

# DOCKER on Windows

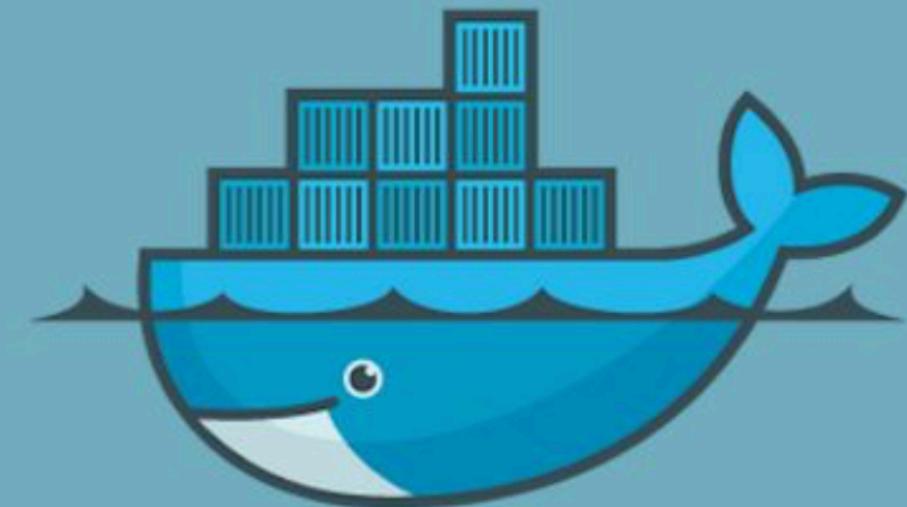
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# 0. Why Docker?

1. OS independence
2. Speed (docker vs VM)
3. Docker hub (Github)
4. Image
5. Registry
6. Repository
7. Container
8. Dockerfile

ROOT on windows with Docker,  
Amazing!



# docker

For Linux & Mac, it is much easier to be installed.

# 1. Docker with Windows

- ▶ 1. Docker for windows (only support on windows 10pro or higher)  
(recommended on windows..)
- ▶ 2. **boot2docker** (deprecated since 2015) with virtualbox
- ▶ 3. **Docker machine** (<http://mirrors.aliyun.com/docker-toolbox/windows/docker-toolbox/>) :: !
- ▶ 4. ubuntu on windows

# 1.1 Docker with Windows :: Docker tool box

- ▶ Win10 pro ??
- ▶ Even higher ??

# 1.2 Docker with Windows :: boot2docker

- ▶ Deprecated, but most popular (at least on web).
- ▶ Way to launch
  - ▶ 1. Via “VirtualBox”
    - ▶ Download & Install virtualbox(<https://www.virtualbox.org>)
    - ▶ Download & install boot2docker 1.8 (<http://boot2docker.io>)
    - ▶ Launch boot2docker on VirtualBox
  - ▶ 2. Via “boot2Doc start”
    - ▶ (Please let me know, if this work..)
    - ▶ Launch boot2Doc on your desktop which is byproduct of boot2docker installation.
    - ▶ Type. “`docker pull ubuntu:14.04`” inside of terminal to see if this works



# 1.3 Docker with Windows :: Docker machine

- ▶ <http://mirrors.aliyun.com/docker-toolbox/windows/docker-toolbox/>

## **Index of /docker-toolbox/windows/docker-toolbox/**

...		
<a href="#">DockerToolbox-1.10.0.exe</a>	06-Jan-2018 13:01	203135528
<a href="#">DockerToolbox-1.10.1.exe</a>	06-Jan-2018 13:02	203078808
<a href="#">DockerToolbox-1.10.2.exe</a>	06-Jan-2018 13:02	203122688
<a href="#">DockerToolbox-1.10.3.exe</a>	06-Jan-2018 13:01	205292712
<a href="#">DockerToolbox-1.11.0.exe</a>	06-Jan-2018 13:03	210744584
<a href="#">DockerToolbox-1.11.1.exe</a>	06-Jan-2018 13:02	211066432
<a href="#">DockerToolbox-1.11.2.exe</a>	06-Jan-2018 13:01	206448376
<a href="#">DockerToolbox-1.12.0.exe</a>	06-Jan-2018 13:01	207889296
<a href="#">DockerToolbox-1.12.1.exe</a>	06-Jan-2018 13:02	213280664
<a href="#">DockerToolbox-1.12.2.exe</a>	06-Jan-2018 13:01	213090944
<a href="#">DockerToolbox-1.12.3.exe</a>	06-Jan-2018 13:03	213166912
<a href="#">DockerToolbox-1.12.4.exe</a>	06-Jan-2018 13:02	213774960
<a href="#">DockerToolbox-1.12.5.exe</a>	06-Jan-2018 13:02	213760072
<a href="#">DockerToolbox-1.12.6.exe</a>	06-Jan-2018 13:02	213893648
<a href="#">DockerToolbox-1.13.0.exe</a>	06-Jan-2018 13:01	214649392
<a href="#">DockerToolbox-1.13.1.exe</a>	06-Jan-2018 13:02	214686128
<a href="#">DockerToolbox-1.8.3.exe</a>	06-Jan-2018 13:03	191841248
<a href="#">DockerToolbox-1.9.0.exe</a>	06-Jan-2018 13:02	211892648
<a href="#">DockerToolbox-1.9.1.exe</a>	06-Jan-2018 13:02	212434344
<a href="#">DockerToolbox-17.03.0-ce.exe</a>	06-Jan-2018 13:03	214698696
<a href="#">DockerToolbox-17.04.0-ce.exe</a>	06-Jan-2018 13:03	213457328
<a href="#">DockerToolbox-17.05.0-ce.exe</a>	06-Jan-2018 13:01	215769088
<a href="#">DockerToolbox-17.06.0-ce.exe</a>	06-Jan-2018 13:01	216833200
<a href="#">DockerToolbox-17.06.2-ce.exe</a>	06-Jan-2018 13:01	217463520
<a href="#">DockerToolbox-17.07.0-ce.exe</a>	06-Jan-2018 13:03	217909960
<a href="#">DockerToolbox-17.10.0-ce.exe</a>	06-Jan-2018 13:03	213524624
<a href="#">DockerToolbox-17.12.0-ce.exe</a>	13-Jun-2018 03:01	215187136
<a href="#">DockerToolbox-18.01.0-ce.exe</a>	13-Jun-2018 03:05	220124536
<a href="#">DockerToolbox-18.02.0-ce.exe</a>	13-Jun-2018 03:09	220280032
<a href="#">DockerToolbox-18.03.0-ce.exe</a>	13-Jun-2018 03:13	221771936

# 1.4 Docker with Windows :: ubuntu on windows

- ▶ On Microsoft Store on Windows, install Ubuntu
- ▶ On your installed Ubuntu, install Docker .
- ▶ (Not worked for me)

# 2.0 Docker basic commands

- ▶ 0. docker run hello-world
- ▶ 1. docker search ubuntu
- ▶ 2. docker pull
  - ▶ ubuntu
  - ▶ Ubuntu:14.04
- ▶ 3. docker images
- ▶ 4. docker start
- ▶ 5. docker ps -a
- ▶ 6. docker stop

## 2.1 Docker command (pull image, make container, get out from container)

- ▶ 1. docker pull [skyblue1294/docker\\_pyku\\_frame](#)
  - ▶ Everything we need are installed on the image.
  - ▶ Let me know if you need any other package ("mysql" maybe..)
- ▶ 2. docker run -it --name ® -v \$PWD/DATA:/home/PYKU\_DATA©
  - ▶ Replace ® by container name you want to name
  - ▶ Replace © by [skyblue1294/docker\\_pyku\\_frame](#)
  - ▶ After this, You are inside of the PYKU container! (Try Python, ROOT, Tensorflow, what ever you want!)
- ▶ 3. Get out from your container, back to host machine
  - ▶ (1) exit → Get out with shutting down the container
  - ▶ (2) Cntl + c → same with (1)
  - ▶ (3) Cntl + p , Cntl + q → Get out without shutting down.

# 2.2 Docker command (listing images, listing containers, stop container, remove)

- ▶ 1. docker images
  - ▶ Listing current existing images
  - ▶ Repository, Tag, Image ID
- ▶ 2. docker ps -a
  - ▶ Listing current existing containers

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
skyblue1294/docker_pyku_frame	1.0.0	76b5d0817722	4 hours ago	2.48GB
skyblue1294/pyku_root	latest	07ac2a8a8fc1	14 hours ago	2.09GB
skyblue1294/example-nginx	0.1	fe3b38b1cd27	28 hours ago	179MB
hello	0.1	fe38b6ca6b06	34 hours ago	266MB

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
39c7555e0f30	skyblue1294/docker_pyku_frame:1.0.0	"/bin/bash"	6 seconds ago	Up 11 seconds		zen_mcnuilty

- ▶ 3. docker stop “Container ID”
- ▶ 4. docker rm “Container ID”
- ▶ 5. docker rmi “IMAGE ID”

## 2.3 Attach to container

- ▶ 1. docker start “Container ID”
  - ▶ Need to invoke the container, in order to be attached on it
- ▶ 2. docker attach “Container ID”
  - ▶ Attaching to the container
  - ▶ Attaching means going back to the certain container
- ▶ 3. Get out from your container, back to host machine (same as “2.1”)
  - ▶ (1) exit → Get out with shutting down the container
  - ▶ (2) Cntl + c → same with (1)
  - ▶ (3) Cntl + p , Cntl + q → Get out without shutting down.

# 3. PYKU ROOT Frame

- ▶ Copy “execute\_docker\_ROOT.py” from “Project-pre” to your working directory.
- ▶ “python execute\_docker\_ROOT.py” on your working directory.

# 4. Help

- ▶ 1. Please work with docker
- ▶ 2. python2 recommended
- ▶ 3. python3 → we need another image without ROOT
- ▶ 4. Code re-organization.
- ▶ 5. Please Keep in mind : “Your are working in PYKU DOCKER!”

# Endcap

- ▶ 1. Do whatever you want to do on your own container.
- ▶ 2. You can make multiple containers
- ▶ 3. Let me know if you need specific package
- ▶ 4. On Docker hub, you can check latest released version. (current : 1.0.0)  
[https://hub.docker.com/r/skyblue1294/docker\\_pyku\\_frame/builds/](https://hub.docker.com/r/skyblue1294/docker_pyku_frame/builds/)
- ▶ 5. bash command. (yum install ~)