1) Install Docker on local machine. For OS X or Windows, please use a linux VM (Vagrant can easily provision a linux VM).

561 uname -a

562 apt-get install docker-engine

563 apt-key adv --keyserver hkp://p80.pool.sks-keyservers.net:80 --recv-keys 58118E89F3A912897C070ADBF76221572C52609D

564 vi /etc/apt/sources.list.d/docker.list

565 apt-get update

566 apt-get purge lxc-docker

567 apt-get install linux-image-generic-lts-trusty

568 reboot

569 apt-get update

570 apt-get install docker-engine

571 ervice docker start

2) What is DockerHub?

Là dịch vụ cloud để chia sẻ ứng dụng và tự động hóa chuỗi các công việc liên tục, có thể thao tác pull/push với các images

3) Explore and find an official Ubuntu image on DockerHub.

Command: docker search ubuntu

NAME	DESCRIPTION	STARS	OFFICIAL	AUTOMATED
ubuntu	Ubuntu is a Debian-based Linux operating s...	2926	[OK]	

and see OFFICIAL column

4) Pull the official Ubuntu image to your local machine.

command: docker pull ubuntu

check image by command:

docker images

root@apiserver1:/home/api# docker images

REPOSITORY	TAG	IMAGE ID	CREATED	VIRTUAL SIZE
ubuntu	latest	c4bea91afef3	2 days ago	187.9 MB

5. Run a container from the official Ubuntu image to print out "Hello World!".

step 1: create ubuntu container from ubuntu images

command: docker create ubuntu

step 2: run a ubuntu container and echo hello world

command: docker run -i -t ubuntu /bin/sh -c "echo hello world;" ---> not running daemon

6. Show the command you use to complete the previous task.

583 docker create ubuntu

584 docker ps

585 docker run -i -t ubuntu /bin/sh -c "echo hello world;"

7.Run a container from the official Ubuntu image interactively, and install Java on that container.

step 1: create container from the official Ubuntu image daemon

docker run -i -t -d ubuntu /bin/bash

docker ps

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
e1057569eda6	ubuntu	"/bin/bash"	6 seconds ago	Up 4 seconds		hopeful_allen

step 2: Now, access the shell of that container and install java

docker exec -i -t e1057569eda6 "/bin/bash"

apt-get update

apt-get install default-jre

8. Create a new image based on the previous container.

step1: command exit to exit e1057569eda6 container

step2: docker stop e1057569eda6

step3: create new images ubuntu/java:v1 based on the e1057569eda6 container

docker commit `docker ps -l -q` ubuntu/java:v1

docker ps -l -q opition : show only container stop

step4: check new images on list

command: docker images

REPOSITORY	TAG	IMAGE ID	CREATED	VIRTUAL SIZE
ubuntu/java	v1	563a452dff65	46 seconds ago	533.1 MB

9. Show the command you use to complete the previous task.

633 docker stop e1057569eda6

634 docker commit `docker ps -l -q` ubuntu/java:v1

635 docker images

10. Run a container from the newly created image to print out Java version.

command: docker run -i -t ubuntu/java:v1 /bin/sh -c "java -version;"

java version "1.7.0_91"

OpenJDK Runtime Environment (IcedTea 2.6.3) (7u91-2.6.3-0ubuntu0.14.04.1)

OpenJDK 64-Bit Server VM (build 24.91-b01, mixed mode)

11. What is a Dockerfile?

– Dockerfile : là một file chứa tập hợp các lệnh để Docker có thể đọc và thực hiện để đóng gói một image theo yêu cầu người dùng

12. Create an image based on the official Ubuntu image, with Java installed, by using a Dockerfile.

step 1: create a Dockerfile

```
#Pull base image.
FROM ubuntu
MAINTAINER dien
# Install Java.
RUN \
  apt-get update && \
  apt-get install -y default-jre && \
  rm -rf /var/lib/apt/lists/*

USER root
# Define working directory.
WORKDIR /data
```

Define default command.

RUN echo "Success"

run command to create new images dientruong/first

docker build –t dientruong/first .

13. Publish your Dockerfile to GitHub.

git clone https://github.com/dockerdientruong/docs.git

and push it to https://github.com/dockerdientruong/docs

browser web: https://github.com/dockerdientruong/docs/blob/master/Dockerfile

14. Publish the image you create in the previous task to Dockerhub.

step1: command

docker login --username=dientruong --email=dientruong1980@gmail.com

step2: docker push dientruong/first

docker search dientruong/first

NAME DESCRIPTION STARS OFFICIAL AUTOMATED

dientruong/first first 0

15. What is Docker Compose?

Docker Compose để quản lý và liên kết các containers

16. Compose a Wordpress service (or any other service you like that involves a web server and a database)

Step1: install docker-compose

693 curl -L https://github.com/docker/compose/releases/download/1.5.2/docker-compose-`uname -s`-`uname -m` > /usr/local/bin/docker-compose

694 chmod +x /usr/local/bin/docker-compose

Step2: set up Dockerfile

683 mkdir wordpress

684 cd wordpress/

685 curl https://wordpress.org/latest.tar.gz | tar -xvzf -

685 cd wordpress/

727 vi Dockerfile

728 vi docker-compose.yml

729 docker-compose build

733 docker-compose up

17. Share the volume of the database container with a volume on host machine to persist data.

docker run -it -d --name mysql01 -v /data/mysql/mysql01:/var/lib/mysql -e MYSQL_ROOT_PASSWORD= mysql:latest

Trong này thì thư mục "/data/mysql/mysql01" là thư mục trên máy của mình và "/var/lib/mysql" là chuỗi cố định được cài đặt sẵn trong image.

18. Publish your Docker Compose file to GitHub.

https://github.com/dockerdientruong/docs/tree/master/docker-compose

Xin cảm ơn!!!