



Docker Certified Associate (DCA)

Create by: **Hadi Tayanloo**

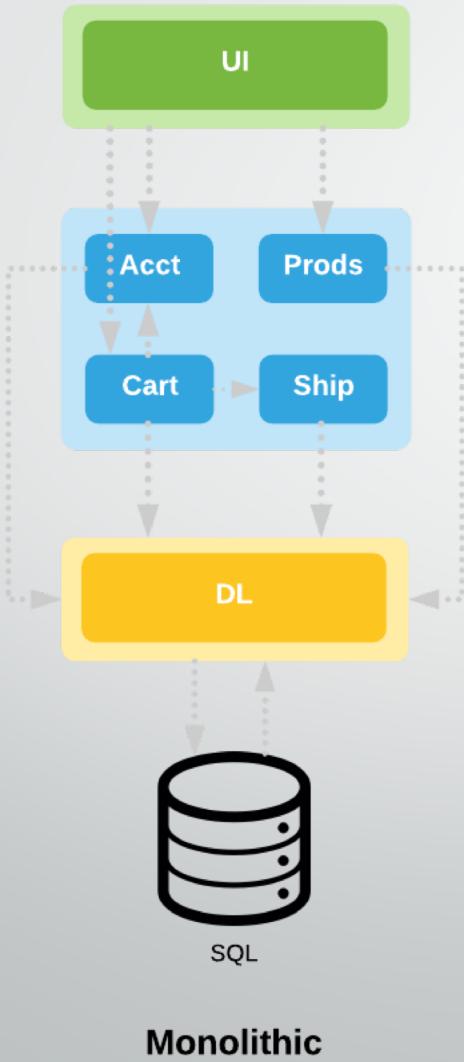
Phone : +98-912-8387233

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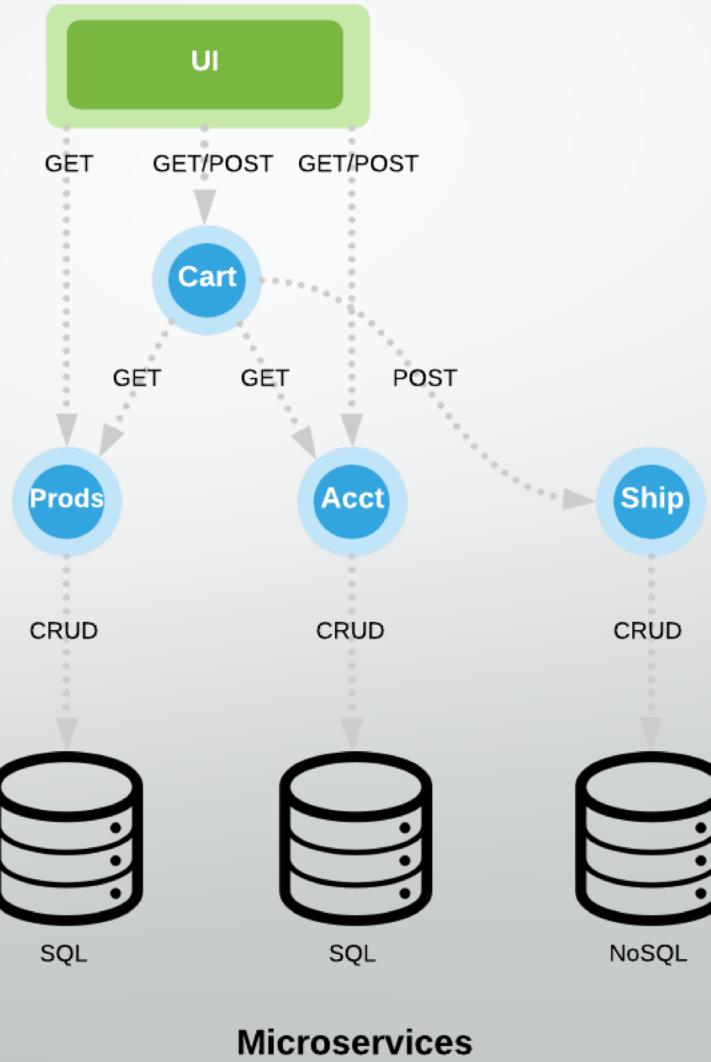
Session 1

- Application Modernization
- Docker is ...
- Docker Overview
- Container vs virtualmachine
- Key Benefits of Docker Containers
- Docker Engine
- Install Docker On Centos 7
- Install Docker On Ubuntu 18.4
- Docker installation Directory and important
- Lab-1 (Steps of a Docker workflow)

Application Modernization



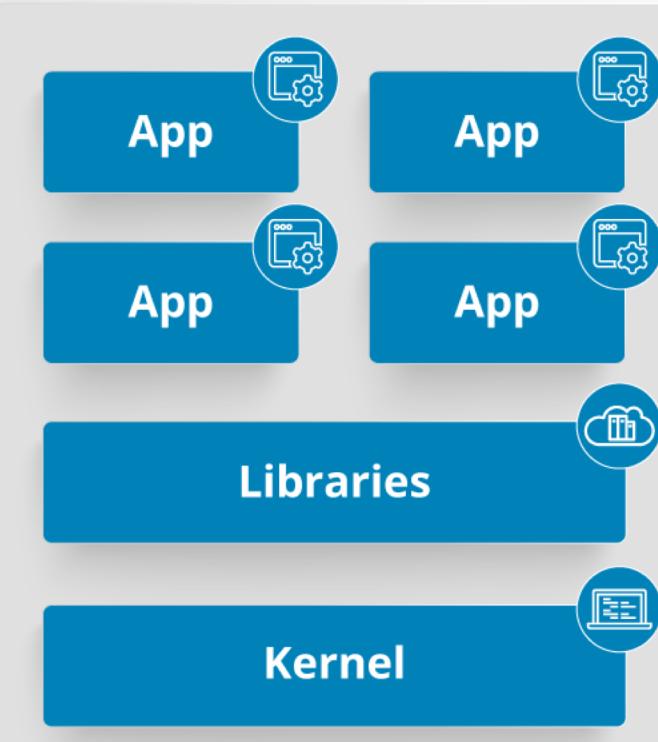
Monolithic



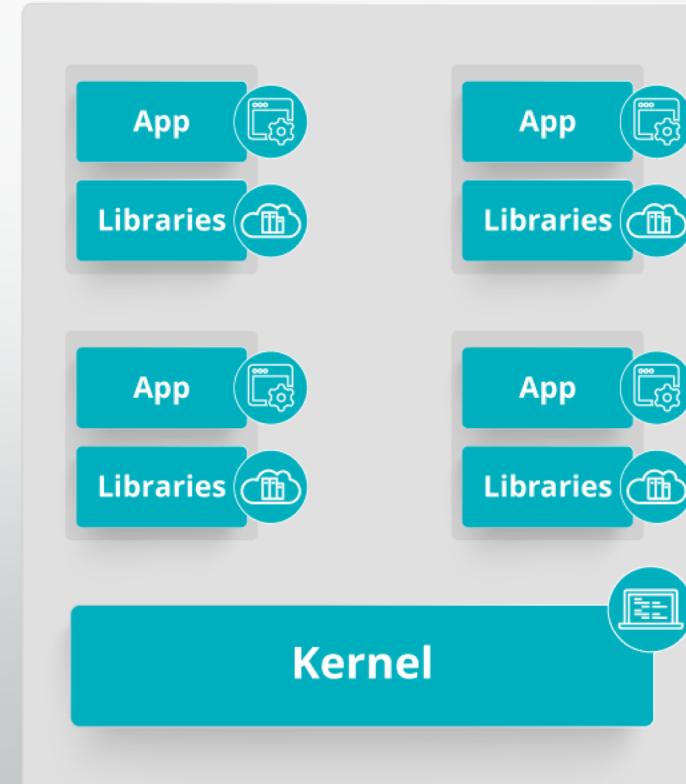
Microservices

Isolated package in Container

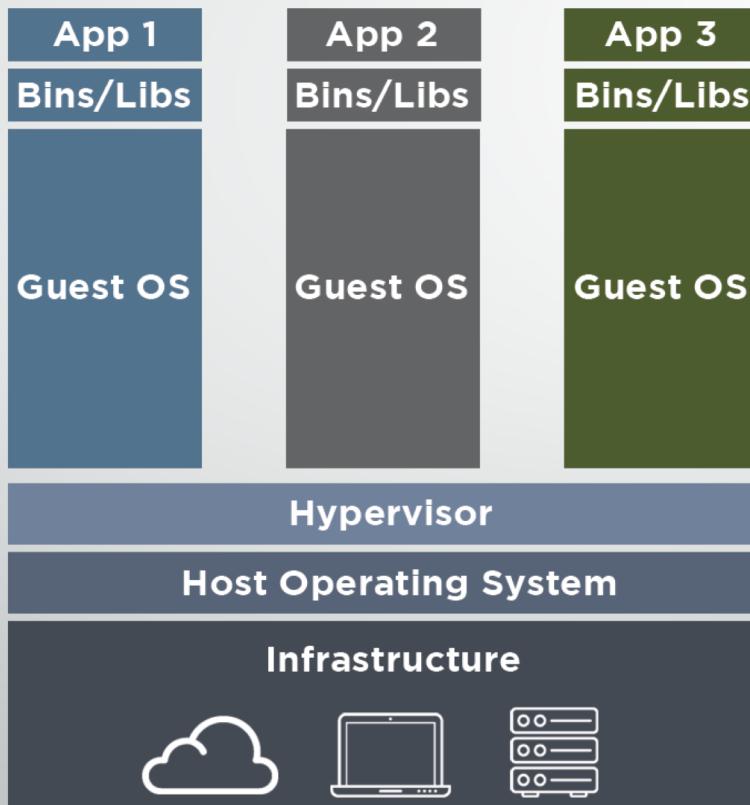
The old way: Application on Host



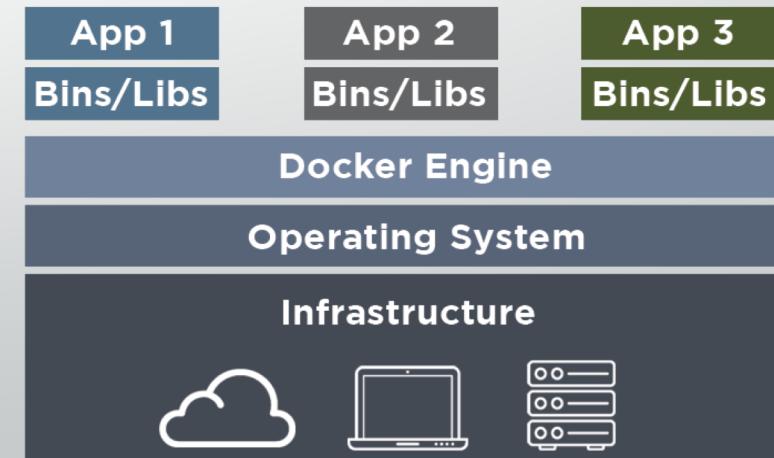
The New Way: Deploy Containers



Container vs virtual machine

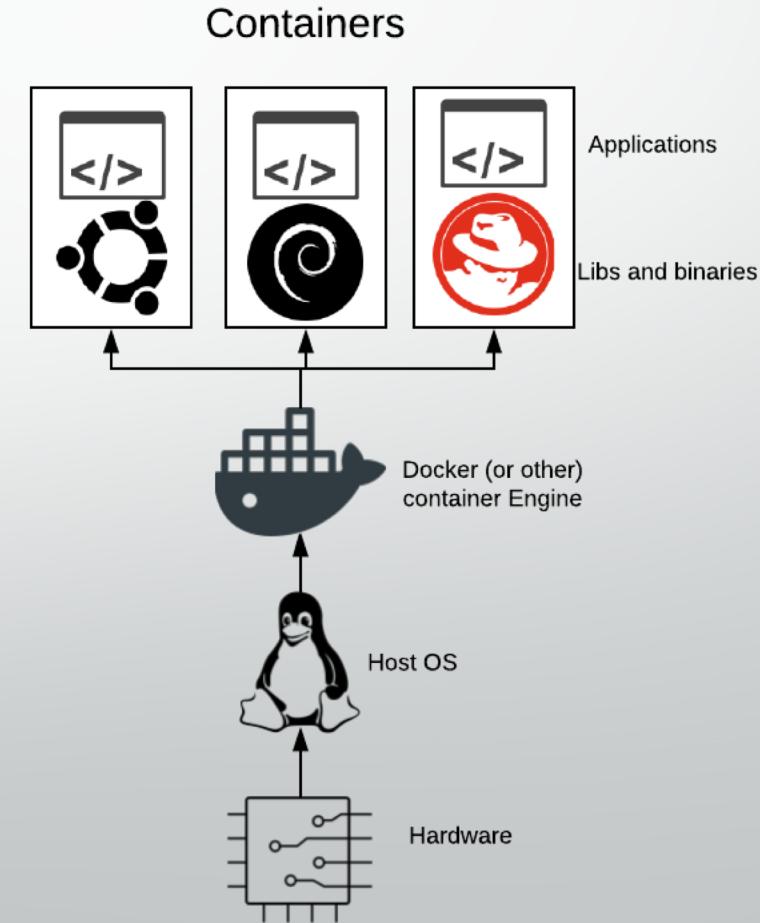
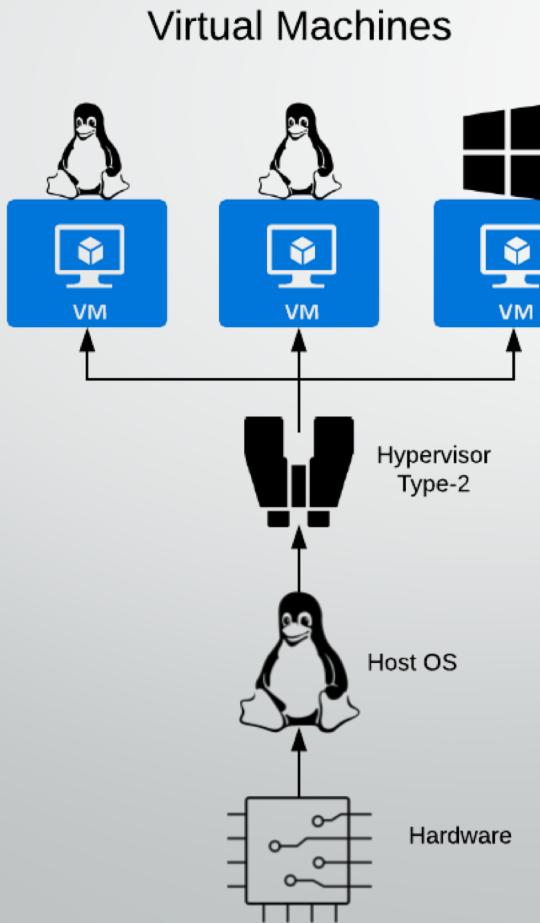


Virtual Machines

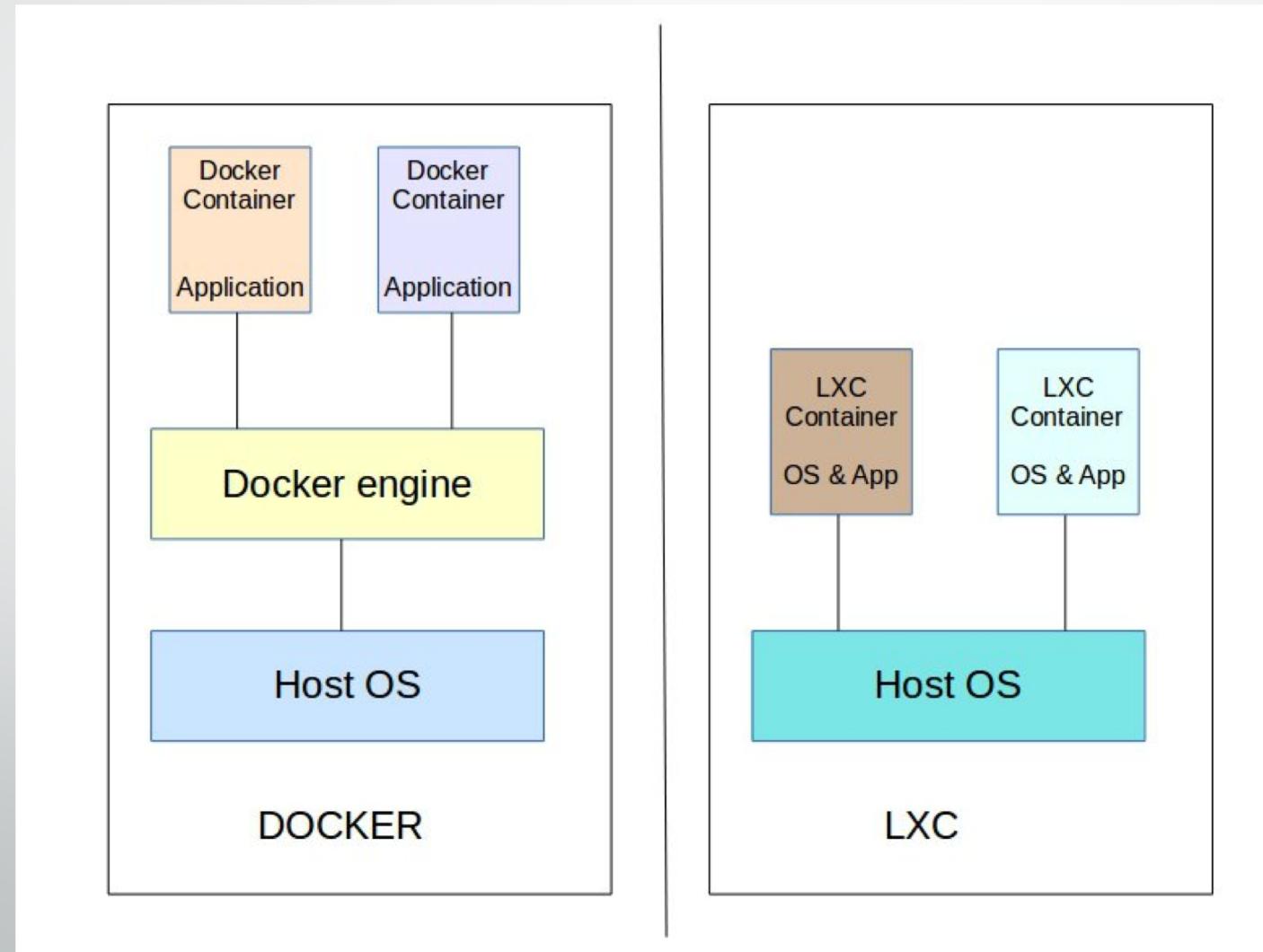


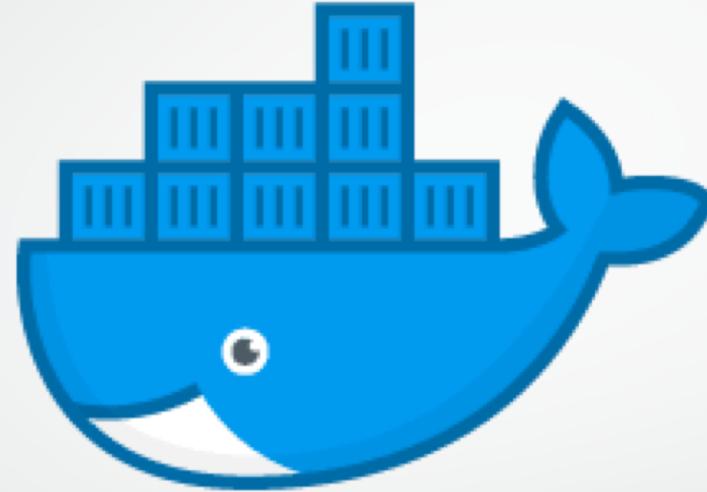
Containers

Container vs virtualmachine



Docker VS LXC



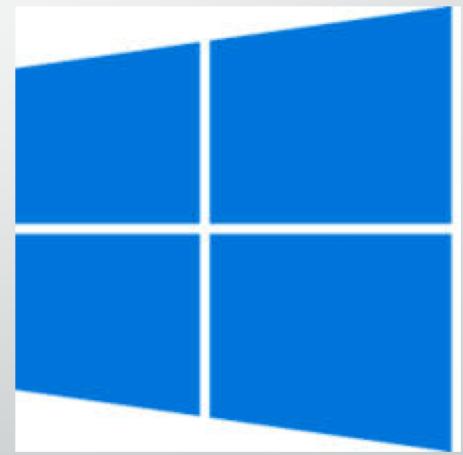


docker

Docker Editions

- Docker Community Edition
- Docker Enterprise Edition

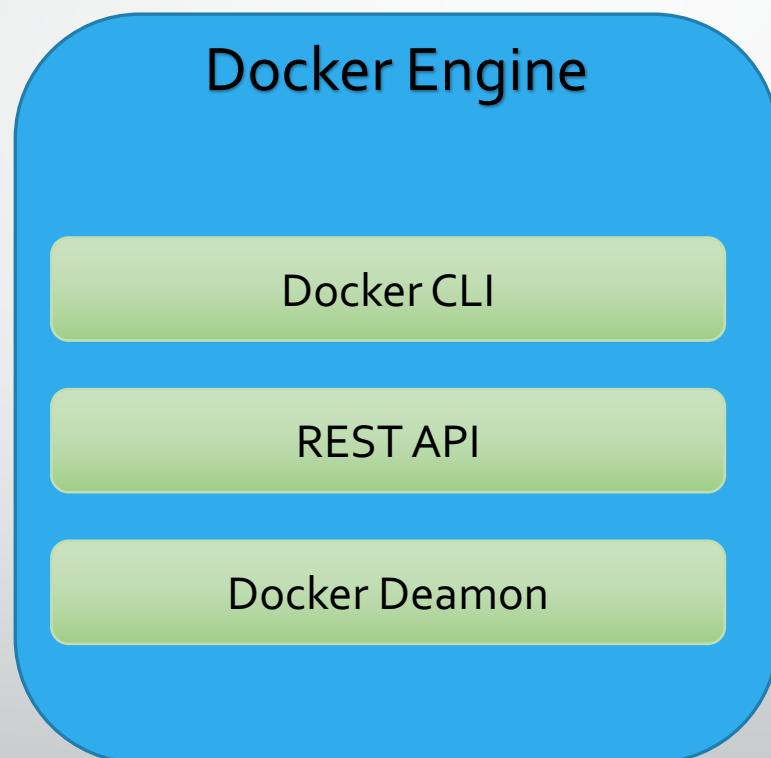
Run Docker anywhere



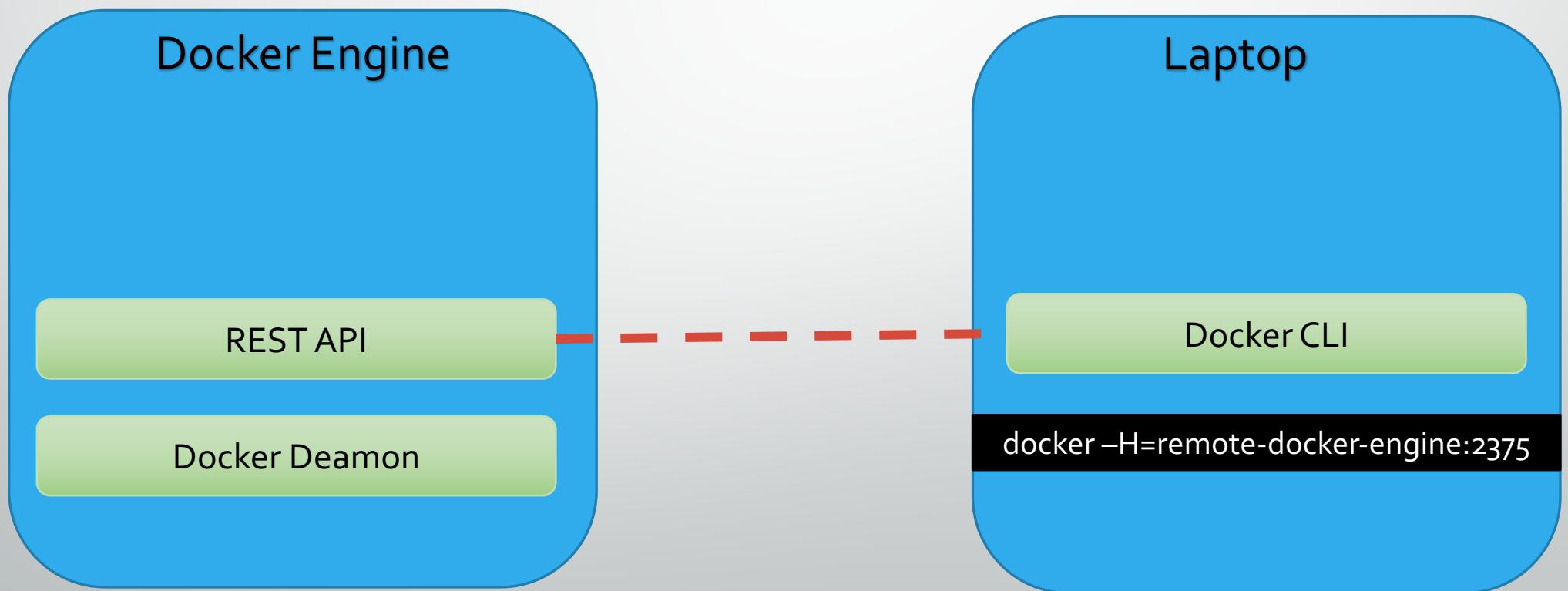
Resource

- <https://docs.docker.com/>

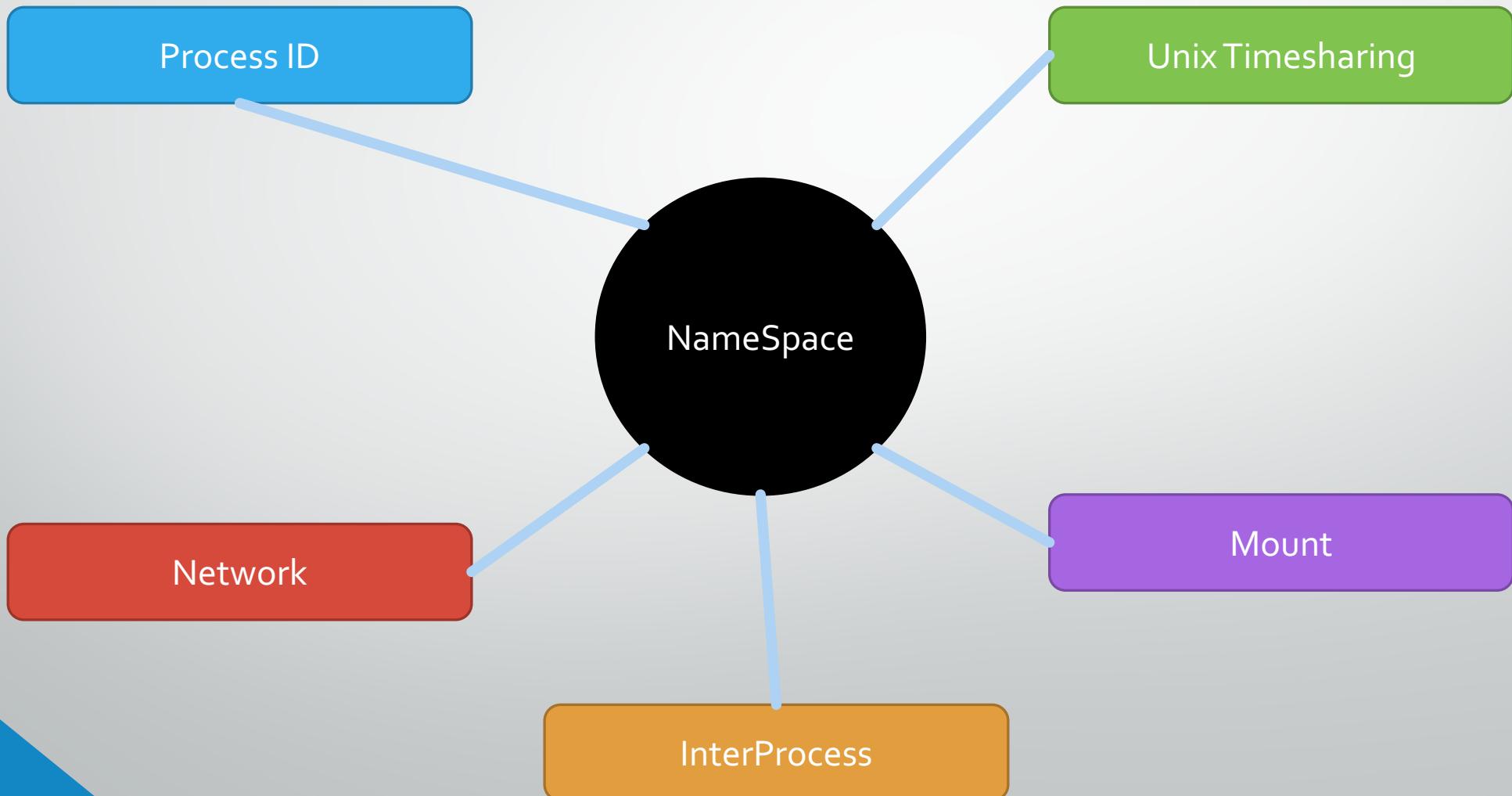
Docker Engine



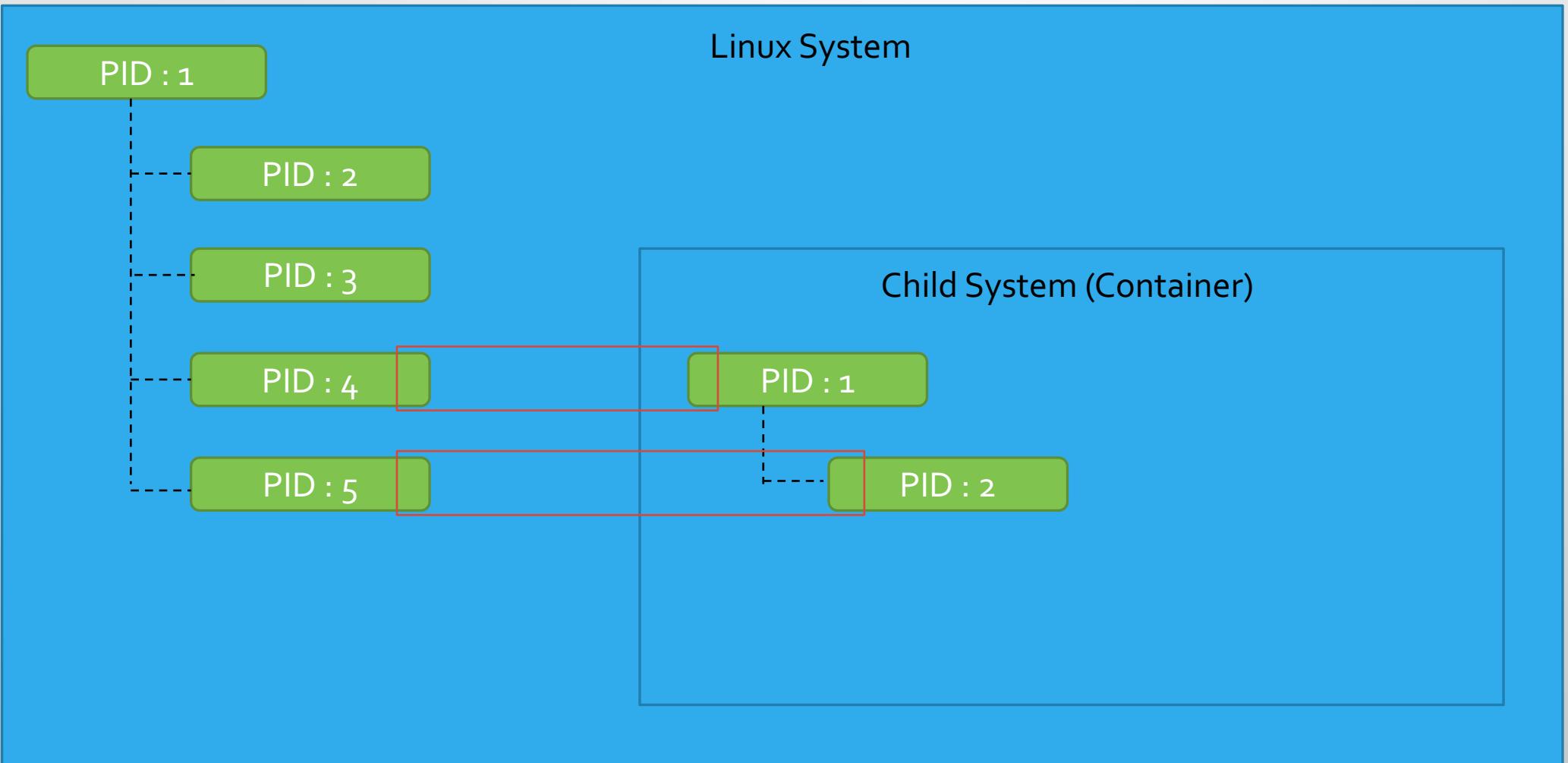
Docker Engine



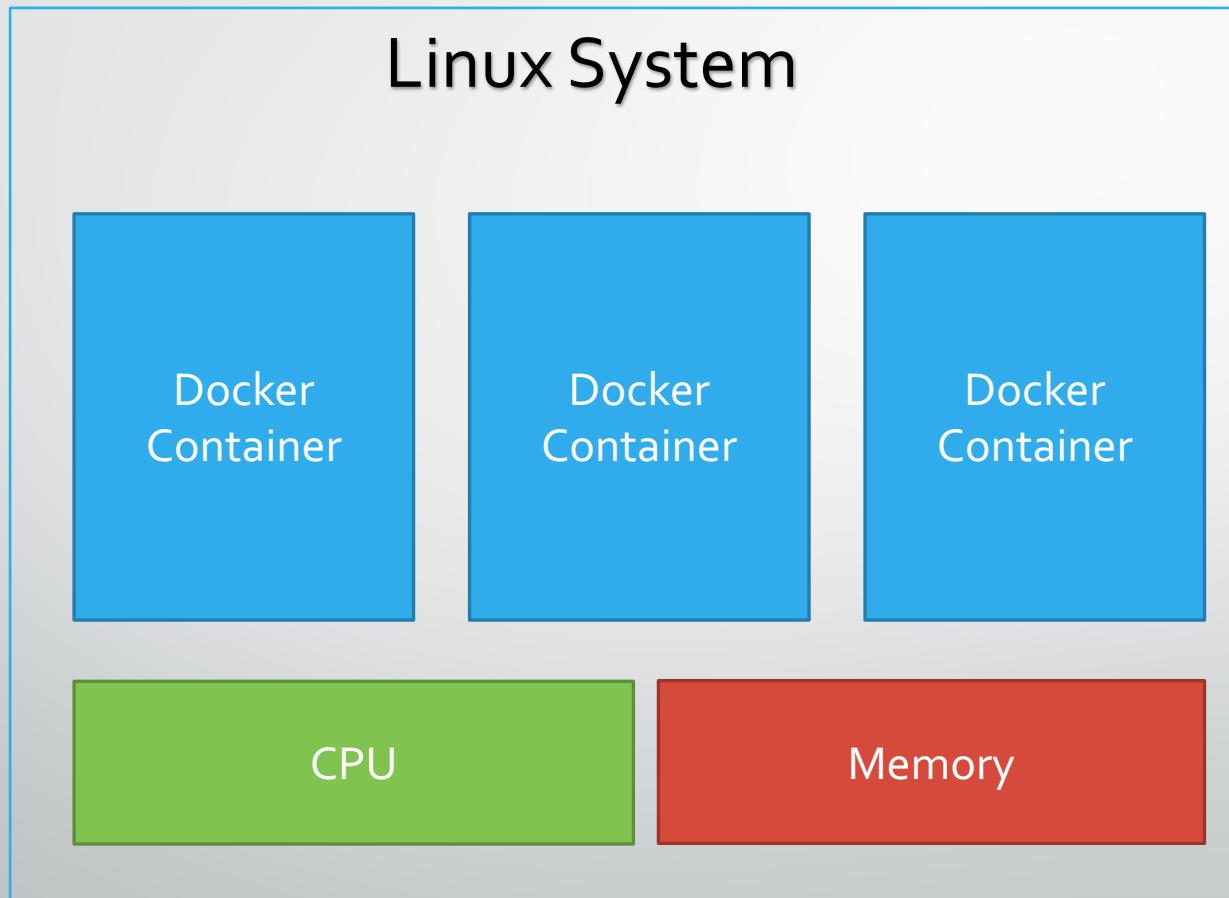
Containerization



NameSpace - PID



Cgroup



Docker Storage

- /var/lib/docker
 - Aufs
 - Containers
 - Image
 - Volumes

Docker Installation Centos 7

- <https://github.com/htayanloo/DCA-Course/blob/master/Course-Doc/Session-1/Docker-Centos-Installation.txt>

Docker Installation Ubuntu

- <https://github.com/htayanloo/DCA-Course/blob/master/Course-Doc/Session-1/Docker-Ubuntu-Installation.txt>

Proxy Set Docker

- Create a systemd drop-in directory for the docker service:

```
sudo mkdir -p /etc/systemd/system/docker.service.d
```

- Create a file called /etc/systemd/system/docker.service.d/http-proxy.conf that adds the HTTP_PROXY environment variable:

```
[Service] Environment="HTTP_PROXY=http://proxy.example.com:80/"
```

```
sudo systemctl daemon-reload
```

```
sudo systemctl restart docker
```

```
systemctl show --property=Environment docker
```

Docker Commands

- Note : Command Structure
- docker [option] [command] [arguments]

Docker Get Image from Dockerhub.

docker run hello-world

- Unable to find image 'hello-world:latest' locally
- latest: Pulling from library/hello-world
- d1725b59e92d: Pull complete
- Digest:
sha256:b3a26e22bf55e4a5232b391281fc1673f18462b75cdc76aa103e6d3a2b
ce5e77
- Status: Downloaded newer image for hello-world:latest
- Hello from Docker!

View Docker image (hello-world) from Dockerhub.

```
[root@dn1 ~]# docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
hello-world	latest	4ab4c602aa5e	3 months ago	1.84kB

docker images -a > show all images

docker images -q > show ONLY Image ID

Docker Container Execute and Input to Container

- docker run -it IMAGE:TAG
- docker run -it centos:latest