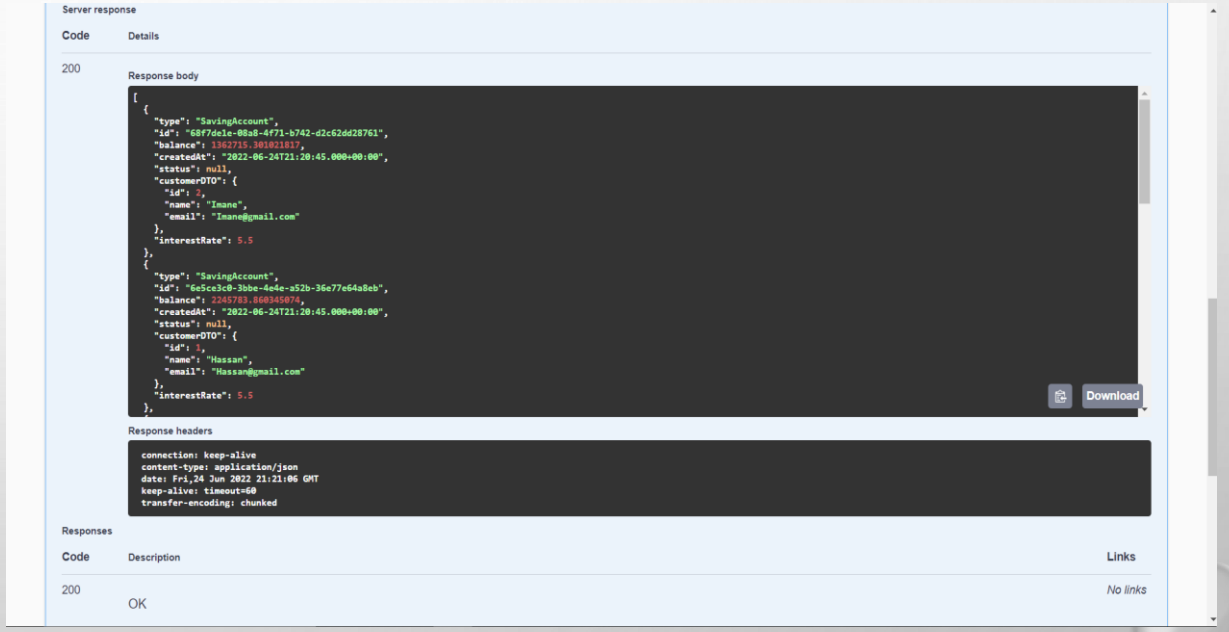


# EXÉCUTION:

## PARTIE BACKEND AVEC SPRING :

### TESTER LES MÉTHODES

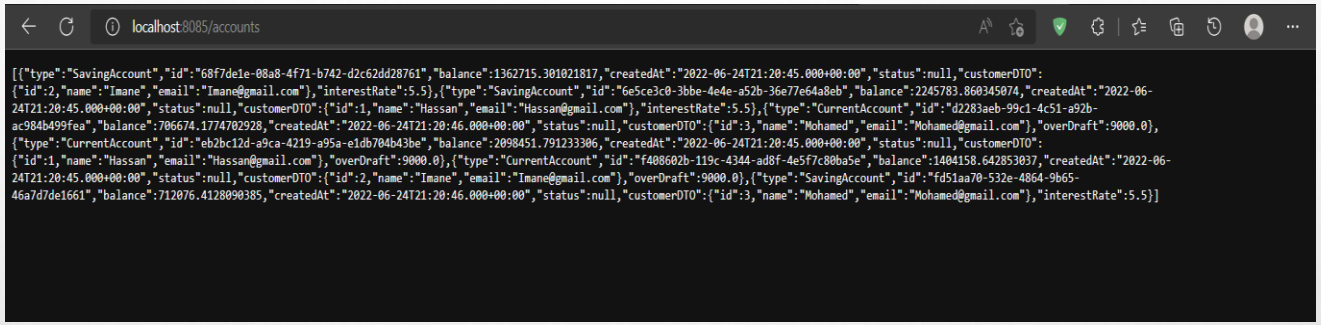


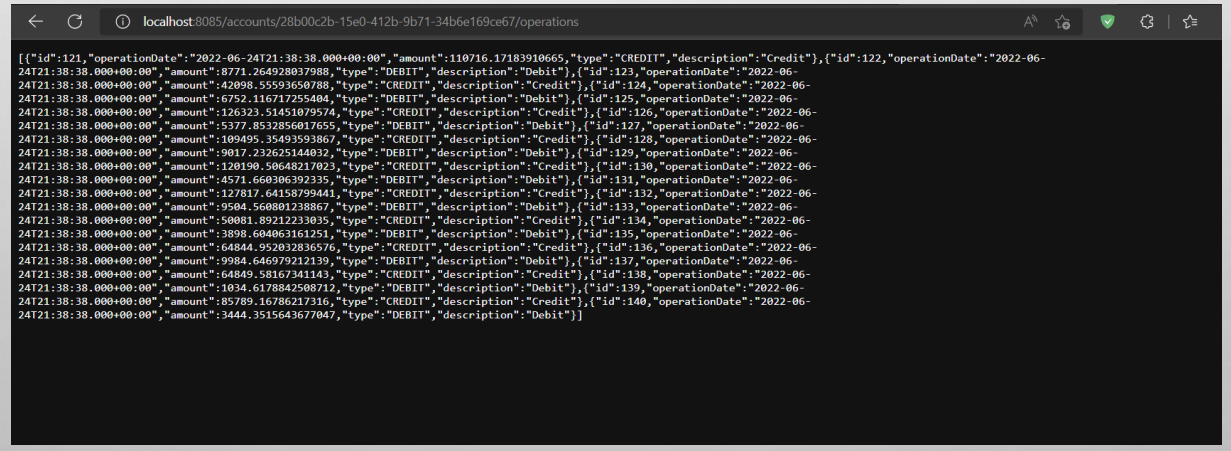
# EXÉCUTION:

## PARTIE BACKEND AVEC SPRING :

### JSON : LISTE DES ACCOUNTS



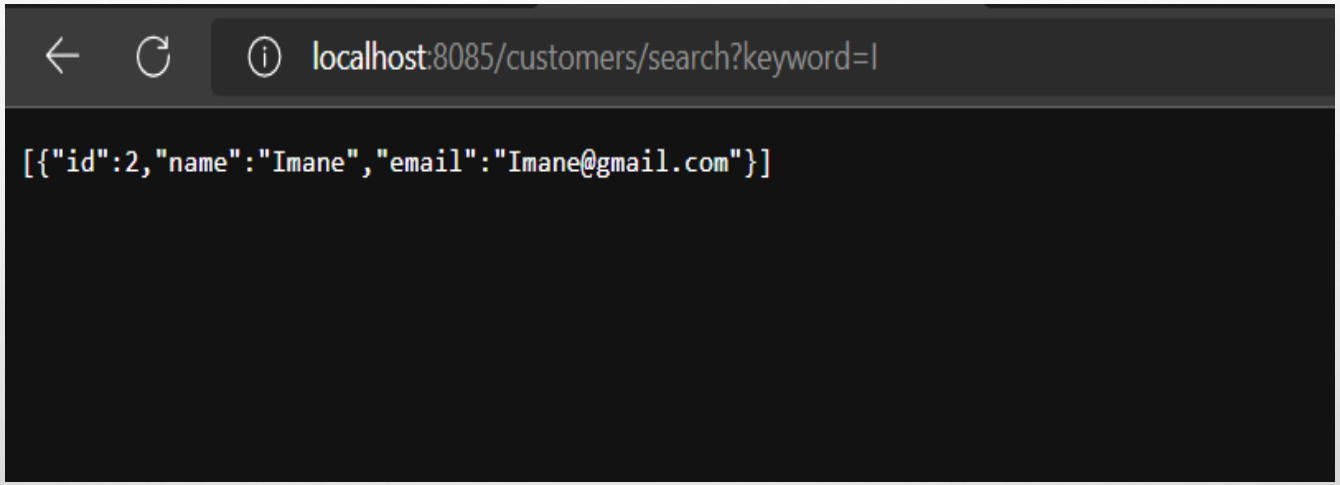

### JSON : LISTE DES ACCOUNTS OPERATIONS



# EXÉCUTION:

## PARTIE BACKEND AVEC SPRING :

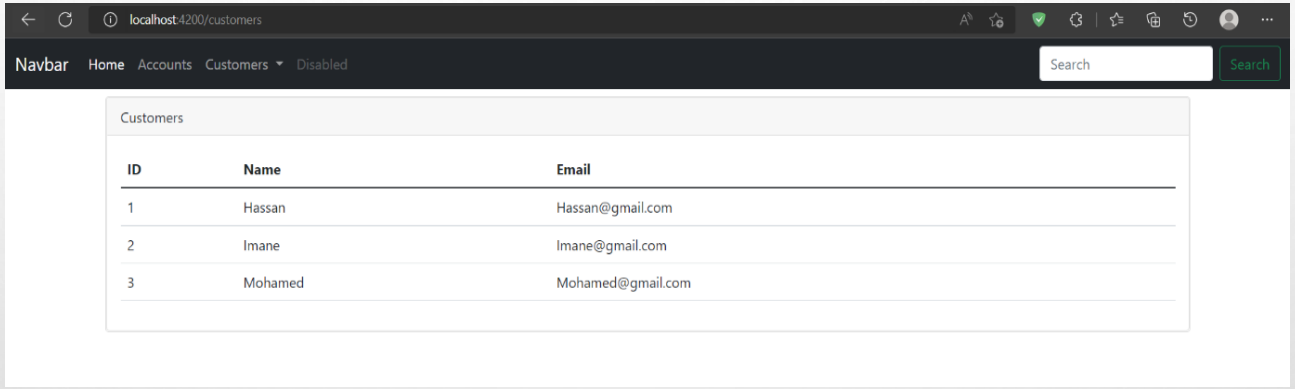
### JSON : RECHERCHER CUSTOMER



# EXÉCUTION:

## PARTIE FRONTEND AVEC ANGULAR :

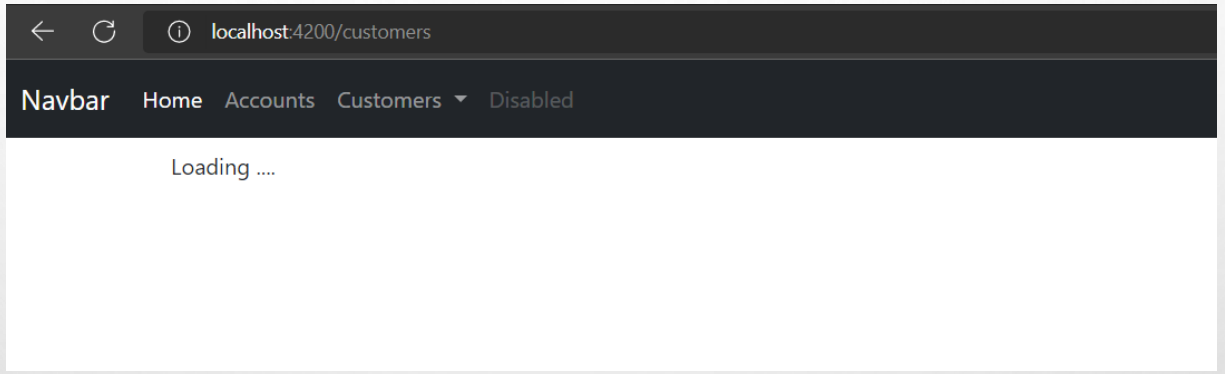
### LISTE DES CUSTOMERS

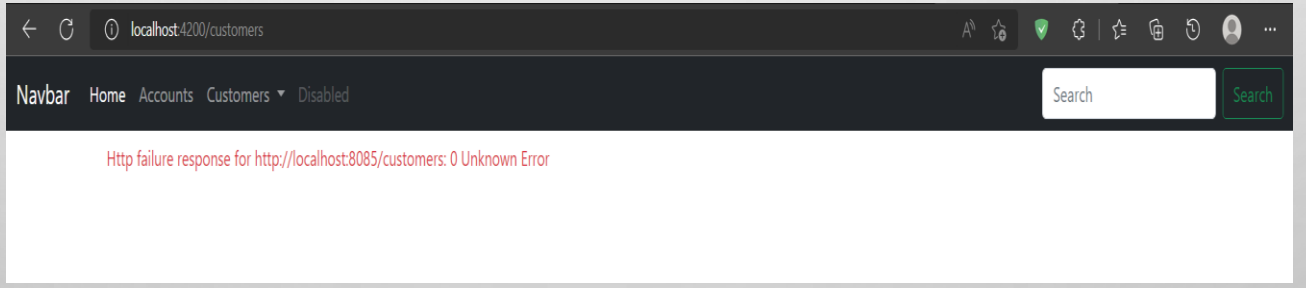


# EXÉCUTION:

## PARTIE FRONTEND AVEC ANGULAR :

### GESTION DES ERREURS

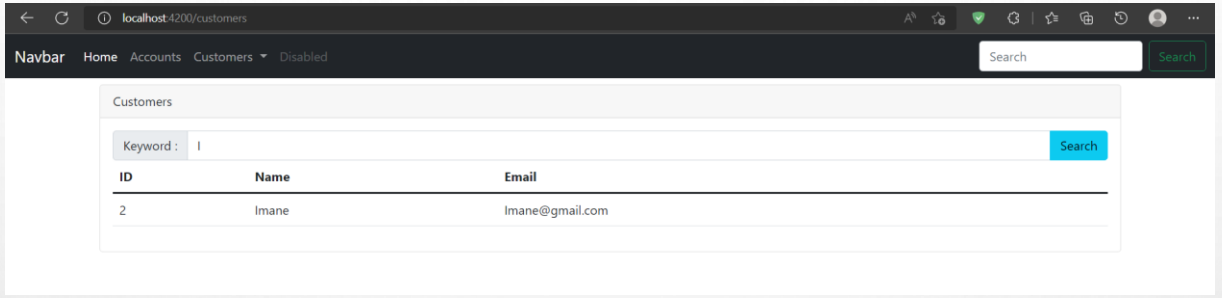


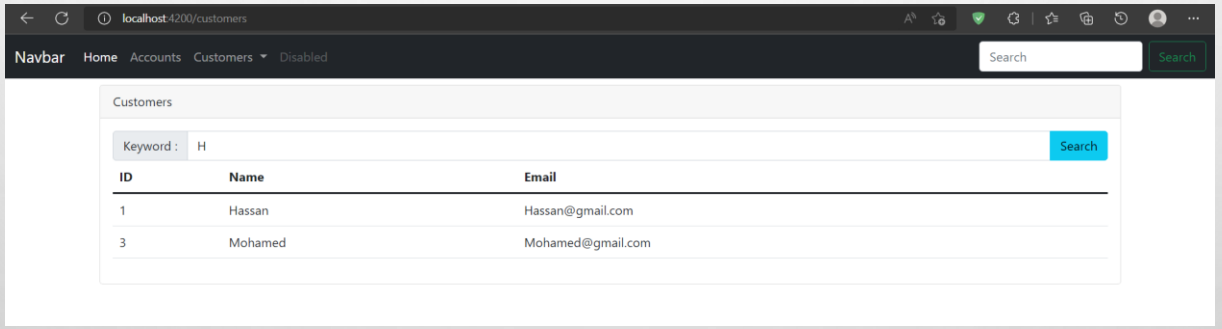



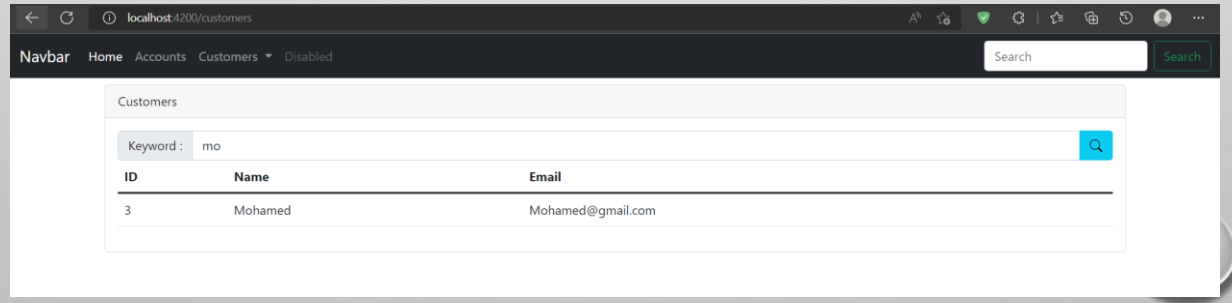
# EXÉCUTION:

## PARTIE FRONTEND AVEC ANGULAR :

### RECHERCHE CUSTOMER



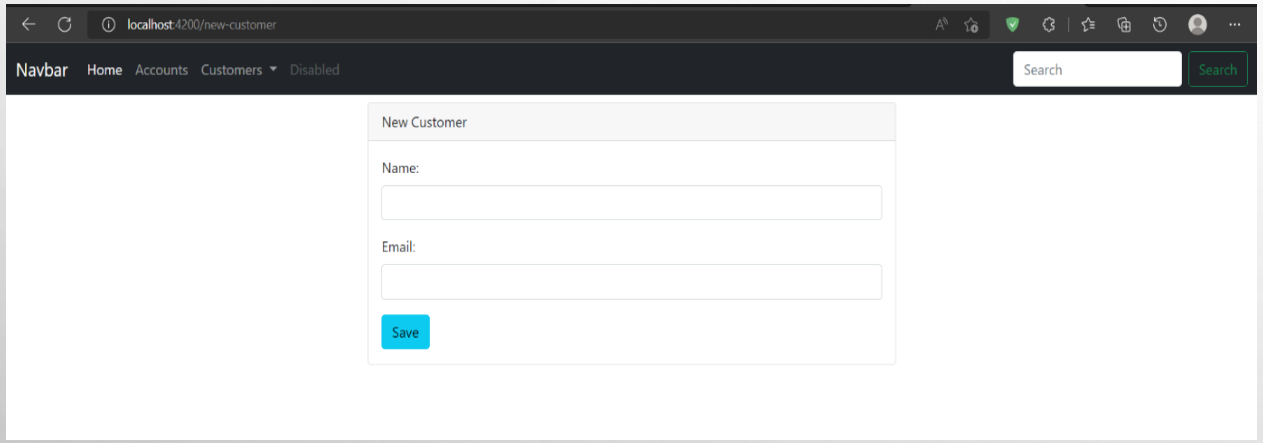



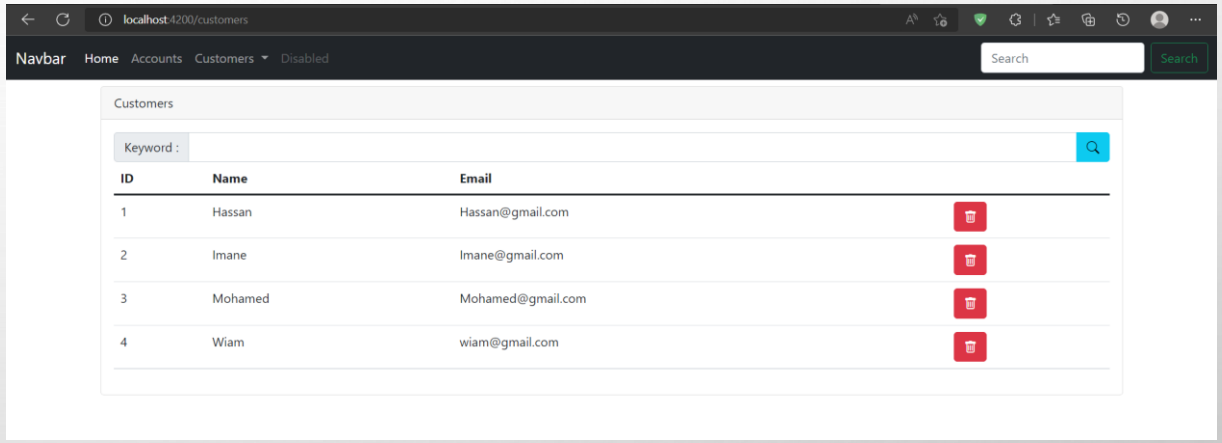



# EXÉCUTION:

## PARTIE FRONTEND AVEC ANGULAR :

### CRÉER CUSTOMER

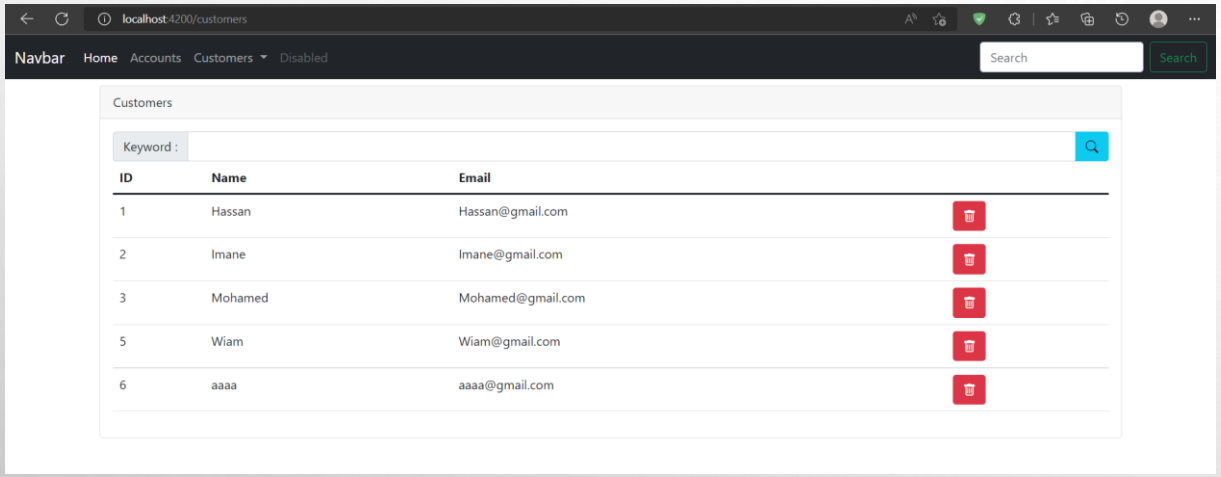


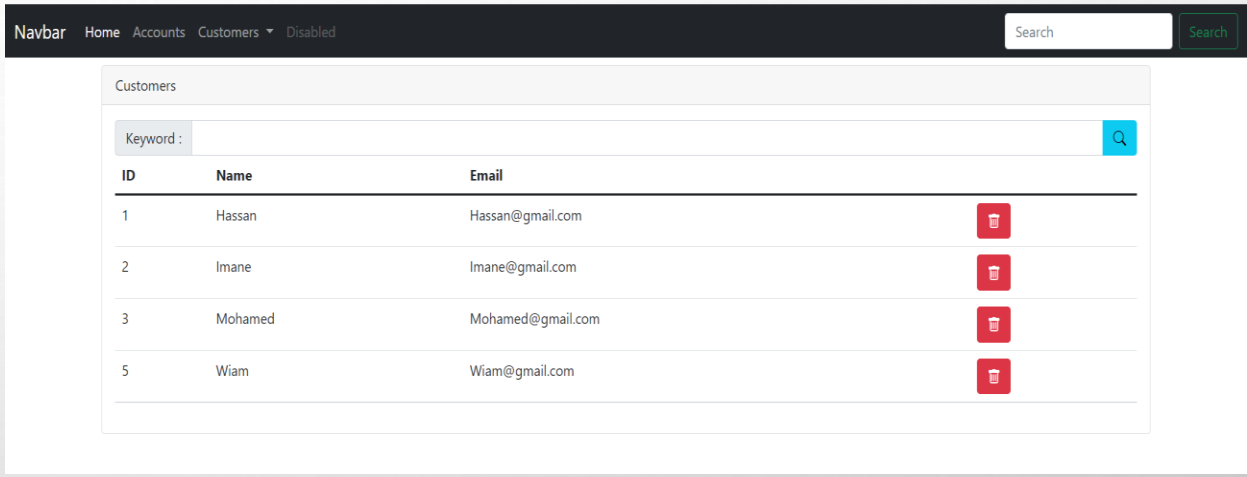



# EXÉCUTION:

## PARTIE FRONTEND AVEC ANGULAR :

### DELETE CUSTOMER

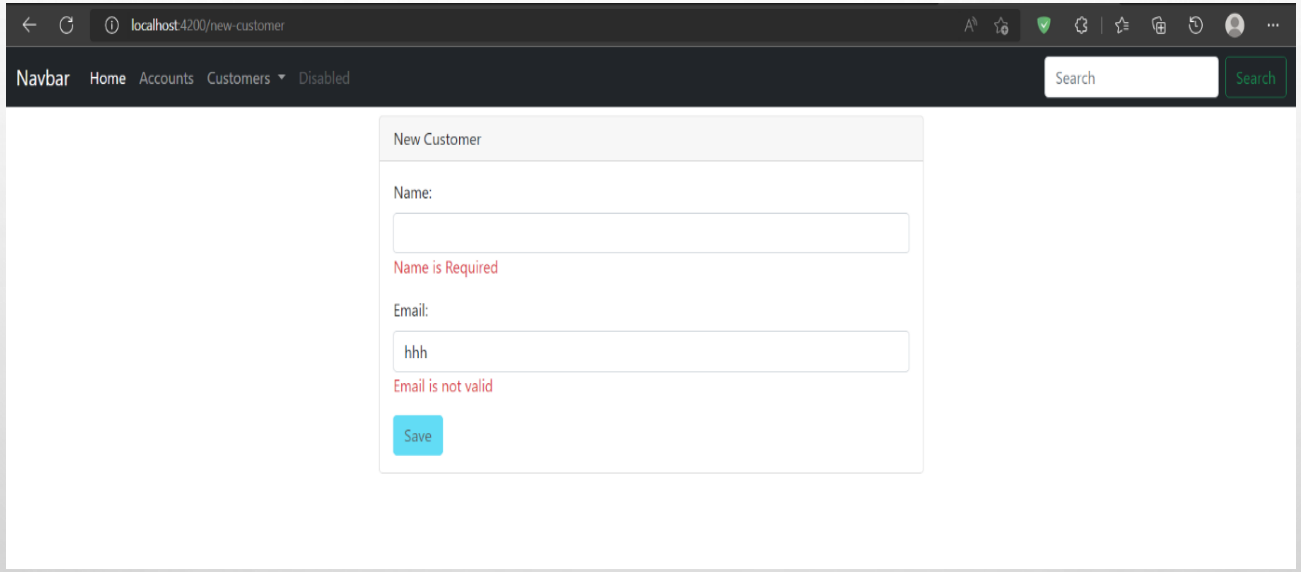


# EXÉCUTION:

## PARTIE FRONTEND AVEC ANGULAR :

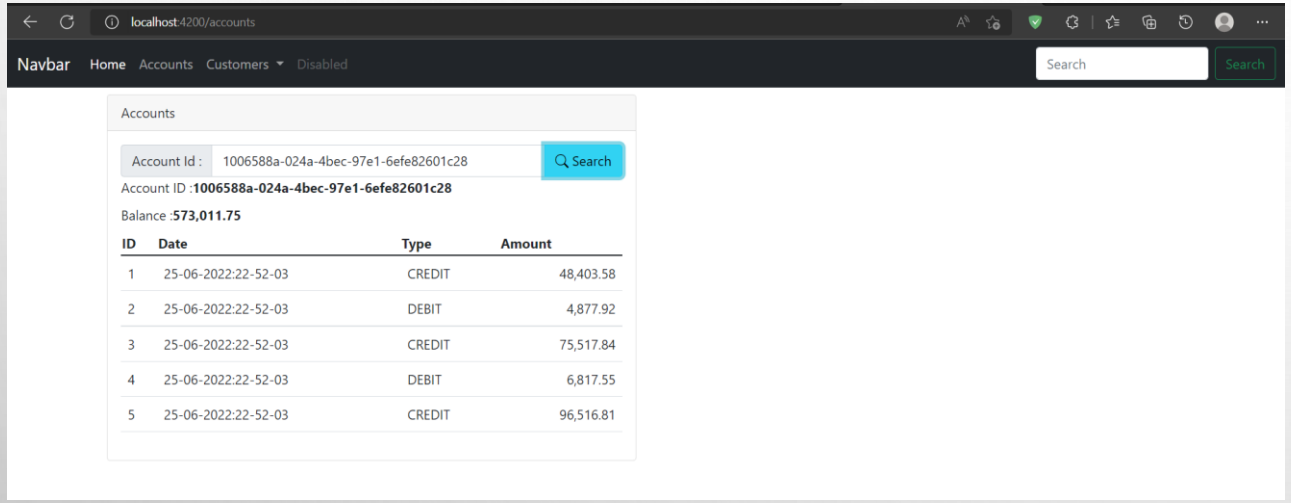
## VALIDER LES INFORMATIONS SAISIES

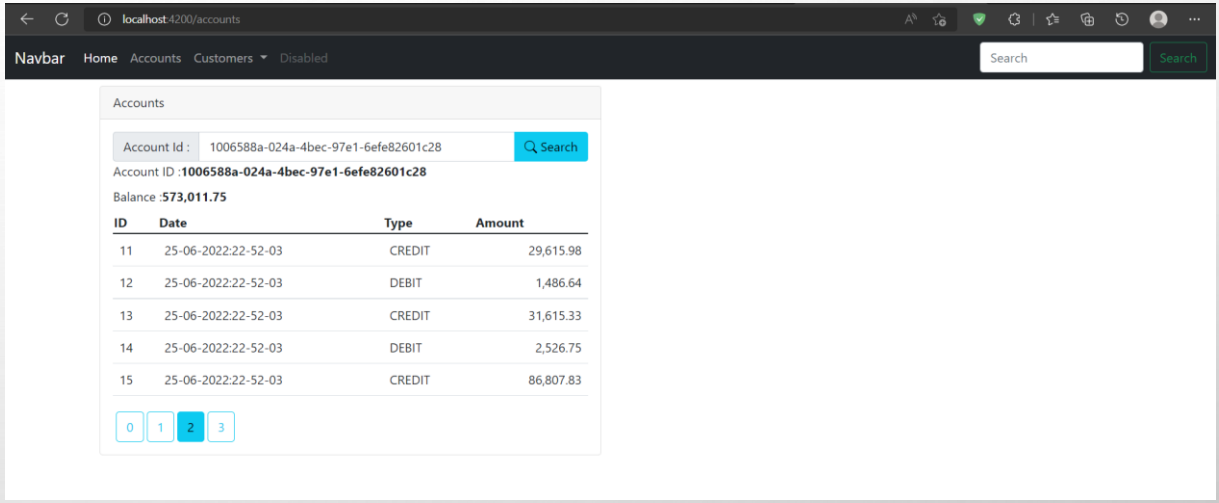


# EXÉCUTION:

## PARTIE FRONTEND AVEC ANGULAR :

### RECHERCHER UN COMPTE / PAGINATION

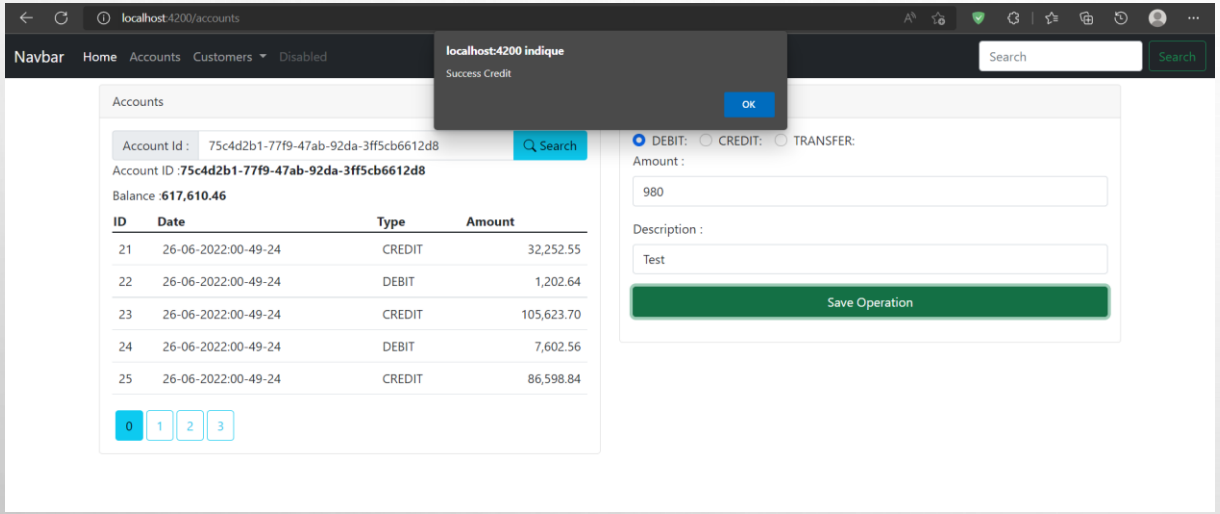


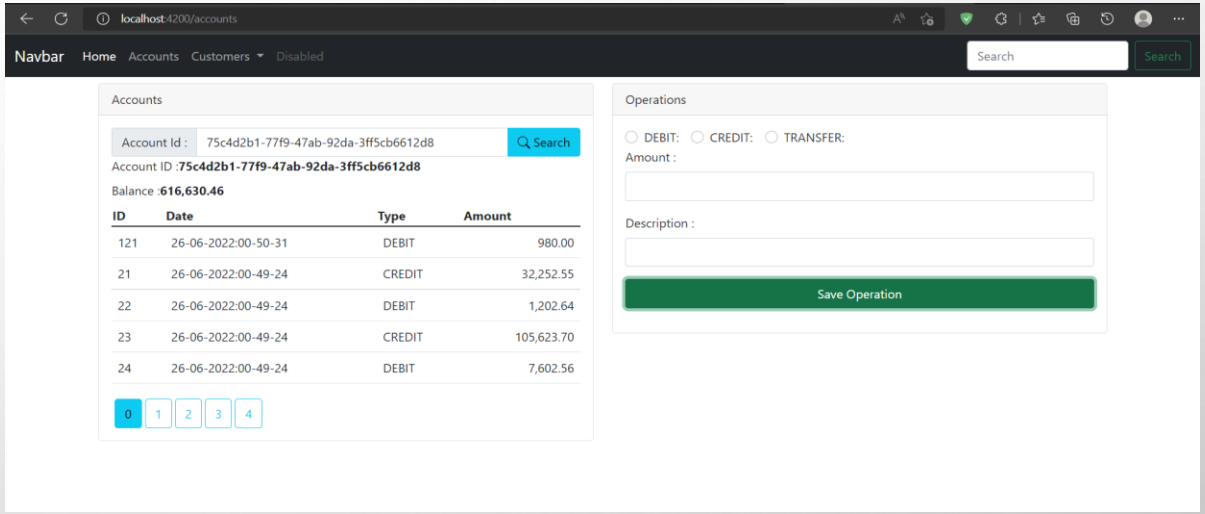



# EXÉCUTION:

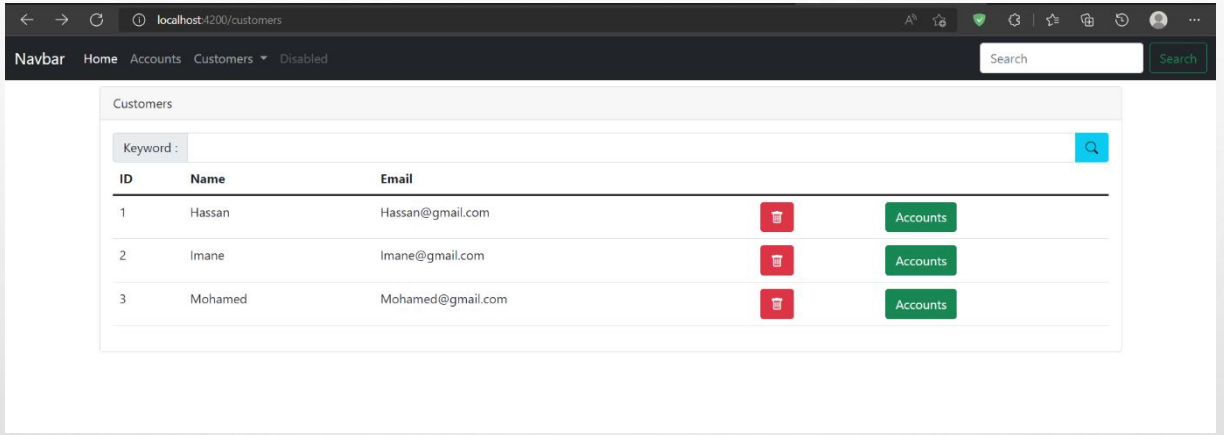
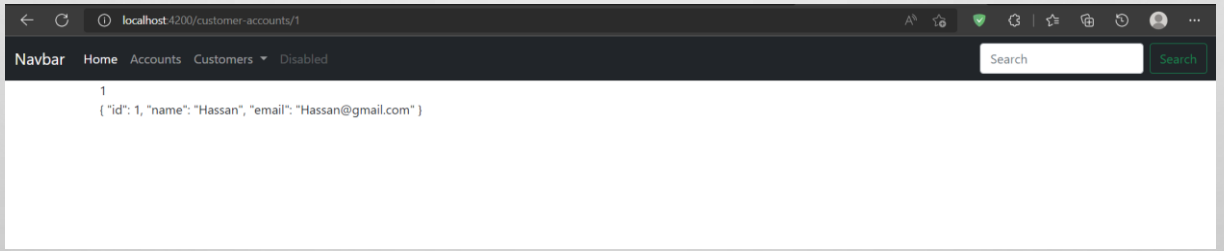
## PARTIE FRONTEND AVEC ANGULAR :

### ACCOUNT OPERATION



# EXÉCUTION:

## PARTIE FRONTEND AVEC ANGULAR :

### ACCOUNT CUSTOMER