RENDU TP DOCKER 21/12/2024
HumansBestFriend
M2 DATA ENG

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Introduction

Il s'agit d'un TP de fin de module docker, en m2 DataEng - Paris Ynov Campus.

Participants au projet :
- Boutaina BELGHITI
- Shadrack BODJE
- Ibrahim CHOUAY

Lien du sujet : Sujet Docker
Notre Github : Lien Github

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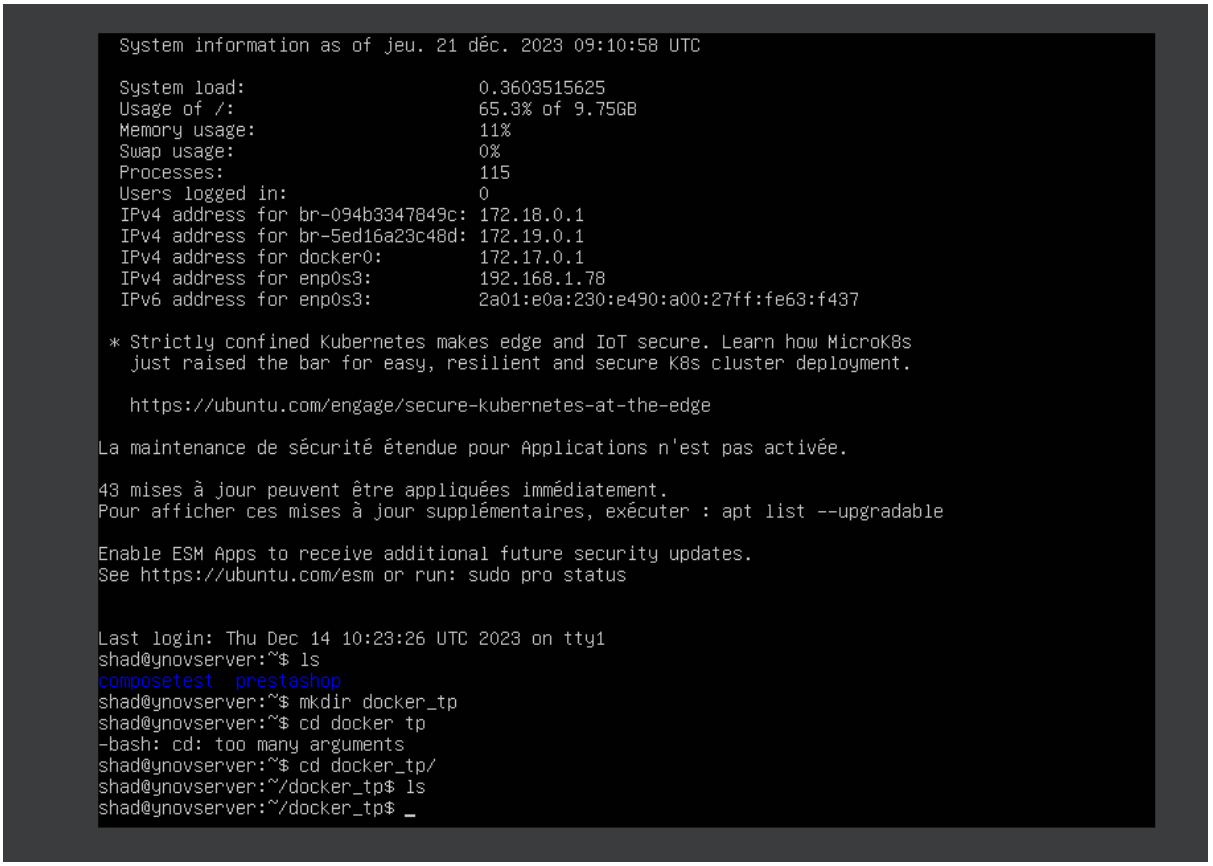
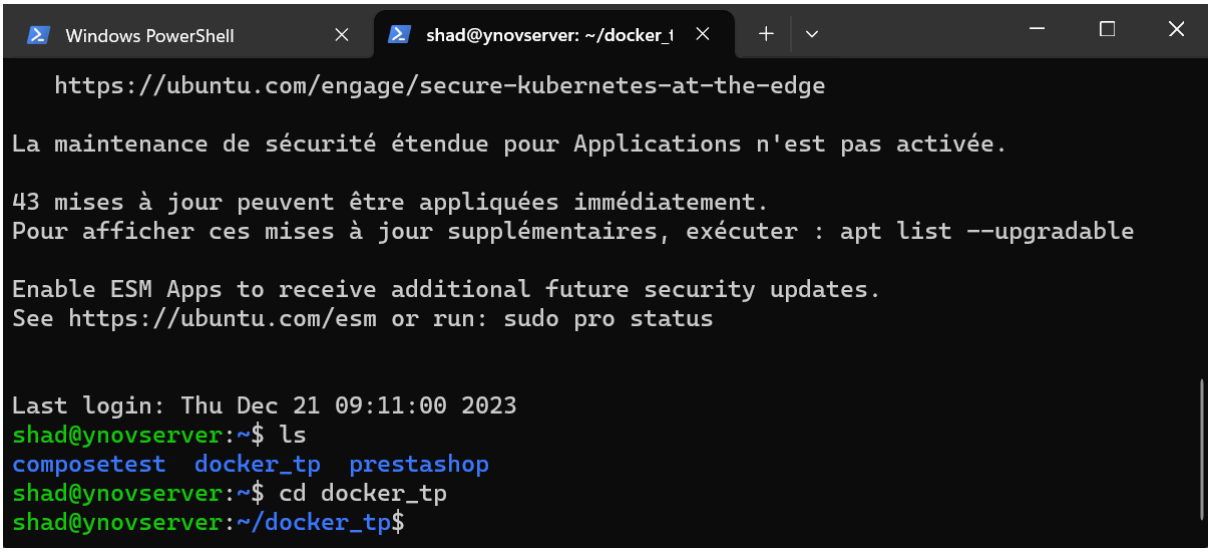
Étapes - Commandes

Machine Virtuelle

NB : Nous avons déjà notre machine virtuelle configurée en accès par pont, avec l'iso ubuntu server (disponible via ce lien) et qui fonctionne en ssh avec notre machine hardware.



Connexion SSH



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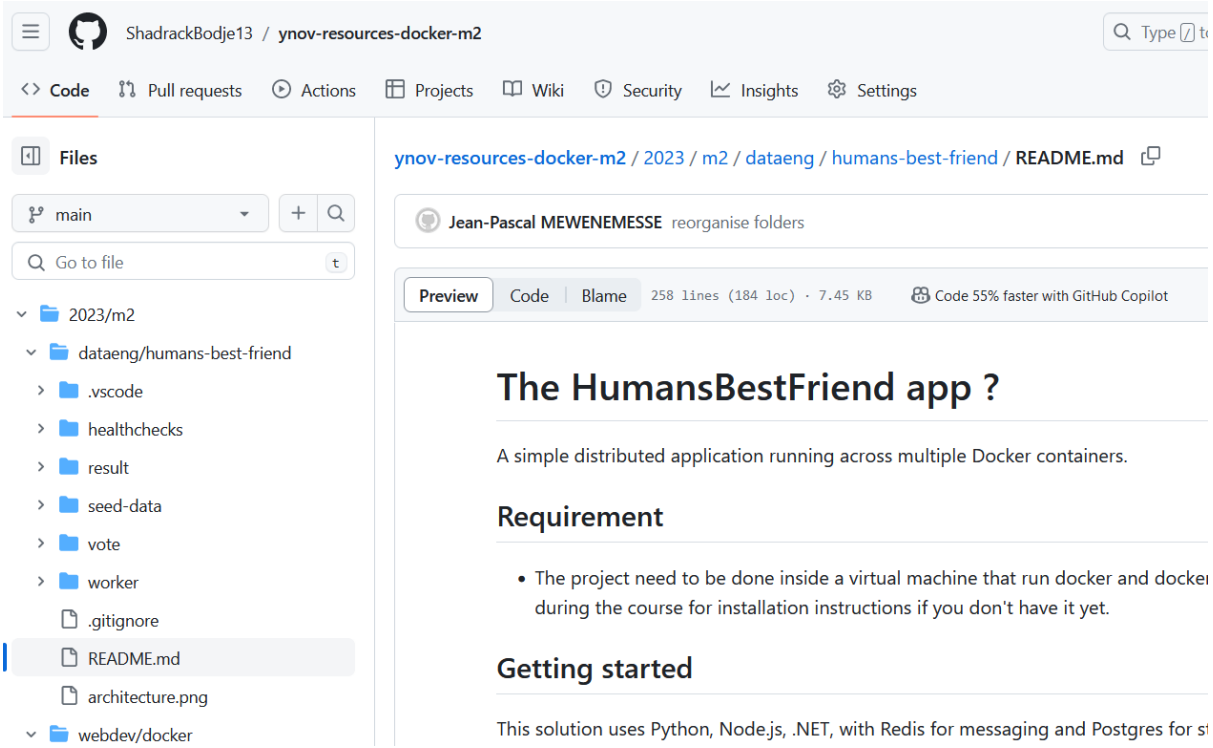
Fork Github du prof :

Importer notre github dans la machine virtuelle



Création du dossier (Work Directory)
git clone de l'élément fork

```
shad@ynovserver:~/docker_tp$ git clone https://github.com/ShadrackBodje13/ynov-res
ources-docker-m2/
Cloning into 'ynov-resources-docker-m2'...
remote: Enumerating objects: 402, done.
remote: Counting objects: 100% (26/26), done.
remote: Compressing objects: 100% (20/20), done.
remote: Total 402 (delta 4), reused 20 (delta 2), pack-reused 376
Receiving objects: 100% (402/402), 11.55 MiB | 8.97 MiB/s, done.
Resolving deltas: 100% (59/59), done.
shad@ynovserver:~/docker_tp$
```

Ajout des DockerFiles et docker-compose.build.yml dans le dossier du travail.

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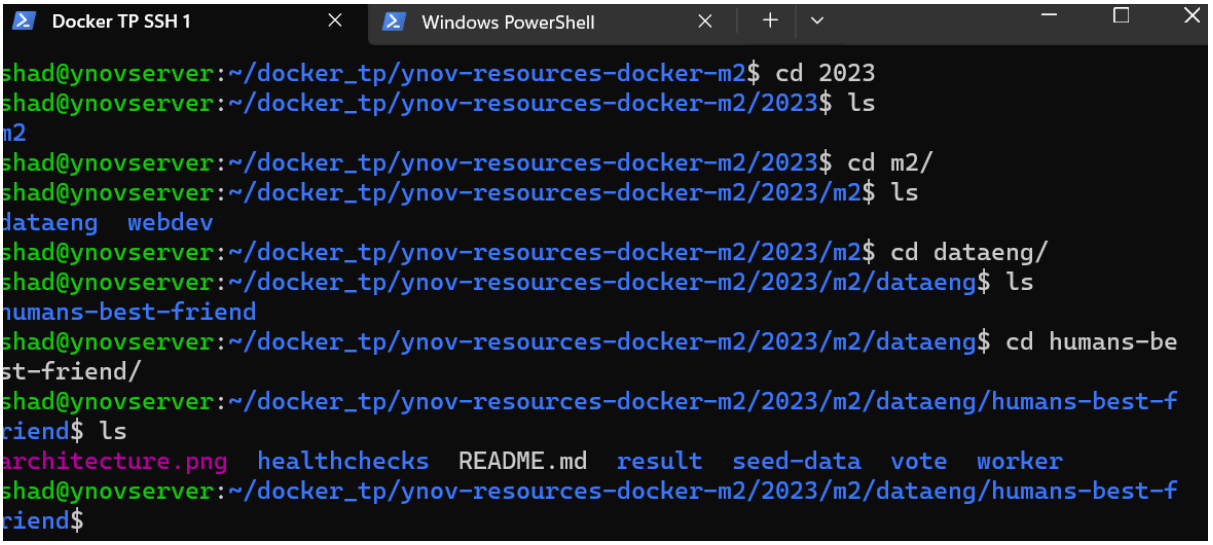
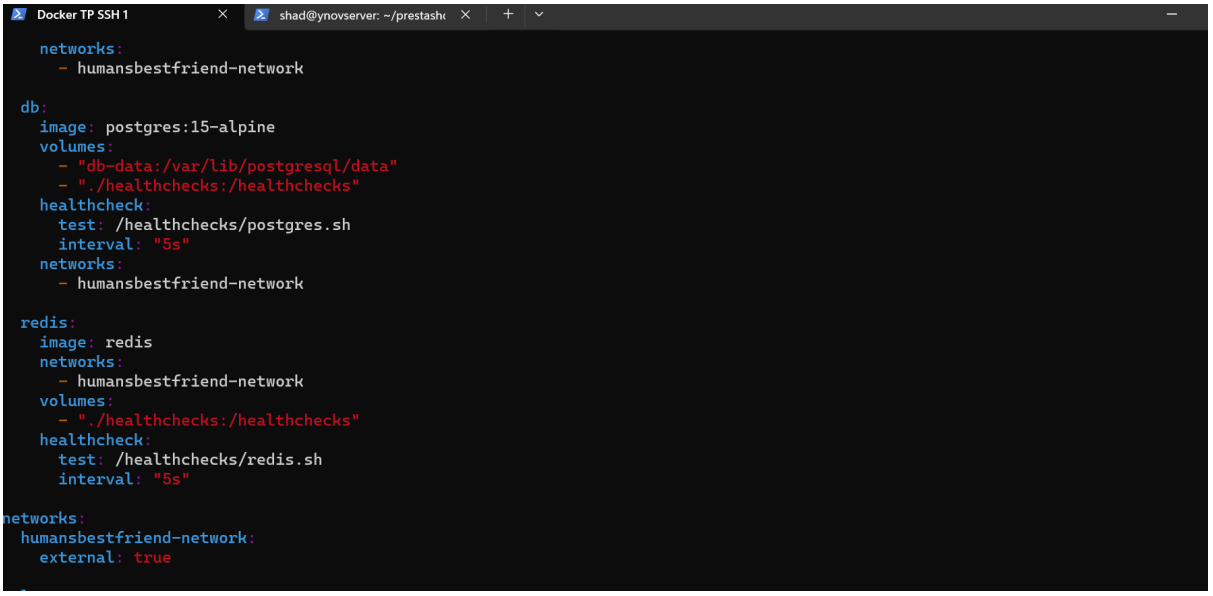


Création du dockerfilebuild.yaml



Résultat du build

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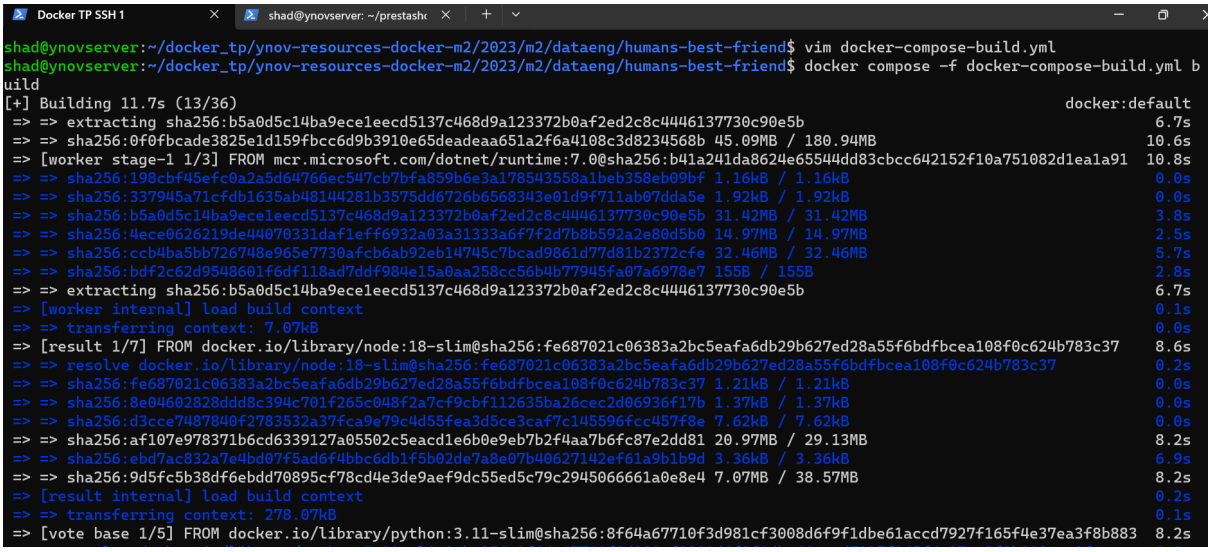

Affichage des images

```
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$ docker images
REPOSITORY                    TAG       IMAGE ID       CREATED              SIZE
humans-best-friend-worker     latest    b9fc15113aa6   42 seconds ago       194MB
humans-best-friend-seed-data  latest    46e127af3cd9   48 seconds ago       129MB
humans-best-friend-result     latest    cf8bb927a07b   54 seconds ago       224MB
humans-best-friend-vote       latest    aed12f5ca88e   About a minute ago   154MB
```

Création des registres

```
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$ docker run -d -p 5005:5000 --restart always
--name registry registry:2
7408d679452bd25d7e56b0feef1f3edb6a4e2b0fd3bbed88c96d19bedc81d730
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$ curl localhost:5005/v2/_catalog
{"repositories":[]}
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-fshad@ynovserver:~/docker_tp/ynov-resources-docker-m
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$ docker images
REPOSITORY                    TAG       IMAGE ID       CREATED          SIZE
humans-best-friend-worker     latest    b9fc15113aa6   15 minutes ago   194MB
humans-best-friend-seed-data  latest    46e127af3cd9   16 minutes ago   129MB
humans-best-friend-result     latest    cf8bb927a07b   16 minutes ago   224MB
humans-best-friend-vote       latest    aed12f5ca88e   16 minutes ago   154MB
composetest-web               latest    2628a67d6920   7 days ago       214MB
redis                         alpine    d2d4688fcebe   13 days ago      41MB
prestashop-mariadb            latest    b6f99e92ec9c   2 weeks ago      404MB
registry                      2         909c3ff012b7   2 weeks ago      25.4MB
nginx                         latest    a6bd71f48f68   4 weeks ago      187MB
prestashop-prestashop         latest    6386290965f1   2 months ago     1.42GB
hello-world                   latest    9c7a54a9a43c   7 months ago     13.3kB
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$
```

adresse du registre :
7408d679452bd25d7e56b0feef1f3edb6a4e2b0fd3bbed88c96d19bedc81d730

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```
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$ docker tag humans-best-friend-worker:latest
localhost:5000/worker:latest
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$ docker tag humans-best-friend-vote:latest lo
calhost:5000/vote:latest
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$ docker tag humans-best-friend-seed-data:late
st localhost:5000/seed-data:latest
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$ docker tag humans-best-friend-result:latest
localhost:5000/result:latest
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$ docker tag humans-best-friend-postgres:15-al
pine localhost:5000/postgres:15-alpine
Error response from daemon: No such image: humans-best-friend-postgres:15-alpine
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$ docker images
REPOSITORY                      TAG       IMAGE ID       CREATED          SIZE
humans-best-friend-worker       latest    b9fc15113aa6   30 minutes ago   194MB
localhost:5000/worker           latest    b9fc15113aa6   30 minutes ago   194MB
humans-best-friend-seed-data    latest    46e127af3cd9   30 minutes ago   129MB
localhost:5000/seed-data        latest    46e127af3cd9   30 minutes ago   129MB
humans-best-friend-result       latest    cf8bb927a07b   30 minutes ago   224MB
localhost:5000/result           latest    cf8bb927a07b   30 minutes ago   224MB
localhost:5000/vote             latest    aed12f5ca88e   30 minutes ago   154MB
humans-best-friend-vote         latest    aed12f5ca88e   30 minutes ago   154MB
composetest-web                 latest    2628a67d6920   7 days ago       214MB
redis                           alpine    d2d4688fcebe   13 days ago      41MB
prestashop-mariadb              latest    b6f99e92ec9c   2 weeks ago      404MB
registry                        2         909c3ff012b7   2 weeks ago      25.4MB
nginx                           latest    a6bd71f48f68   4 weeks ago      187MB
prestashop-prestashop           latest    6386290965f1   2 months ago     1.42GB
hello-world                     latest    9c7a54a9a43c   7 months ago     13.3kB
```

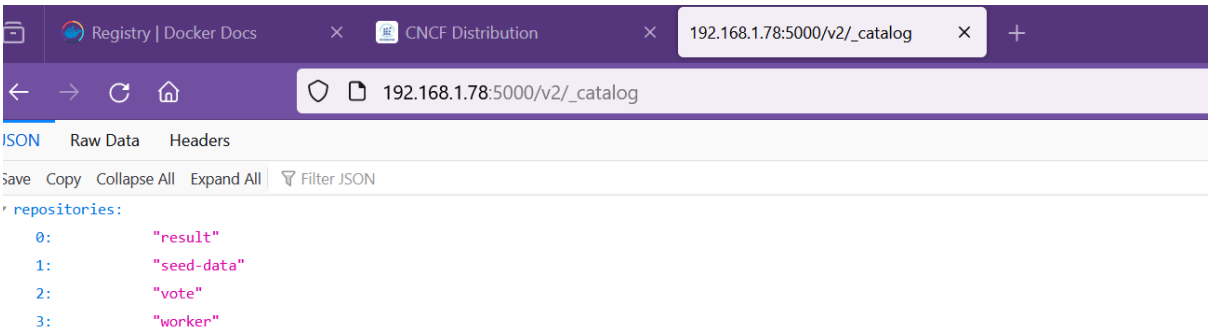
Push des éléments

```
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-fshad@ynovserver:~/docker_tp/ynov-resources-docker-
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$ curl localhost:5000/v2/_catalog
{"repositories":[]}
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$
docker push localhost:5000/worker:latest
docker push localhost:5000/vote:latest
docker push localhost:5000/seed-data:latest
docker push localhost:5000/result:latest
The push refers to repository [localhost:5000/worker]
eb4d22cdbfad: Pushed
919975385dc2: Pushed
5ee537aacfb3: Pushed
7c73e219acdd: Pushed
d47be6633206: Pushed
e6cd39d4cea4: Pushed
latest: digest: sha256:bc76876d8164edf181b775538498e146428376db1bc14009fe41d6fd549f1250 size: 1577
The push refers to repository [localhost:5000/vote]
78d359fc6659: Pushed
86a3909a817c: Pushed
```

Curl des éléments

```
7292cf786aa8: Mounted from seed-data
latest: digest: sha256:cdb44af3b21c475545fefbdd0b3de6af5efd49c6570c2da72eaa7d4531416f4a size: 2625
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$ curl localhost:5000/v2/_catalog
{"repositories":["result","seed-data","vote","worker"]}
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-fshad@ynovserver:~/docker_tp/ynov-resources-docker-m
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$
```

Affichage du catalog sur le site 182.168.1.78/5000/V2/_catalog



Nos images sont biens créées

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Docker compose

Création du fichier compose.yml

```
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$ touch compose.yaml
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$ vim compose.yaml
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-fshad@ynovserver:~/docker_tp/ynov-resources-docker-m
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$
```

Contenu du compose yml

```
Docker TP SSH 1        shad@ynovserver: ~/prestash

version: '3'
services:
  vote:
    image: localhost:5000/vote
    ports:
      - "5001:80"
  result:
    image: localhost:5000/result
    ports:
      - "5002:80"
  seed-data:
    image: localhost:5000/seed-data
  worker:
    image: localhost:5000/worker
~
~
~
~
```

Run du docker compose étant à la racine du projet

```
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-fshad@ynovserver:~/docker_tp/ynov-resources-docker-m
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$ docker compose up -d
[+] Running 5/5
 ✓ Network humans-best-friend_default        Created                                                                    0.2s
 ✓ Container humans-best-friend-vote-1       Started                                                                    0.3s
 ✓ Container humans-best-friend-result-1     Started                                                                    0.3s
 ✓ Container humans-best-friend-seed-data-1  Started                                                                    0.3s
 ✓ Container humans-best-friend-worker-1     Started                                                                    0.3s
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$
```

Docker ps

```
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$ docker ps
CONTAINER ID   IMAGE                   COMMAND                  CREATED          STATUS          PORTS
        NAMES
b3e18ebc21e6   localhost:5000/worker   "dotnet Worker.dll"      42 seconds ago   Up 38 seconds
        humans-best-friend-worker-1
78850c6f0ff1   localhost:5000/result   "/usr/bin/tini -- no…"   42 seconds ago   Up 37 seconds   0.0.0.0:5002->80/tcp, :::5002->80/tc
p       humans-best-friend-result-1
f0297c38a62c   localhost:5000/vote     "gunicorn app:app -b…"   42 seconds ago   Up 37 seconds   0.0.0.0:5001->80/tcp, :::5001->80/tc
p       humans-best-friend-vote-1
0f5f51effb19   registry:2              "/entrypoint.sh /etc…"   53 minutes ago   Up 53 minutes   0.0.0.0:5000->5000/tcp, :::5000->500
0/tcp   registry
```

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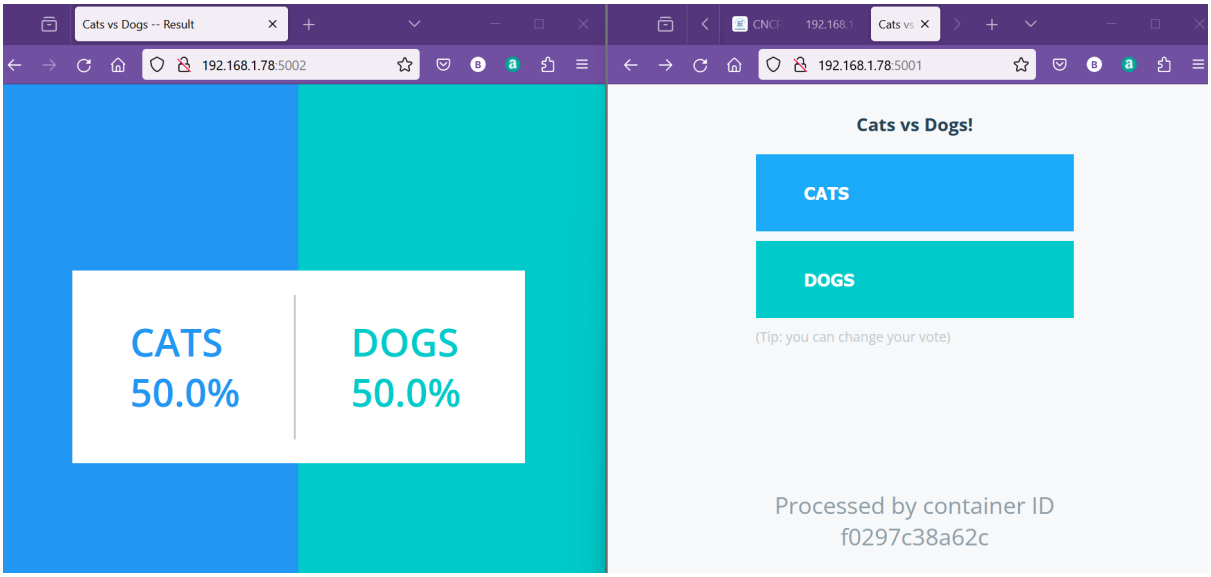
Testes des sites



Ifconfig

```
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$ sudo apt-get update
sudo apt-get install iproute2
[sudo] password for shad:
Atteint :1 http://fr.archive.ubuntu.com/ubuntu jammy InRelease
Réception de :2 http://fr.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Réception de :3 https://download.docker.com/linux/ubuntu jammy InRelease [48,8 kB]
Réception de :4 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Réception de :5 http://fr.archive.ubuntu.com/ubuntu jammy-backports InRelease [109 kB]
Réception de :6 http://fr.archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1 263 kB]
Réception de :7 http://fr.archive.ubuntu.com/ubuntu jammy-updates/main Translation-en [260 kB]
Réception de :8 http://fr.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1 020 kB]
Réception de :9 http://fr.archive.ubuntu.com/ubuntu jammy-updates/universe Translation-en [226 kB]
Réception de :10 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [1 051 kB]
Réception de :11 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [200 kB]
Réception de :12 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [823 kB]
Réception de :13 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [156 kB]
5 384 ko réceptionnés en 3s (1 836 ko/s)
Reading package lists... Done
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
iproute2 est déjà la version la plus récente (5.15.0-1ubuntu2).
iproute2 passé en « installé manuellement ».
0 mis à jour, 0 nouvellement installés, 0 à enlever et 54 non mis à jour.
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-fshad@ynovserver:~/docker_tp/ynov-resources-docker-m
shad@ynovserver:~/docker_tp/ynov-resources-docker-m2/2023/m2/dataeng/humans-best-friend$
```

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Commande pour installer PING

```
apt update -y
apt install -y iputils-ping
apt install -y inetutils-traceroute
apt install -y iproute2
apt install -y curl telnet dnsutils vim
```

Ping success between humans-best-friend-worker-1 and humans-best-friend-result-1

```
root@78850c6f0ff1:/usr/local/app# ping b3e18ebc21e6
PING b3e18ebc21e6 (172.20.0.3) 56(84) bytes of data.
64 bytes from humans-best-friend-worker-1.humans-best-friend_default (172.20.0.3): icmp_seq=1 ttl=64 time=2.53 ms
64 bytes from humans-best-friend-worker-1.humans-best-friend_default (172.20.0.3): icmp_seq=2 ttl=64 time=0.087 ms
64 bytes from humans-best-friend-worker-1.humans-best-friend_default (172.20.0.3): icmp_seq=3 ttl=64 time=0.049 ms
64 bytes from humans-best-friend-worker-1.humans-best-friend_default (172.20.0.3): icmp_seq=4 ttl=64 time=0.063 ms
64 bytes from humans-best-friend-worker-1.humans-best-friend_default (172.20.0.3): icmp_seq=5 ttl=64 time=0.072 ms
64 bytes from humans-best-friend-worker-1.humans-best-friend_default (172.20.0.3): icmp_seq=6 ttl=64 time=0.065 ms
64 bytes from humans-best-friend-worker-1.humans-best-friend_default (172.20.0.3): icmp_seq=7 ttl=64 time=0.080 ms
64 bytes from humans-best-friend-worker-1.humans-best-friend_default (172.20.0.3): icmp_seq=8 ttl=64 time=0.054 ms
```

Conclusion :

En conclusion, l’accès réussi aux interfaces de vote et de résultats témoigne du déploiement réussi de l’application HumansBestFriend. En travaillant sur ce projet, nous avons appliqué nos connaissances sur docker, comment on crée des images/containers, l’utilisation d’une machine virtuelle et la manipulation des ports.