



# Docker Hub

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# Quick Review of Docker

- ▶ Docker is an open source engine that automates deployment of applications into containers
- ▶ Client-Server app
- ▶ Creates containers from images
  - ▶ Portable
  - ▶ Contain everything you need to run program

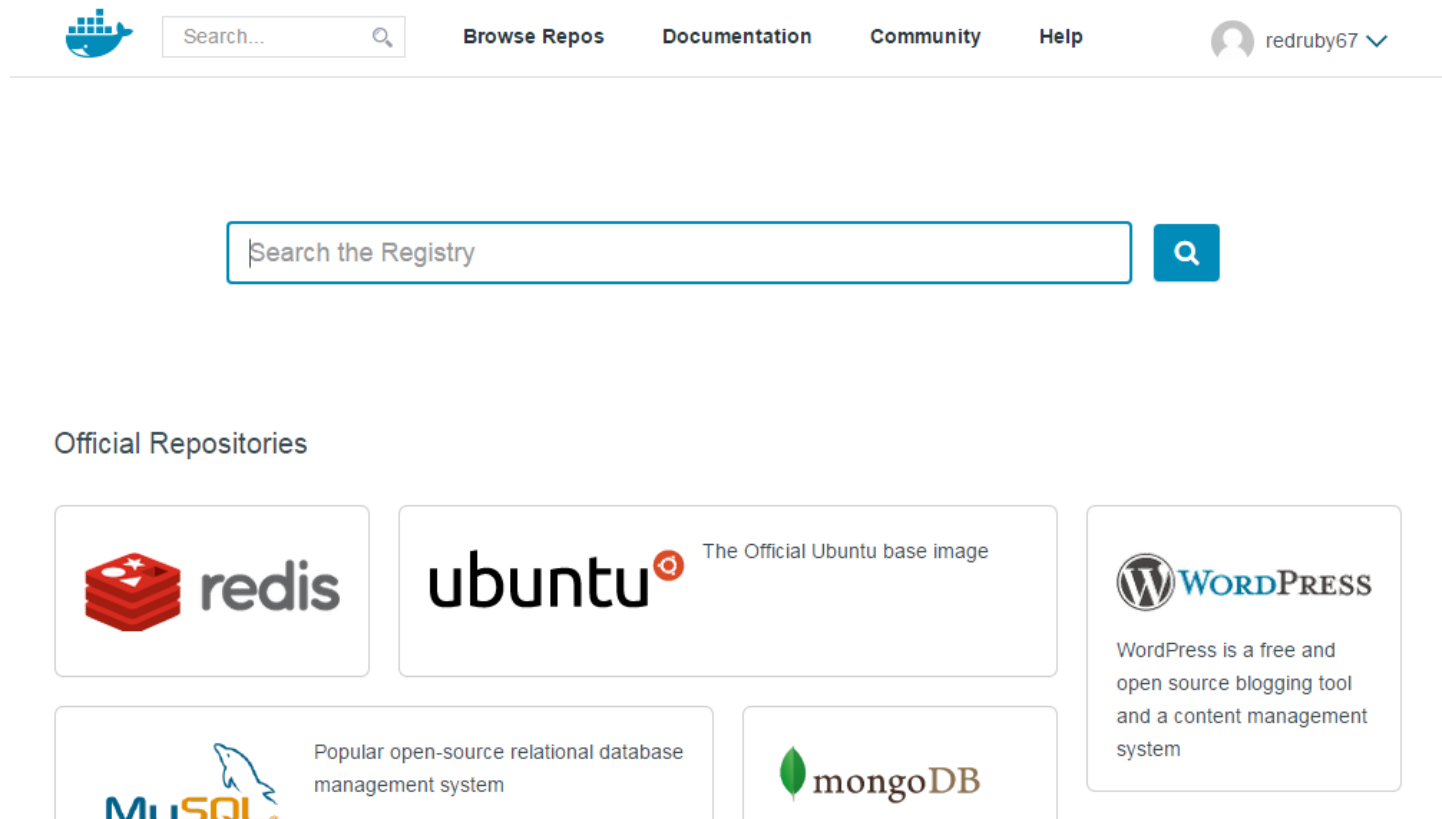
# What is the Docker Hub?

- ▶ It is the open source, public registry used by Docker, Inc
- ▶ Used to share and store images
- ▶ Images live inside repositories
- ▶ Repositories live inside registries

# Docker Hub's Mission

- ▶ Centralized resource to work with Docker and all of its components
- ▶ Increase collaboration
- ▶ Provide Docker Image hosting
- ▶ Automatic image builds

# Docker Hub Website



# Signing up for Docker Hub



Join Docker Hub and be part of the community

## Build better apps

Browse, host, share and manage apps and access within your team.

## Deploy apps faster

Automate and integrate your app development workflows.

## Get the latest news

Subscribes to the Docker newsletter and get the latest updates



Yes! I want the weekly newsletter!

Sign up



Sign up with Github

# Signing up for Docker Hub continued

- ▶ Sign up at website: <https://hub.docker.com/account/signup/>
- ▶ Provides friendly sign up for Github users
  - ▶ Using Docker Hub is very similar to using Github too!

# Types of Docker Hub Repos

- ▶ User repos
  - ▶ Docker users (ie. students, most developers, etc.)
  - ▶ username/reponame
  - ▶ redruby67/sample
- ▶ Top-level repos
  - ▶ Managed by the people behind Docker
  - ▶ reponame
  - ▶ ubuntu



# Searching for Images

- ▶ Can be done directly in the website
- ▶ Or can be done directly from terminal
  - ▶ `$ docker search redis`
  - ▶ `$ docker search redruby67/sample`
- ▶ We also pull images that we want from the terminal
  - ▶ we can specify the version of the images that we want
  - ▶ `$ docker pull ubuntu:12.01`
  - ▶ `$ docker pull ubuntu:latest`
  - ▶ `$ docker pull redruby67/sample`

# Working with our own Images

- ▶ Similar to working with Github (similar commands)
  - ▶ Commit
  - ▶ Push
  - ▶ Pull
  - ▶ Etc.



# Working with our own Images Cont.

- ▶ Include Dockerfile to build your image
  - ▶ Similar to a makefile
- ▶ Build image with Dockerfile: `$ sudo docker build -t="redruby67/sample"`

```
Dockerfile.txt ✕  
1 #Version: 0.0.1  
2 FROM ubuntu:latest  
3 MAINTAINER Jonathan Song "jonathan.song@colorado.edu"  
4 RUN apt-get update  
5 RUN echo 'Hi, this is the container' >/usr/share/nginx/index.html  
6 EXPOSE 80
```

# Quick Aside about Dockerfiles

- ▶ Specifies instructions to build the Docker images
- ▶ Series of instructions followed by their respective arguments
  - ▶ Each instruction adds new layer to image
  - ▶ Commits the image
- ▶ Dockerfiles and `$ sudo docker build -t="redruby67/sample"`
  - ▶ In a way, replaces the commit command as the new layers are committed when this runs

# Other Dockerfile Instructions

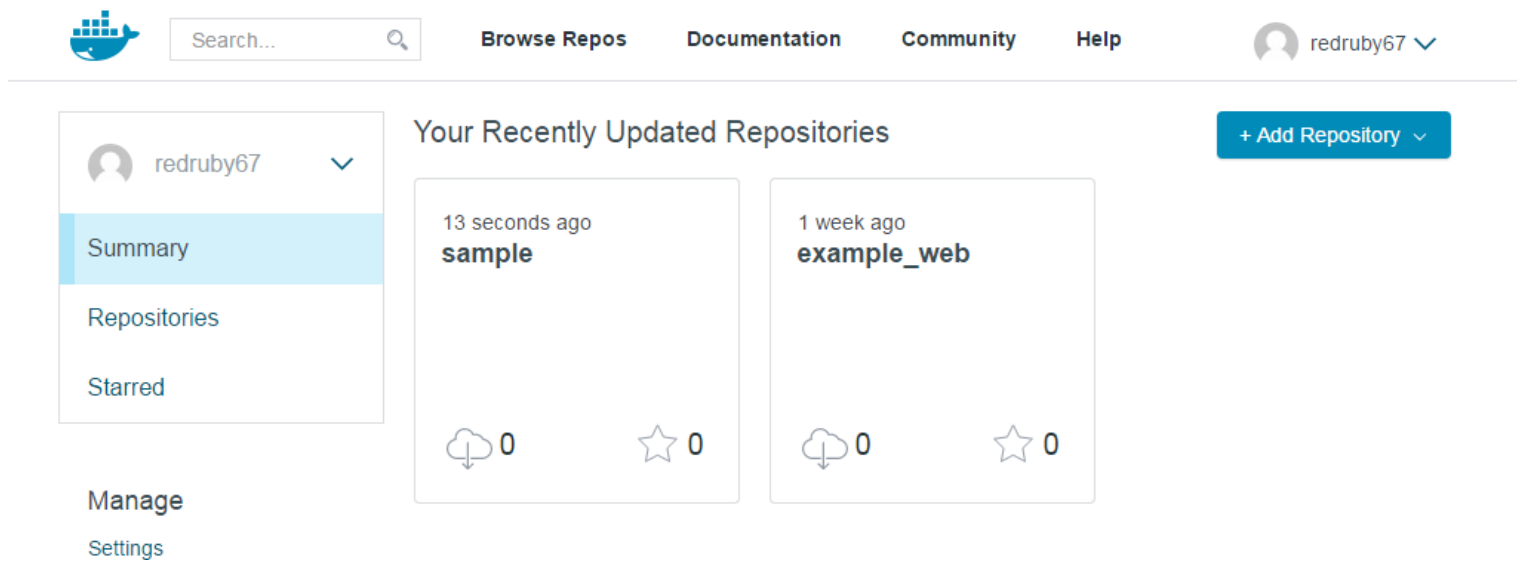
- ▶ CMD - specifies command to run when container launches
- ▶ WORKDIR - sets the working directory for the container
- ▶ ENV - sets environment variables during build process
- ▶ USER - specifies user that image runs for
- ▶ VOLUME - adds specified volume to any container from image
- ▶ Etc.

# Working with our own Images Cont.

- ▶ Pushing Images to the Docker Hub
  - ▶ By pushing, we are updating our local repo
  - ▶ Other people can use it too if they have permission
  - ▶ `$ sudo docker push redruby/sample`

# Keep track Online

- ▶ Go to your profile online to see your repos



The screenshot shows the GitHub profile page for user 'redruby67'. The top navigation bar includes the GitHub logo, a search bar, and links for 'Browse Repos', 'Documentation', 'Community', and 'Help'. The user's profile name 'redruby67' is on the right. Below the navigation bar, the left sidebar shows the user's profile picture and a dropdown menu with 'Summary' (selected), 'Repositories', and 'Starred'. Below the sidebar, there are links for 'Manage' and 'Settings'. The main content area is titled 'Your Recently Updated Repositories' and displays two repository cards. The first card is for 'sample', updated '13 seconds ago', with 0 forks and 0 stars. The second card is for 'example\_web', updated '1 week ago', with 0 forks and 0 stars. A '+ Add Repository' button is located to the right of the repository list.

Search...

Browse Repos Documentation Community Help

redruby67

redruby67

Summary

Repositories

Starred

Manage

Settings

Your Recently Updated Repositories

13 seconds ago  
**sample**

1 week ago  
**example\_web**

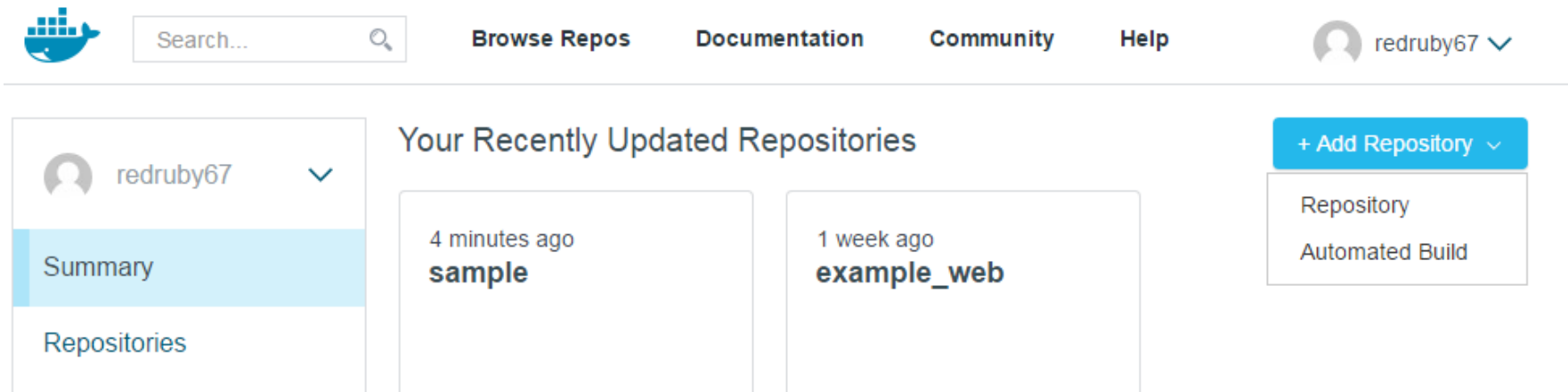
0 0

0 0

+ Add Repository

# Automated Builds

- ▶ Extra feature provided by Docker Hub that allows us to connect to GitHub or BitBucket repo that has the image that we want with the correct Dockerfile



The screenshot displays the Docker Hub user interface for the user 'redruby67'. At the top, there is a navigation bar with the Docker logo, a search bar, and links for 'Browse Repos', 'Documentation', 'Community', and 'Help'. The user's profile 'redruby67' is shown on the right. Below the navigation bar, the left sidebar contains a dropdown menu with 'Summary' selected and 'Repositories' below it. The main content area is titled 'Your Recently Updated Repositories' and features a '+ Add Repository' button. Two repository cards are shown: one updated '4 minutes ago' named 'sample', and another updated '1 week ago' named 'example\_web'. A dropdown menu is open next to the '+ Add Repository' button, showing options for 'Repository' and 'Automated Build'.

Search...

Browse Repos Documentation Community Help

redruby67

redruby67

Summary

Repositories

Your Recently Updated Repositories

4 minutes ago  
**sample**

1 week ago  
**example\_web**

+ Add Repository

Repository

Automated Build



# Resources

- ▶ “The Docker Book, Containerization is the new virtualization” by James Turnbull
- ▶ <https://www.docker.com/resources/>
- ▶ <https://github.com/docker/docker>