

Section 7 - Container Images - Docker Hub Registry

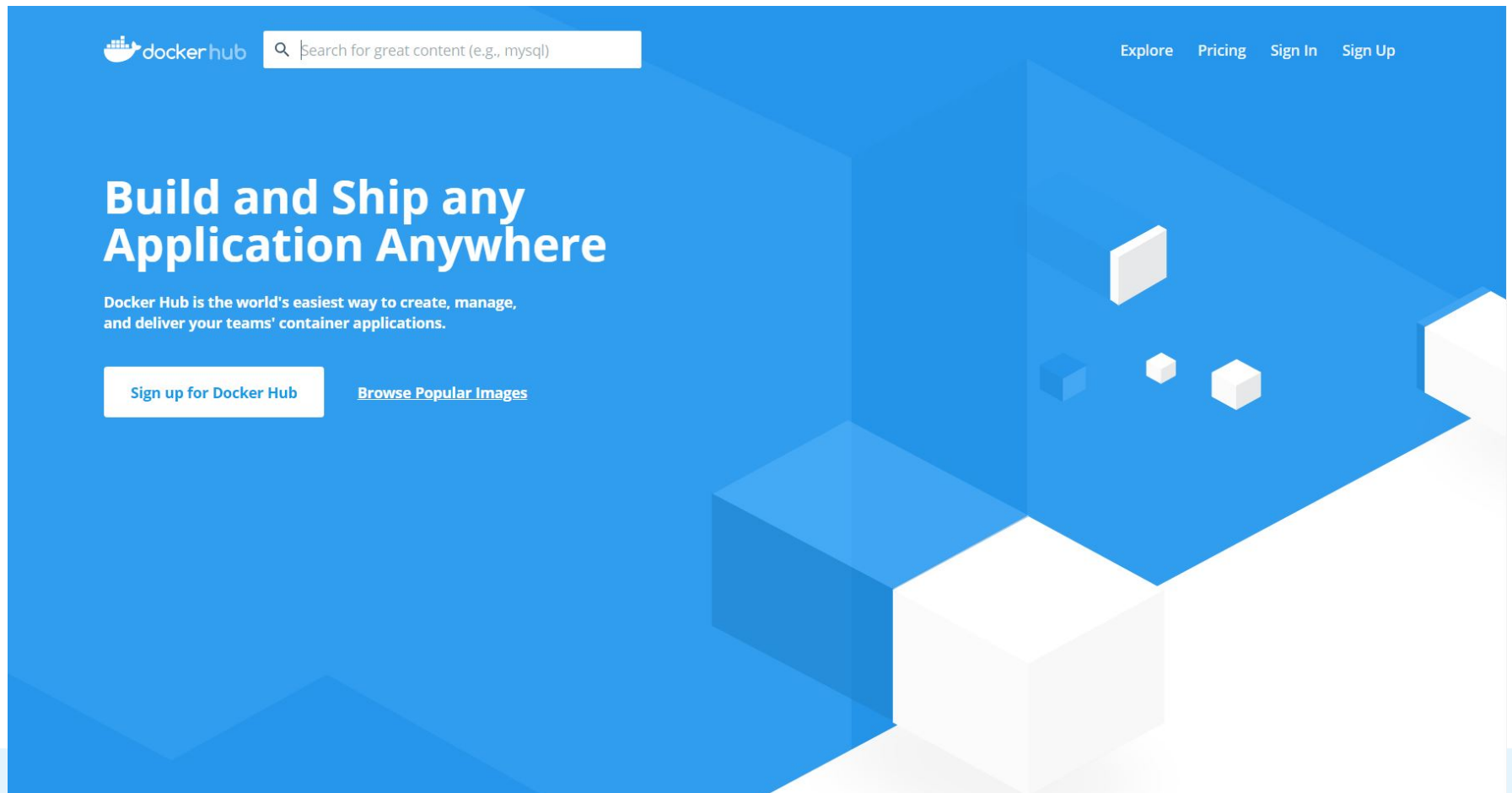
2 The Docker Hub Registry

overview

- Basics of Docker Hub (hub.docker.com)
- Find Official and other good public images
- Download images and basics of image tags

Basics of Docker Hub (hub.docker.com)

- <https://hub.docker.com/>



Docker Hub - search images (1)

- search nginx

The screenshot shows the Docker Hub search results for the term 'nginx'. The interface includes a top navigation bar with the Docker Hub logo, a search bar containing 'nginx', and links for 'Explore', 'Pricing', 'Sign In', and 'Sign Up'. Below the navigation bar, there are tabs for 'Docker EE', 'Docker CE', 'Containers' (which is selected), and 'Plugins'. The main content area displays search results for 'nginx', showing '1 - 25 of 55,760 results for nginx. [Clear search](#)'. On the left, there are filter sections for 'Filters', 'Docker Certified', 'Images', and 'Categories'. The 'Filters' section shows 'Docker Certified' as a checkbox. The 'Images' section shows 'Verified Publisher' and 'Official Images' as checkboxes. The 'Categories' section shows various categories like 'Analytics', 'Application Frameworks', etc. The search results list three items: 1. 'nginx' (Official build of Nginx) with 10M+ Downloads and 10K+ Stars, highlighted with a red box. 2. 'jwilder/nginx-proxy' (Automated Nginx reverse proxy for docker containers) with 10M+ Downloads and 1.6K Stars. 3. 'jrcs/letsencrypt-nginx-proxy-companion' (LetsEncrypt container to use with nginx as proxy) with 10M+ Downloads and 505 Stars.

dockerhub Explore Pricing Sign In Sign Up

Docker EE Docker CE Containers Plugins

Filters 1 - 25 of 55,760 results for **nginx**. [Clear search](#) Most Popular

Docker Certified *i*

☐ ☒ Docker Certified

Images

☐ Verified Publisher *i*
Docker Certified And Verified Publisher Content

☐ Official Images *i*
Official Images Published By Docker

Categories *i*

☐ Analytics

☐ Application Frameworks

☐ Application Infrastructure

☐ Application Services

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nginx
Updated 43 minutes ago
Official build of Nginx.
Container Linux ARM x86-64 IBM Z PowerPC 64 LE 386 ARM 64 Application Infrastructure
10M+ 10K+
Downloads Stars

jwilder/nginx-proxy
By [jwilder](#) • Updated 3 months ago
Automated Nginx reverse proxy for docker containers
Container Linux x86-64
10M+ 1.6K
Downloads Stars

jrcs/letsencrypt-nginx-proxy-companion
By [jrcs](#) • Updated 2 months ago
LetsEncrypt container to use with nginx as proxy
10M+ 505
Downloads Stars

Docker Hub - search images (2)

- Official images
- Number of downloads and starts

Note:


- The Repository name of an official image does not have the "account_name/" as the unofficial image has.
- When we publish an image to the docker hub, the repository name will be for example `gerassimos/nginx`. The account name gerassimos will be part of the repository name.
- The account_name could be also the name of an organization.

Docker Hub - Official images


Ref: https://docs.docker.com/docker-hub/official_images/

- Docker, Inc. sponsors are a dedicated team that is responsible for reviewing and publishing all content in the Official Images.
- This team works in collaboration with upstream software maintainers, security experts and the broader Docker community.
- Well tested
- Created from "Dockerfiles" obeying best practice rules
- Provide good documentation

Docker Hub - nginx example



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nginx ☆

Docker Official Images

Official build of Nginx.

↓ 10M+

Container Linux x86-64 IBM Z PowerPC 64 LE 386 ARM 64 ARM Application Infrastructure

Official Image

DESCRIPTIONREVIEWSTAGS

Supported tags and respective Dockerfile links

- 1.15.12, mainline, 1, 1.15, latest (mainline/stretch/Dockerfile)
- 1.15.12-perl, mainline-perl, 1-perl, 1.15-perl, perl (mainline/stretch-perl/Dockerfile)

Linux - x86-64 (latest)

Linux - ARM (latest)

Linux - x86-64 (latest)

Linux - IBM Z (latest)

Linux - PowerPC 64 LE (latest)

Linux - x86 (latest)

Linux - ARM 64 (latest)

★

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Docker Hub - nginx example

- Image tag => information about a specific image version/variant.
- A version of an image can have more than one tag
- Supported tags and respective Dockerfile links
 - 1.17.4, mainline, 1, 1.17, latest => are all versions of the same image
 - 1.17.4-alpine, mainline-alpine, 1-alpine, 1.17-alpine, alpine
- How to use this image
- Using environment variables and other configuration

docker pull nginx - latest

- If you do not specify a `tag` then latest `tag` is used.

```
# docker pull nginx
Using default tag: latest
latest: Pulling from library/nginx
Digest: sha256:e71b1bf4281f25533cf15e6e5f9be4dac74d2328152edf7ecde23abc54e
Status: Image is up to date for nginx:latest
```

Notes:

- The latest is just a tag, there is no guarantee that will point to the newest version of the application that the image refers to.
- The use of latest tag in production is an anti-pattern.
- Avoid the use of the latest tag.
- The docker client will check the "Digest: sha256" number to verify if the image is already available in the local cache.

docker pull nginx - specific tag

```
# docker pull nginx:1.15.12
```

```
1.15.12: Pulling from library/nginx
```

```
Digest: sha256:e71b1bf4281f25533cf15e6e5f9be4dac74d2328152edf7ecde23abc54e:
```

```
Status: Downloaded newer image for nginx:1.15.12
```

```
# docker image ls nginx
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
nginx	1.15.12	27a188018e18	9 days ago	109MB
nginx	latest	27a188018e18	9 days ago	109MB

Note 1

- Both the "nginx:latest" and "nginx:1.15.12" are pointing to the same image, they have the same "IMAGE ID"
- These aren't actually two different copies of 109MB images.
- Space occupied on disk will be 109MB for all nginx images with the same image ID.

- **In production we will always use a specific version.**

docker pull nginx - alpine version

```
# docker image pull nginx:1.15.12-alpine
```

- In this example we used the 1.15.12-alpine tag.
- This is an image based on the alpine linux distribution, which is very small in size (5MB).

GitHub repository

- Go to the linked GitHub repository to see the related "Dockerfile" and understand how the image are built.
- Example:
- <https://github.com/nginxinc/docker-nginx/blob/master/mainline/buster/Dockerfile>

Note: Use the "Dockerfile" of the official images as a reference for best practice.

Create your custom Nginx version

- This is very similar to the model of GitHub, where they allow you to store open source software and you can fork other people's software.
- The same thing goes here. You can use other people's images and make them your own.