

Building Custom Images with Dockerfile



Dan Wahlin

Wahlin Consulting

@DanWahlin | www.codewithdan.com



Overview



Getting Started with Dockerfile

Creating a Custom Dockerfile

Building a Custom Image

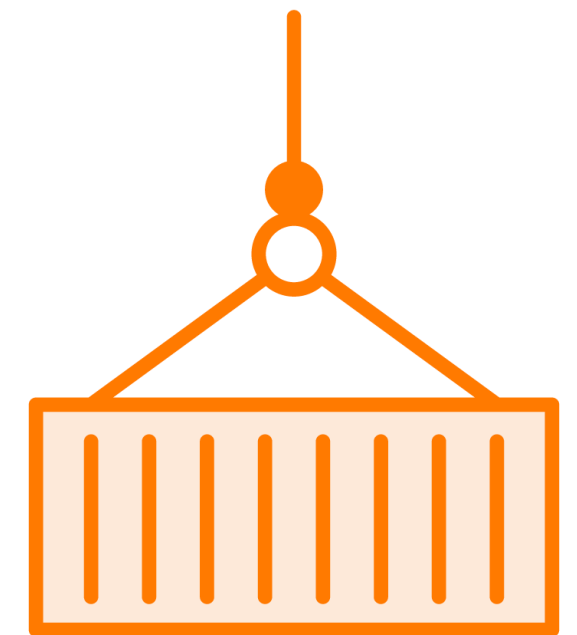
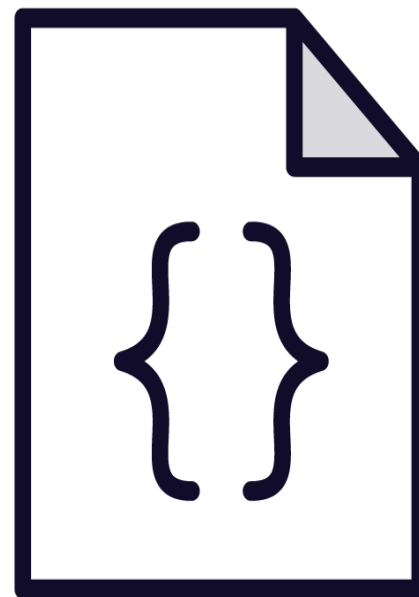
Publishing an Image to Docker Hub



Question



How do you get source code into a container?



Answer



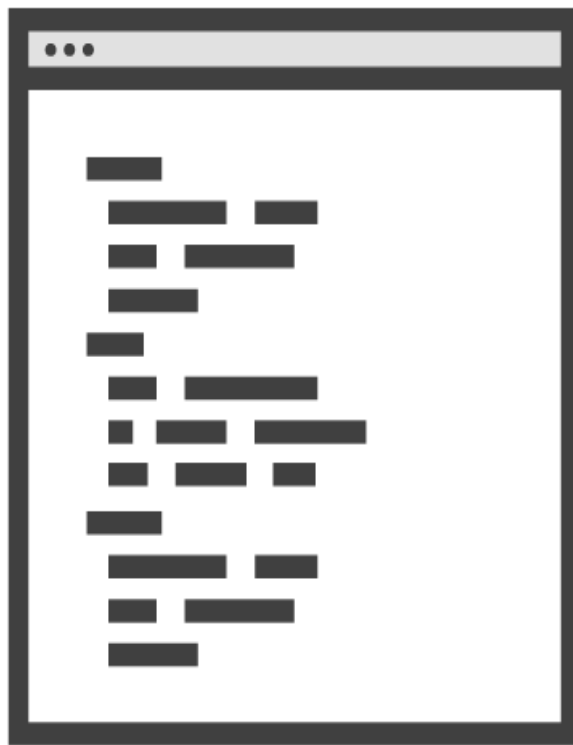
1. Create a container volume that points to the source code.
2. Add your source code into a custom image that is used to create a container.



Getting Started with Dockerfile



Dockerfile and Images

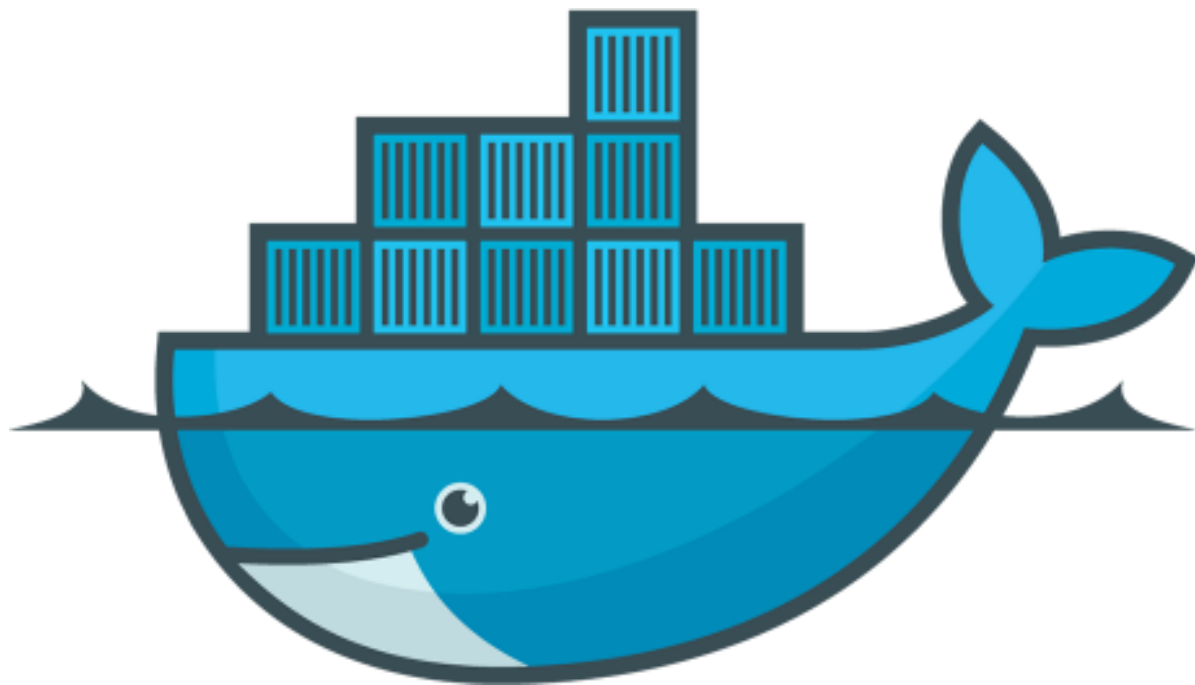


Dockerfile



Docker Image

Dockerfile Overview



Text file used to build Docker images

Contains build instructions

Instructions create intermediate image that can be cached to speed up future builds

Used with "docker build" command



Key Dockerfile Instructions

FROM

LABEL

COPY

WORKDIR

RUN

ENTRYPOINT

EXPOSE

ENV

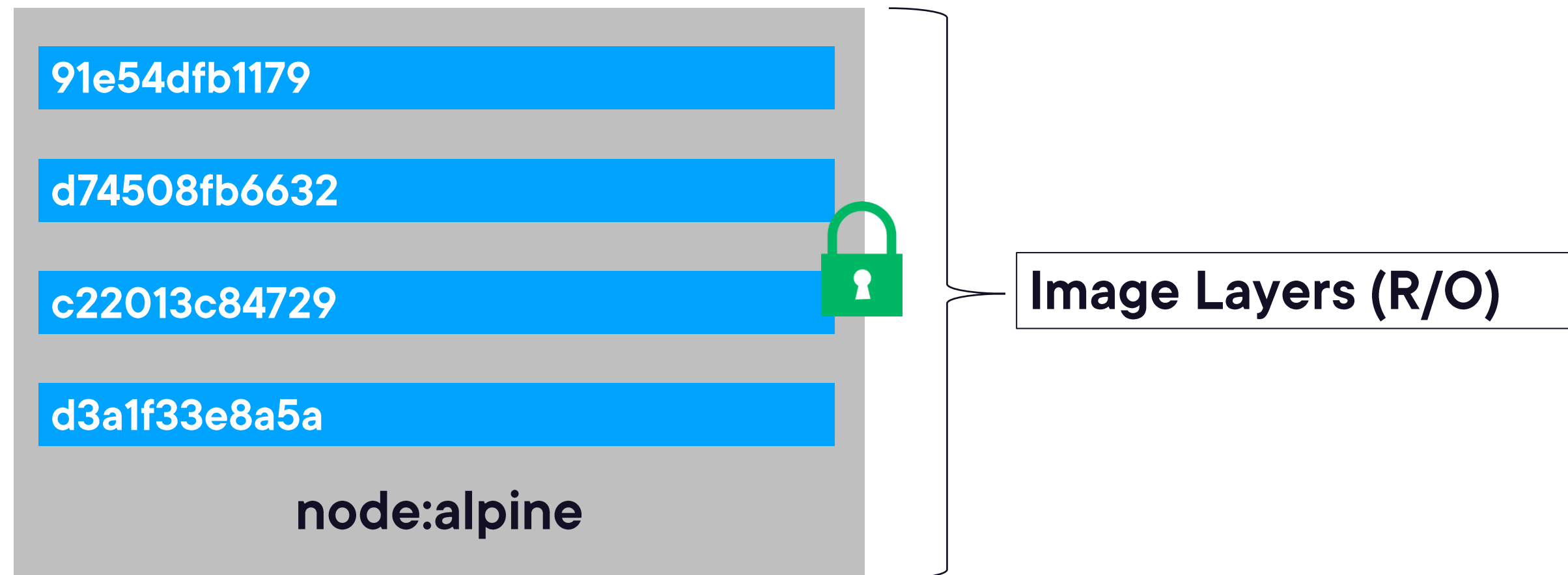
VOLUME



Dockerfile Example

```
FROM           node:alpine
LABEL          author="Dan"
WORKDIR        /var/www
COPY           . .
RUN            npm install
EXPOSE         8080
ENTRYPOINT     ["node", "index.js"]
```





Creating a Custom Node.js Image



Building a Custom Image

```
docker build -t <your username>/imageName .
```



Short for --tag

Build context



Docker Volume Hotel

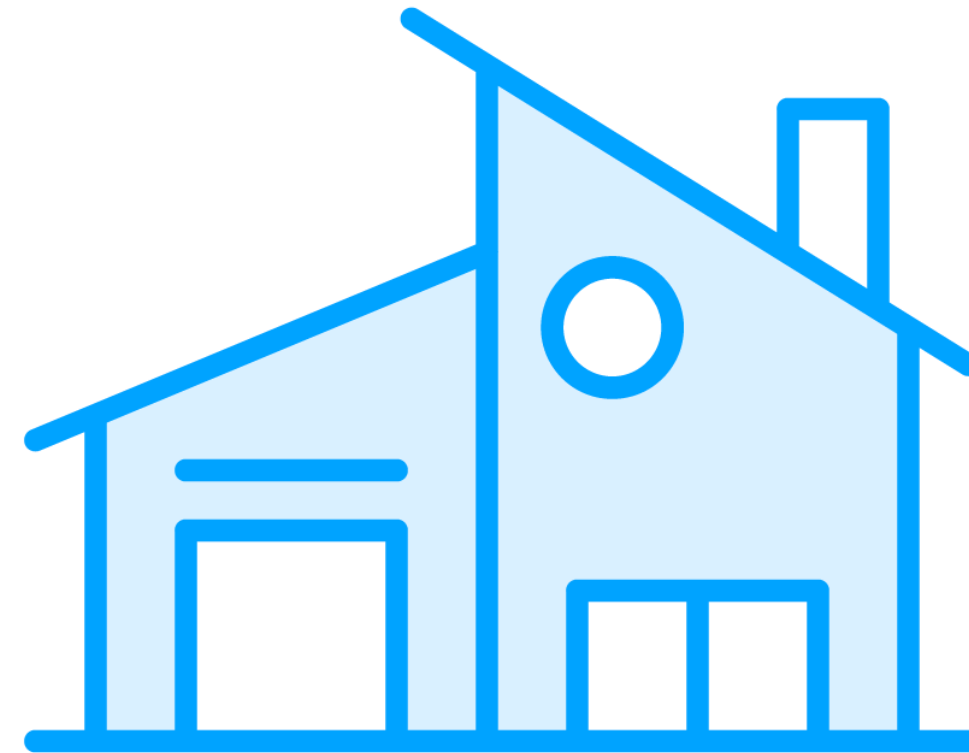
managed volume



`-v /var/www`

Your House

custom volume



`-v /customFolder:/var/www`



Building a Custom ASP.NET Core Image

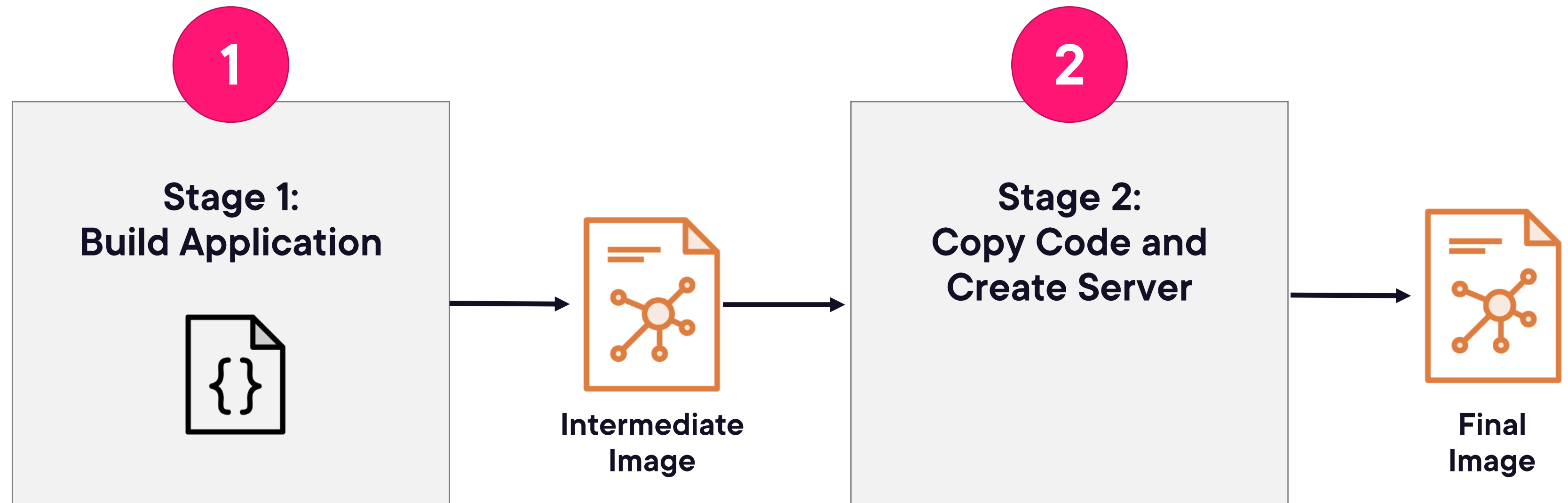




Multi-stage Dockerfiles



Multi-Stage Dockerfiles



Benefits of Multi-stage Builds



Avoid manual creation of intermediate images

Reduce complexity

Selectively copy artifacts from one stage to another

Smaller final image size



Publishing an Image to Docker Hub



Tagging an Image

docker tag source:1.0 userName/target:1.0



Source image

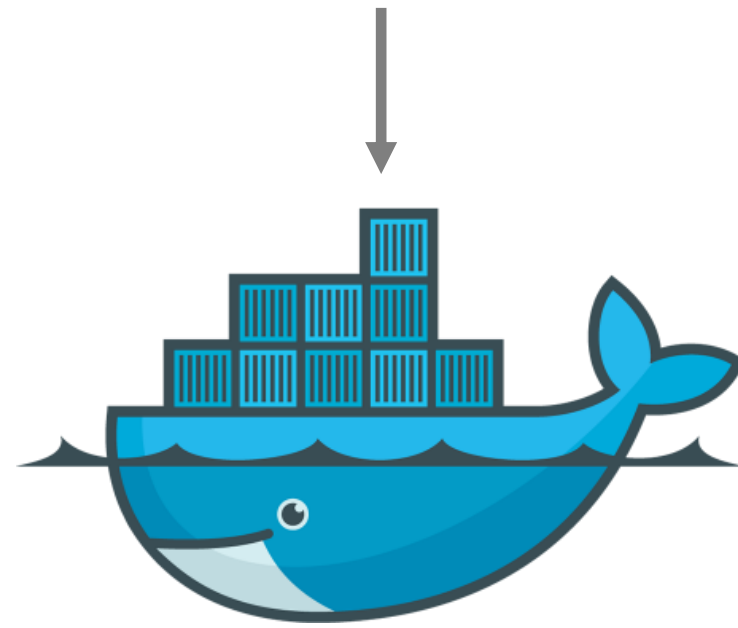


Target image



Publishing an Image to Docker Hub

```
docker push <your username>/node
```



Docker Registry

```
docker push myacr.azurecr.io/app1:v1
```





docker push in Action



Summary



Dockerfile is a simple text file with instructions that is used to create an image

Each Dockerfile starts with a FROM instruction

Custom images are built using:
`docker build -t <username>/imageName .`

Images can be pushed to Docker Hub or to other cloud registries



Up Next:

Communicating Between Containers

