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LESSON : DEVOPS
SUBJECT: Docker-1

BATCH : B224

AWS-DEVOPS



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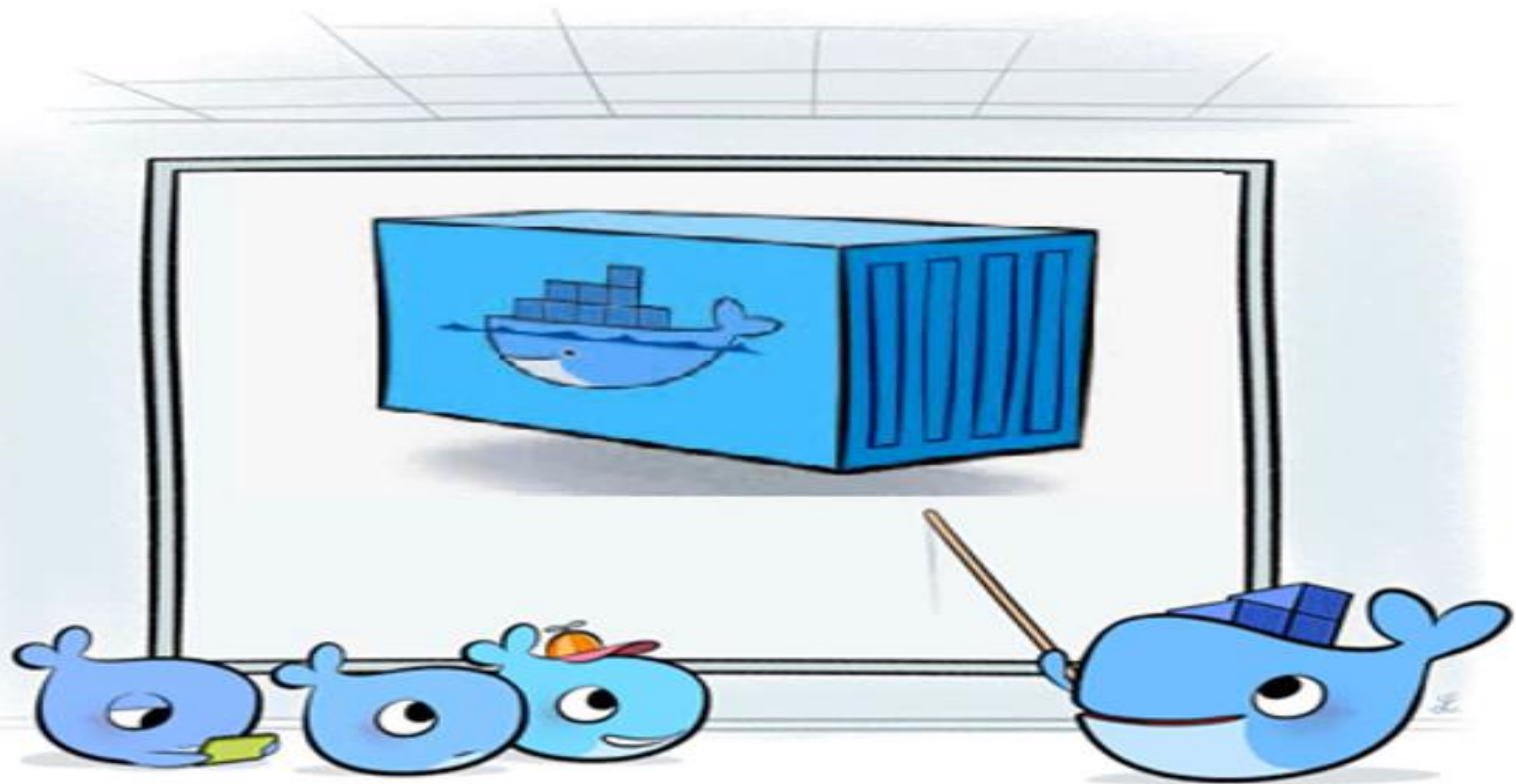
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What is  ???
docker







What is Docker?

"DOCKER" refers to several things. This includes an open-source community project which started in 2013; tools from the open-source project; Docker Inc., the company that is the primary supporter of that project; and the tools that the company formally supports.

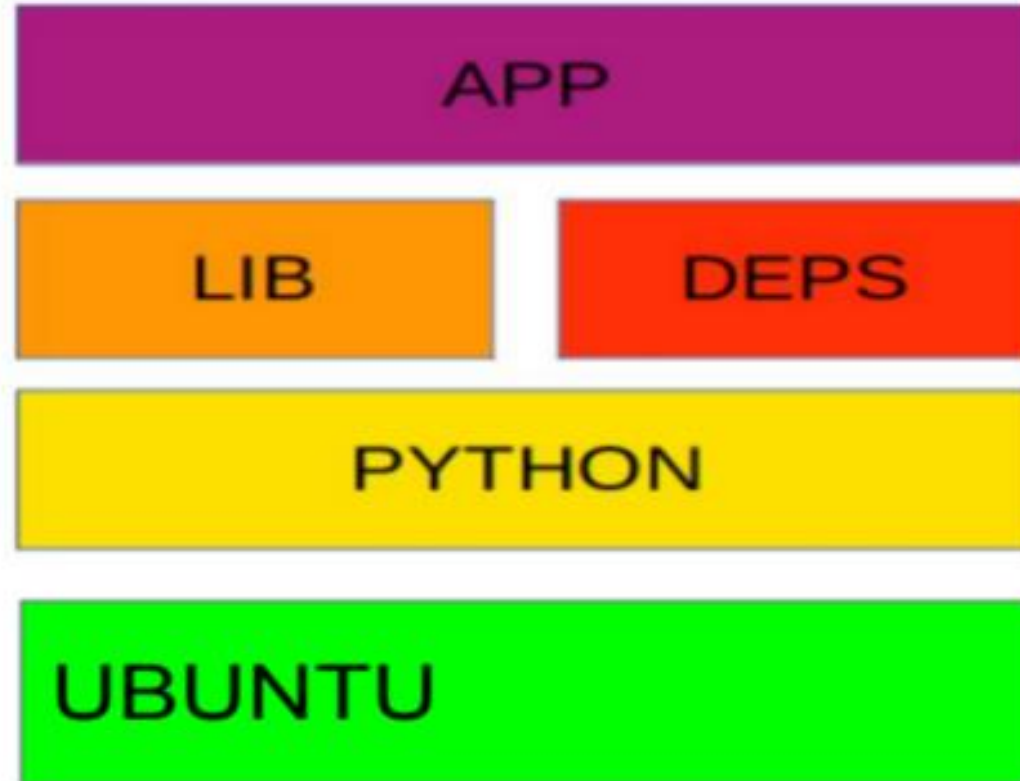
- Docker as a "Company"
- Docker as a "Product"
- Docker as a "Platform"
- Docker as a "CLI Tool"
- Docker as a "Computer Program"



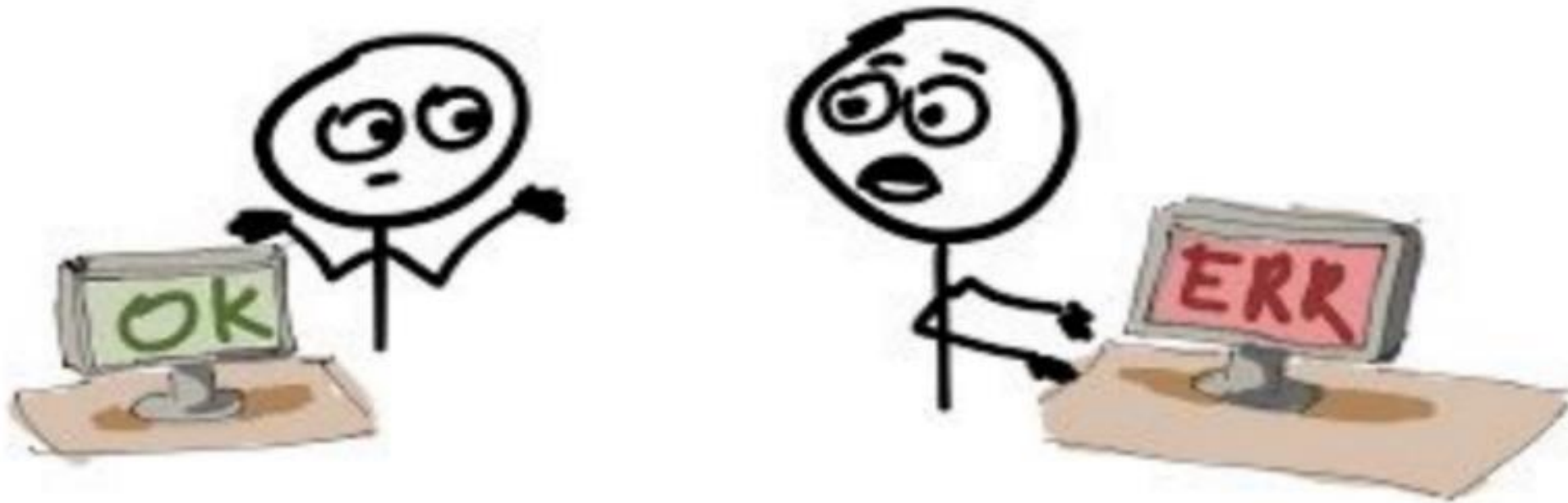
Docker?



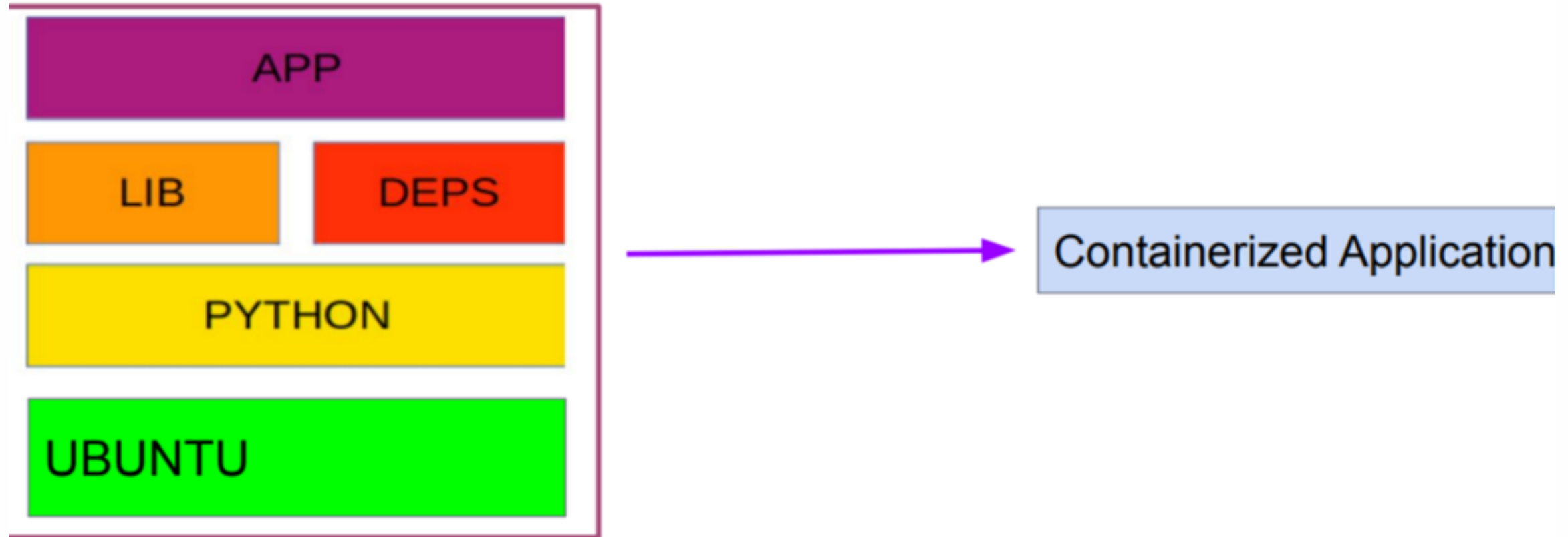
What is Container?



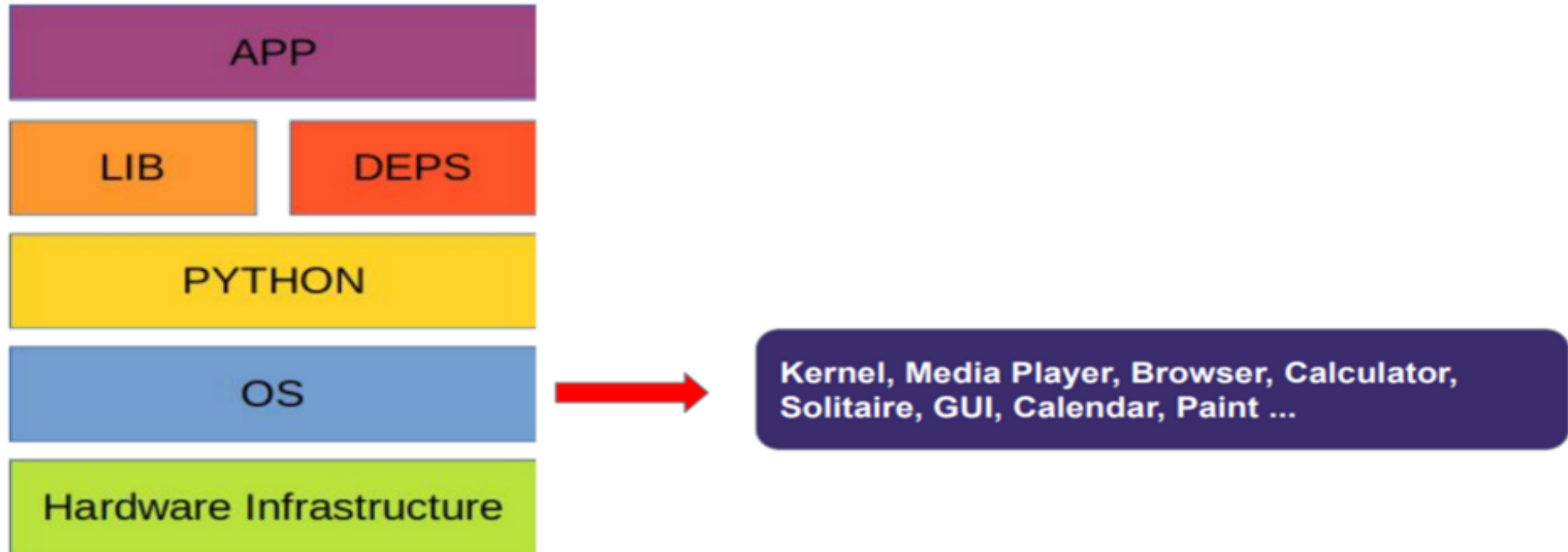
What is Container?



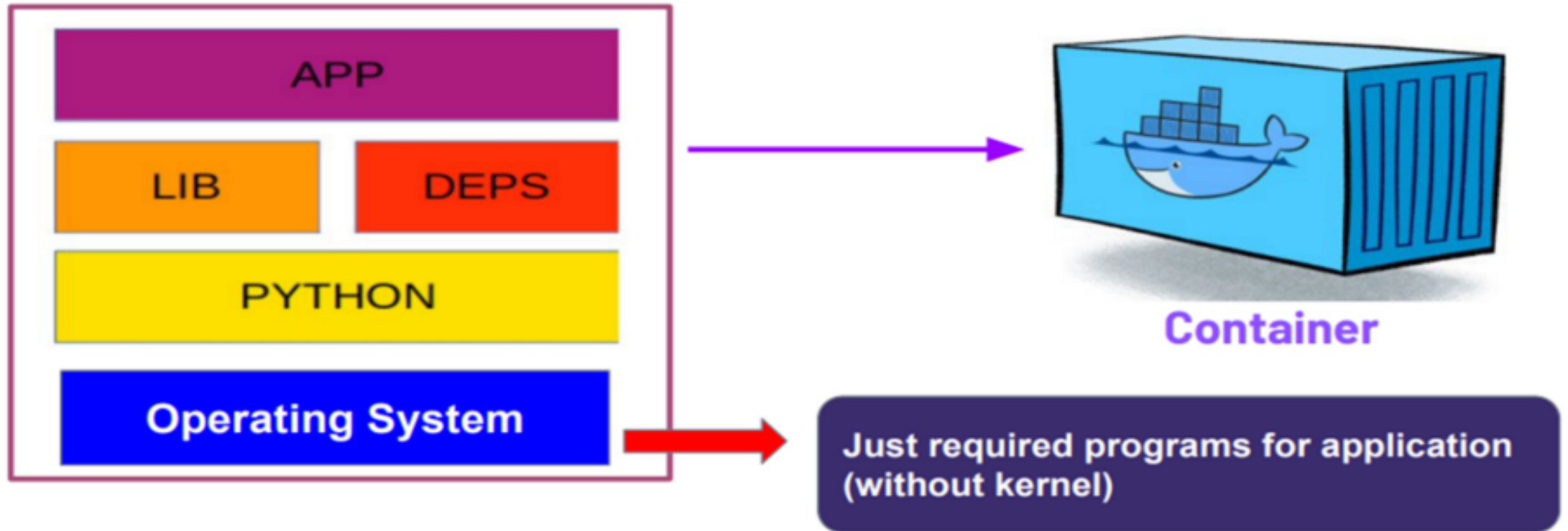
What is Container?



What is Container?



What is Container?



What is Container?



Docker vs. VMs

Virtual Machine



Containers









Docker containers are executed with the Docker engine rather than the hypervisor. Containers are therefore smaller than Virtual Machines and enable faster startup with better performance, less isolation and greater compatibility possible due to sharing of the host's kernel. Hence, it looks very similar to the residential flats system where we share resources of the building.

Docker vs. VMs

Docker ve SM farkları:

1. Bütün konteynırlar aynı kernel ı kullanır. SM de ise her SM kendi işletim sistemini ve kendi kernel ını kullanılır.
2. Konteynırlar saniyeler içinde ayağa kalkar. SM ler ise dakikalar sürüyor.
3. Konteynırlar çok hafiftir KB/MB ile ölçülür. SM iler ise GB larla.
4. Daha az kaynak kullanır, daha fazla kaynak kullanır.
5. Bir laptopta birçok docker konteynır kurulabilir. SM ise bir laptop ta en fazla birkaç tane kurulabilir.

VM vs. Docker		
		
Size		
Startup		

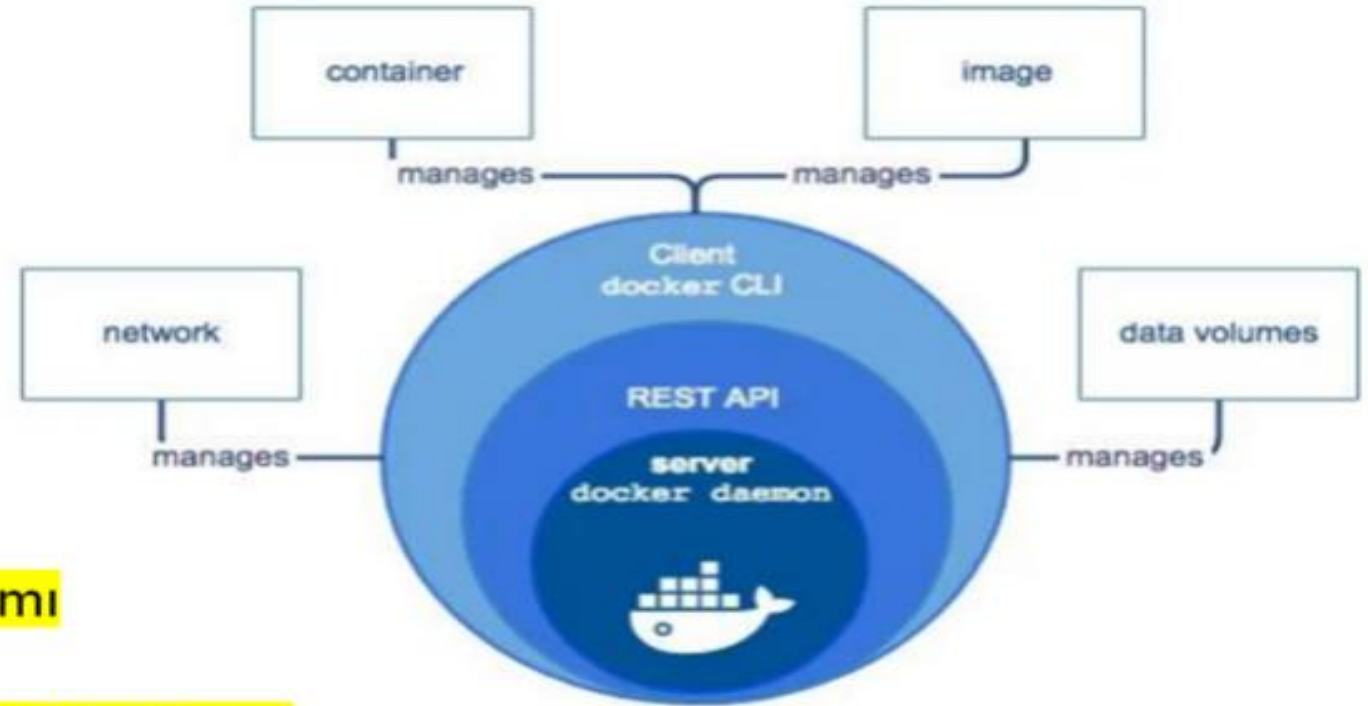
Docker Architecture

Docker uses a client-server architecture. The Docker client talks to the Docker daemon, which does the heavy lifting of building, running, and distributing your Docker containers. The Docker client and daemon can run on the same system, or you can connect a Docker client to a remote Docker daemon. The Docker client and daemon communicate using a REST API, over UNIX sockets or a network interface.

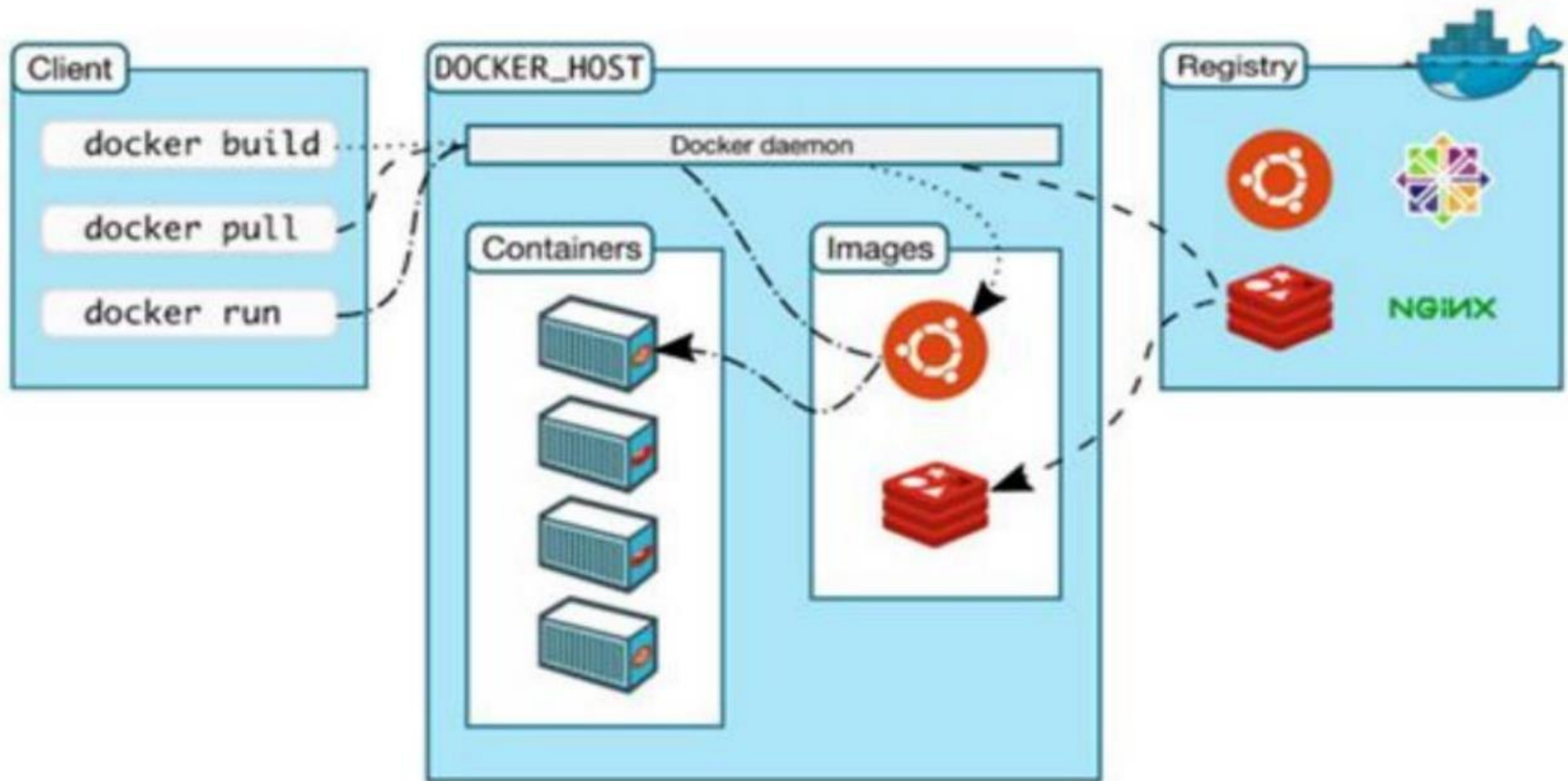
Docker daemon programları çalıştıran kısmı

Docker CLI bizim kullandığımız ara yüz.

REST API ise CLI ile **daemon** arasındaki ilişkiyi kurar.

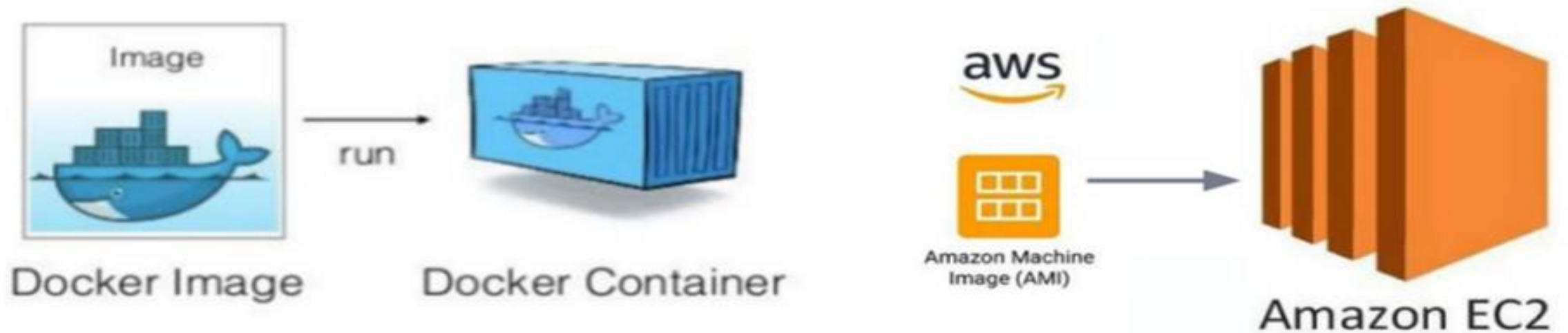


Docker Architecture



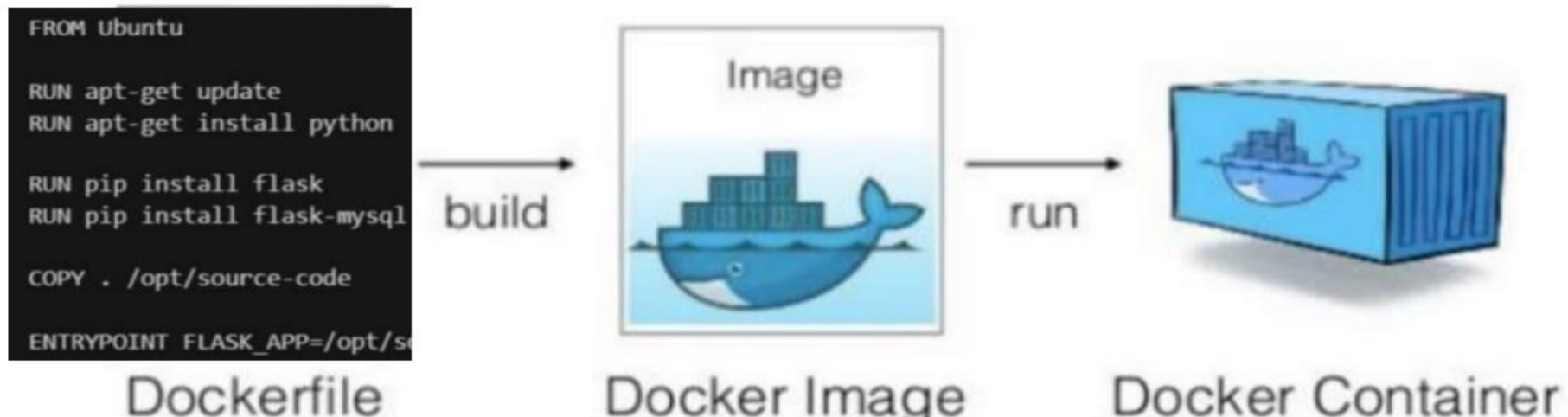
Images and Containers

- An **image** is a read-only template with instructions for creating a Docker container.
- A **container** is a runnable instance of an image.



Dockerfile

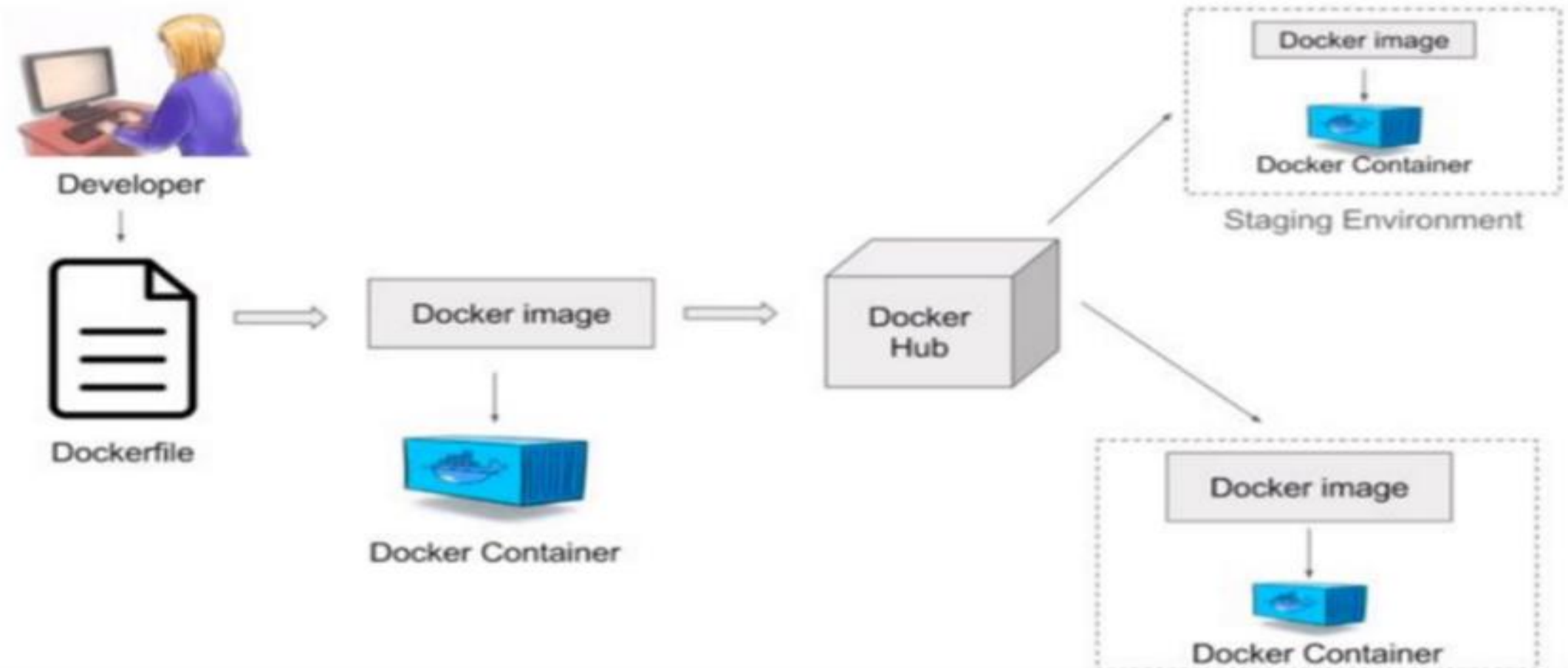
- A **Dockerfile** is a text document that define the steps needed to create the image and run it.
- We might create our own images with a **Dockerfile**.
- Each instruction in a Dockerfile creates a layer in the image. When we change the Dockerfile and rebuild the image, only those layers which have changed are rebuilt.
- This is part of what makes images so lightweight, small, and fast, when compared to other virtualization technologies.



<https://hub.docker.com>



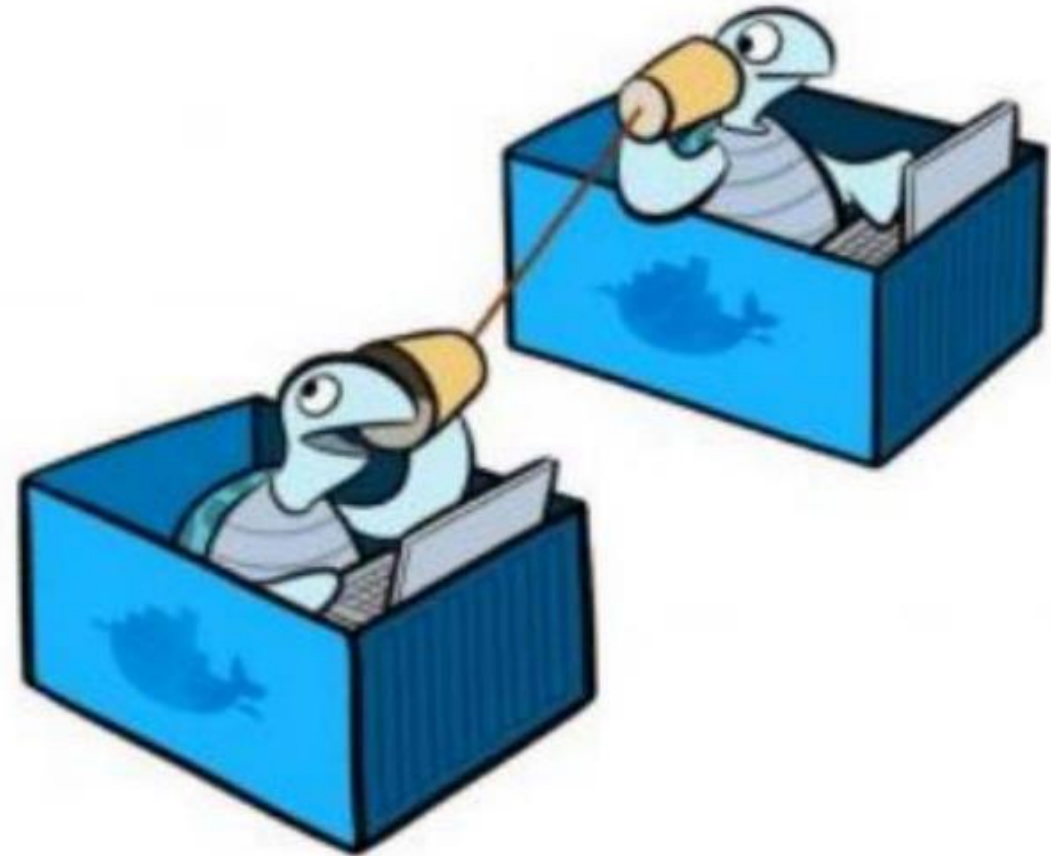
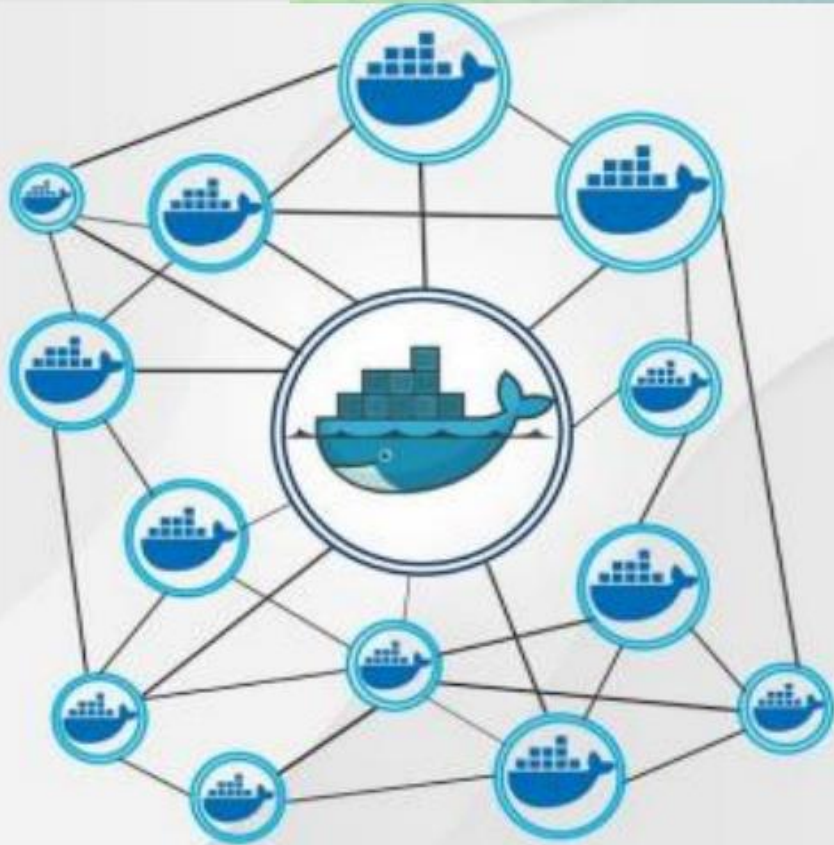
Images and Containers



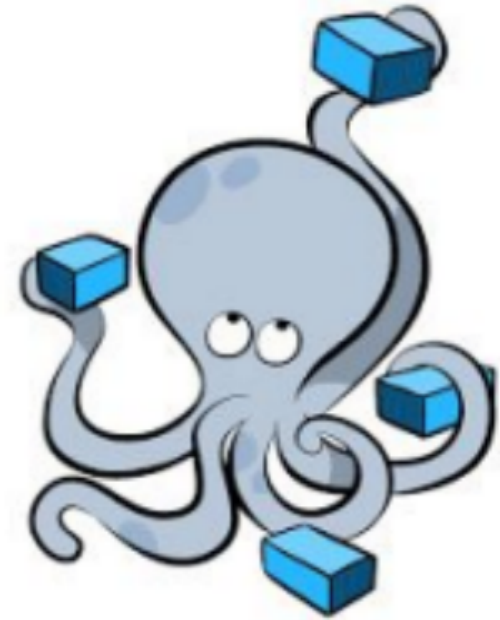
DOCKER

1. Her docker run yeni container demek.
2. Container bir uygulama içindir ve hep çalışmalıdır.
3. Her container bir process'dir.
4. imagelar olabildiğince küçük olmalıdır.
5. Her ne kadar container içerisine 1 den fazla uygulama yüklenebilse de kullanım için uygun değildir. Her container 1 uygulama için oluşturulmalıdır.

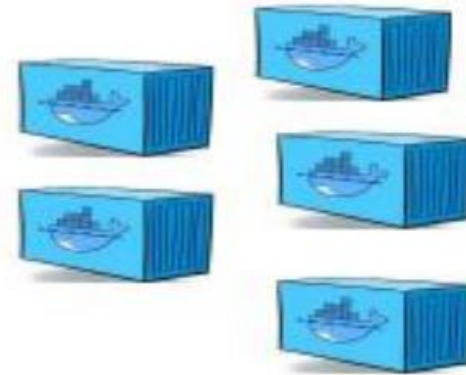
Docker Networking



Orchestration



Orchestration



Container orchestration is used to automate the following tasks at scale:

- Provisioning and deployments of containers
- Availability of containers
- Load balancing, traffic routing and service discovery of containers
- Health monitoring of containers