NETWORKING & SYSTEM ADMINISTRATION LAB

Name: sruthy chandran

Roll No:43

Batch: RMCA B

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Aim

Steps for Installing Docker

Procedure

1. **Open the terminal on Ubuntu.**
2. **Remove any Docker files that are running in the system, using the following command:**

   Syntax:

   $ sudo apt-get remove docker docker-engine docker.io

   After entering the above command, you will need to enter the password of the root and press enter.

   Output:

```
mca@U16:~$ sudo apt-get remove docker docker-engine docker.io
[sudo] password for mca:
Reading package lists... Done
Building dependency tree
Reading state information... Done
Package 'docker-engine' is not installed, so not removed
Package 'docker' is not installed, so not removed
The following packages were automatically installed and are no longer required:
  bridge-utils cgroupfs-mount ubuntu-fan
Use 'sudo apt autoremove' to remove them.
The following packages will be REMOVED:
  docker.io
0 upgraded, 0 newly installed, 1 to remove and 6 not upgraded.
After this operation, 137 MB disk space will be freed.
Do you want to continue? [Y/n] y
(Reading database ... 182311 files and directories currently installed.)
Removing docker.io (17.12.1-0ubuntu1) ...
'/usr/share/docker.io/contrib/nuke-graph-directory.sh' -> '/var/lib/docker/nuke-graph-directory.sh'
Processing triggers for man-db (2.8.3-2) ...
```

3. **Check if the system is up-to-date using the following command:**

   Syntax:
   $ sudo apt-get update

   Output:

```
mca@U16:~$ sudo apt-get update
Hit:1 https://dl.google.com/linux/chrome/deb stable InRelease
Hit:2 http://archive.ubuntu.com/ubuntu bionic InRelease
Hit:3 http://ppa.launchpad.net/codeblocks-devs/release/ubuntu bionic InRelease
Err:4 http://ppa.launchpad.net/jonathonf/python-3.6/ubuntu bionic InRelease
  403  Forbidden [IP: 185.125.190.52 80]
Hit:5 http://ppa.launchpad.net/pasgui/ppa/ubuntu bionic InRelease
Hit:6 http://ppa.launchpad.net/webupd8team/java/ubuntu bionic InRelease
Reading package lists... Done
E: Failed to fetch http://ppa.launchpad.net/jonathonf/python-3.6/ubuntu/dists/bionic/InRelease  403  Forbidden [IP: 185.125.190.52 80]
E: The repository 'http://ppa.launchpad.net/jonathonf/python-3.6/ubuntu bionic InRelease' is no longer signed.
N: Updating from such a repository can't be done securely, and is therefore disabled by default.
N: See apt-secure(8) manpage for repository creation and user configuration details.
```

4. Install Docker using the following command:

Syntax:

$ sudo apt install docker.io

Output

```
mca@U16:~$  sudo apt install docker.io
Reading package lists... Done
Building dependency tree
Reading state information... Done
Suggested packages:
  aufs-tools btrfs-tools debootstrap docker-doc rinse zfs-fuse | zfsutils
The following NEW packages will be installed:
  docker.io
0 upgraded, 1 newly installed, 0 to remove and 6 not upgraded.
Need to get 30.1 MB of archives.
After this operation, 137 MB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu bionic/universe amd64 docker.io amd64 17.12.1-0ubuntu1 [30.1 MB]
Fetched 30.1 MB in 4s (7,770 kB/s)
Preconfiguring packages ...
Selecting previously unselected package docker.io.
(Reading database ... 182118 files and directories currently installed.)
Preparing to unpack .../docker.io_17.12.1-0ubuntu1_amd64.deb ...
Unpacking docker.io (17.12.1-0ubuntu1) ...
Setting up docker.io (17.12.1-0ubuntu1) ...
Processing triggers for ureadahead (0.100.0-20) ...
ureadahead will be reprofiled on next reboot
Processing triggers for systemd (237-3ubuntu10.3) ...
Processing triggers for man-db (2.8.3-2) ...
```

You'll then get a prompt asking you to choose between y/n - choose y

5. Install all the dependency packages using the following command:

Syntax:

$ sudo snap install docker

Output:

```
mca@U16:~$ sudo snap install docker
snap "docker" is already installed, see 'snap help refresh'
```

6. Before testing Docker, check the version installed using the following command:

Syntax:

$ docker –version

Output:

```
mca@S15:~$ docker --version
Docker version 17.12.1-ce, build 7390fc6
```

7. **Pull an image from the Docker hub using the following command:**

Syntax:
$ sudo docker run hello-world

Output:

```
mca@U16:~$ sudo docker run hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
2db29710123e: Pull complete
Digest: sha256:80f31da1ac7b312ba29d65080fddf797dd76acfb870e677f390d5acba9741b17
Status: Downloaded newer image for hello-world:latest

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
 1. The Docker client contacted the Docker daemon.
 2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
    (amd64)
 3. The Docker daemon created a new container from that image which runs the
    executable that produces the output you are currently reading.
 4. The Docker daemon streamed that output to the Docker client, which sent it
    to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
 $ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
 https://hub.docker.com/

For more examples and ideas, visit:
 https://docs.docker.com/get-started/
```

Here, hello-world is the docker image present on the Docker hub.

8. **Check if the docker image has been pulled and is present in your system using the following command:**

Syntax:
$ sudo docker images

Output:

```
mca@U16:~$ sudo docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
hello-world         latest              feb5d9fea6a5        8 months ago        13.3kB
```

9. **To display all the containers pulled, use the following command:**

Syntax:
$ sudo docker ps –a

Output:

```
mca@U16:~$ sudo docker ps -a
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS                          PORTS               NAMES
c9b8ee715a90        hello-world         "/hello"            About a minute ago  Exited (0) About a minute ago                       trusting_
morse
```

10. To check for containers in a running state, use the following command:

Syntax:

$ sudo docker ps

Output:

```
mca@U16:~$ sudo docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS               NAMES
```