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5SRC2

Projet Kubernetes partie 1

Construction de l'image Docker

Pour le fichier Dockerfile, j'ai du faire cette configuration :

```
FROM amazoncorretto:17-alpine

WORKDIR /app

COPY target/paymybuddy.jar /app/paymybuddy.jar

EXPOSE 8080

CMD ["java", "-jar", "paymybuddy.jar"]
~
```

Fichier Docker Compose

docker-compose.yml

```yaml
version: '3.8'

services:
  paymybuddy-backend:
    build:
      context: .
      dockerfile: Dockerfile
    ports:
      - "8080:8080"
    environment:
      SPRING_DATASOURCE_USERNAME: root
      SPRING_DATASOURCE_PASSWORD: password
      SPRING_DATASOURCE_URL: jdbc:mysql://paymybuddy-db:3306/db_paymybuddy
    depends_on:
      - paymybuddy-db

  paymybuddy-db:
    image: mysql:5.7
    environment:
      MYSQL_ROOT_PASSWORD: password
      MYSQL_DATABASE: db_paymybuddy
    volumes:
      - ./initdb:/docker-entrypoint-initdb.d
    ports:
      - "3306:3306"
    volumes:
      - db_data:/var/lib/mysql

volumes:
  db_data:
```

Voici le fichier que j'ai configuré.

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Push les images vers Docker Hub

Construire les images Docker :

```
ssagnane@ubuntu:~/projet-esgi$ sudo docker build -t paymybuddy-backend .
[sudo] password for ssagnane:
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
            Install the buildx component to build images with BuildKit:
            https://docs.docker.com/go/buildx/

Sending build context to Docker daemon  46.56MB
Step 1/5 : FROM amazoncorretto:17-alpine
17-alpine: Pulling from library/amazoncorretto
f18232174bc9: Pull complete
584747a5efa7: Pull complete
Digest: sha256:7ce85412211246ff5ce362b59aa5dbdc9093d8bb088da7f7c8b9ef09a8704cdf
Status: Downloaded newer image for amazoncorretto:17-alpine
 ---> 053f9c68599d
Step 2/5 : WORKDIR /app
 ---> Running in 6e704f5d88a9
 ---> Removed intermediate container 6e704f5d88a9
 ---> cdcc74c8425f
Step 3/5 : COPY target/paymybuddy.jar /app/paymybuddy.jar
 ---> feb3e3cfeb56
Step 4/5 : EXPOSE 8080
 ---> Running in 23c5eb008ce7
 ---> Removed intermediate container 23c5eb008ce7
 ---> ddf616c6454f
Step 5/5 : CMD ["java", "-jar", "paymybuddy.jar"]
 ---> Running in 37aeeddf17e3
 ---> Removed intermediate container 37aeeddf17e3
 ---> c86637c0298e
Successfully built c86637c0298e
Successfully tagged paymybuddy-backend:latest
ssagnane@ubuntu:~/projet-esgi$
```

Se connecter au registre Docker

```
ssagnane@ubuntu:~/projet-esgi$ docker login
Log in with your Docker ID or email address to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.docker.com/ to create one.
You can log in with your password or a Personal Access Token (PAT). Using a limited-scope PAT grants better security and is required for organizations using SSO. Learn more at https://docs.docker.com/go/access
-tokens/

Username: ssagnane
Password:
WARNING! Your password will be stored unencrypted in /home/ssagnane/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
ssagnane@ubuntu:~/projet-esgi$
```

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Docker push

Déploiement Kubernetes

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Lancement Kubernetes

Kubectl cluster-info

```
ssagnane@cosmian:~/projet-esgi/stack$ kubectl cluster-info
Kubernetes control plane is running at https://127.0.0.1:6443
CoreDNS is running at https://127.0.0.1:6443/api/v1/namespaces/kube-system/services/kube-dns:dns/proxy
Metrics-server is running at https://127.0.0.1:6443/api/v1/namespaces/kube-system/services/https:metrics-server:
https/proxy

To further debug and diagnose cluster problems, use 'kubectl cluster-info dump'.
```

kubectl create namespace paymybuddy

```
ssagnane@cosmian:~/projet-esgi/stack$ kubectl create namespace paymybuddy
namespace/paymybuddy created
ssagnane@cosmian:~/projet-esgi/stack$
```

```
ssagnane@cosmian:~/projet-esgi$ sudo vim kubernetes/configmaps/initdb-config.yaml
ssagnane@cosmian:~/projet-esgi$ kubectl apply -f kubernetes/configmaps/
configmap/initdb-config created
configmap/paymybuddy-config unchanged
ssagnane@cosmian:~/projet-esgi$ kubectl apply -f kubernetes/secrets/
secret/mysql-credentials created
ssagnane@cosmian:~/projet-esgi$ kubectl apply -f kubernetes/storage/
persistentvolumeclaim/mysql-pvc created
ssagnane@cosmian:~/projet-esgi$ kubectl apply -f kubernetes/services/
service/paymybuddy-service created
service/paymybuddy-db-service created
ssagnane@cosmian:~/projet-esgi$ kubectl apply -f kubernetes/deployments/
deployment.apps/paymybuddy created
deployment.apps/paymybuddy-db created
ssagnane@cosmian:~/projet-esgi$
```

Vérification du déploiement

```
ssagnane@ubuntu:~/projet-esgi$ sudo kubectl get pods
NAME                           READY    STATUS     RESTARTS        AGE
paymybuddy-694c5dc9cd-vch7s    1/1      Running    2 (4m27s ago)   5m10s
paymybuddy-db-78d86b79f5-xl9qh 1/1      Running    1 (4m26s ago)   5m10s
ssagnane@ubuntu:~/projet-esgi$ sudo kubectl get services
NAME                  TYPE        CLUSTER-IP      EXTERNAL-IP   PORT(S)           AGE
kubernetes            ClusterIP   10.43.0.1       <none>        443/TCP           4h31m
paymybuddy-db-service ClusterIP   10.43.248.218   <none>        3306/TCP          5m20s
paymybuddy-service    NodePort    10.43.30.207    <none>        8080:30229/TCP    5m20s
ssagnane@ubuntu:~/projet-esgi$ sudo kubectl get deployments
NAME           READY    UP-TO-DATE   AVAILABLE   AGE
paymybuddy     1/1      1            1           5m23s
paymybuddy-db  1/1      1            1           5m23s
ssagnane@ubuntu:~/projet-esgi$ sudo kubectl get pvc
NAME       STATUS   VOLUME                                     CAPACITY   ACCESS MODES   STORAGECLASS   VOLUMEATTRIBUTE
SCLASS     AGE
mysql-pvc  Bound    pvc-25d6f6a0-81d1-4475-9906-a6f027a67d62   1Gi        RWO            local-path     <unset>
           5m38s
ssagnane@ubuntu:~/projet-esgi$
```

```
ssagnane@cosmian:~/projet-esgi$ sudo docker compose -f docker-compose.yml up -d
WARN[0000] /home/ssagnane/projet-esgi/docker-compose.yml: `version` is obsolete
[+] Running 17/17
  ✔paymybuddy-db Pulled                                                          152.2s
    ✔804bb8ae89de Pull complete                                                   49.4s
    ✔34a45e327c17 Pull complete                                                   49.5s
    ✔5b7dcae372f2 Pull complete                                                   49.5s
    ✔77895c94e6d5 Pull complete                                                   49.8s
    ✔ba9f25a041ba Pull complete                                                   49.8s
    ✔841b743c6edc Pull complete                                                   49.9s
    ✔f11e07506c9a Pull complete                                                   69.1s
    ✔8615fa21e026 Pull complete                                                   69.2s
    ✔0b80abbc4aed Pull complete                                                  150.3s
    ✔6594c9f77fef Pull complete                                                  150.3s
    ✔cbcad5d15a99 Pull complete                                                  150.3s
  ✔paymybuddy-backend Pulled                                                     124.2s
    ✔f18232174bc9 Pull complete                                                    3.4s
    ✔584747a5efa7 Pull complete                                                  122.2s
    ✔cde352ce6da4 Pull complete                                                  122.3s
    ✔fbe8128a6b5d Pull complete                                                  122.6s
[+] Running 4/4
  ✔Network projet-esgi_default        Created                                     0.1s
  ✔Volume "projet-esgi_mysql-data"    Created                                     0.0s
  ✔Container paymybuddy-db            Started                                     1.1s
  ✔Container paymybuddy               Started                                     1.3s
ssagnane@cosmian:~/projet-esgi$
```

```
ssagnane@ubuntu:~/projet-esgi$ docker-compose exec paymybuddy-db mysql -u root -ppassword
mysql: [Warning] Using a password on the command line interface can be insecure.
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 18
Server version: 8.0.41 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> USE db_paymybuddy;
Database changed
mysql> SHOW TABLES;
Empty set (0.01 sec)

mysql> CREATE DATABASE db_paymybuddy;
_INCREMENT,
    email VARCHAR(100) NOT NULL UNIQUE,
    password VARCHAR(100) NOT NULL,
    firsERROR 1007 (HY000): Can't create database 'db_paymybuddy'; database exists
mysql> USE db_paymybuddy;
Database changed
mysql>
mysql> CREATE TABLE user (
    ->     user_id INT NOT NULL PRIMARY KEY AUTO_INCREMENT,
    ->     email VARCHAR(100) NOT NULL UNIQUE,
    ->     password VARCHAR(100) NOT NULL,
    ->     firstname VARCHAR(50) NOT NULL,
    ->     lastname VARCHAR(50) NOT NULL,
    ->     balance DECIMAL(10, 2) NOT NULL DEFAULT 0.0
    -> );
_user_id INT NOT NULL,
    bank_name VARCHAR(100) DEFAULT NULL,
    iban VARCHAR(34) DEFAULT NULL,
```
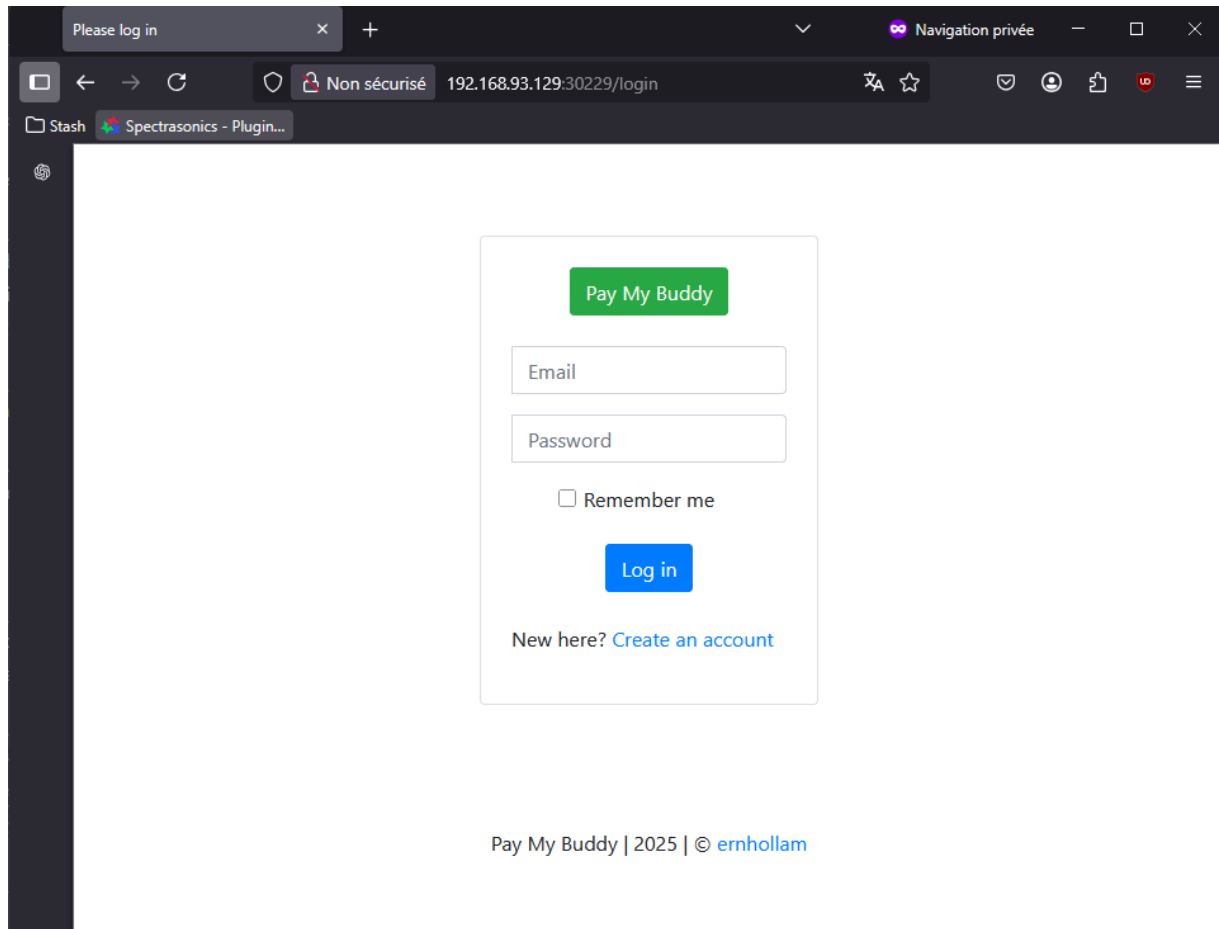
Pour cette partie, j'ai copier/coller le fichier create.sql car il y avait une erreur que je n'arrivais pas à résoudre.

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Test

Test de connexion

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Création de compte

Sign up

We make money transfer easier.

Join the other buddies and have no worries for
your next trip organisation or restaurant bill share!

Pay My Buddy

Saidou	Sagnane

ssagnane1@myges.fr

••••••

Sign up   **Cancel**

Congratulations!
You can now take full advantage of PayMyBuddy!

Pay My Buddy

Email

Password

☐ Remember me

Log in

New here? Create an account

Pay My Buddy   Home Transfer Profile Contact Logoff

Home

Good to see you again, Saidou!

Most recent connection

No connections. Add a connection

Most recent transaction

No transactions. Add transaction

Current balance

0 ¤

Update balance

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Test ajout d'utilisateur pour le transfert d'argent.

Selected Buddy email:

clara@mail.com

Amount:

30.0

You will pay a total amount of 30.15€.

Please enter a short description:

Everyday is a bank account, and time is our currency

140 characters remaining

Pay

Send money

Add Connection

| Clara Tarazi | 0.0 | Pay |

Your transactions

Name	Description	Amount
No transactions.		

Total transactions: 0

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Most recent connection

Clara, added the 14/03/2025 16:14