Steps to complete the Tech Challenge

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You can also see the online version of these document in Google Drive:

<https://docs.google.com/document/d/1n2DJziuf2PPqxj4YZTYF2YOhK-QtAjWF4kPC7xDYB-k/edit?usp=sharing>

Here are some of the steps, that I use to complete the Tech Challenge:

1.- Download a virtual image of Ubuntu. 18.xx

1.1 A- Make a bootable USB

B- Make a virtual machine

2.- Install Docker with the following commands

<https://docs.docker.com/install/linux/docker-ce/ubuntu/#set-up-the-repository>

2.1 - Uninstall

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

2.2 - Set up the repository (update apt package index)

sudo apt-get update

2.3 -Install packages to allow apt to use a repository over HTTPS

sudo apt-get install \  
 apt-transport-https \  
 ca-certificates \  
 curl \  
 software-properties-common

NOTE: if is necessary first run sudo apt-get - f install to install the dependencies

2.4 - Add Docker’s official GPG key:

curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add -

2.5 - Use the following command to set up the **stable** repository

sudo add-apt-repository \  
 "deb [arch=amd64] https://download.docker.com/linux/ubuntu \  
 $(lsb\_release -cs) \  
 stable"

2.6 - update apt package index

sudo apt-get update

2.7 - Install Docker CE latest

sudo apt-get install docker-ce

2.8 - Verify the installation

sudo docker run hello-world

sudo docker version

2.9.- Docker added in sudo mode

$ sudo groupadd docker

$ sudo usermod -aG docker $USER

$ docker run hello-world (just to verifyx)

3.0.- Install git

<https://www.howtoforge.com/tutorial/install-git-and-github-on-ubuntu-14.04/>

sudo apt-get install git

3.1.- Configuring GitHub

git config --global user.name "user\_name"

git config --global user.email "email\_id"

3.2.- Creating a local repository

git init Mytest

And navigate to it cd Mytest

3.3.- Create a README file

gedit README and write the description ex: This is git repo

3.4.- Creating a local repository

git add README and git add sample.c

3.5.- Commiting changes made to the index

*git commit -m "some\_message"*

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3.7.- Creating a repository on GitHub

*git remote add origin* [*https://github.com/user\_name/Mytest.git*](https://github.com/user_name/Mytest.git)

3.8.- Pushing files in local repository

*git push origin master*

Learning how to Using Docker

4.0 - Go to <https://github.com/docker/labs/tree/master/beginner> and follow the instructions in readme.md

Test your installation *docker run hello-world*

4.1 - To get the image of a Linux Alpine -> *docker pull alpine*

4.2 -You can see all the images of your machine using the command -> *docker images*

4.3 -Now we have alpine in our system we can use command like -> *docker run alpine echo "hello from alpine"*

4.4 -Try something else -> *docker run -it alpine /bin/sh*

4.5 -To see the process of docker use -> *docker ps*

4.4 -Write the file and build -> *docker build ~/Documents/flask-app/*

*Files:*

* *[app.py](https://github.com/docker/labs/blob/master/beginner/chapters/webapps.md#apppy)*
* *[requirements.txt](https://github.com/docker/labs/blob/master/beginner/chapters/webapps.md#requirementstxt)*
* *[templates/index.html](https://github.com/docker/labs/blob/master/beginner/chapters/webapps.md#templatesindexhtml)*
* *[Dockerfile](https://github.com/docker/labs/blob/master/beginner/chapters/webapps.md#dockerfile)*

Using Docker - Machine

<https://docs.docker.com/machine/get-started/#create-a-machine>

5.0 - Install Docker- Machine

5.1-Install onLinux- *$ base=https://github.com/docker/machine/releases/download/v0.14.0 &&  
 curl -L $base/docker-machine-$(uname -s)-$(uname -m) >/tmp/docker-machine &&  
 sudo install /tmp/docker-machine /usr/local/bin/docker-machine*

5.2 - Verify the installation:

*$ docker-machine version*

5.3 - List all the machines in Docker:

*$ docker-machine ls*

5.3 - Create Machine

*$ docker-machine create --driver virtualbox default*

5.4- Virtual Box was not installed so installed with ubuntu software center

*Go to ubuntu Software and search for virtualbox*

5.5- Run again the create machine command, wait for a while and next to get the environment commands use the following command:

*docker-machine env default*

5.6- Connect your shell to the new machine.

*$ eval "$(docker-machine env default)"*

5.7- Use docker run to download and run busybox. And make a simple echo

*$ docker run busybox echo hello world*

5.8- Get the host IP address

*$ docker-machine ip default*

5.9- Run a [Nginx](https://www.nginx.com/) webserver in a container with the following command:

*$ docker run -d -p 8000:80 nginx*

5.10- When we call the ip of the server with the port 8000 we have a welcome page of Nginx, Ex:

*$ curl $(docker-machine ip default):8000*

5.11- Start and Stop Machines, remember that default is the name of the VM

*$ docker-machine stop default  
$ docker-machine start default*

5.12- Start and Stop Machines, remember that default is the name of the VM

*$ docker-machine stop default*