From Zero to Docker

Training | 2019.05.16 | Mário Dagot, Jorge Dias

Docker is an open platform for developing, shipping, and running applications. Through the course of this training we will guide you to the most common feature and use cases of docker. Take this as an introduction and an opportunity to dive into the docker world.
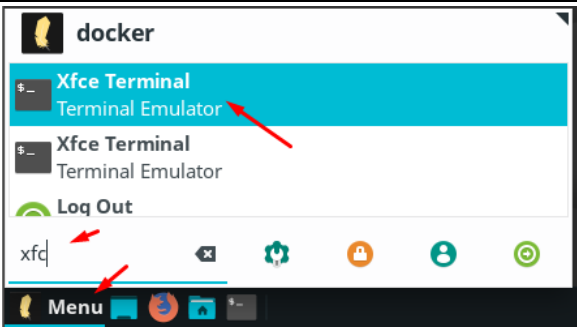
AGENDA

- 01 - Install Vim and Terminator and VSCode
- **02 - Install Docker CE for Ubuntu**
- 03 - Hello from Busybox
- 04 - Webapp with Docker
- 05a - Webapp with Docker - My first Dockerfile – Nginx
- 05b.1 - Webapp with Docker - My first Dockerfile - Dotnet Core
- 05b.2 - Webapp with Docker - My first Dockerfile MultiStage - Dotnet Core
- 06 - Save and Restore and Push to Docker Hub
- 07a - Webapp with database integration - My first network – SpringBoot
- 07b - Webapp with database integration - My first docker-compose – SpringBoot

02 - INSTALL DOCKER CE FOR UBUNTU

Objective
- Install docker CE, docker-compose on linux environment
- Setup local account to use docker cli without root privileges

Step by Step

Open a terminal windows	
Install Vim and Terminator using apt package manager	``` docker ~ sudo apt-get update [sudo] password for docker: Hit:1 http://archive.canonical.com/ubuntu bionic InRelease ```
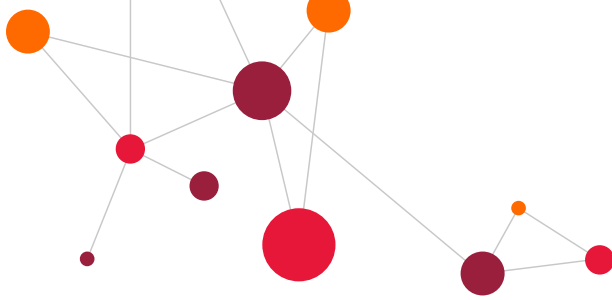
```
Hit:2 http://ppa.launchpad.net/otto-kesselgulasch/gimp/ubuntu bionic InRelease
Hit:3 http://ppa.launchpad.net/teejee2008/ppa/ubuntu bionic InRelease
Hit:4 http://us.archive.ubuntu.com/ubuntu bionic InRelease
Get:5 http://us.archive.ubuntu.com/ubuntu bionic-security InRelease [88,7 kB]
Get:6 http://us.archive.ubuntu.com/ubuntu bionic-updates

docker  ~  sudo apt-get install \
        apt-transport-https \
        ca-certificates \
        curl \
        gnupg-agent \
        software-properties-common
Reading package lists... Done
Building dependency tree
Reading state information... Done
ca-certificates is already the newest version (20180409).
curl is already the newest version (7.58.0-2ubuntu3.6).

docker  ~  curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-
key add -
OK
docker  ~  sudo apt-key fingerprint 0EBFCD88
pub    rsa4096 2017-02-22 [SCEA]
       9DC8 5822 9FC7 DD38 854A  E2D8 8D81 803C 0EBF CD88
uid            [ unknown] Docker Release (CE deb) <docker@docker.com>
sub    rsa4096 2017-02-22 [S]

docker  ~  sudo add-apt-repository \
        "deb [arch=amd64] https://download.docker.com/linux/ubuntu \
        $(lsb_release -cs) \
        stable"
Hit:1 http://ppa.launchpad.net/otto-kesselgulasch/gimp/ubuntu bionic InRelease
Hit:2 http://ppa.launchpad.net/teejee2008/ppa/ubuntu bionic InRelease
Get:3 https://download.docker.com/linux/ubuntu bionic InRelease [64,4 kB]
Hit:4 http://archive.canonical.com/ubuntu bionic InRelease

docker  ~  sudo apt-get update
Hit:1 http://ppa.launchpad.net/otto-kesselgulasch/gimp/ubuntu bionic InRelease
```
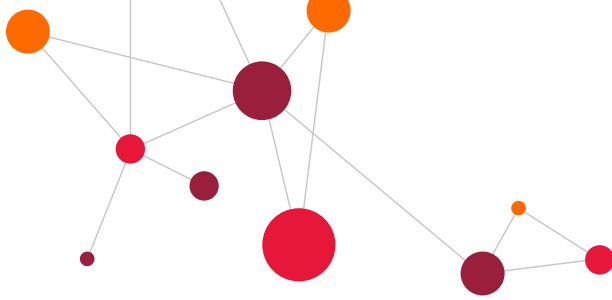
```
Hit:2 http://archive.canonical.com/ubuntu bionic InRelease
Hit:3 http://ppa.launchpad.net/teejee2008/ppa/ubuntu bionic InRelease
Hit:4 https://download.docker.com/linux/ubuntu bionic InRelease


 docker   ~  sudo apt-get install docker-ce docker-ce-cli containerd.io
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libjavascriptcoregtk-1.0-0 libwebkitgtk-1.0-0 mypaint-brushes
Use &apos;sudo apt autoremove&apos; to remove them.
The following additional packages will be installed:
  aufs-tools cgroupfs-mount git git-man liberror-perl pigz


 docker   ~  sudo curl -L
"https://github.com/docker/compose/releases/download/1.24.0/docker-compose-
$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100   617    0   617    0     0    873      0 --:--:-- --:--:-- --:--:--   872
100 15.4M  100 15.4M    0     0   1021k      0  0:00:15  0:00:15 --:--:-- 1724k
 docker   ~  sudo chmod +x /usr/local/bin/docker-compose
 docker   ~  sudo usermod -aG docker docker
 docker   ~  groups
docker adm cdrom sudo dip plugdev lpadmin sambashare
 docker   ~
```

Lessons learned

We learned to install docker CE (community edition) as well as docker-compose tool on our linux environment. Further reading, and installation procedures for other OS can be found here: https://docs.docker.com/install/linux/docker-ce/ubuntu.

By default docker cli requires root privileges. We learned that we can bypassed this "issue" by adding our user to the *docker* group.
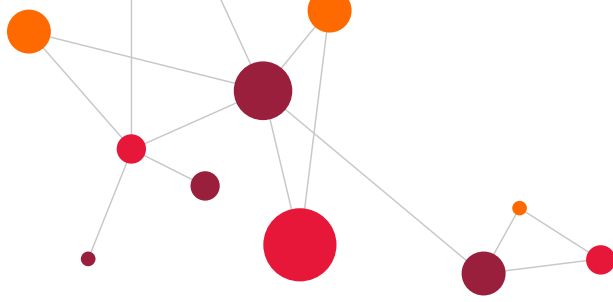
Revision History

Version	Date	Author	Description
1.0	2019.05.01	Mário Dagot, Jorge Dias	Initial Version