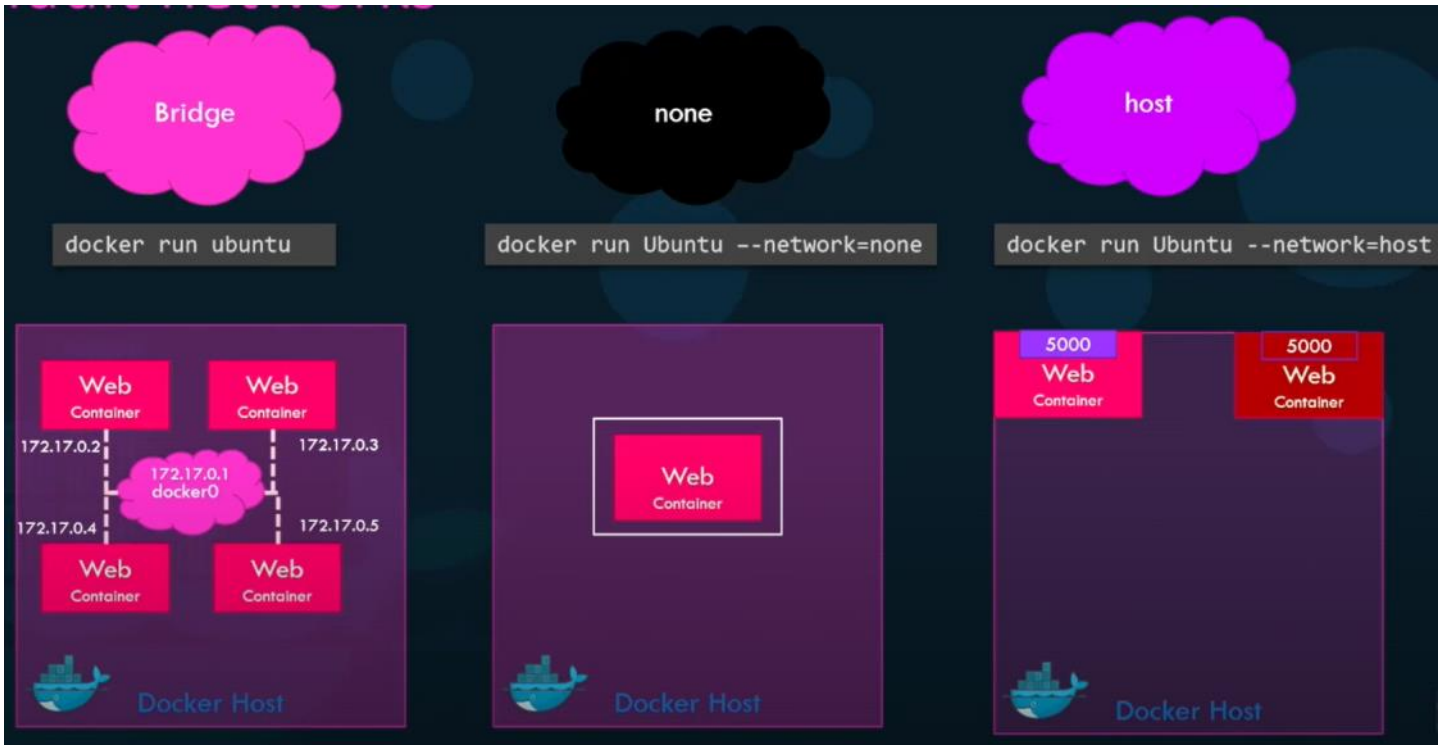
Networking with Docker

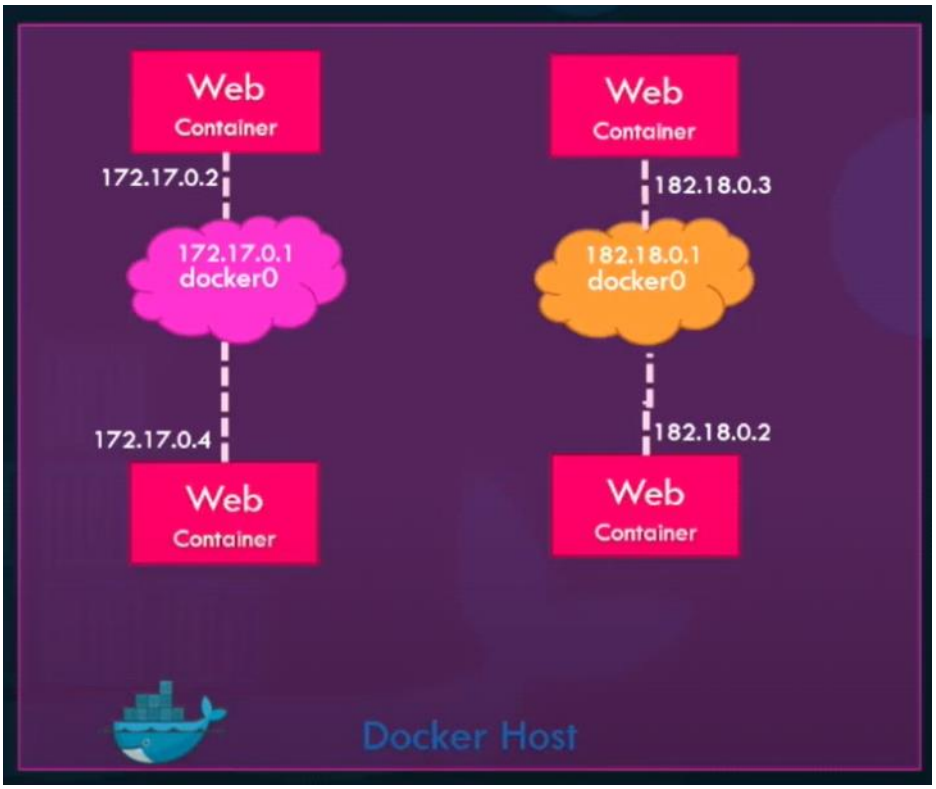
28 February 2022 08:44

Default networks



User-defined networks
docker network create \
--driver bridge \
--subnet 182.18.0.0/16
custom-isolated-network

// List networks with
docker network ls

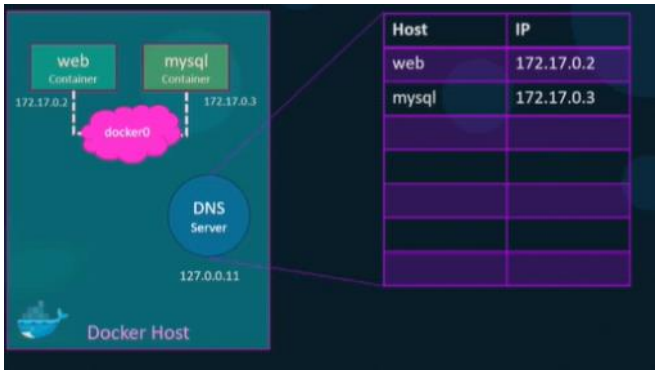


docker inspect blissful_hopper


```
[
    {
        "Id": "35505f7810d17291261a43391d4b6c0846594d415ce4f4d0a6ffbf9cc5109048",
        "Name": "/blissful_hopper",
        "NetworkSettings": {
            "Bridge": "",
            "Gateway": "172.17.0.1",
            "IPAddress": "172.17.0.6",
            "MacAddress": "02:42:ac:11:00:06",
            "Networks": {
                "bridge": {
                    "Gateway": "172.17.0.1",
                    "IPAddress": "172.17.0.6",
                    "MacAddress": "02:42:ac:11:00:06",
                }
            }
        }
    }
]
```


Embedded DNS

mysql.connect(mysql)



Docker Storage

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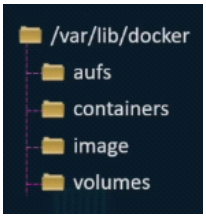
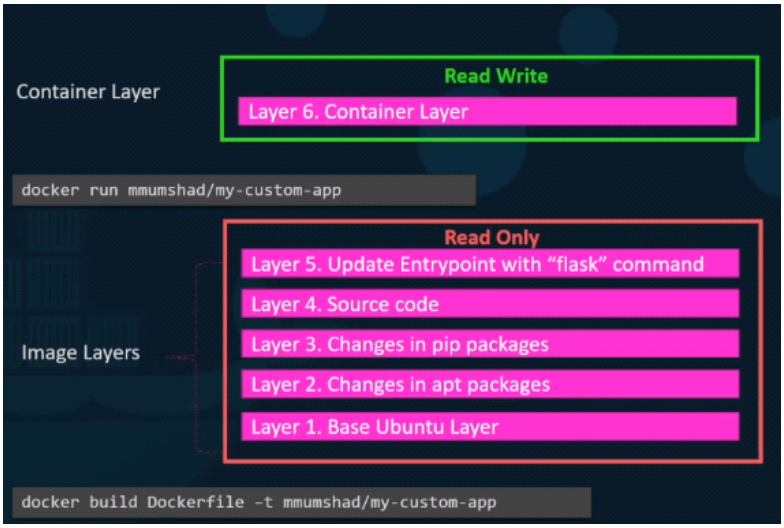
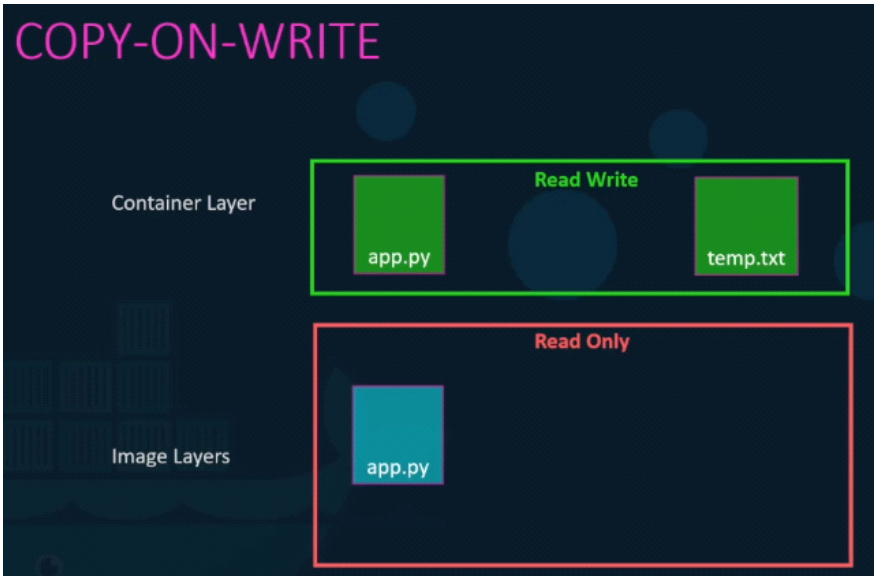
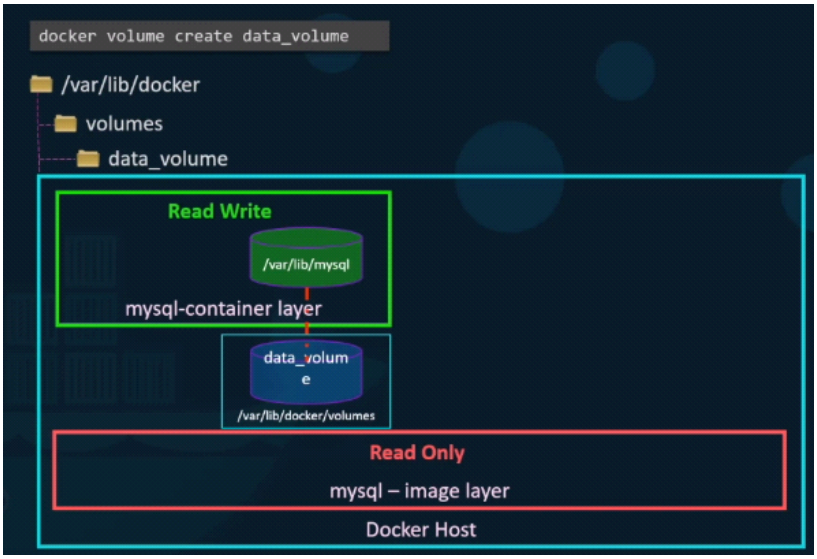
File System

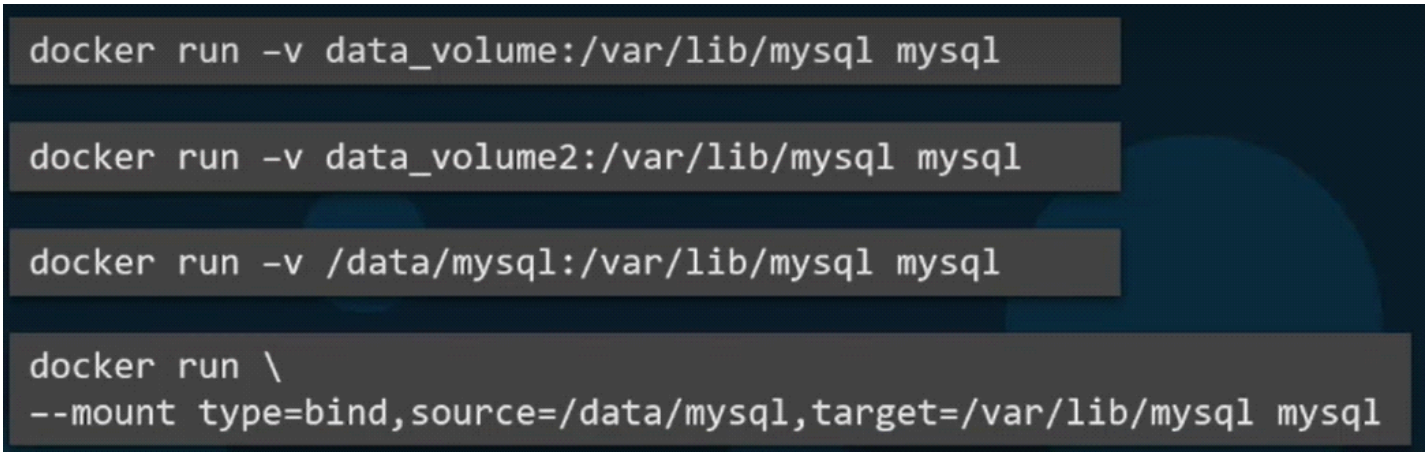






When container is stopped and removed the changed app.py and temp.txt gets removed as well. So what if we want the data to persist?
docker volume create data_volume
docker run -v data_volume:/var/lib/mysql mysql





Docker Compose

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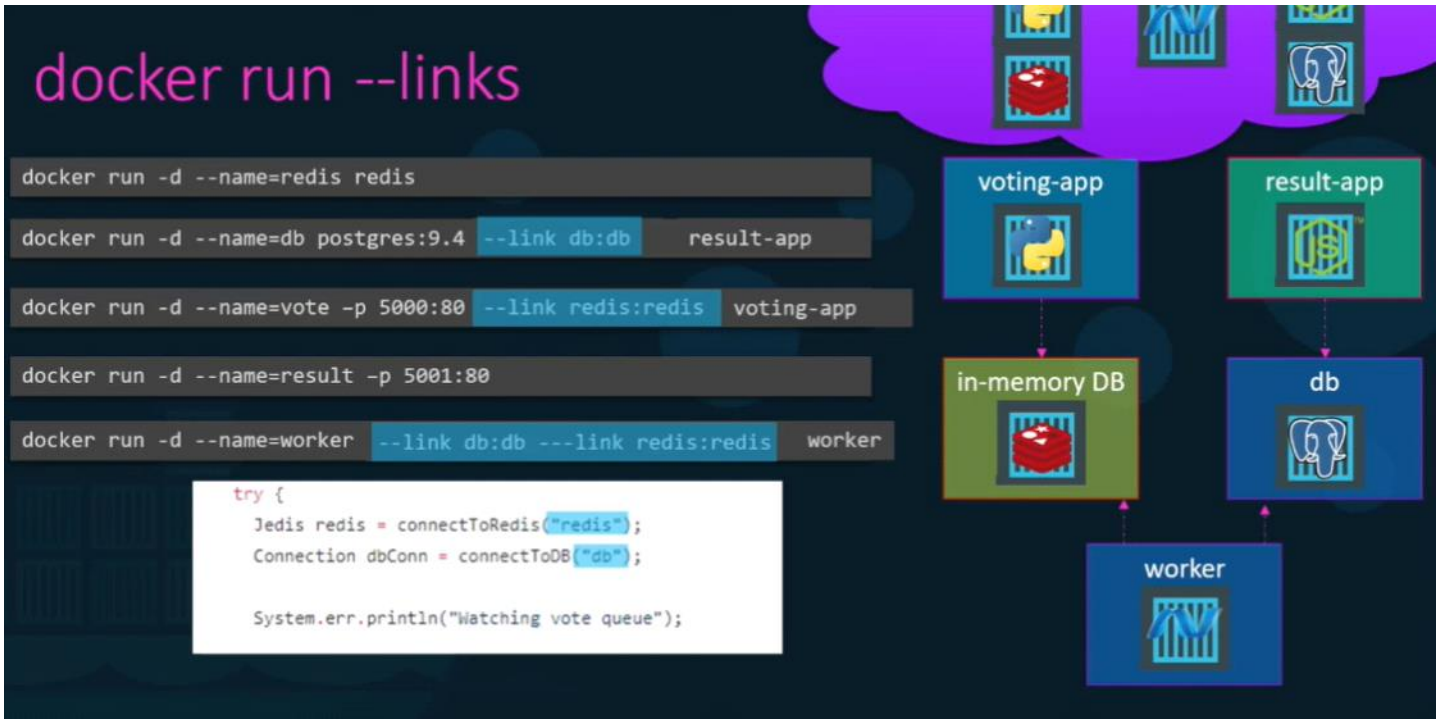


After we have a list of these docker commands, creating a yaml file is easy

**********docker-compose.yml**********

```
redis:
	image:redis
db:
	image:postgres:9.4
vote:
	image:voting-app
	ports:
		-5000:80
	links:
		-redis
result:
	image:result-app
	ports:
		-5001:80
	links:
		-db
worker:
	image:worker
	links:
		-redis
		-db
```

****

//Now run

docker-compose up -d

If we haven't created an image for docker for our project we can instead use the following in docker compose:

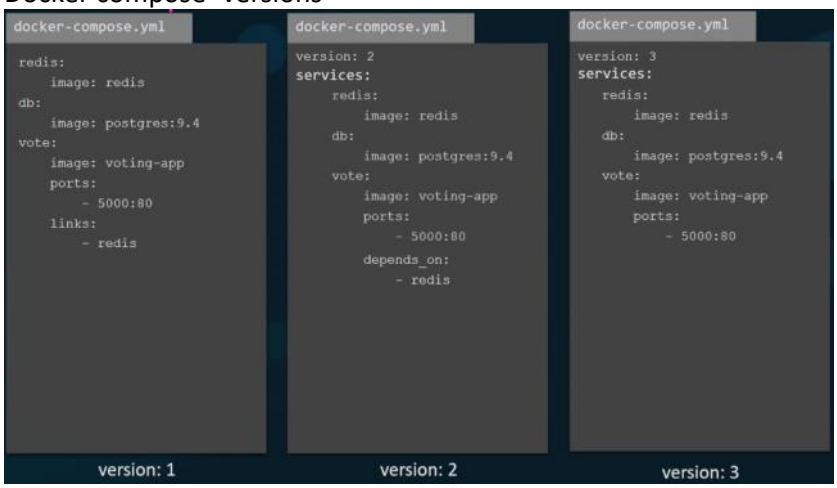
**********docker-compose.yml**********

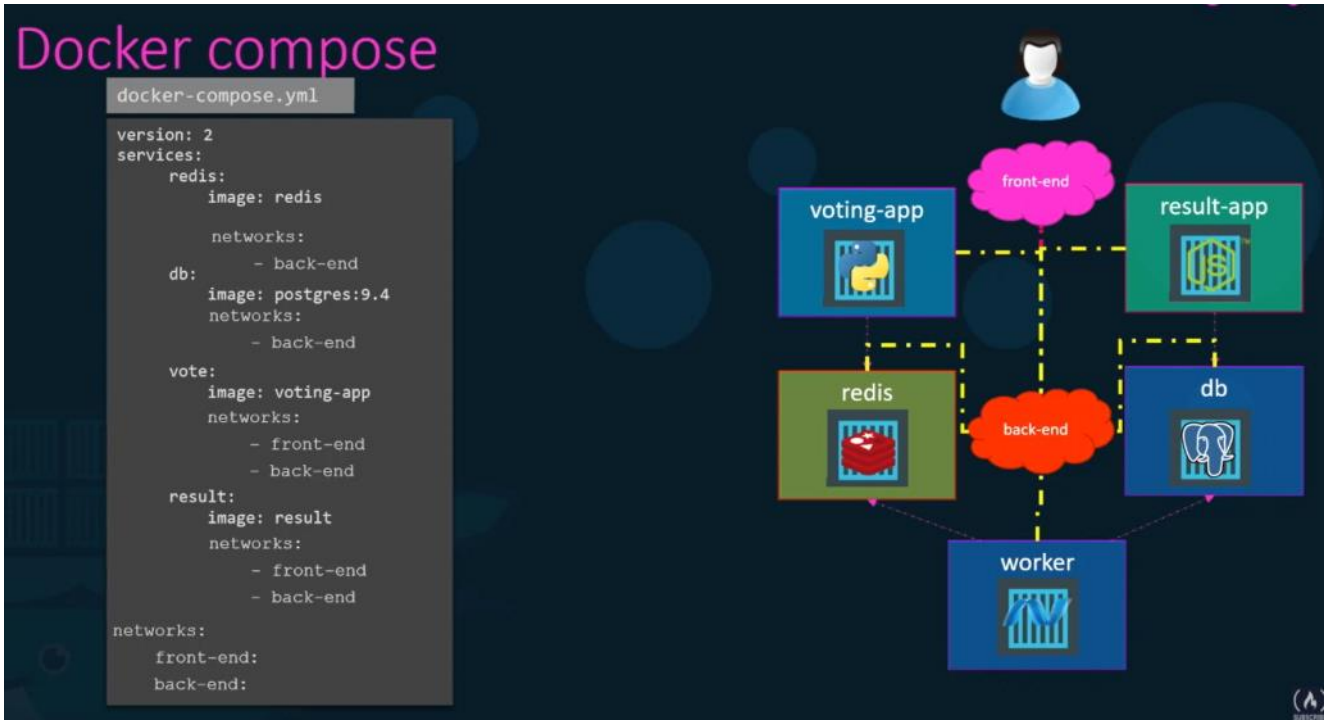
```
redis:
	image:redis
db:
	image:postgres:9.4
vote:
	build:./voting-app
	ports:
		-5000:80
	links:
		-redis
```

```
result:
        build:./result
        ports:
                -5001:80
        links:
                -db
worker:
        build:./worker
        links:
                -redis
                -db
```

****

Docker compose -versions





Registry

01 March 2022 08:45

Private Registry

```
docker login private-registry.io
Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.docker.com to create one.
Username: registry-user
Password:
WARNING! Your password will be stored unencrypted in /home/vagrant/.docker/config.json.

Login Succeeded
```

```
docker run private-registry.io/apps/internal-app
```

Deploy Private Registry on Premise

```
docker run -d -p 5000:5000 --name registry registry:2
```

```
docker image tag my-image localhost:5000/my-image
```

```
docker push localhost:5000/my-image

docker pull localhost:5000/my-image

docker pull 192.168.56.100:5000/my-image
```

Docker Engine

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