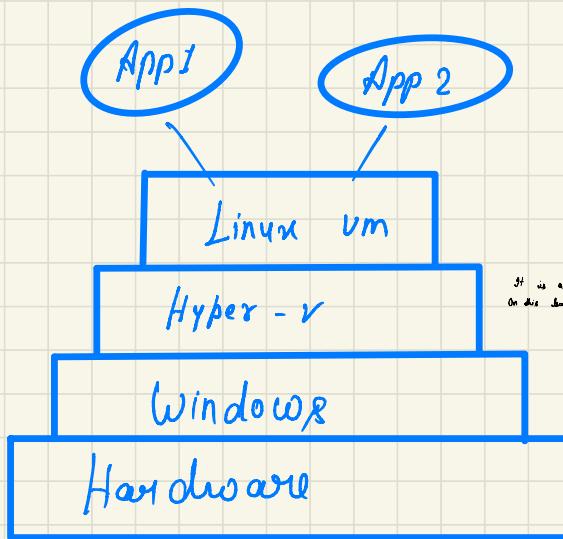


Docker notes.



Ques: How we run Linux apps on windows?

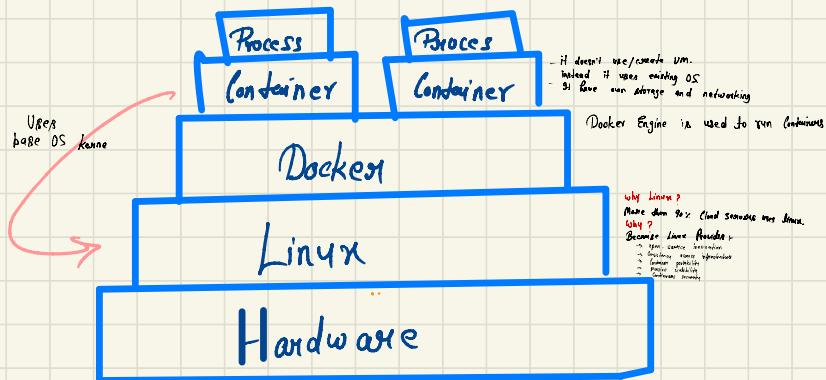


It is a virtual machine monitor, that creates / manages virtual machines. On this shield, we select how much of hardware we want to allocate to a VM.

Problem ?

→ Need better hardware utilization

Solution → Docker Containers.



Benefits :

- Containers are much more lightweight than VMs.
- Start fast.
- Can run multiple (10s) in a os

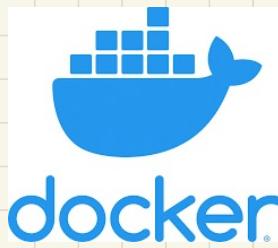
but we don't have Linux OS ?

As most of the cloud servers use linux. So we want to create Linux containers, so they'll behave the same way on cloud as they'll do in our local Linux environment.

So if we're not running Linux locally and want to create and run Linux containers, then what?

Answer is →

Docker Desktop.



- Docker Desktop will create/manage the Linux VM for you and run your containers in that machine. **otherwise that will be a little inefficient**, but once we deploy our containers to the cloud Linux servers, it will make sense

Docker Containers

→ Docker containers are based on **images** which specify what is inside the container when it runs.

Docker images

- source code
- libraries
- dependencies
- tools
- and more.
- not OS kernel.

Note :- To start we don't have to build the docker images from scratch. There are a lot of pre-built images that we can use.

Docker image definition :-

```
 Dockerfile
 1 FROM python:3.10
 2 EXPOSE 5000
 3 WORKDIR /app
 4 RUN pip install flask
 5 COPY .
 6 CMD ["flask", "run", "--host", "0.0.0.0"]
```

Base image. ←
Port to run ←
Working directory ←
Installing flask. ←
Copy current directory data to image. ←
Running app. ←