Docker Installation

This tutorial covers how to install Docker on an Ubuntu 20.04 machine.

https://docs.docker.com/engine/install/ubuntu/

Next we need to configure docker to run on system start up and as a manage its permissions.  
  
- Run these commands to add docker to sudo, After restart to ensure proper memberships have been established. []

$ sudo groupadd docker

$ sudo usermod -aG docker $USER

* To verify run docker run hello-world

If an error occurs it is likely due to dockers configuration file permissions already created, to fix this issue run.

$ sudo chown "$USER":"$USER" /home/"$USER"/.docker -R

$ sudo chmod g+rwx "$HOME/.docker" -R

Lastly let's configure docker to run on system start-up

$ sudo systemctl enable docker.service

$ sudo systemctl enable containerd.service

For additional information and troubleshooting docker docs provides a [post installation guide](https://docs.docker.com/engine/install/linux-postinstall/) that goes more in depth.[3] There you can configure firewall access, set up ipv6 for the daemon or manage DNS servers for docker.

#### Installing Vrnetlabs

To install vrnetlab, clone the [vrnetlab repository](https://github.com/plajjan/vrnetlab) from GitHub to your system. In this example, I cloned the repository to my home directory, as follows:

$ cd $HOME

$ git clone <https://github.com/plajjan/vrnetlab.git>

Change directory to *vrnetlab’s openwrt directory*:

$ cd ~/vrnetlab/openwrt

$ sudo make build

Note: Make build automatically pulls the image from the openWRT website and builds it into a docker image that later on can be deployed. If by chance it doesn’t, you will need to use:

$ wget <openwrt url link to download the image example: <https://downloads.openwrt.org/releases/18.06.9/targets/x86/64/openwrt-18.06.9-x86-64-combined-ext4.img.gz>>

Unzip the file using some software such as gunzip. Once you have the image in the openwrt directory then run:

$ sudo make docker-image

This should produce a message stating that there was a successful build with a successful tag to vrnetlabs docker image. The docker image is named *vrnetlab/vr-openwrt:<some version>*. See to all docker images use:

$ sudo docker images

REPOSITORY TAG IMAGE ID CREATED SIZE

vrnetlab/vr-openwrt 18.06.2 0c0eef5fb556 20 seconds ago 545MB