Communicate between Multiple Containers

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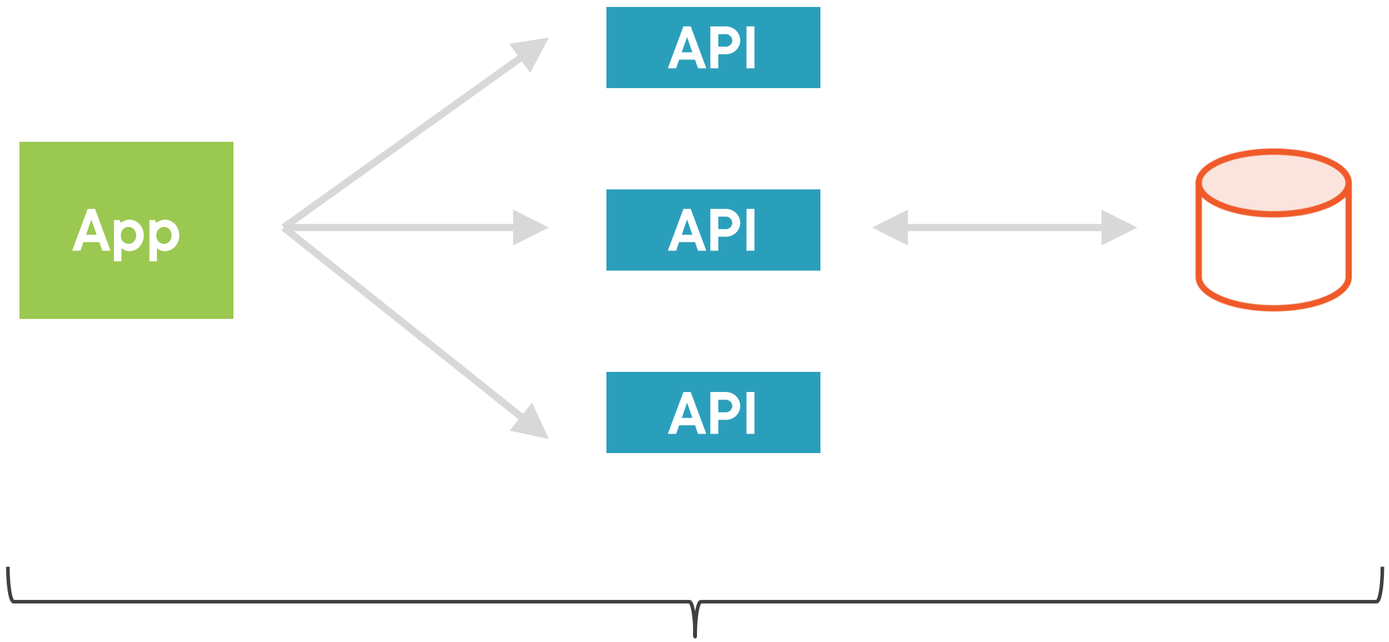
Overview

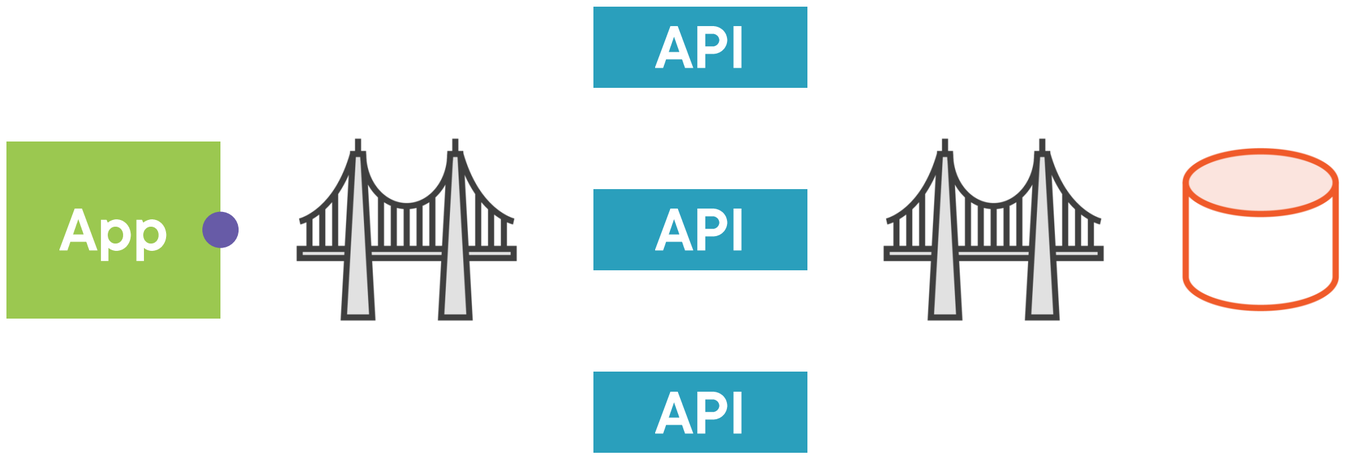
- Discuss container communication
- Create a bridge network
- Run multiple containers in a network
- Shell into a container
- Build and run containers using Docker Compose

Create a Bridge Network

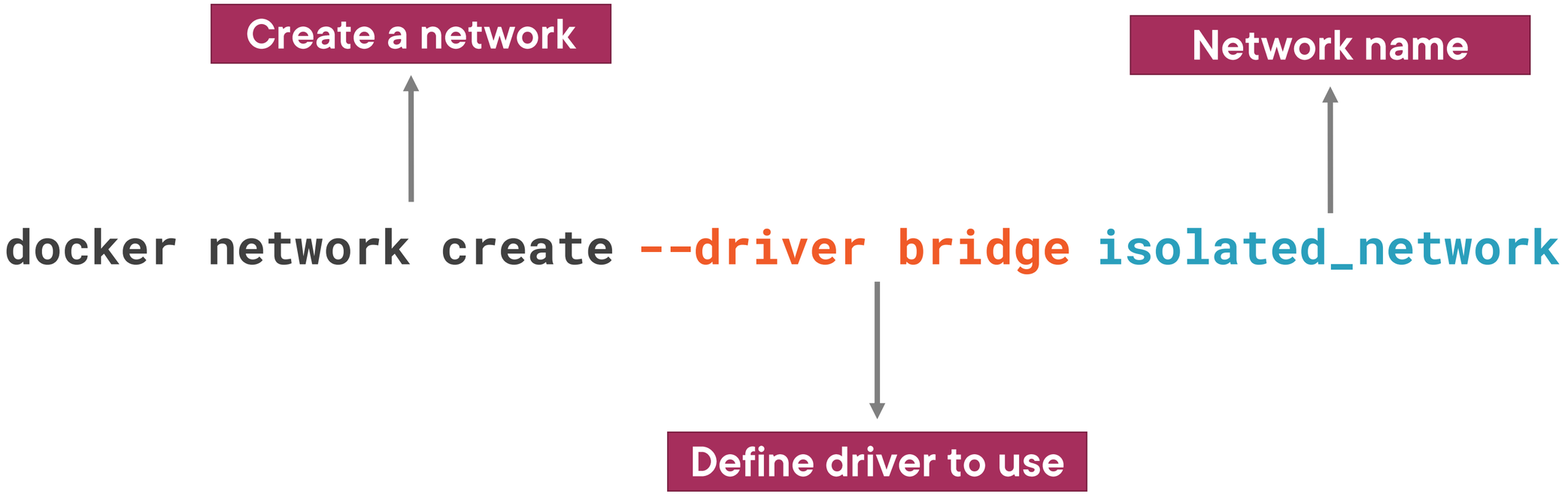
Communicating Between Containers

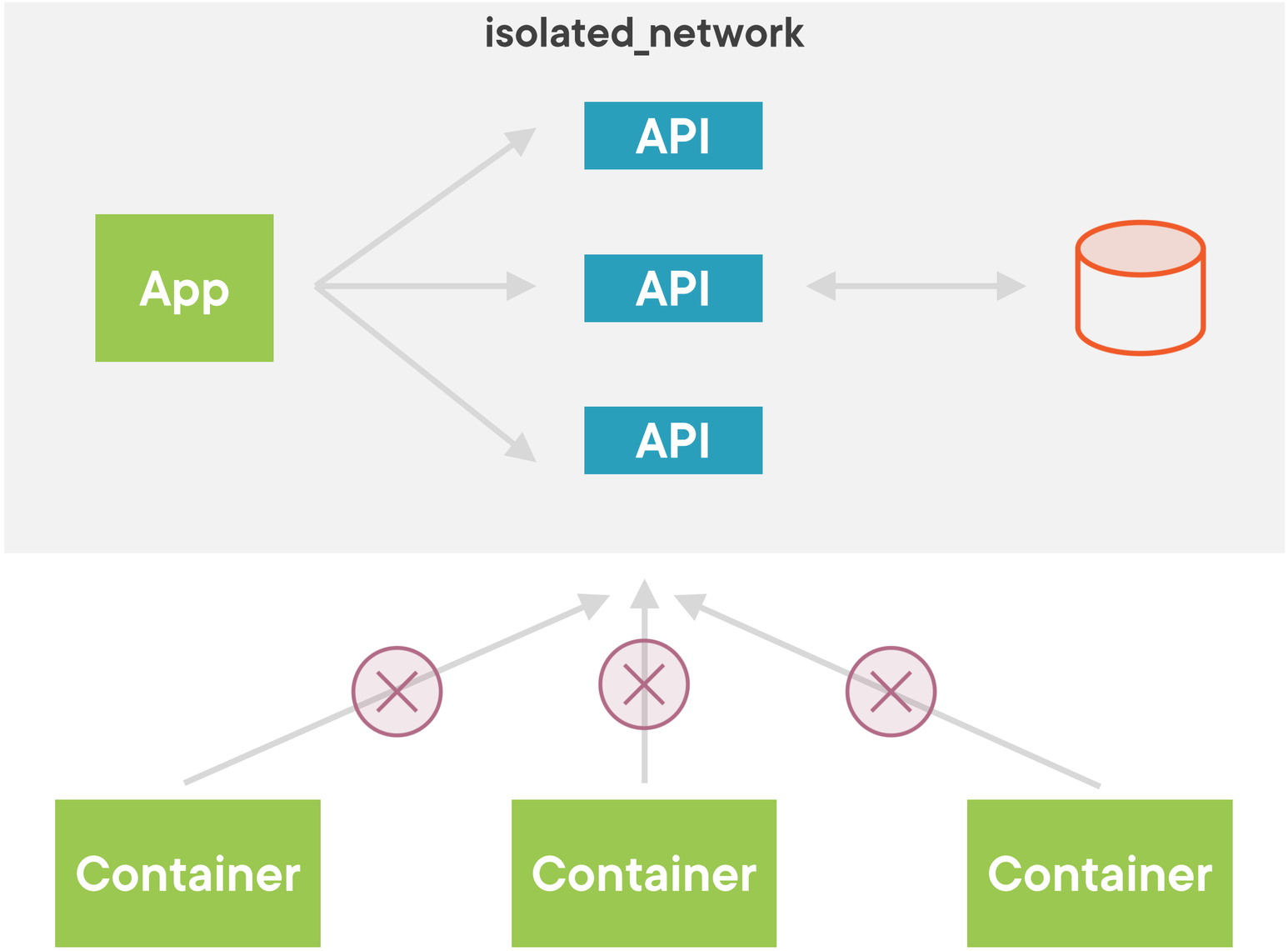


Using a Bridge Network to Communicate



Create a Bridge Network




isolated_network
API
App
API
API
Container
Container
Container

Key docker network Commands

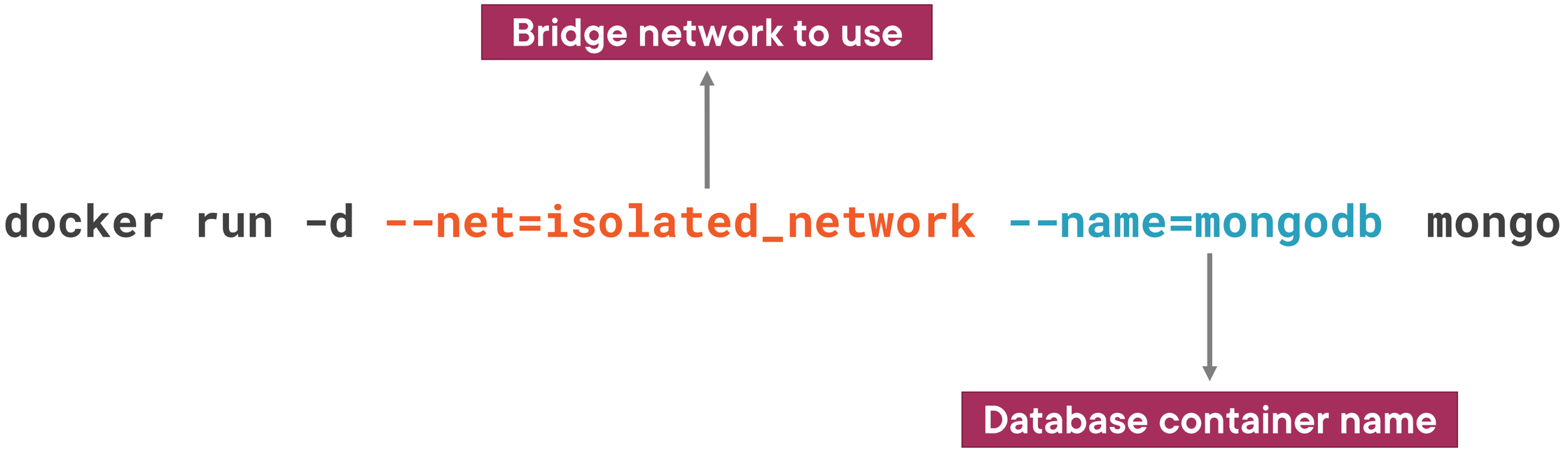
```
docker network create
```

```
docker network ls
```

```
docker network rm [network]
```

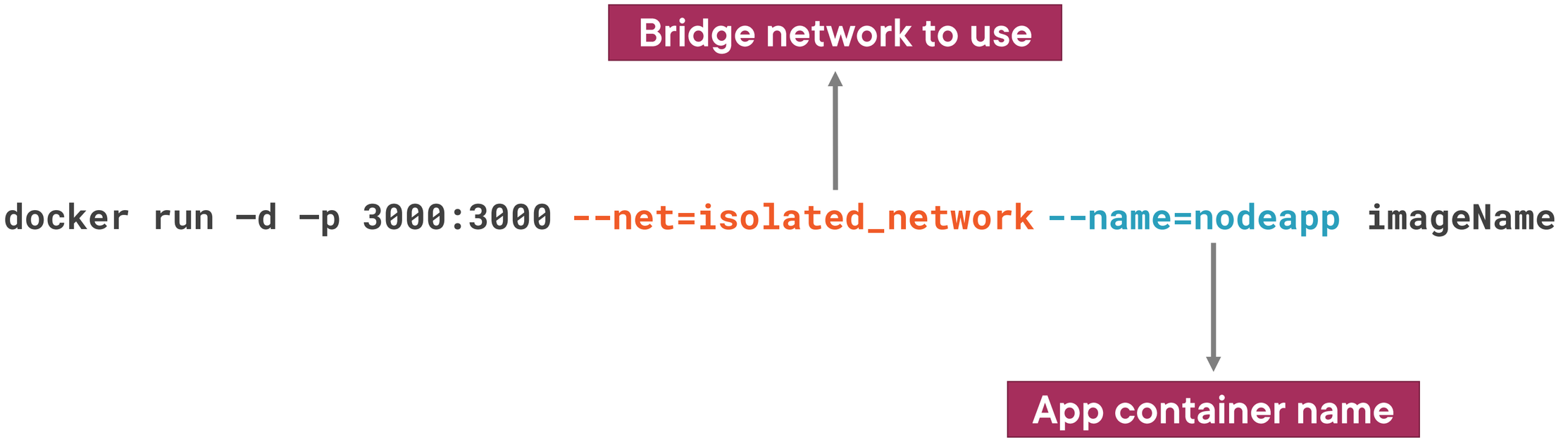
Run a Database Container in a Network

Running a Database Container in a Network



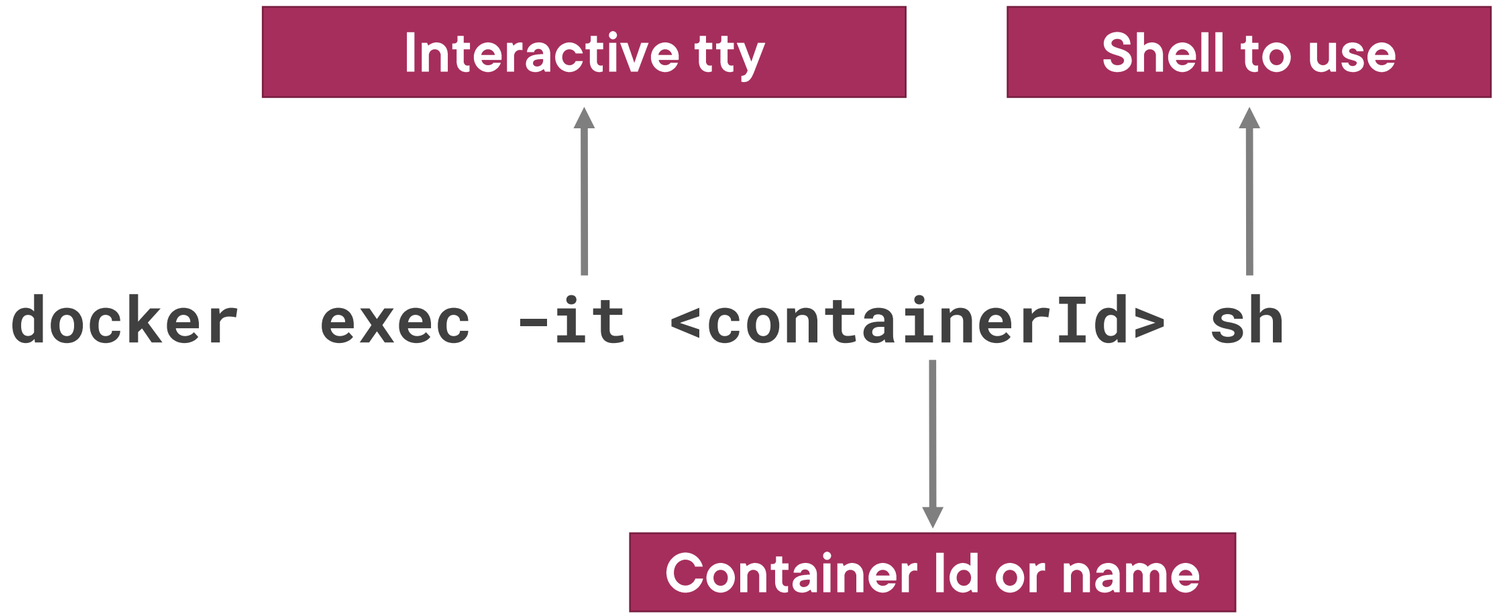
Run an Application Container in a Network

Running an App Container in a Network



Shell Into a Container

Using docker exec to Shell into a Container

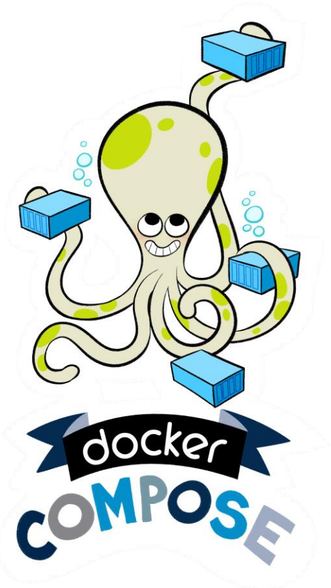


Linux containers can use a variety of shells such as **sh**, **bash**, or others.

Windows containers normally use **PowerShell**.

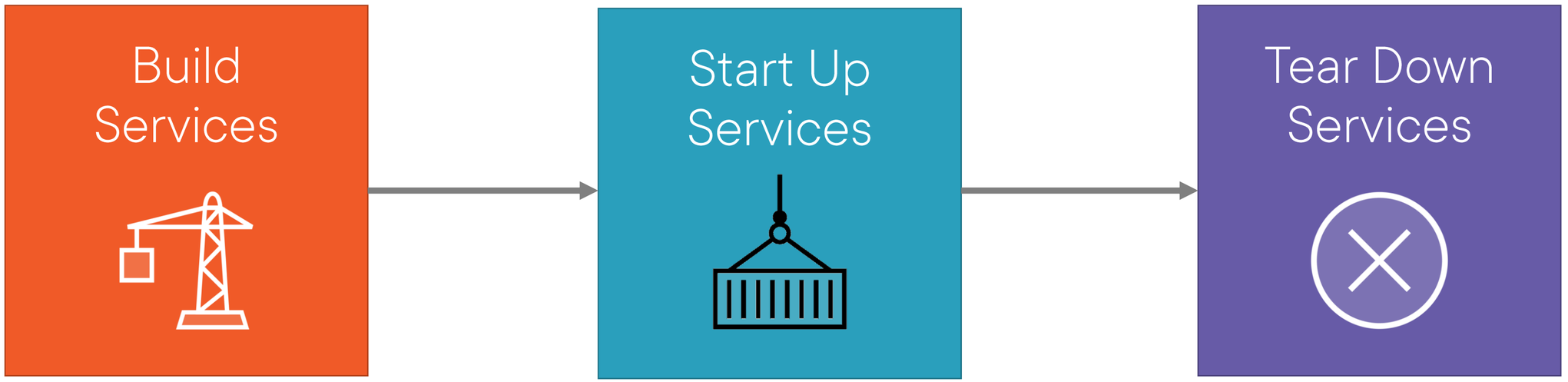
Building and Running Multiple Containers with Docker Compose

Docker Compose Features



- Define services using a YAML configuration file
- Build one or more images
- Start and stop services
- View the status of running services
- Stream the log output of running services

Docker Compose Workflow



Docker Compose Services

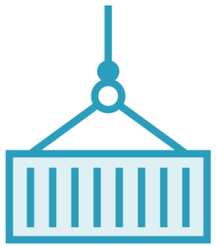
docker-compose.yml

```
version: '3.x'

services:
  app:
    …
    networks:
      - nodeapp-network
  db:
    …
    networks:
      - nodeapp-network
networks:
  nodeapp-network:
    driver: bridge
```

Key Docker Compose Commands

```
docker-compose build
```



```
docker-compose up
```

```
docker-compose down
```

Using Docker Compose Commands

Summary

- A bridge network allows containers in the same network to communicate
- Use the *docker network create* command to create a bridge network
- Add containers to a network using *docker run* along with the *--net* switch
- Docker Compose is an orchestration engine that can build and run containers

Thank You!

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