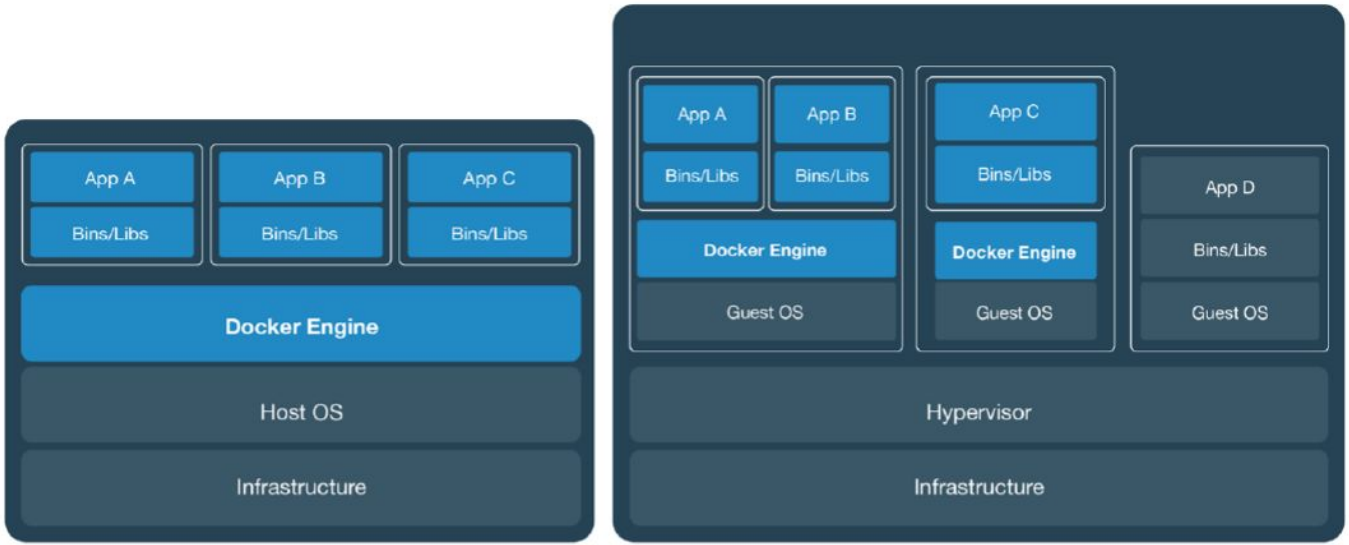
Docker Tutorial

Overview

Containers Vs VMs



Containers Concepts

- Namespaces: Process isolation. Types:
  - PID
  - Mount
  - UTS
  - IPC
  - Network
- Cgroups: Species the amount of resources constraints

Docker Installation

- https://docs.docker.com/engine/install/

Docker Hello World

Hello World Example

```
$: docker run hello-world
docker : Command line interface
run: Runs a container
hello-world: Name of the image to run
```

Web-Server Example

```
$:  docker run --name mynginx1 -p 80:80 -d  nginx
name: Name of the running instance
p: Publish a container's port(s) to the host for port mapping
d: Run container in background and print container ID
```

Common Docker Options

- `docker ps -a`
- `docker kill <id>`
- `docker rm <id>`
- `docker exec -it mynginx1 sh`
- …
- `docker –help`

Custom Images: Docker Compose

Step 1: Git clone docker-compose tutorial

Step 2: Go through `app.py` and `Dockerfile`

Step 3: Build custom docker image

- `docker build -t my-flask-app .`
- `-t: image name`
- `.: location of Dockerfile(run it from composetest dir)`

Step 4: Run Redis and custom app

- `docker compose up`

Step 5: Profit! (http://127.0.0.1:8000)