Create an Application Image

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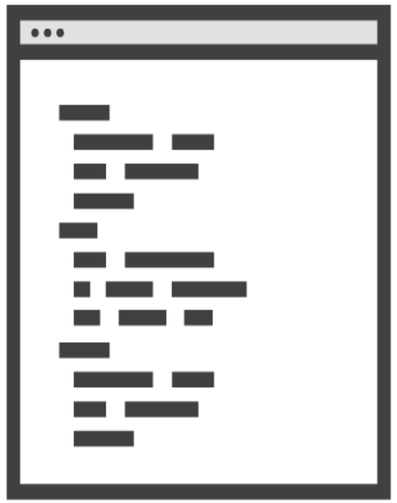
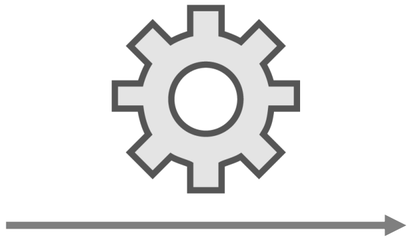
Overview

- Dockerfile core concepts
- Create a custom Dockerfile
- Use Docker commands to build an image
- Deploy an image to Docker Hub
- Using the VS Code Docker Extension

Understand Dockerfiles



Code



Compiler

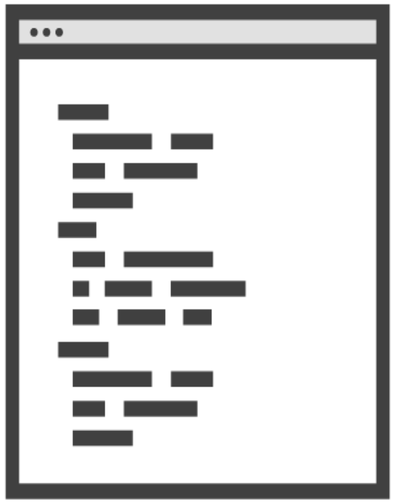
Binary

Dockerfile

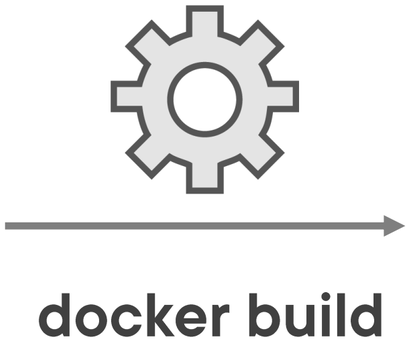
A **Dockerfile** is a text document that contains all the commands a user could call on the command line to assemble an image.

https://docs.docker.com/

Dockerfile and Images



Dockerfile



Docker Image

Dockerfile Instructions

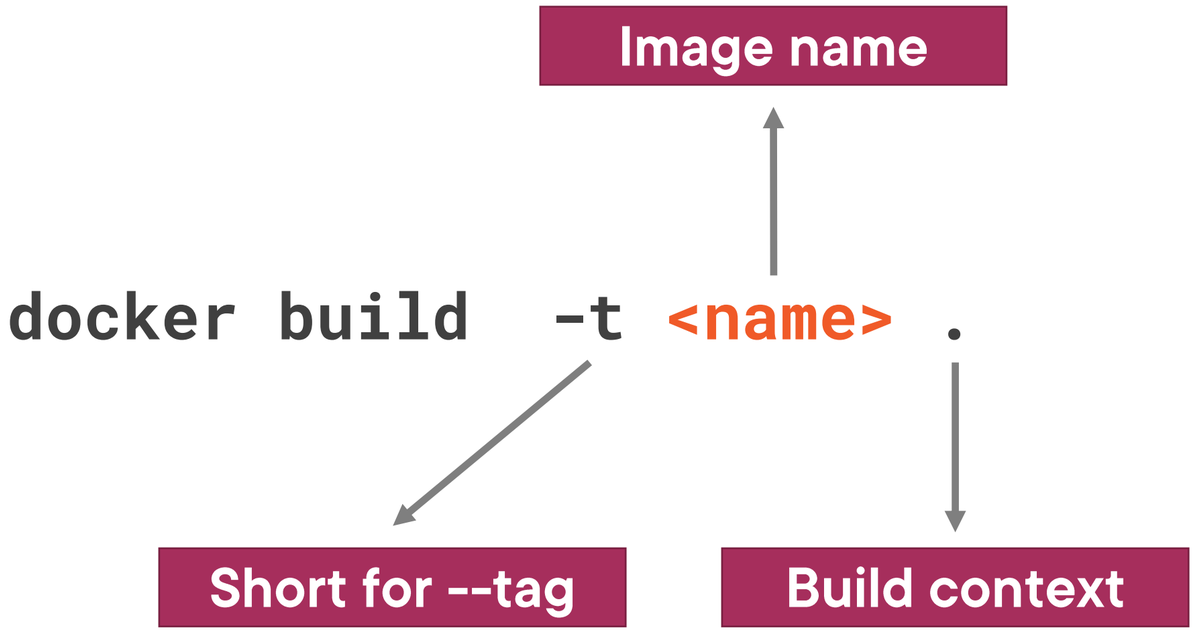
```
FROM        node:alpine
LABEL       author="Dan Wahlin"
ENV         NODE_ENV=production
WORKDIR     /var/www
COPY        . .
RUN         npm install
EXPOSE      3000
ENTRYPOINT ["node", "server.js"]
```

https://hub.docker.com

Create a Custom Application Dockerfile

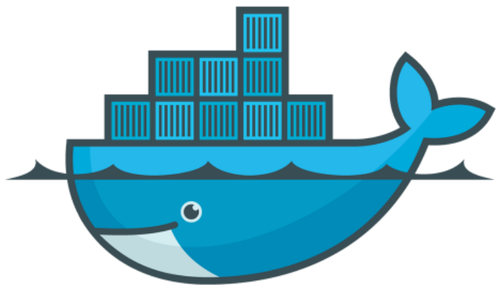
Using docker build

Building a Custom Image



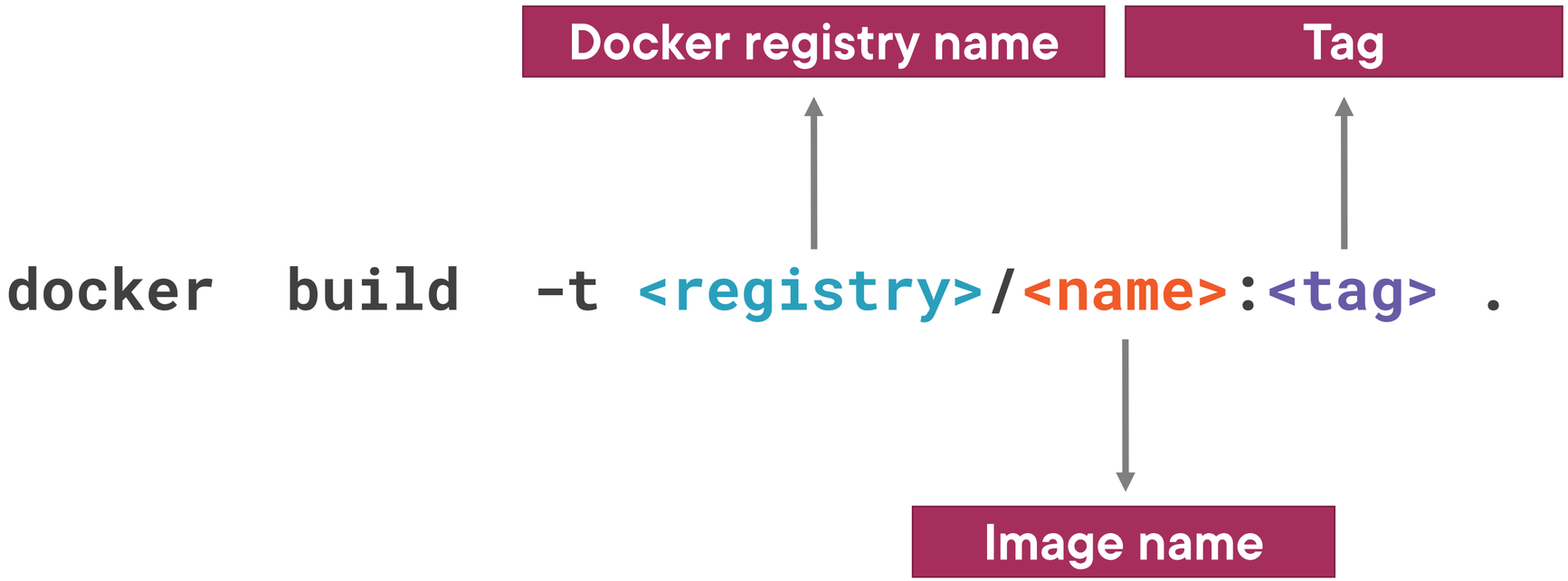
```
docker build -t nodeapp .
```

Docker Registries



- Internal Registry
- Docker Hub
- Amazon ECR
- Azure Container Registry
- Google Container Registry
- More...

Using Registry Name, Image Name, and Tag



```
docker build -t danwahlin/nodeapp:1.0 .
```

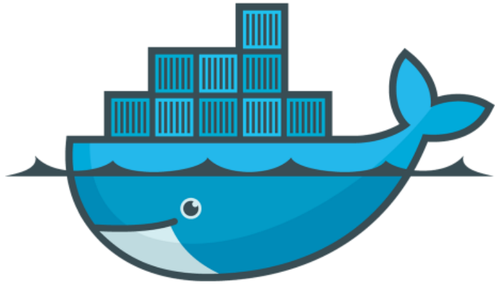
Docker Image Commands

Build a Custom Application Image

Deploy an Application Image to a Registry

Deploy an Image to Docker Hub

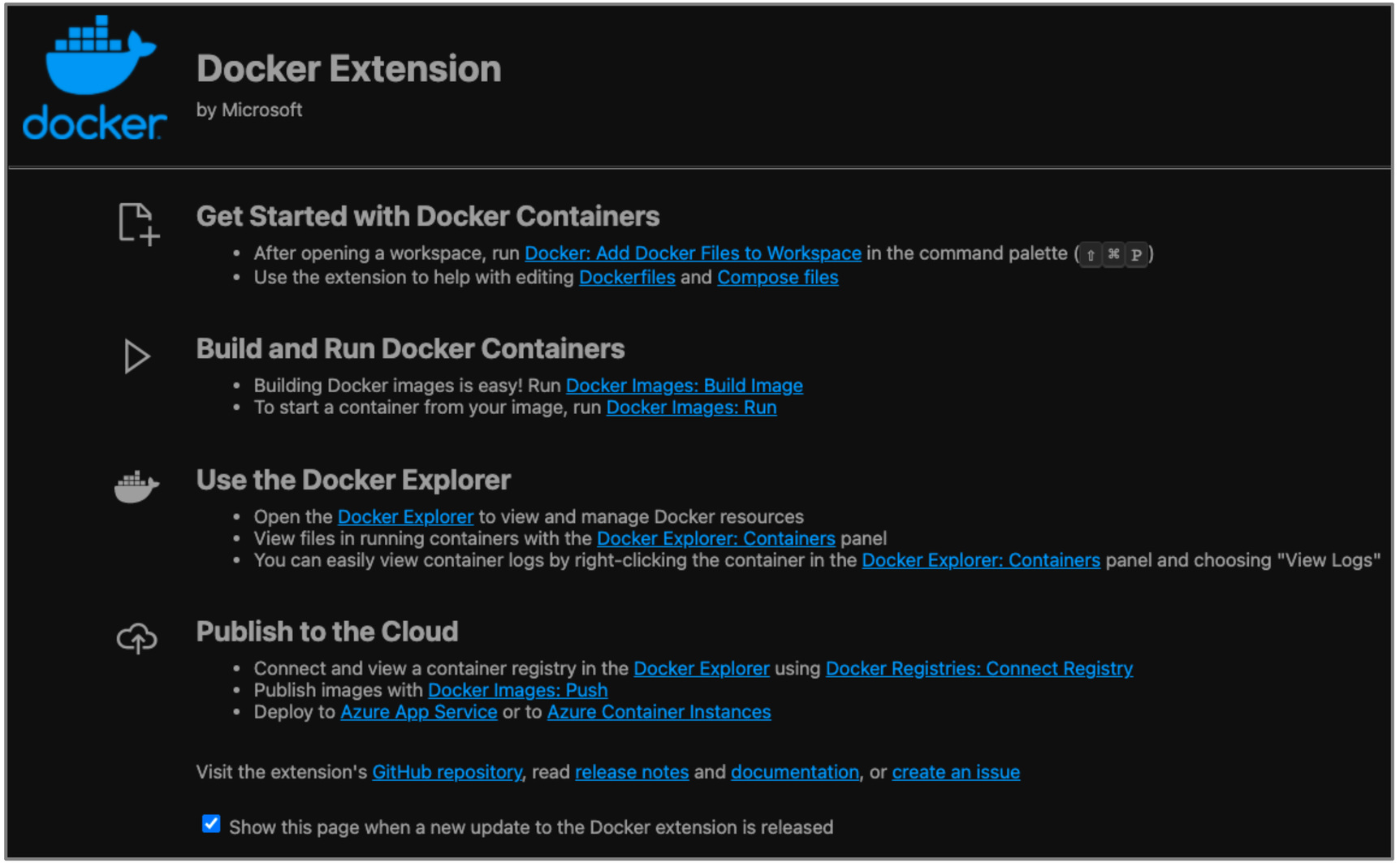
```
docker  push  <user name>/<image name>:<tag>
```



Docker Hub Registry

Use the VS Code Docker Extension

VS Code Docker Extension



Summary

- Dockerfile instructions describe what is included in an image and any tasks to run
- The *docker build* command is used to build an image
- Images can be tagged (name and version)
- Docker Hub and other registries can be used to store images
- The VS Code Docker Extension can simplify several tasks