

# Docker Compose

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## Installation

Install Docker Compose (and docker.io if not installed already)

```
apt install docker.io docker-compose
```

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## YAML (Yet Another Markup Language)

YAML files are just text files that are used by Docker-Compose for definition of image/container setup. YAML files are a very useful feature of Docker as they all for deployment of containers on any system by just using the YAML file.

NOTE; YAML files are VERY picky about their syntax - this includes character positioning.

Basic annotated example;

```
version: '3.7' # Specifies the Docker Compose version used (e.g., 3.7)

services:
  portainer: # Defines a service named "portainer"

    container_name: container1 # Names the container instance "container1"

    image: portainer/portainer-ce # Specifies the Docker image to use (portainer/portainer-
ce)

    command: -H unix:///var/run/docker.sock # Command to execute when the container starts
(grants access to Docker socket)

    restart: 'always' # Automatically restarts the container if it crashes or exits

    ports: # Defines port mappings between the container and the host machine
```

```
- target: '9000' # Maps container port 9000
  published: '9000' # to host port 9000 (can be accessed from the host machine)
  protocol: tcp # using TCP protocol

- target: '8000' # Maps container port 8000
  published: '8000' # to host port 8000 (can be accessed from the host machine)
  protocol: tcp # using TCP protocol

volumes: # Defines persistent storage for the container
- type: bind # Mounts a host directory onto a container directory
  source: /var/run/docker.sock # Binds the host's Docker socket file
  target: /var/run/docker.sock # to the container's Docker socket file (grants access
within the container)

- type: bind # Mounts another host directory onto a container directory
  source: /srv/portainer # Binds the host's `/srv/portainer` directory
  target: /data/ # to the container's `/data/` directory (for persistent data storage)
```

Start the container based on YAML file:

```
docker-compose up --detach
```

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```

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