Managing Containers with Docker Compose

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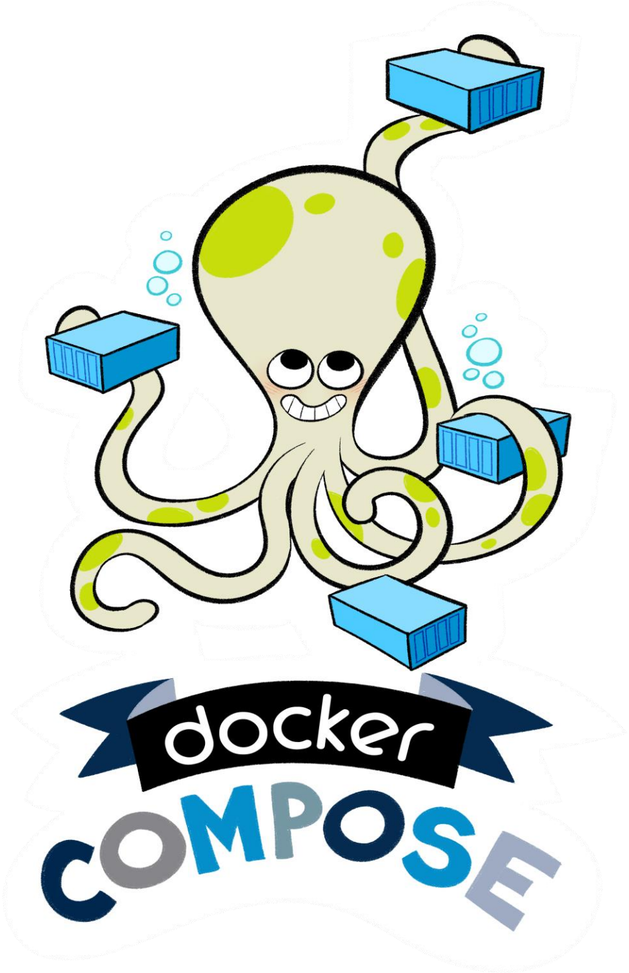
Overview

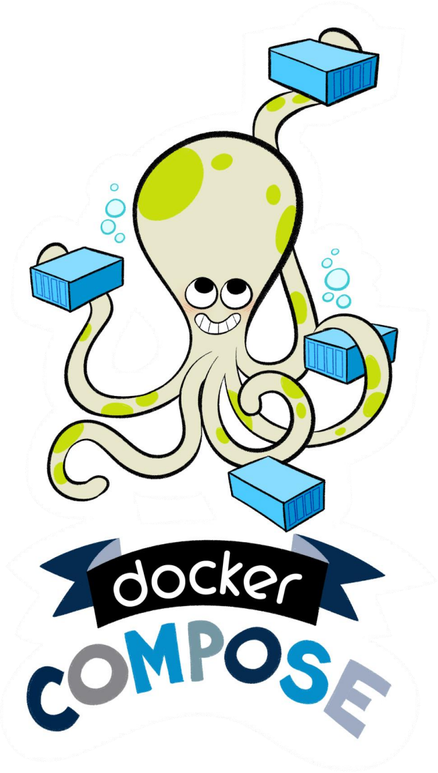
- Getting Started with Docker Compose
- The docker-compose.yml File
- Docker Compose Commands
- Docker Compose in Action
- Setting Up Development Environment Services
- Creating a Custom docker-compose.yml File
- Managing Development Environment Services

Getting Started with Docker Compose

Docker Compose Manages Your Application Lifecycle



Docker Compose Features



Manages the whole application lifecycle

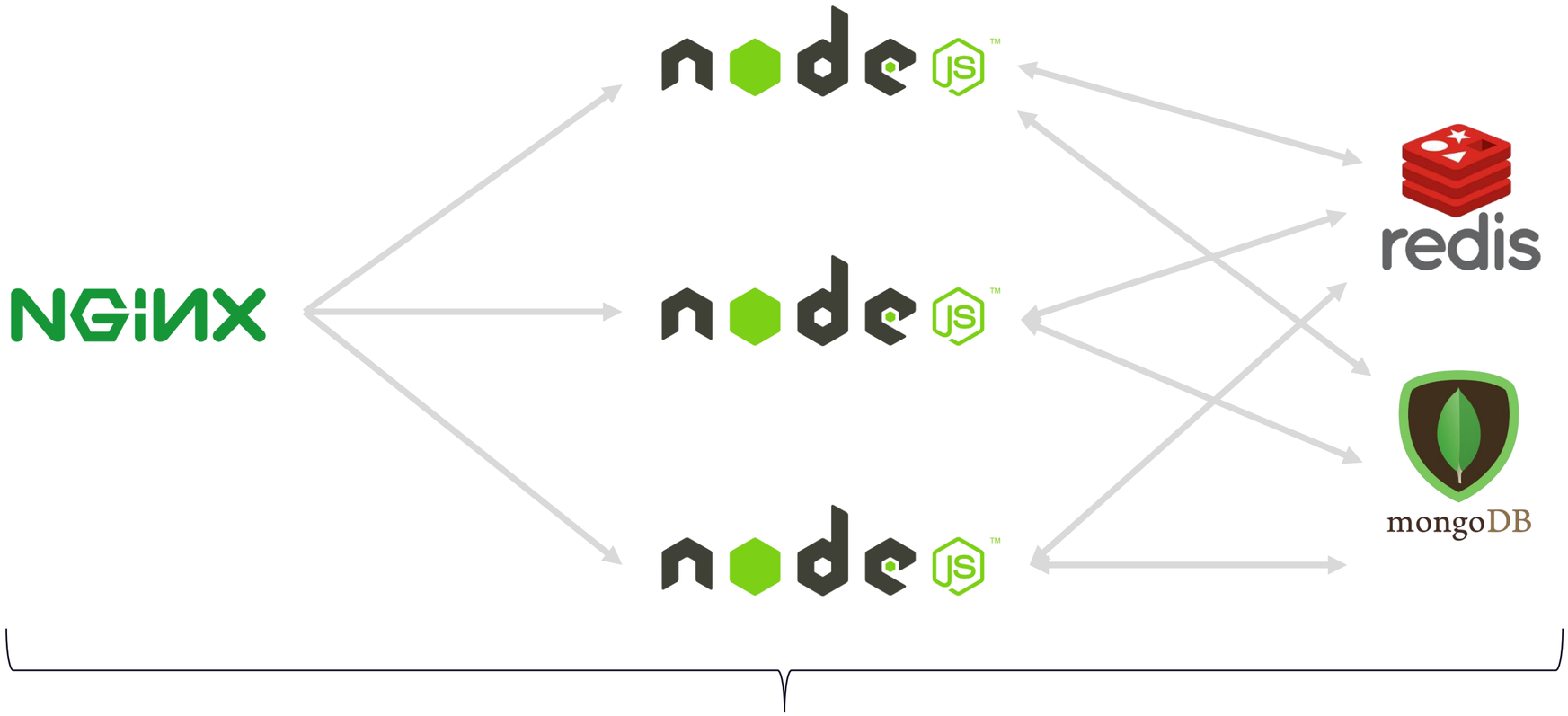
Start, stop and rebuild services

View the status of running services

Stream the log output of running services

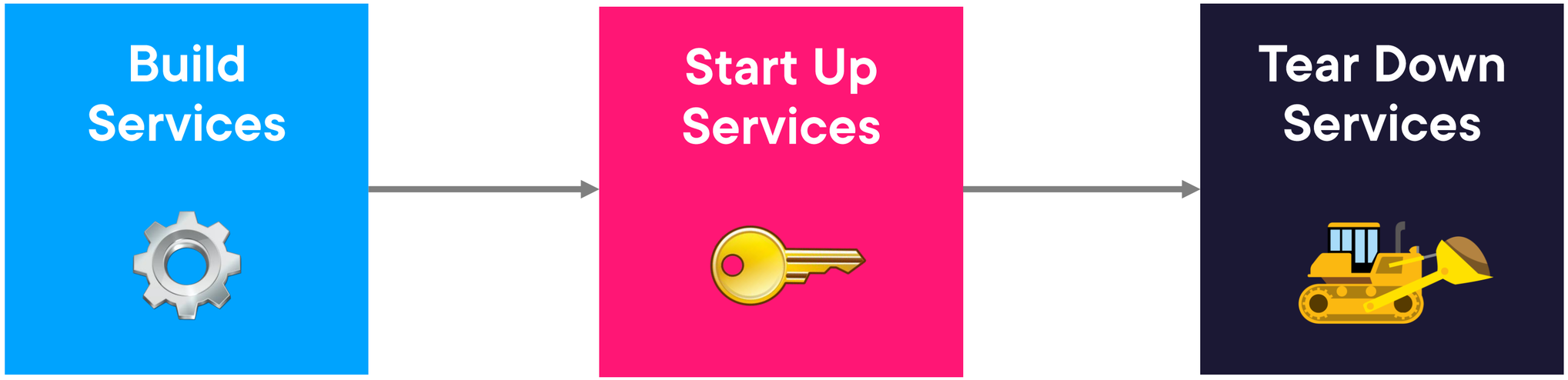
Run a one-off command on a service

The Need For Docker Compose



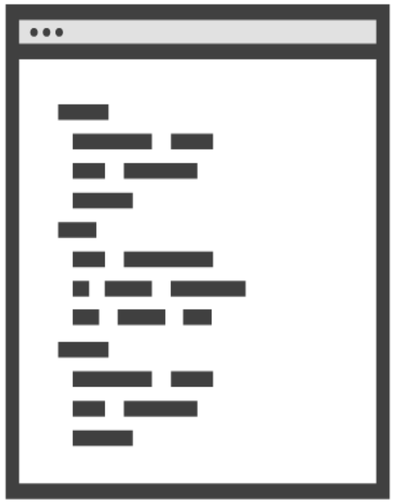
Docker Compose
(docker-compose.yml)

Docker Compose Workflow

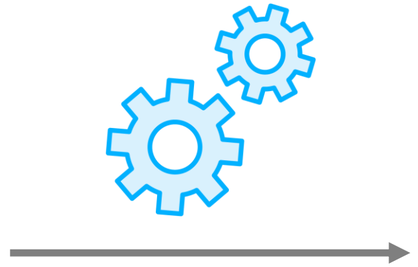


The docker-compose.yml File

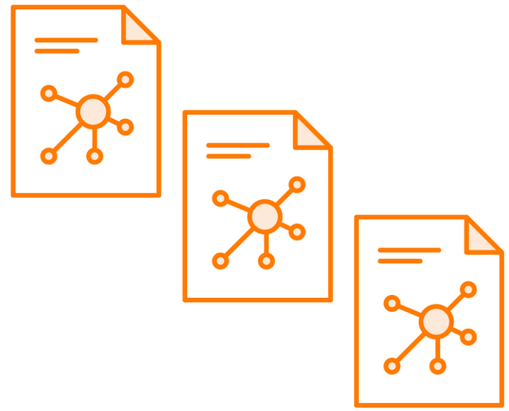
The Role of the Docker Compose File



docker-compose.yml
(service configuration)



Docker Compose
Build



Docker Images
(services)

Docker Compose and Services

```
version: "3.x"

services:
```

docker-compose.yml

Key Service Configuration Options

build

environment

image

networks

ports

volumes

docker-compose.yml Example

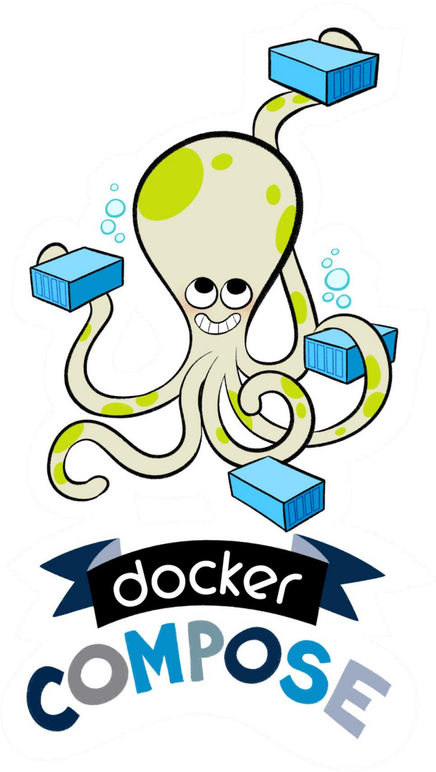
```
version: "3.x"
services:
  node:
    build:
      context: .
      dockerfile: node.dockerfile
    networks:
      -nodeapp-network

  mongodb:
    image: mongo
    networks:
      -nodeapp-network

networks:
  nodeapp-network
    driver: bridge
```

Docker Compose Commands

Key Docker Compose Commands



docker compose build

docker compose up

docker compose down

docker compose logs

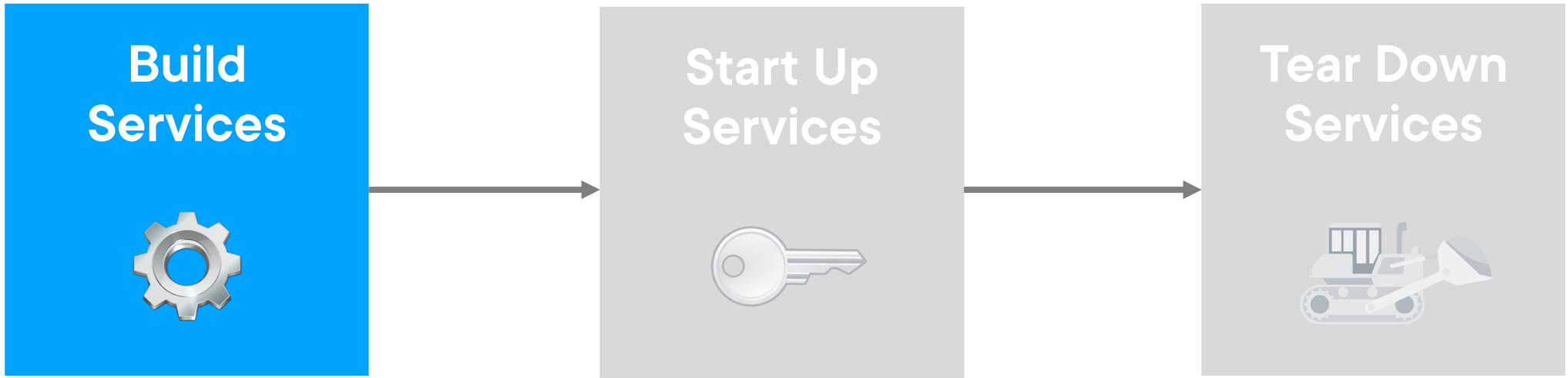
docker compose ps

docker compose stop

docker compose start

docker compose rm

Building Services



Building Services

```
docker compose build
```

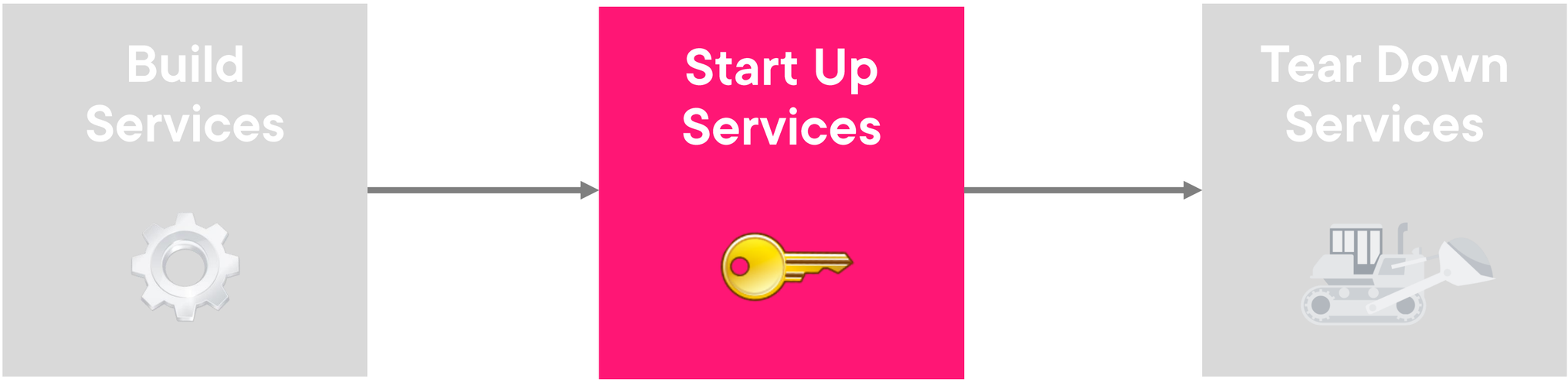
Build or rebuild services defined in docker-compose.yml

Building Specific Services

```
docker compose build mongo
```

Only build/rebuild mongo service

Starting Services Up



Creating and Starting Containers

```
docker compose up
```

Create and start the containers

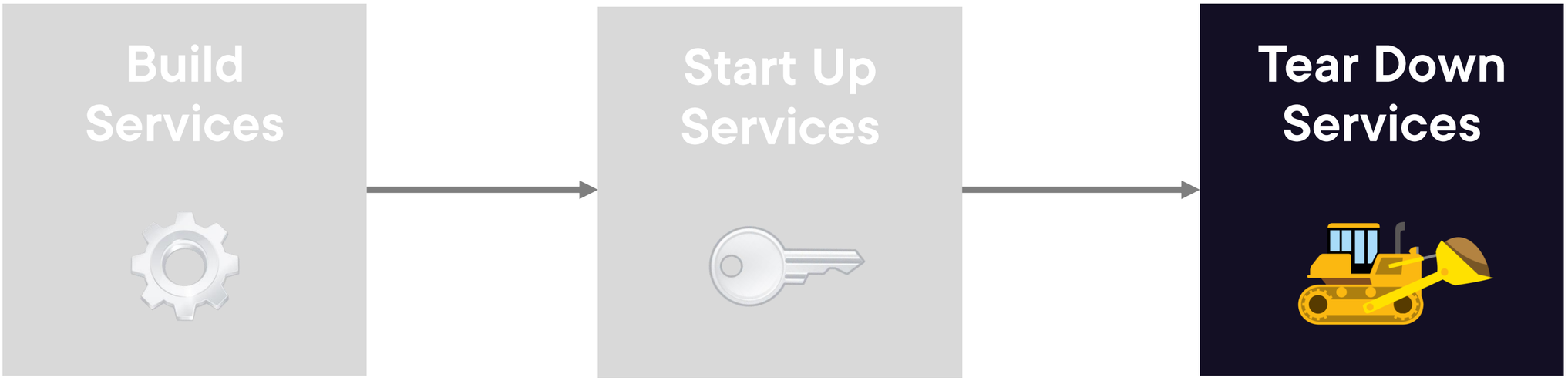
Creating and Starting Containers

Rebuild node image and stop, destroy and recreate *only* node

```
docker compose up --no-deps node
```

Do not recreate services that node depends on

Tearing Down Services

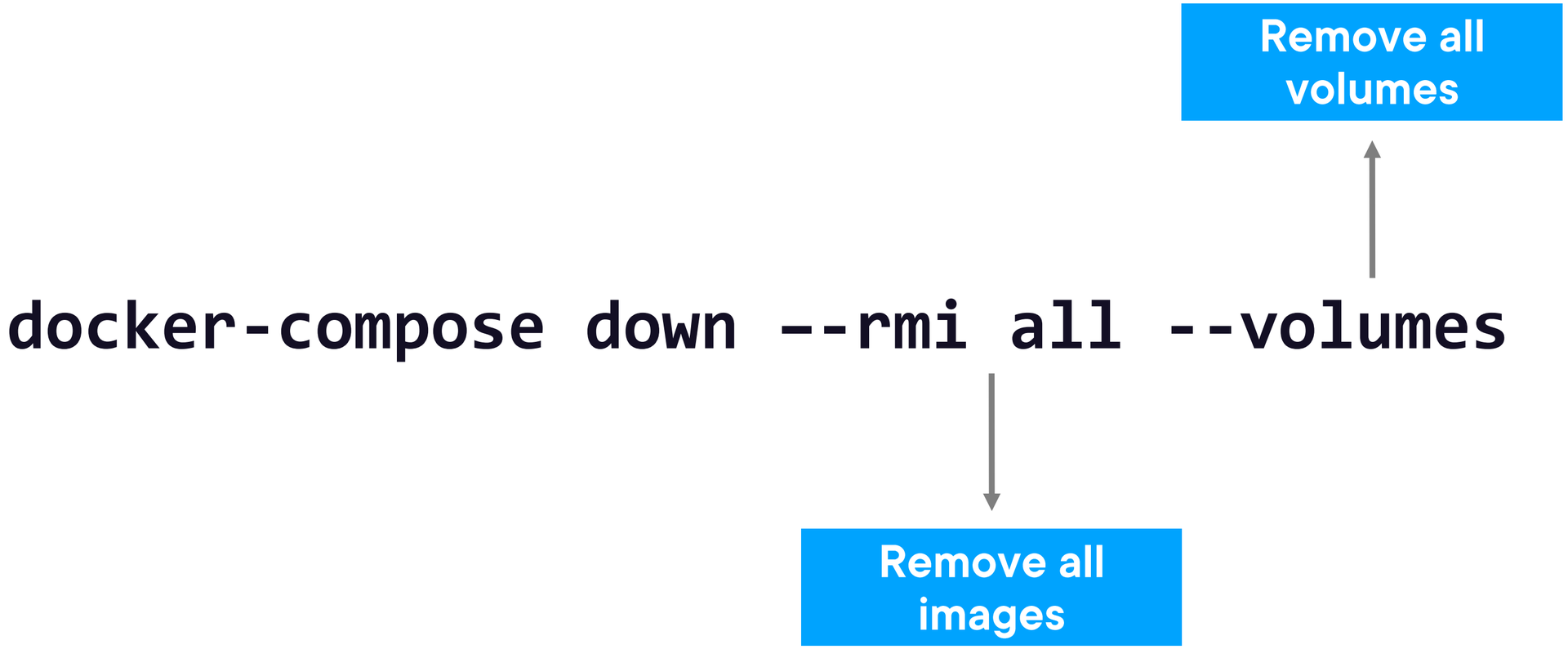


Stop and Remove Containers

```
docker compose down
```

Take all of the containers down (stop and remove)

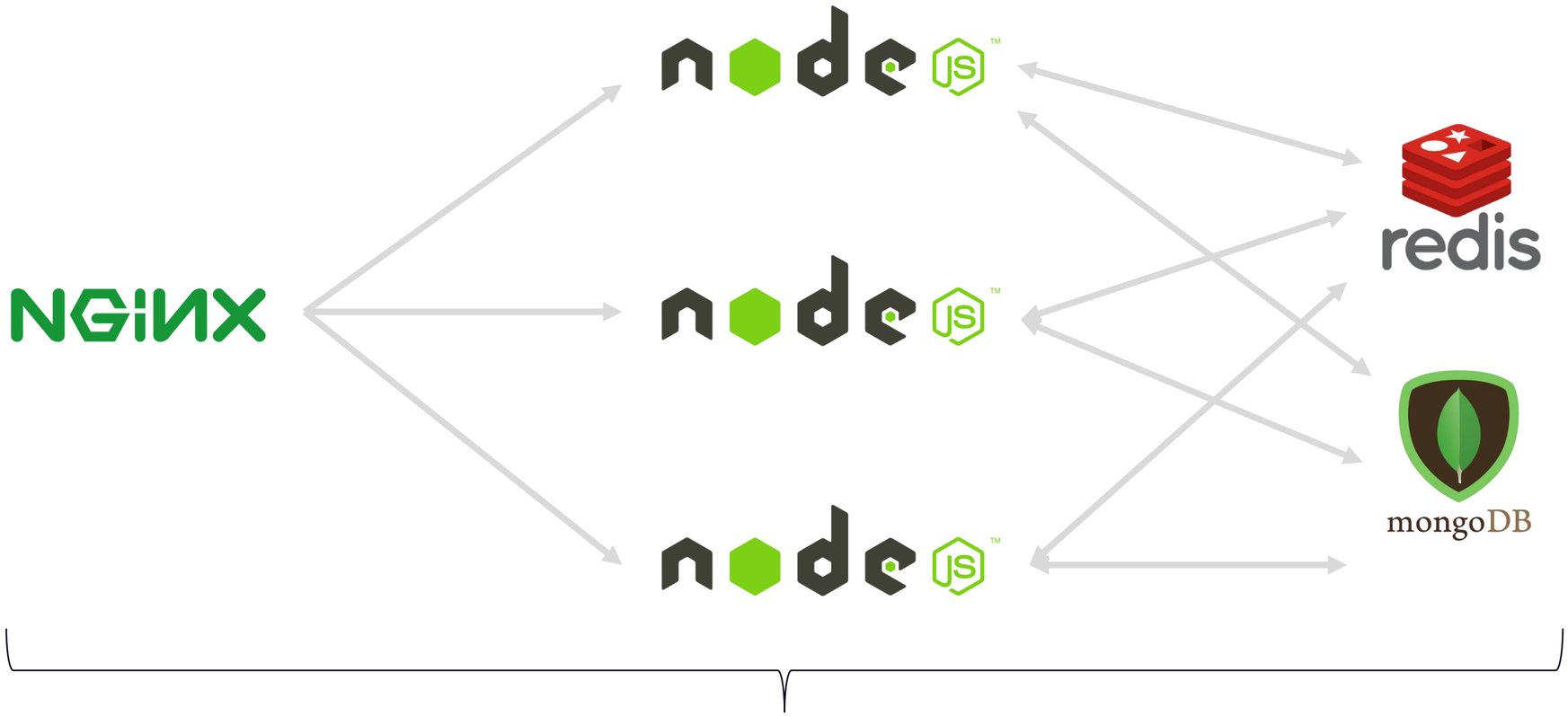
Stop and Remove Containers, Images, Volumes



Docker Compose in Action

Exploring Development Environment Services

The Need For Docker Compose



Docker Compose
(docker-compose.yml)

Exploring the docker-compose.yml File

Running the Development Environment Services

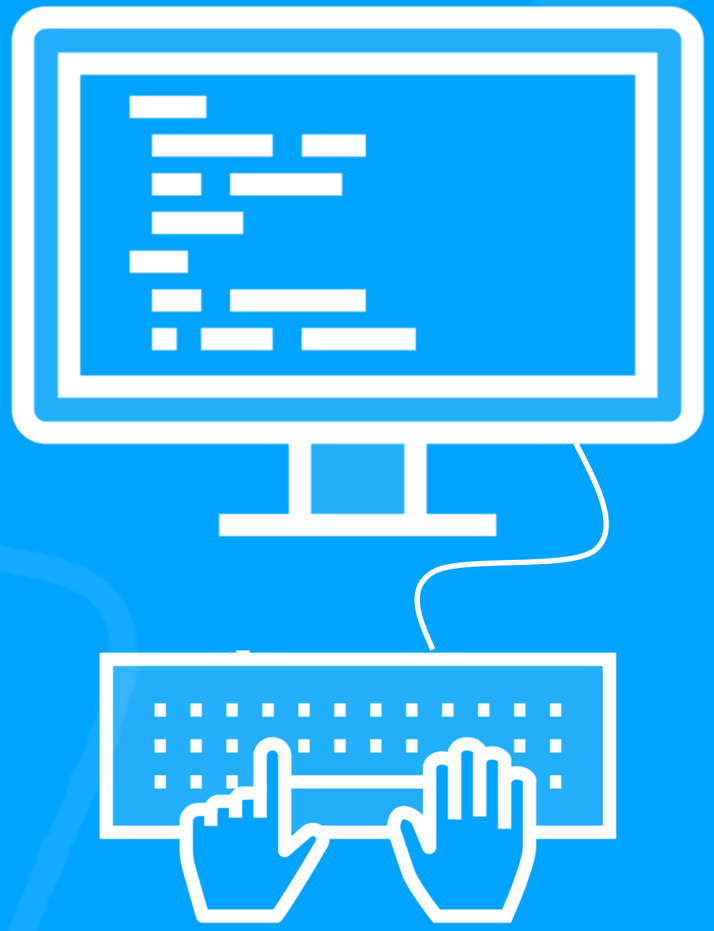
Summary

Docker Compose simplifies the process of building, starting and stopping services

docker-compose.yml defines services

Excellent way to manage services used in a development environment

Key Docker Compose commands include "build", "up" and "down"



GitHub Repo

https://github.com/DanWahlin/Docker-for-Web-Developers

Up Next:

Kubernetes for Developers: Core Concepts

Thank You!

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