Docker Compose

Virtualisation

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Think about what we did last time

1. Build `flaskapp` image
2. Build `nginx` image
3. Create `app` network
4. Run a `flaskapp` container, attaching it to the `app` network
5. Run an `nginx` container, attaching it to the `app` network and mapping its port 80 to host port 8080

This seems like something we might do more than once

How do we deal with a situation like this?

1. Write a shell script.
2. Use (or create) a more general tool.

A more general tool exists: *Docker Compose*.

How would we redo the last lab with Docker Compose?

1. Create a project directory, called `lab11`.
2. Place the build contexts for our images inside this directory.
3. Create a file, `docker-compose.yml` in the directory with appropriate directives.

We can then build and run everything by executing the command `docker-compose up`.

Our compose file

```
version: "2.0"
services:
    flaskapp:
        build: ./flaskapp
        image: user/flaskapp
        networks:
            - app
    nginx:
        image: nginx
        ports:
            - 8080:80
        networks:
            - app
        depends_on:
            - flaskapp
networks:
    app:
```

Compose file sections

- `version:` May be 2.x or 3.x
- `services:` Define your containers here
- `networks:` Declare your networks
- `volumes:` Define named volumes

When is Docker Compose a good tool

- Development environments
- Automated builds, tests
- Small deployments

However, if you're going deploy services on a larger scale, you need more horsepower than is provided by Docker Compose.

More Information

See `https://docs.docker.com/compose/`