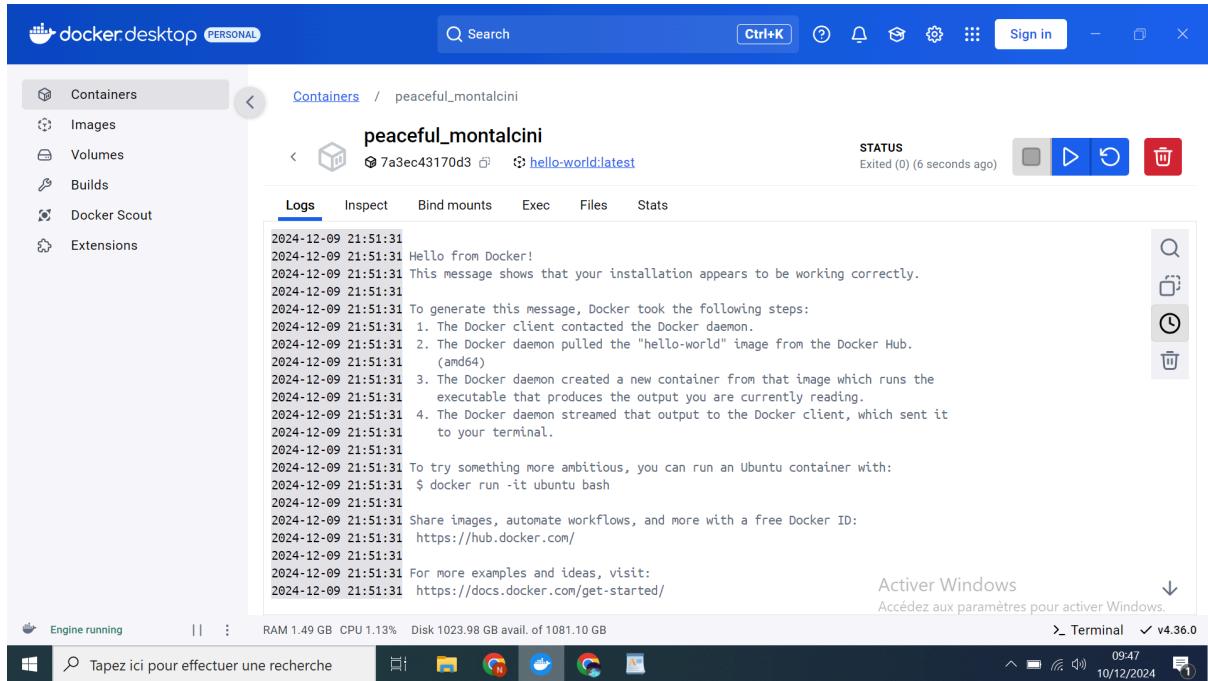


RAPPORT PROJET DOCKER

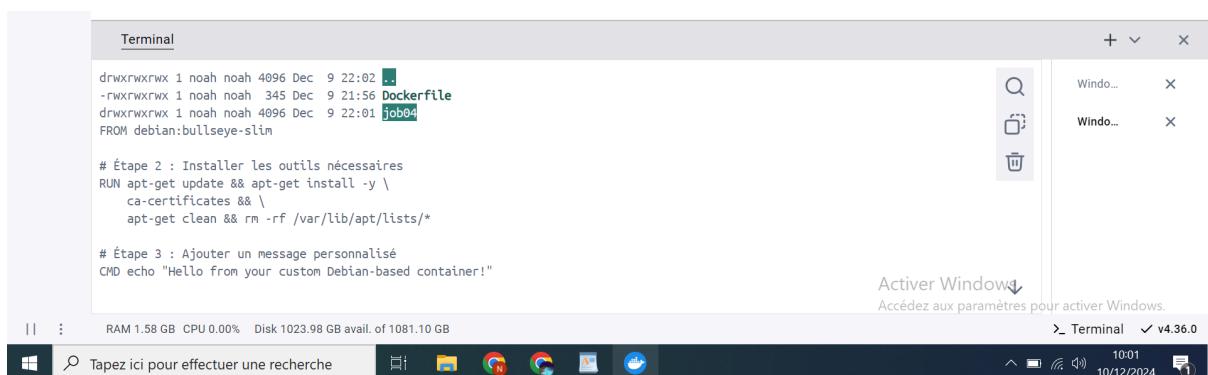
Job02 – Tester l'installation de Docker avec le conteneur « hello-world »

Une fois Docker installé, j'ai testé son bon fonctionnement en exécutant le conteneur hello-world :



Job03 – Utilisation de « Dockerfile » pour recréer le conteneur « hello-world » depuis une image Debian minimale

Dans ce job, j'ai utilisé un Dockerfile pour créer une image personnalisée basée sur Debian, puis l'ai utilisée pour recréer le conteneur hello-world.



Job4 - Crée une image SSH sans utiliser d'image existante

Ici, j'ai créé une image personnalisée avec un serveur SSH, sans utiliser une image existante. Le serveur SSH permet de se connecter au conteneur via un autre port que le 22.

The image shows three separate windows on a Windows desktop, each displaying a terminal window titled "Terminal". The terminals are part of the Windows Terminal application, indicated by the "Windows Terminal" tab in the top right corner of each window. The status bar at the bottom of each window shows "RAM 1.57 GB CPU 0.13% Disk 1023.98 GB avail. of 1081.10 GB" and the date and time as "10/12/2024 10:04".

The first terminal window contains the following Dockerfile content:

```
# Étape 1 : Utiliser une image Debian minimale
FROM debian:bullseye-slim

# Étape 2 : Installer OpenSSH Server
RUN apt-get update && apt-get install -y \
    openssh-server && \
    apt-get clean && rm -rf /var/lib/apt/lists/*

# Étape 3 : Configurer le mot de passe root
RUN echo "root:root123" | chpasswd

# Étape 4 : Modifier le port SSH pour éviter le port 22
EXPOSE 2222
```

The second terminal window contains the following Dockerfile content:

```
# Étape 4 :Modifier le port SSH pour éviter le port 22
RUN sed -i 's/#Port 22/Port 2222/' /etc/ssh/sshd_config

# Étape 5 : Autoriser root à se connecter via SSH
RUN sed -i 's/PermitRootLogin prohibit-password/PermitRootLogin yes/' /etc/ssh/sshd_config

# Étape 6 :Créer le répertoire nécessaire pour SSH
RUN mkdir /var/run/sshd

# Étape 7 : Exposer le port 2222
EXPOSE 2222
```

The third terminal window contains the following Dockerfile content:

```
# Étape 8 :Lancer le serveur SSH au démarrage du conteneur
CMD ["/usr/sbin/sshd", "-D"]

noah@DESKTOP-0HUI71U:/mnt/c/Users/PC/job04$
```

At the bottom of the third terminal window, the command "docker build -t custom-ssh . docker:default" is run, showing the build process:

```
[+] Building 1.7s (10/10) FINISHED
=> [internal] load build definition from Dockerfile
=> [internal] transfering dockerfile: 829B
=> [internal] load metadata for docker.io/library/debian:bullseye-slim
=> [internal] load .dockignore
=> [internal] transfering context: 2B
=> [1/6] FROM docker.io/library/debian:bullseye-slim@sha256:8118d0da5204dcc2f648d416b4c25f97255a823797aebe17495a01f2eb9c1b
=> CACHED [2/6] RUN apt-get update && apt-get install -y openssh-server && apt-get clean && rm -rf /var/lib/apt/l
=> CACHED [3/6] RUN echo "root:root123" | chpasswd
=> CACHED [4/6] RUN sed -i 's/#Port 22/Port 2222/' /etc/ssh/sshd_config
=> CACHED [5/6] RUN sed -i 's/PermitRootLogin prohibit-password/PermitRootLogin yes/' /etc/ssh/sshd_config
```

```

Terminal
noah@DESKTOP-0HUI71U:/mnt/c/Users/PC/job04$ docker rm ssh-container
ssh-container
noah@DESKTOP-0HUI71U:/mnt/c/Users/PC/job04$ docker run -d -p 2222:2222 --name ssh-container custom-ssh
3fe914c74680b924bc407a31dbc50507075350d04ee1bcf9e05608da4df3072
noah@DESKTOP-0HUI71U:/mnt/c/Users/PC/job04$ docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
3fe914c74680 custom-ssh "/usr/sbin/sshd -D" 14 seconds ago Up 13 seconds 0.0.0.0:2222->2222/tcp ssh-container
9f17eed27f12 registry:2 "/entrypoint.sh /etc..." 11 hours ago Up 11 hours 0.0.0.0:5000->5000/tcp local_registr
y
80daseb15d45 custom-nginx "/docker-entrypoint..." 12 hours ago Up 11 hours 0.0.0.0:8080->80/tcp nginx-contain
er
0d6f604ba2f0 fauria/vsftpd "/usr/sbin/run-vsftp..." 12 hours ago Up 12 hours 0.0.0.0:20-21->20-21/tcp ftp-container
noah@DESKTOP-0HUI71U:/mnt/c/Users/PC/job04$ Activer Window
Accédez aux paramètres pour activer Windows.

ssh-container
noah@DESKTOP-0HUI71U:/mnt/c/Users/PC/job04$ docker run -d -p 2222:2222 --name ssh-container custom-ssh
3fe914c74680b924bc407a31dbc50507075350d04ee1bcf9e05608da4df3072
noah@DESKTOP-0HUI71U:/mnt/c/Users/PC/job04$ docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
3fe914c74680 custom-ssh "/usr/sbin/sshd -D" 14 seconds ago Up 13 seconds 0.0.0.0:2222->2222/tcp ssh-container
9f17eed27f12 registry:2 "/entrypoint.sh /etc..." 11 hours ago Up 11 hours 0.0.0.0:5000->5000/tcp local_registr
y
80daseb15d45 custom-nginx "/docker-entrypoint..." 12 hours ago Up 11 hours 0.0.0.0:8080->80/tcp nginx-contain
er
0d6f604ba2f0 fauria/vsftpd "/usr/sbin/run-vsftp..." 12 hours ago Up 12 hours 0.0.0.0:20-21->20-21/tcp ftp-container
root@localhost's password:
noah@DESKTOP-0HUI71U:/mnt/c/Users/PC/job04$ ssh root@localhost -p 2222
Activer Window
Accédez aux paramètres pour activer Windows.

RAM 2.37 GB CPU 0.13% Disk 1023.98 GB avail. of 1081.10 GB
Tapez ici pour effectuer une recherche
10:13 10/12/2024
```

Job05 - Créer des alias pour les commandes Docker dans .bashrc

```

Terminal
GNU nano 7.2
/home/noah/.bashrc
# Alias Docker
alias dps="docker ps"
alias dpsa="docker ps -a"
alias dimg="docker images"
alias drm="docker rm"
alias drmi="docker rmi"
alias dstart="docker start"
alias dstop="docker stop"
alias dexec="docker exec -it"

^G Help      ^O Write Out   ^W Where Is    ^K Cut        ^T Execute   ^C Location   M-U Undo
^X Exit      ^R Read File   ^Y Replace     ^U Paste      ^J Justify   ^F Go To Line M-E Redo
M-A Set Mark M-B Copy Window
```

```

Terminal
GNU nano 7.2
/home/noah/.bashrc
alias dlogs="docker logs"
alias dbuild="docker build -t"
alias drun="docker run -d -p"
alias dprune="docker system prune -f"
```

Ces alias permettent :

- **dps** : Voir les conteneurs actifs.
- **dpsa** : Voir tous les conteneurs.
- **dimg** : Voir les images Docker.
- **drm** : Supprimer un conteneur par son ID.
- **drmi** : Supprimer une image par son ID.
- **dstart** : Démarrer un conteneur.
- **dstop** : Arrêter un conteneur.
- **dexec** : Accéder à un conteneur en ligne de commande.
- **dlogs** : Voir les journaux d'un conteneur.
- **dbuild** : Construire une image Docker avec un tag.

- **drun** : Démarrer un conteneur avec le mappage de port.
- **dprune** : Nettoyer Docker (conteneurs, volumes, réseaux inutilisés)

```

Terminal
bash: docker: command not found
root@3fe914c74680:/# exit
exit
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ nano ~/.bashrc
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ dps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
3fe914c74680 custom-ssh "/usr/sbin/sshd -D" 8 minutes ago Up 8 minutes 0.0.0.0:2222->2222/tcp ssh-container
9f17eed27f12 registry:2 "/entrypoint.sh /etc..." 12 hours ago Up 12 hours 0.0.0.0:5000->5000/tcp local_registry
80da5eb15d45 custom-nginx "/docker-entrypoint..." 12 hours ago Up 11 hours 0.0.0.0:8080->80/tcp nginx-container
0d6fe04ba2f0 fauria/vsftpd "/usr/sbin/run-vsftp..." 12 hours ago Up 12 hours 0.0.0.0:20-21->20-21/tcp ftp-container
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ dstart 3fe914c74680
3fe914c74680
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ g

```

RAM 2.37 GB CPU 0.13% Disk 1023.98 GB avail. of 1081.10 GB

Activer Windows
Accédez aux paramètres pour activer Windows.

+ Terminal v 4.36.0

`drmi <id de l'image>` pour supprimer une image Docker.

Job06 – Utilisation des volumes entre deux conteneurs

```

Terminal
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ docker volume inspect mon_volume
[{"Created": "2024-12-09T21:18:56Z", "Driver": "local", "Labels": null, "Mountpoint": "/var/lib/docker/volumes/mon_volume/_data", "Name": "mon_volume", "Options": null, "Scope": "local"}]
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ 

Terminal
bash: docker: command not found
root@3fe914c74680:/# exit
exit
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ nano ~/.bashrc
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ dps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
3fe914c74680 custom-ssh "/usr/sbin/sshd -D" 8 minutes ago Up 8 minutes 0.0.0.0:2222->2222/tcp ssh-container
9f17eed27f12 registry:2 "/entrypoint.sh /etc..." 12 hours ago Up 12 hours 0.0.0.0:5000->5000/tcp local_registry
80da5eb15d45 custom-nginx "/docker-entrypoint..." 12 hours ago Up 11 hours 0.0.0.0:8080->80/tcp nginx-container
0d6fe04ba2f0 fauria/vsftpd "/usr/sbin/run-vsftp..." 12 hours ago Up 12 hours 0.0.0.0:20-21->20-21/tcp ftp-container
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ dstart 3fe914c74680
3fe914c74680
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ d

Terminal
vigilant_heisenberg
7a3ec43170d3 hello-world "/hello" 13 hours ago Exited (0) About an hour ago
peaceful_montalcini
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ docker rm nginx-container
Error response from daemon: cannot remove container "/nginx-container": container is running: stop the container before removing or force remove
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ docker stop nginx-container
nginx-container
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ docker rm nginx-container
nginx-container
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ docker run -d -v mon_volume:/usr/share/nginx/html --name nginx-container nginx
d521df50f7b4b2825304953bzab455be9ecc6ed12e73b4efef1a5d71dbe857c275
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ 


```

RAM 2.37 GB CPU 0.00% Disk 1023.98 GB avail. of 1081.10 GB

Activer Windows
Accédez aux paramètres pour activer Windows.

+ Terminal v 4.36.0

```

Terminal
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ docker stop nginx-container
nginx-container
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ docker rm nginx-container
nginx-container
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ docker run -d -v mon_volume:/usr/share/nginx/html --name nginx-container nginx
d521df50f7b4b2825304953bz2a455be9ec6ed12e73b4ef1a5d71dbe857c275
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ docker run -it --rm -v mon_volume:/data alpine
Unable to find image 'alpine:latest' locally
latest: Pulling from library/alpine
38a8310d387e: Pull complete
Digest: sha256:21dc6063fd678b478f57c0e13f47560d0ea4eeba26dfc947b2a4f81f686b9f45
Status: Downloaded newer image for alpine:latest
/ # 
```

Activer Windows

Accédez aux paramètres pour activer Windows.


```

Terminal
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ docker rm nginx-container
nginx-container
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ docker run -d -v mon_volume:/usr/share/nginx/html --name nginx-container nginx
66c389f3ef42d58676d7141f27cd042a5626d49ecf31e0870c06b0278139b256
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ docker run -d -v mon_volume:/usr/share/nginx/html --name nginx-container nginx
docker: Error response from daemon: Conflict. The container name "nginx-container" is already in use by container "66c389f3ef42d
58676d7141f27cd042a5626d49ecf31e0870c06b0278139b256". You have to remove (or rename) that container to be able to reuse that name
.
See 'docker run --help'.
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ docker rename nginx-container nginx-container-old
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ docker run -d -v mon_volume:/usr/share/nginx/html --name nginx-container nginx
161b9a008ae3010226aa4566c5ad223d344c5fad02156b48ef31b173a20c23
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ 
```

Activer Windows

Accédez aux paramètres pour activer Windows.


```

docker: Error response from daemon: Conflict. The container name "nginx-container" is already in use by container "66c389f3ef42d
58676d7141f27cd042a5626d49ecf31e0870c06b0278139b256". You have to remove (or rename) that container to be able to reuse that name
.
See 'docker run --help'.
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ docker rename nginx-container nginx-container-old
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ docker run -d -v mon_volume:/usr/share/nginx/html --name nginx-container nginx
161b9a008ae3010226aa4566c5ad223d344c5fad02156b48ef31b173a20c23
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ docker volume ls
DRIVER VOLUME NAME
local 36589312c1b688b037118a275c221ccb13097c99de48604aeb9786a1e4001557
local job07_web-data
local mon_volume
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04$ 
```

Activer Windows

Accédez aux paramètres pour activer Windows.

Job07 – Utilisation de Docker Compose pour lier un conteneur FTP et Nginx

```

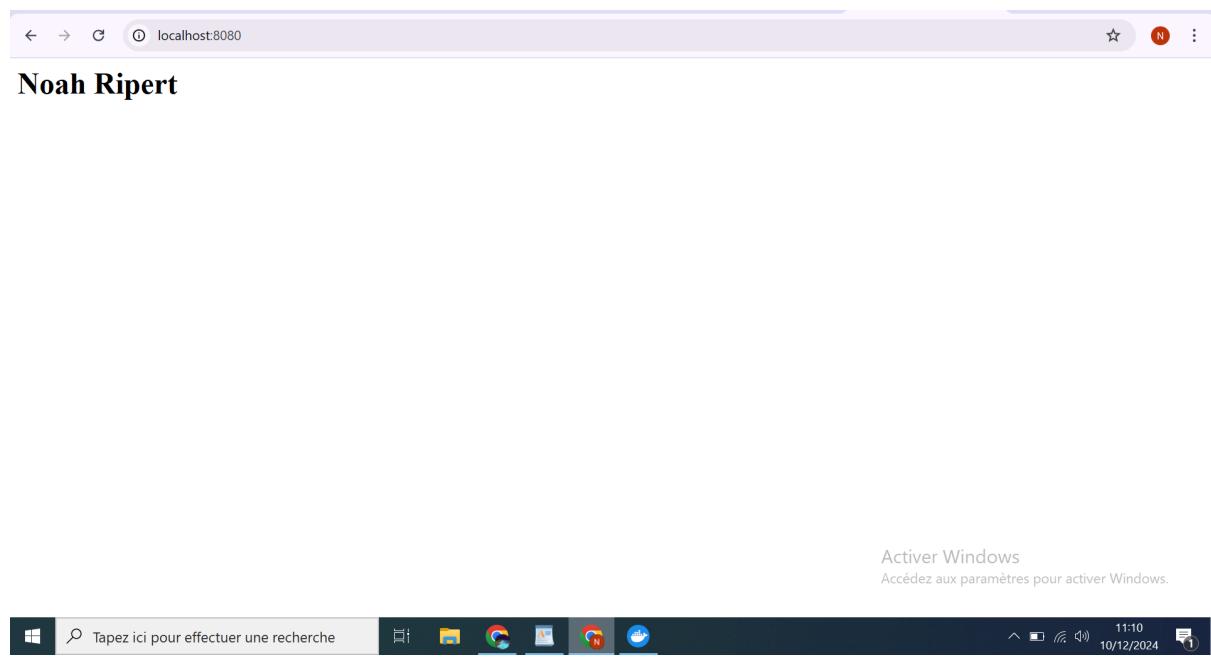
Terminal
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04/job07$ docker rm nginx-container-old
nginx-container-old
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04/job07$ docker run -d -v mon_volume:/usr/share/nginx/html -p 8080:80 --name nginx-containe
iner nginx
fb62f9eb69dd152e554b533fb6708e0f65a9166c607a80339418551bae3c
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04/job07$ docker logs nginx-container
/docker-entrypoint.sh: /docker-entrypoint.d/ is not empty, will attempt to perform configuration
/docker-entrypoint.sh: Looking for shell scripts in /docker-entrypoint.d/
/docker-entrypoint.sh: Launching /docker-entrypoint.d/10-listen-on-ipv6-by-default.sh
10-listen-on-ipv6-by-default.sh: info: Getting the checksum of /etc/nginx/conf.d/default.conf
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04/job07$ 
```

Activer Windows

Accédez aux paramètres pour activer Windows.


```

version: '3'
services:
  nginx:
    image: nginx
    container_name: nginx-container
    ports:
      - "8080:80" # Redirige le port 8080 de votre machine hôte vers le port 80 de Nginx
    volumes:
      - web-data:/usr/share/nginx/html # Montre le volume partagé pour le dossier web
  ftp:
    image: fauria/vsftpd
    container_name: ftp-container
    ports:
      - "21:21" # Port FTP
      - "20:20" # Port FTP passif
    environment:
      - FTP_USER=user
      - FTP_PASS=password
      - PASV_ADDRESS=127.0.0.1
    volumes:
      - web-data:/home/vsftpd # Utilise le même volume partagé pour FTP
    web-data: 
```



Job08 - Créer un conteneur Nginx personnalisé sans utiliser une image existante

A screenshot of a Windows desktop environment. In the foreground, a Notepad window is open with the title 'Dockerfile - Bloc-notes'. The content of the file is a Dockerfile script. The script consists of seven numbered steps: 1. Using a minimal Debian image; 2. Installing OpenSSH Server; 3. Configuring root password; 4. Changing the SSH port; 5. Allowing root SSH login; 6. Creating the necessary SSH directory; and 7. Exposing port 2222. The Notepad window has standard Windows-style controls (minimize, maximize, close) and a status bar at the bottom showing file information, zoom level (100%), and encoding (UTF-8).



Bienvenue sur mon serveur Nginx personnalisé!

Activer Windows
Accédez aux paramètres pour activer Windows.



Job09 - Créer un registre Docker local et ajouter une interface graphique

```
Terminal
+ ▾ ×
Tapez ici pour effectuer une recherche
Digest: sha256:21dc6063fd678b478f57c0e13f47560d0ea4eeba26dfc947b2a4f81f686b9f45
Status: Image is up to date for alpine:latest
docker.io/library/alpine:latest
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04/job09$ docker tag alpine localhost:5000/alpine
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04/job09$ docker push localhost:5000/alpine
Using default tag: latest
The push refers to repository [localhost:5000/alpine]
3e01818d79cd: Pushed
latest: digest: sha256:fa7042902b0e812e73bbee26a6918a6138ccf6d7ecf1746e1488c0bd76cf1f34 size: 527
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04/job09$ 
RAM 1.50 GB CPU 1.87% Disk 1023.97 GB avail. of 1081.10 GB
Activer Windows
Accédez aux paramètres pour activer Windows.
Terminal v4.36.0
11:29
10/12/2024
```

```
Terminal
+ ▾ ×
Tapez ici pour effectuer une recherche
See 'docker run --help'.
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04/job09$ docker stop nginx-container
nginx-container
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04/job09$ docker rm nginx-container
nginx-container
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04/job09$ docker run -d -p 8080:80 --name nginx-container nginx
485647414d509bb0bb9c17d1f5e3a213cd855980a14b1d10855008cc50732eb
noah@DESKTOP-0HUIJ71U:/mnt/c/Users/PC/job04/job09$ docker pull alpine
r tag alpine localhost:5000/alpine
docker push localhost:5000/alpine
Using default tag: latest
RAM 1.50 GB CPU 1.74% Disk 1023.97 GB avail. of 1081.10 GB
Activer Windows
Accédez aux paramètres pour activer Windows.
Terminal v4.36.0
11:29
10/12/2024
```



Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.

Activer Windows

Accédez aux paramètres pour activer Windows.

