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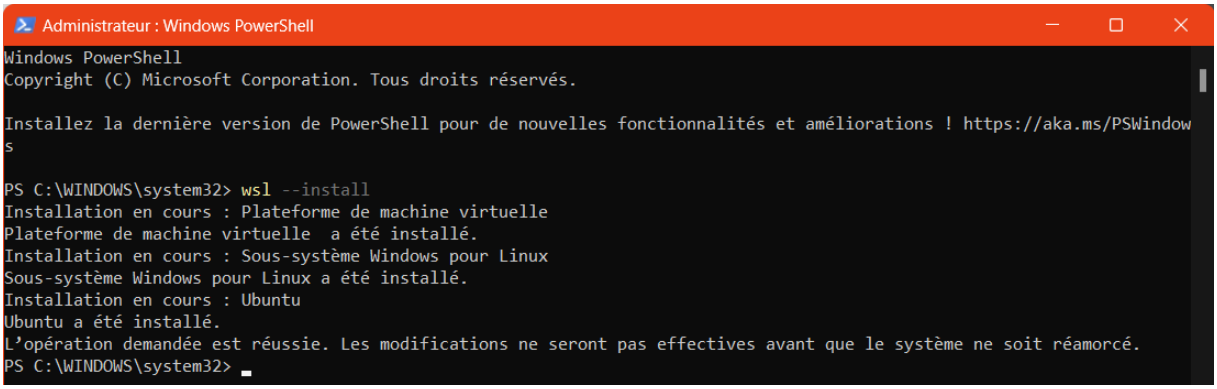
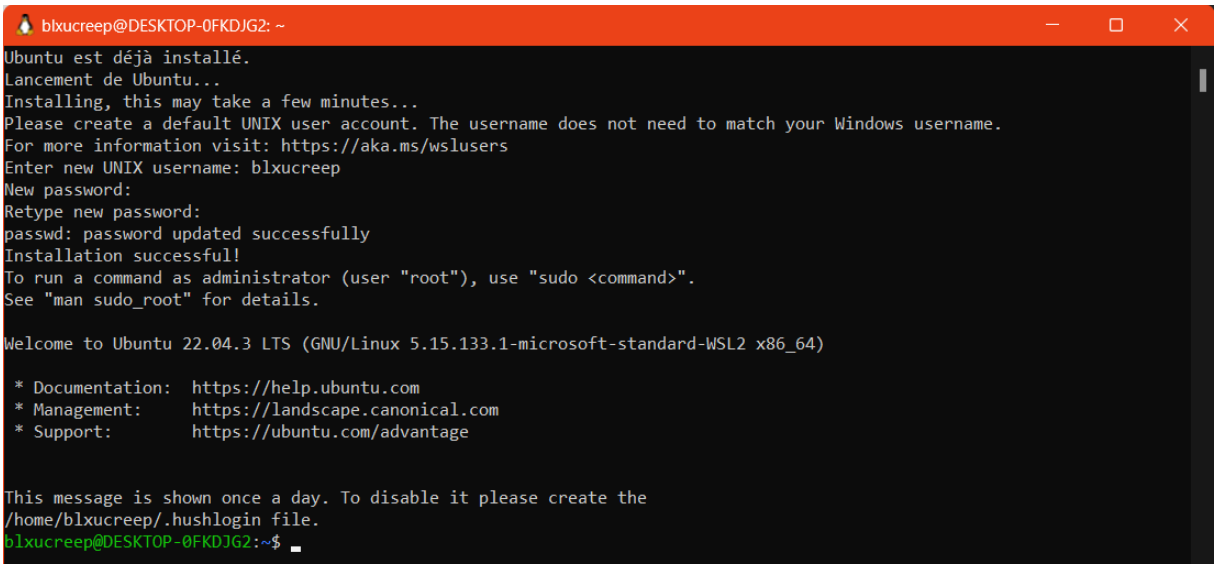
Containerization Technologies – TD 1

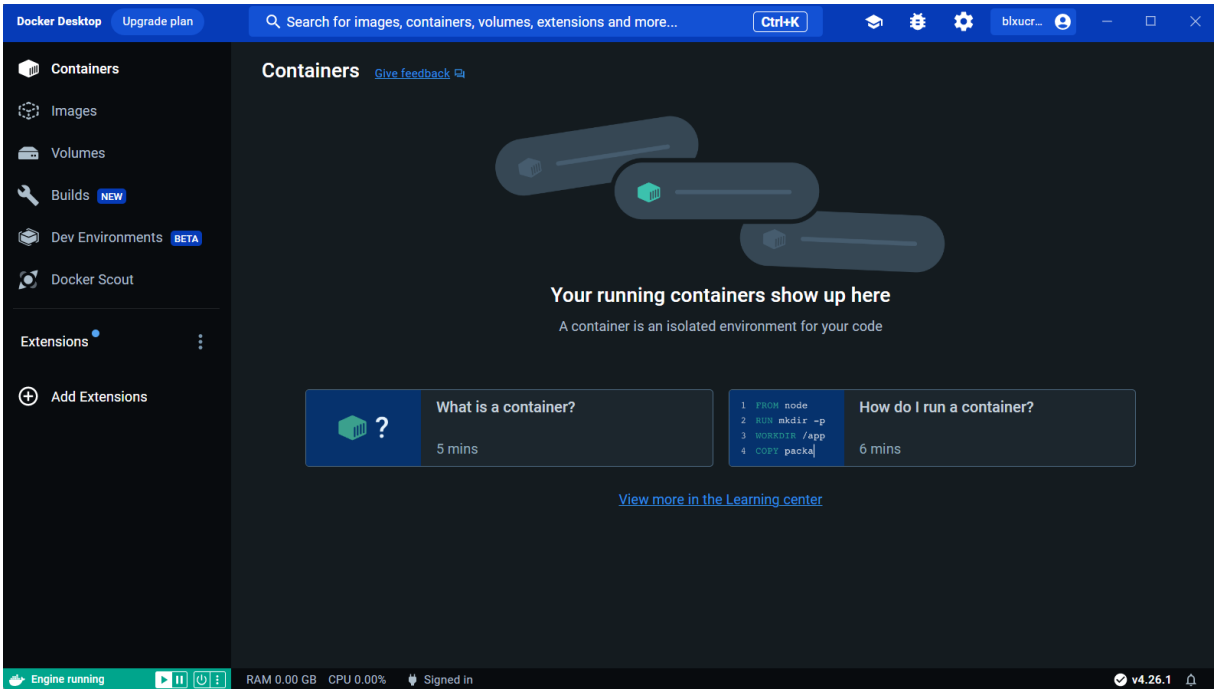
We install wsl (Linux kernel) :



After restarting my PC, it asks for an username and a password:



Docker is installed:



Let's see what commands I can use with Docker:

```
blxucreep@DESKTOP-0FKDJG2: ~
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

blxucreep@DESKTOP-0FKDJG2:~$ docker

Usage:  docker [OPTIONS] COMMAND

A self-sufficient runtime for containers

Common Commands:
  run         Create and run a new container from an image
  exec        Execute a command in a running container
  ps          List containers
  build       Build an image from a Dockerfile
  pull        Download an image from a registry
  push        Upload an image to a registry
  images      List images
  login       Log in to a registry
  logout      Log out from a registry
  search      Search Docker Hub for images
  version     Show the Docker version information
  info        Display system-wide information

Management Commands:
  builder     Manage builds
  buildx*     Docker Buildx (Docker Inc., v0.12.0-desktop.2)
  compose*    Docker Compose (Docker Inc., v2.23.3-desktop.2)
  container   Manage containers
  context     Manage contexts
```

Now we login in Docker:

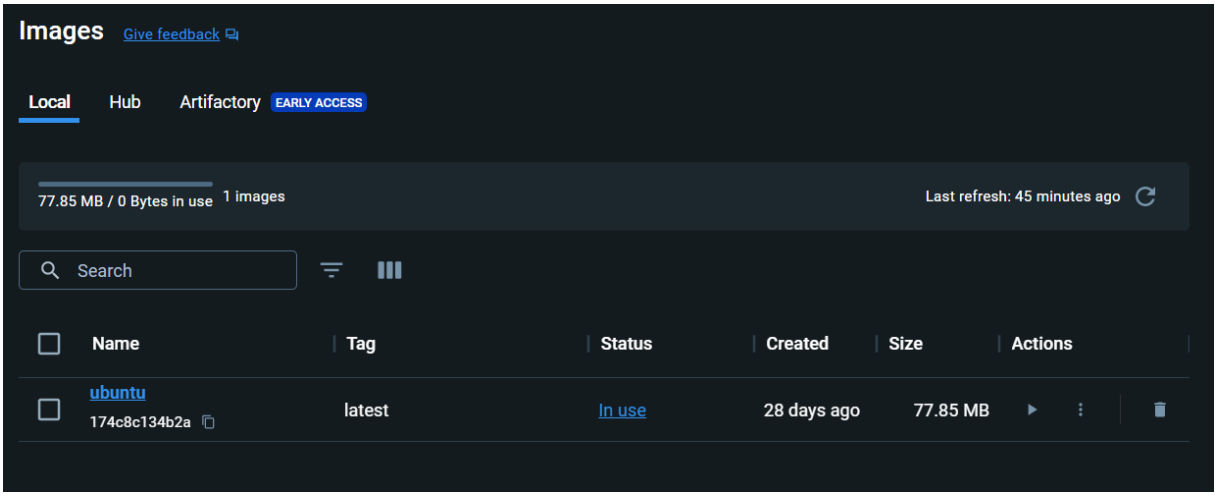
```
blxucreep@DESKTOP-0FKDJG2:~$ docker login
Authenticating with existing credentials...
Login Succeeded
blxucreep@DESKTOP-0FKDJG2:~$
```

Here, like our Windows system, now we need an environment to use our newly created Linux kernel. Let's install the latest Ubuntu distribution from the Docker registry:

```
blxucreep@DESKTOP-0FKDJG2:~$ docker pull ubuntu:latest
latest: Pulling from library/ubuntu
a48641193673: Pull complete
Digest: sha256:6042500cf4b44023ea1894effe7890666b0c5c7871ed83a97c36c76ae560bb9b
Status: Downloaded newer image for ubuntu:latest
docker.io/library/ubuntu:latest

What's Next?
  View a summary of image vulnerabilities and recommendations → docker scout quickview ubuntu:latest
blxucreep@DESKTOP-0FKDJG2:~$
```

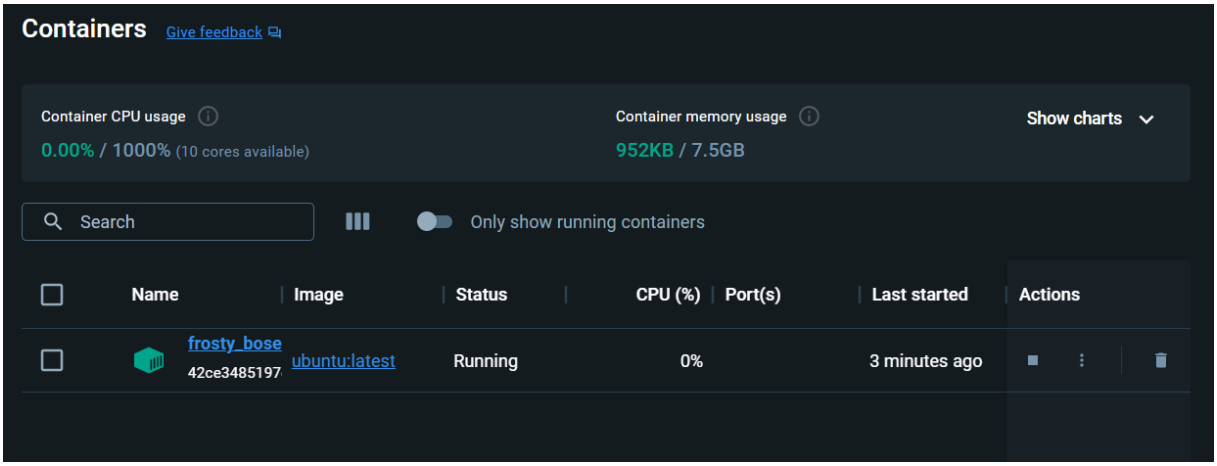
We can verify this in Docker directly, our image is available to use:



Now I want to run the container and be able to interact with it in the console. I'm the client, and I interact with the deamon:

```
blxucreep@DESKTOP-0FKDJG2:~$ docker run -it ubuntu:latest
root@42ce3485197e:/#
```

We can verify this in Docker directly, and some actions are available (run/stop etc…):



Let’s try some commands to see if our container works correctly. Here we see all the directories we have in our container:

```
root@42ce3485197e:/# ls
bin  boot  dev  etc  home  lib  lib32  lib64  libx32  media  mnt  opt  proc  root
 run  sbin  srv  sys  tmp  usr  var
root@42ce3485197e:/#
```

I can install some packages, like ‘cowsay’:

```
root@42ce3485197e:/# apt-get install cowsay
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
```