

How to use Docker Container

In the last post, TipsMake.com showed you how to install Docker. In this tutorial, we will explore the most used Docker commands.

In the last post, TipsMake.com showed you how to install Docker. In this tutorial, we will explore the most used Docker commands.

Instructions for using Docker Container

1. How to learn more about Docker commands
2. How to find and drag a Docker image
3. How to run and stop a Container Docker?
4. How to customize the Docker Container
5. How to delete Docker and image?

How to learn more about Docker commands

Open a terminal and enter:

docker



```

Terminal - user@maketecheasier: ~
File Edit View Terminal Tabs Help
ps          List containers
pull        Pull an image or a repository from a registry
push        Push an image or a repository to a registry
rename      Rename a container
restart     Restart one or more containers
rm          Remove one or more containers
rmi         Remove one or more images
run         Run a command in a new container
save        Save one or more images to a tar archive (streamed to STDOUT by
default)
search      Search the Docker Hub for images
start       Start one or more stopped containers
stats       Display a live stream of container(s) resource usage statistics
stop        Stop one or more running containers
tag         Create a tag TARGET_IMAGE that refers to SOURCE_IMAGE
top         Display the running processes of a container
unpause     Unpause all processes within one or more containers
update      Update configuration of one or more containers
version     Show the Docker version information
wait        Block until one or more containers stop, then print their exit c
odes
Run 'docker COMMAND --help' for more information on a command.
user@maketecheasier:~$
  
```

This provides a quick overview of the arguments accepted by the docker command and what they do. Scroll up to see all. You can observe that **cp docker** will copy files / folders between a container and the local file system. But that is not enough. If you want to learn more about a specific sub-command, just add **--help** at the end. For example:

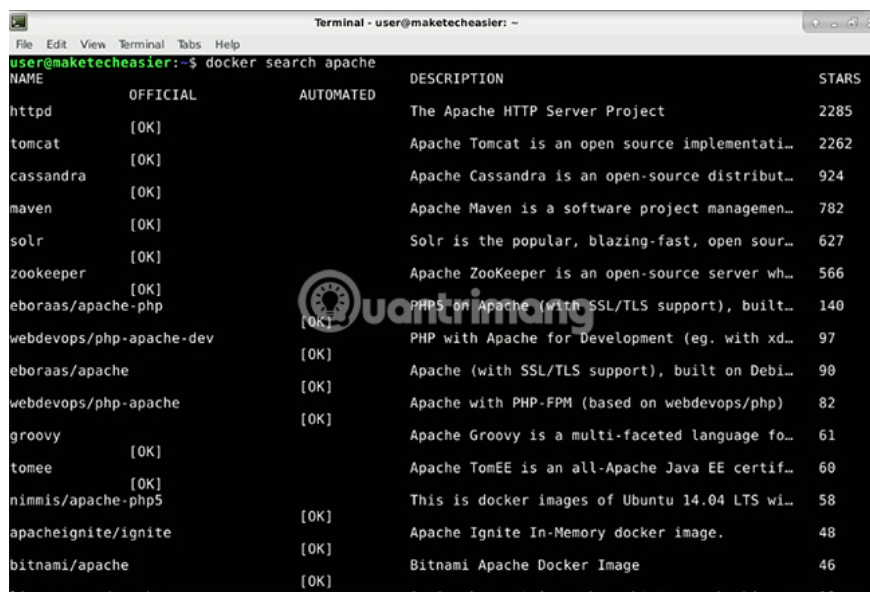
```
docker cp --help
```

How to find and drag a Docker image

At first, images can be confused with the container itself. Image is the base from which a container begins. It can then be changed (container) in any way necessary. Therefore, there may be an image such as **'httpd'** and two containers **'website1'** and **'website2'**.

To search for an image, you can use the following command:

```
docker search apache
```



```
Terminal - user@maketecheasier: ~
user@maketecheasier:~$ docker search apache
NAME                OFFICIAL    AUTOMATED    DESCRIPTION                STARS
httpd                [OK]        AUTOMATED    The Apache HTTP Server Project    2285
tomcat                [OK]        AUTOMATED    Apache Tomcat is an open source implementati...    2262
cassandra            [OK]        AUTOMATED    Apache Cassandra is an open-source distribut...    924
maven                [OK]        AUTOMATED    Apache Maven is a software project managemen...    782
solr                 [OK]        AUTOMATED    Solr is the popular, blazing-fast, open sour...    627
zookeeper            [OK]        AUTOMATED    Apache ZooKeeper is an open-source server wh...    566
eboraas/apache-php  [OK]        AUTOMATED    PHP5 on Apache (with SSL/TLS support), built...    140
webdevops/php-apache-dev  [OK]        AUTOMATED    PHP with Apache for Development (eg. with xd...    97
eboraas/apache      [OK]        AUTOMATED    Apache (with SSL/TLS support), built on Debi...    90
webdevops/php-apache  [OK]        AUTOMATED    Apache with PHP-FPM (based on webdevops/php)    82
groovy               [OK]        AUTOMATED    Apache Groovy is a multi-faceted language fo...    61
tomEE                [OK]        AUTOMATED    Apache TomEE is an all-Apache Java EE certif...    60
nimmis/apache-php5  [OK]        AUTOMATED    This is docker images of Ubuntu 14.04 LTS wi...    58
apacheignite/ignite [OK]        AUTOMATED    Apache Ignite In-Memory docker image.        48
bitnami/apache      [OK]        AUTOMATED    Bitnami Apache Docker Image                46
```

You can also search the Docker Hub if you prefer to use your web browser.

To copy the desired image:

```
docker pull httpd
```

Replace **'httpd'** with the name of the image you need.

How to run and stop a Container Docker?

To create a container from this image and run it, enter:

```
docker run -d --name=http-server --publish 80:80 httpd
```

1. **-d** runs the container in the background, separated from its output.
2. **--name** specifies how you want to name your container.
3. **--publish hostPort: containerPort** exports the port in the container to your server system. Apache serves requests on port 80 but only inside containers (isolated). With the command parameter used above, requests to port 80 on the server system will be routed to port 80 in the container, essentially providing you with a path to reach inside the container. This means that when opening a browser on the server system and entering 'localhost' in the address bar, you will connect to the web server running in your container.



To see which containers are currently running, enter:

```
docker ps
```

To see the containers are currently inactive, enter:

```
docker ps -a
```

To turn off the container, enter:

```
docker stop name-of-container
```

For example:

```
docker stop http-server
```

When you want to restart the container:

```
docker start http-server
```

And if you want to create another container from the Apache image:

```
docker run -d --name=http-server2 --publish 8080:80 httpd
```

Note that this time port 8080 was used instead of 80. That makes it not in conflict with another container. To access this container, enter localhost: 8080 in the web browser.

How to customize the Docker Container

Usually, you will need to copy files to your container. To copy from the server system to the container, the syntax of the command is:

```
docker cp /path/to/local/file/or/directory name-of-container:/path/to/container/
```

For example:

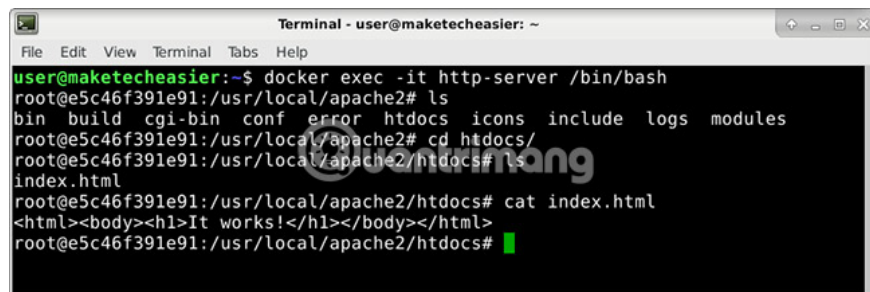
```
docker cp /bin/ls http-server:/tmp
```

To copy from container to server, use:

```
docker cp name-of-container:/path/to/container/file/or/directory /path/to/local/
```

Sometimes, you need to 'step in' the containers by opening a shell inside them. So you can edit files, install additional binaries and customize them according to your needs.

```
docker exec -it http-server /bin/bash
```

A terminal window titled "Terminal - user@maketecheasier: ~" showing a sequence of commands and their outputs. The user enters "docker exec -it http-server /bin/bash" to enter a container. Inside the container, the user runs "ls" showing the contents of "/usr/local/apache2", then "cd htdocs/" to move to the web directory, and "ls" showing "index.html". Finally, the user runs "cat index.html" which displays the content of the file: "<html><body><h1>It works!</h1></body></html>".

```
Terminal - user@maketecheasier: ~
File Edit View Terminal Tabs Help
user@maketecheasier:~$ docker exec -it http-server /bin/bash
root@e5c46f391e91:/usr/local/apache2# ls
bin build cgi-bin conf error htdocs icons include logs modules
root@e5c46f391e91:/usr/local/apache2# cd htdocs/
root@e5c46f391e91:/usr/local/apache2/htdocs# ls
index.html
root@e5c46f391e91:/usr/local/apache2/htdocs# cat index.html
<html><body><h1>It works!</h1></body></html>
root@e5c46f391e91:/usr/local/apache2/htdocs#
```

Now, you can edit '**index.html**' and create a home page for the website, for example.

To exit the shell in the container:

```
exit
```

How to delete Docker and image?

Before deleting a container, first stop it:

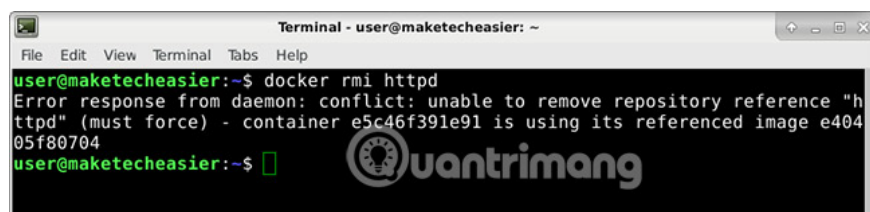
```
docker stop http-server2
```

Now, can remove the container with the command:

```
docker rm http-server2
```

But it's really images that take up more disk space than usual. You can delete them by:

```
docker rmi httpd
```

A terminal window titled "Terminal - user@maketecheasier: ~" showing the command "docker rmi httpd" being executed. The terminal displays an error message: "Error response from daemon: conflict: unable to remove repository reference \"httpd\" (must force) - container e5c46f391e91 is using its referenced image e40405f80704".

```
Terminal - user@maketecheasier: ~
File Edit View Terminal Tabs Help
user@maketecheasier:~$ docker rmi httpd
Error response from daemon: conflict: unable to remove repository reference "h
ttpd" (must force) - container e5c46f391e91 is using its referenced image e404
05f80704
user@maketecheasier:~$
```

The container will continue to function until you stop it and remove all containers that depend on that image.

Docker has evolved into a rather complex project. But you can slowly 'dig' into every command by referring to the instructions page. For example, **man docker run** will show everything about command parameters running docker, such as how to set the preferred IP address for each container or how to limit memory usage. Gradually you can master each Docker command if you are patient.

Good luck!

See more:

1. How to safely check desktop applications with Docker
2. 5 tips to learn Docker effectively for beginners
3. What is Container Linux? Should I use it?

You finished reading the article "**How to use Docker Container**" edited by the [TipsMake](#) team. We hope this article has provided you with many useful tech tips and tricks. You can search for similar articles on tips and guides. Thank you for reading and for following us regularly.