

# Docker Blog

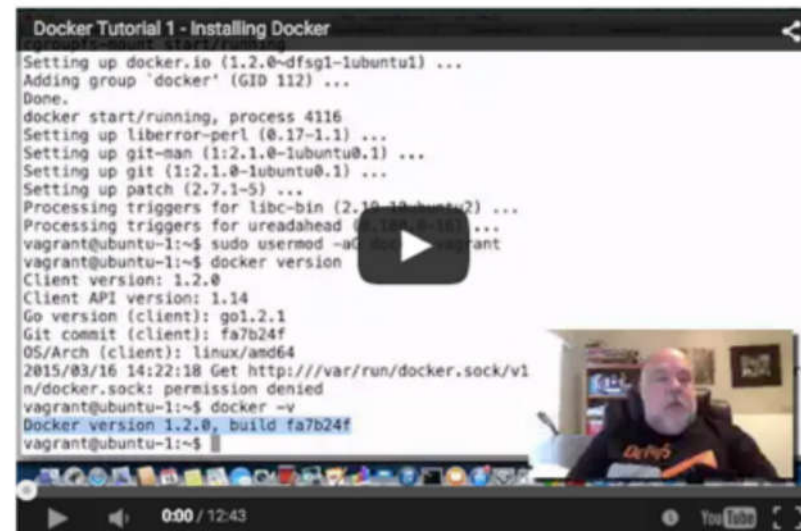


March 18, 2015

## DOCKER TUTORIAL 1 – INSTALLING DOCKER

This is a casual tutorial series. We will start out first with very simple sessions on how to [install Docker](#) and use the docker run command. In future videos we will hit more advanced topics.

This first video talks a little bit about releases in Docker and the current release cadence. We also show examples of installing from default repo's on Ubuntu, Centos and Fedora as well as installs from get.docker.com and installing from the Docker binary.



# Why Docker?

- Isolation
- Lightweight
- Simplicity
- Workflow
- Community

# Docker Community

- 1200 Docker Contributors
- 100,000 Dockerized Applications
- 3 to 4 Million Developers using Docker
- 300 Million Downloads
- 32,000 Docker Related Projects
- 70% of enterprises are using Docker

Docker Engine  
+ Docker Hub  

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= Docker Platform

# Docker Engine

- Docker Daemon
- Docker CLI

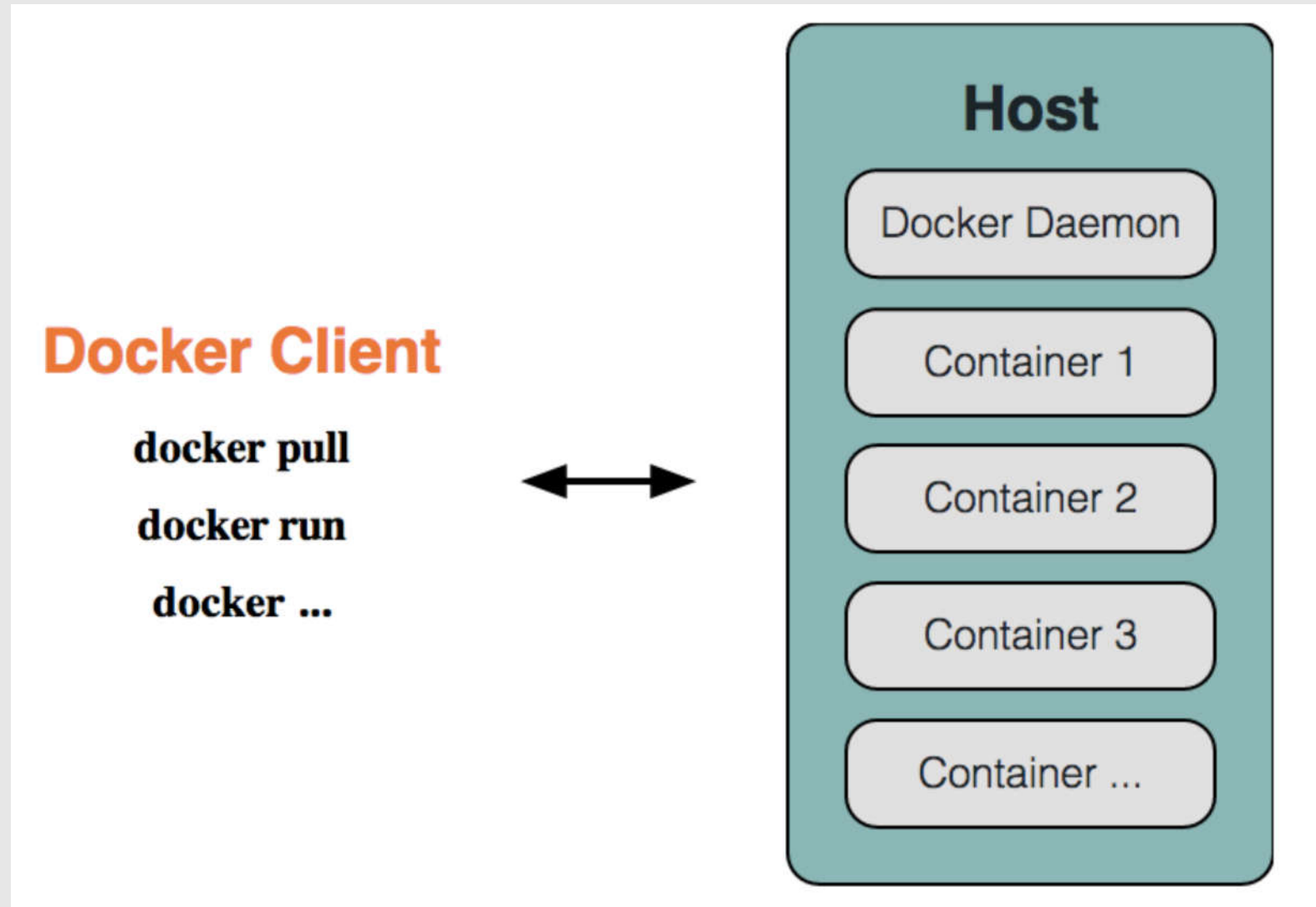
# Docker Daemon

- Builds Images
- Runs and Manages Containers
- RESTful API

# Docker CLI

- `docker build`           # Build an image from a Dockerfile
- `docker images`       # List all images on a Docker host
- `docker run`           # Run an image
- `docker ps`            # List all running and stopped instances
- `docker stop`         # Stop a running instances
- `docker rm`            # Remove an instance
- `docker rmi`          # Remove an image

# Docker Architecture





# Docker Hub

- Provides Docker Services
- Library of public images
- Storage for your images
  - free for public images
  - cost for private images
- Automated builds(link github/bitbucket repo; trigger build on commit)

# Docker Hub

https://hub.docker.com

Read Later San Diego Ukulele F http://10.254.101.2 https://hub.docker.com

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Join Docker Hub and be part of the community

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# Docker Installation

## Install Latest

Use (for latest)

```
wget -qO- https://get.docker.com/ | sh
```

## Pre release

```
wget -qO- https://test.docker.com/ | sh
```

## On UBUNTU 14-10

Repo install usually back leveled

```
sudo apt-get install -y docker.io  
sudo service docker restart
```

## On RHEL/Centos/Fedora

Repo install usually back leveled

```
sudo yum install docker  
sudo service docker start
```

# Docker Installation

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March 18, 2015

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This first video talks a little bit about releases in Docker and the current release cadence. We also show examples of installing from default repo's on Ubuntu, Centos and Fedora as well as installs from [get.docker.com](#) and installing from the Docker binary.

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**Docker Tutorial 1 - Installing Docker**

```
Setting up docker.io (1.2.0~dfsg1-1ubuntu1) ...  
Adding group 'docker' (GID 112) ...  
Done.  
docker start/running, process 4116  
Setting up liberror-perl (0.17-1.1) ...  
Setting up git-man (1:2.1.0-1ubuntu0.1) ...  
Setting up git (1:2.1.0-1ubuntu0.1) ...  
Setting up patch (2.7.1-5) ...  
Processing triggers for libc-bin (2.19-1ubuntu2) ...  
Processing triggers for ureadahead (0.10-2ubuntu1) ...  
vagrant@ubuntu-1:~$ sudo usermod -aG docker vagrant  
vagrant@ubuntu-1:~$ docker version  
Client version: 1.2.0  
Client API version: 1.14  
Go version (client): go1.2.1  
Git commit (client): fa7b24f  
OS/Arch (client): linux/amd64  
2015/03/16 14:22:18 Get http://var/run/docker.sock/v1  
n/docker.sock: permission denied  
vagrant@ubuntu-1:~$ docker -v  
Docker version 1.2.0, build fa7b24f  
vagrant@ubuntu-1:~$
```



# Docker Platform Workflow

- Find an Image on Docker Hub
- Pull an Image from Docker Hub
- Run an Image on Docker Host
- Stop an Instance
- Remove an Instance
- Remove an Image

## Docker Workflow (Part 1)

```
docker search ubuntu  
docker search -s 10 ubuntu
```

```
docker pull ubuntu  
docker images
```

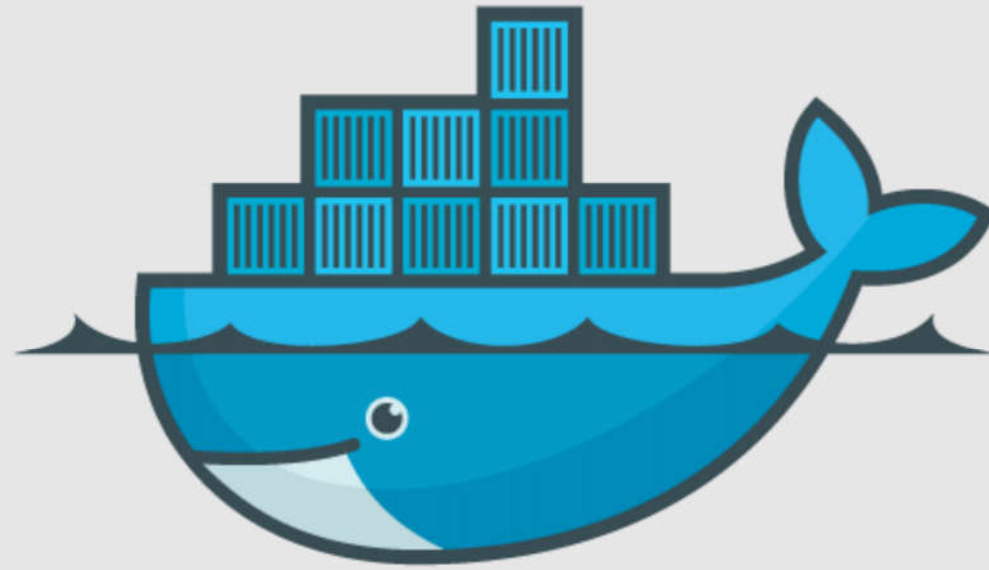
```
docker history ubuntu
```

```
cid=$(docker run -itd ubuntu)  
echo $cid  
docker ps
```

```
docker exec $cid ip a
```

```
docker stop $cid  
docker rm $cid
```

```
docker rmi ubuntu  
docker images
```



docker

Demo

# Docker Run Commands



March 25, 2015

## DOCKER TUTORIAL 2 – DOCKER RUN COMMAND BASICS

This is a casual Docker tutorial series. We will start out first with very simple sessions on how to install and use the docker run command. In future videos we will hit more advanced topics.

In this second video we explore some of the simple flags of the docker command. This is another basic tutorial. This time we explore the difference between some of the run flags (e.g., -i -t -d). We also explore the use of the docker ps commands while working with running and stopped containers.

Docker Tutorial 2 - Docker Run Command Basics

0:00 / 15:34

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April 8, 2015

## DOCKER TUTORIAL 4 – MORE RUN WITH A COUPLE OF EXTRA GOODIES

This is a casual [Docker tutorial series](#). We started out first with very simple sessions on [how to install Docker](#), the [docker run command](#) and had [fun with volumes](#). In future videos we will hit more advanced topics.

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Docker Tutorial 4 - More Run with a Couple of Extra Goodies

0:00 / 15:34



# Docker Platform Workflow (Build Images)

- Build a Local Image
- Run an Image on Docker Host

## Docker Workflow (Part 2)

```
FROM ubuntu:14.04

RUN \
    apt-get update && \
    apt-get -y install apache2

ADD index.html /var/www/html/index.html

EXPOSE 80

CMD ["/usr/sbin/apache2ctl", "-D", "FOREGROUND"]
```

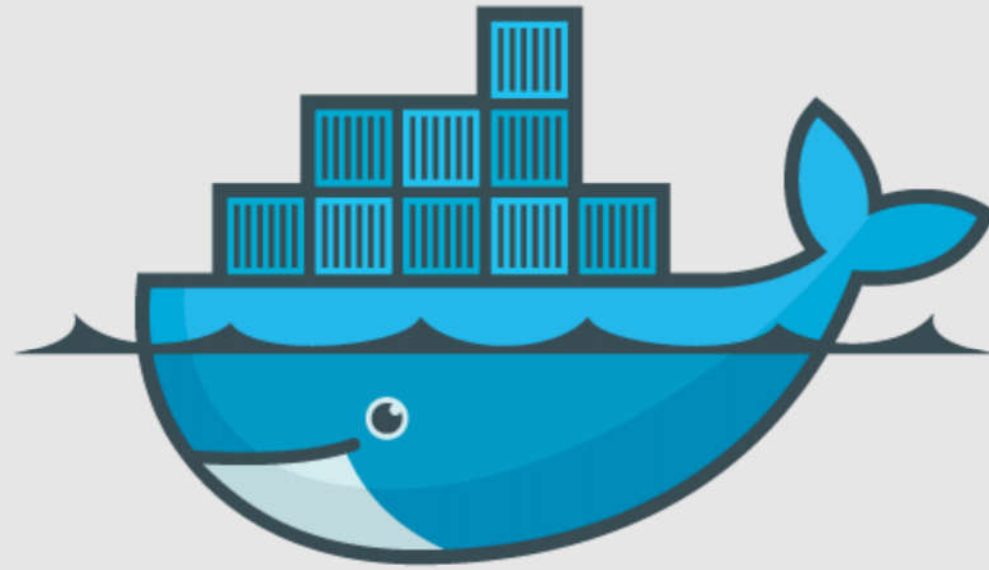
```
<h1>Docker Rocks!</h1>
```

```
docker build -t apache-test .

cid=$(docker run -itd -P apache-test)

nid=$(docker inspect --format '{{.NetworkSettings.IPAddress}}' $cid)

curl $nid
```



docker

Demo

# Docker Build

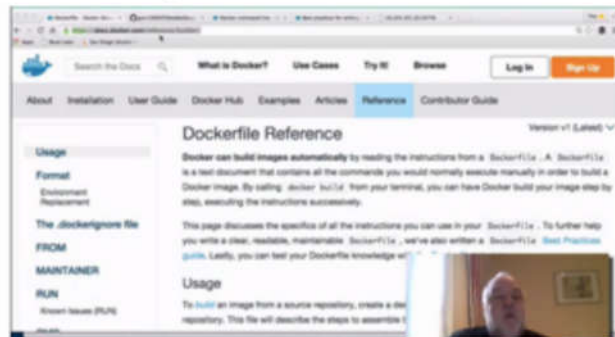


April 22, 2015

## DOCKER TUTORIAL 6 – DOCKERFILE (PART 1)

This is a casual [Docker tutorial series](#). We started out first with very simple sessions on how to install and use the docker run command. In future videos we will hit more advanced topics.

In this sixth video we cover the basics of a Dockerfile. We cover basic commands such as FROM, RUN and CMD along with other basic Dockerfile commands. Basically the tutorial describes the Dockerfile DSL.



Additional Notes:

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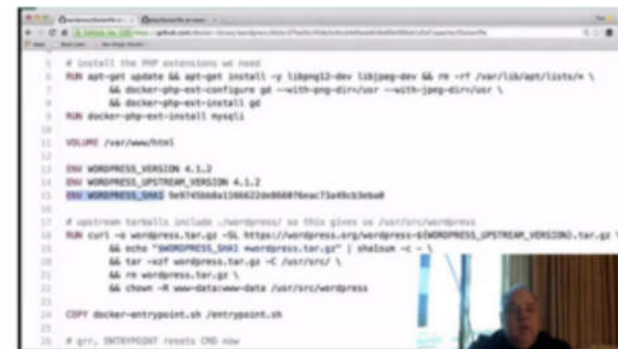
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April 30, 2015

## DOCKER TUTORIAL 7 – DOCKERFILE (PART 2)

This is a casual [Docker tutorial series](#). We started out first with very simple sessions on how to install and use the docker run command. In future videos we will hit more advanced topics.



In this seventh video we cover more advanced uses of building images with Dockerfiles. We will look at a couple of the [Docker Hub](#) repos as different examples to create Apache images..

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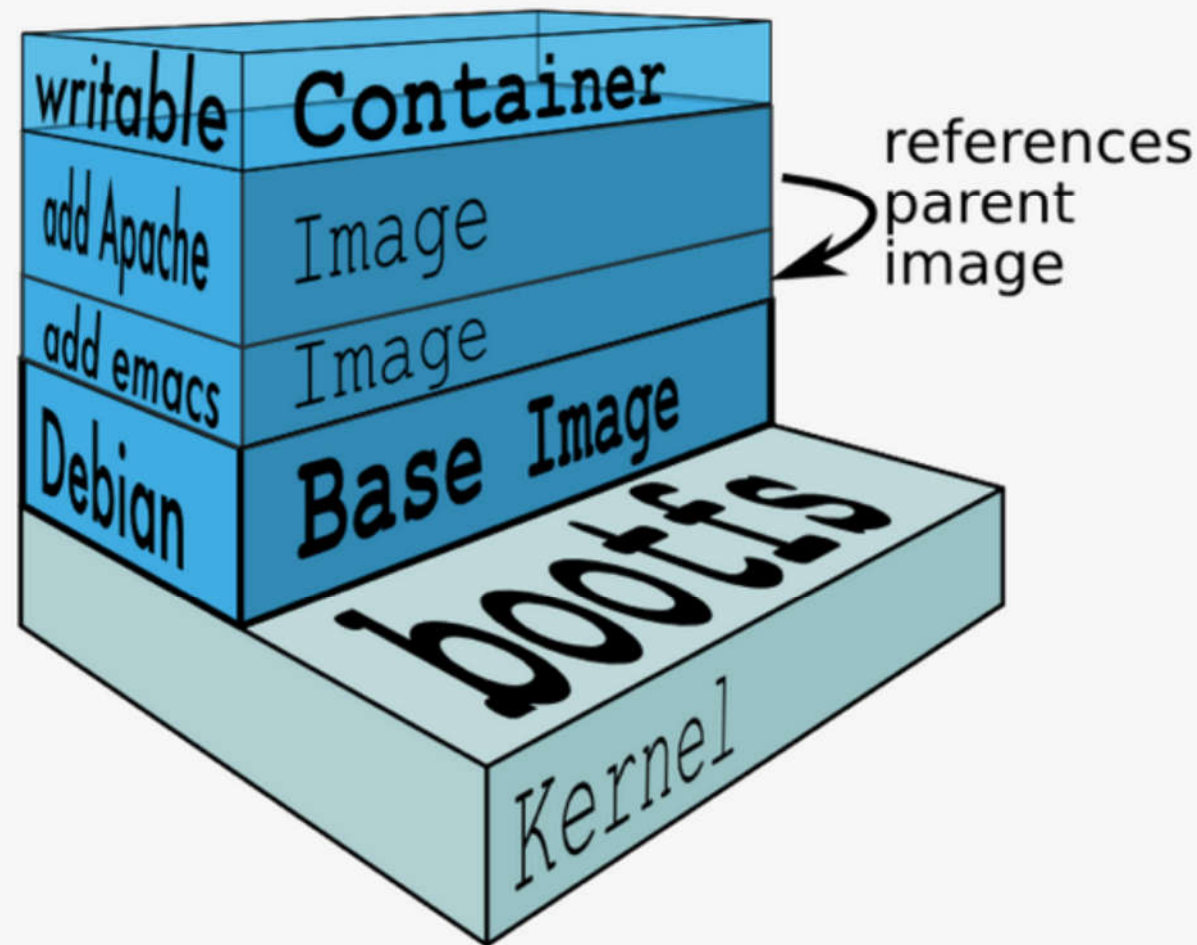
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# Docker Platform Workflow (Volumes)

- Using Volumes
- Mounting Docker Host Volumes

# Docker Platform Workflow (Volumes)



## Docker Workflow (Part 3)

```
docker run -it --name testjob1 -v /tmp1 ubuntu  
mkdir test  
cd test  
touch file1  
touch file2
```

```
docker stop testjob1  
docker start testjob1
```

```
docker exec testjob1 ls /test
```

```
docker run -it --name testjob2 -v /tmp1 ubuntu  
docker exec testjob2 ls /test
```

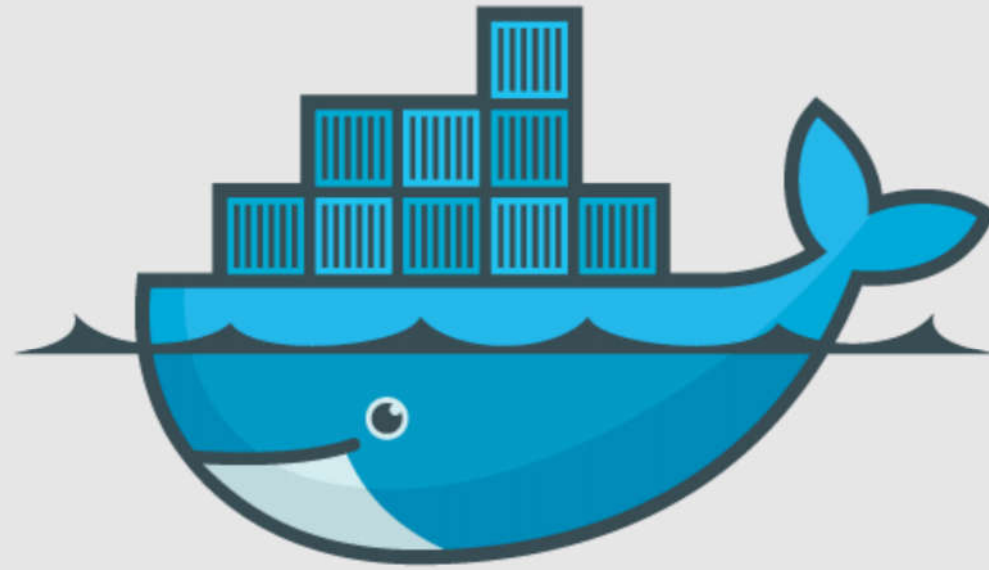
```
docker run -itd --name testjob3 -v $(pwd)/index.html:/var/www/html/index.html apache-test
```

```
nid=$(docker inspect --format '{{.NetworkSettings.IPAddress}}' testjob3)
```

```
curl $nid
```

(Change the index.html file

```
curl $nid
```




docker

Demo



# Docker Volumes

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April 1, 2015

## DOCKER TUTORIAL 3 – FUN WITH VOLUMES

This is a casual Docker tutorial series. We started out first with very simple sessions on [how to install Docker](#) and use the [docker run command](#). In future videos we will hit more advanced topics.

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Data volumes

Adding a data volume

Mount a Host Directory as a Data Volume

Mount a Host File as a Data Volume

Creating and mounting a Data Volume Container

Backup, restore, or migrate data volumes

Managing Data in Containers

Version v1.5 (Latest)


So far we've been introduced to some basic Docker concepts, seen how to work with Docker images as well as learned about networking and links between containers. In this section we're going to discuss how you can manage data inside and between your Docker containers.

We're going to look at the two primary ways you can manage data in Docker.

- Data volumes, and
- Data volume containers.

Data volumes

A data volume is a specially-designated directory within System. Data volumes provide several useful features to



# References

## **WHY I LOVE DOCKER... AND WHY YOU'LL LOVE IT TOO**

<https://blog.docker.com/2015/03/why-i-love-docker-and-why-youll-love-it-too/>

## **DOCKER TUTORIAL 1 – INSTALLING DOCKER**

<https://blog.docker.com/2015/03/docker-tutorial-1-installing-docker/>

## **DOCKER TUTORIAL 2 – DOCKER RUN COMMAND BASICS**

<https://blog.docker.com/2015/03/docker-tutorial-2-docker-run-command-basics/>

## **DOCKER TUTORIAL 3 – FUN WITH VOLUMES**

<https://blog.docker.com/2015/04/docker-tutorial-3-fun-with-volumes/>

## **DOCKER TUTORIAL 4 – MORE RUN WITH A COUPLE OF EXTRA GOODIES**

<https://blog.docker.com/2015/04/docker-tutorial-4-more-run-with-a-couple-of-extra-goodies/>

## **DOCKER TUTORIAL 6 – DOCKERFILE (PART 1)**

<https://blog.docker.com/2015/04/docker-tutorial-6-dockerfile-part-1/>

## **DOCKER TUTORIAL 7 – DOCKERFILE (PART 2)**

<https://blog.docker.com/2015/04/docker-tutorial-7-dockerfile-part-2/>