Docker installation:

First of all, you need to install Docker, launch these commands:

```
sudo apt-get update
sudo apt-get install \
   ca-certificates \
   curl \
   gnupg \
   lsb-release
curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o
/usr/share/keyrings/docker-archive-keyring.gpg
echo \
 "deb [arch=$(dpkg --print-architecture) signed-by=/usr/share/keyrings/docker-archive-
keyring.gpg] https://download.docker.com/linux/ubuntu \
 $(lsb_release -cs) stable" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null

sudo apt-get update
sudo apt-get install docker-ce docker-ce-cli containerd.io
sudo usermod -aG docker $USER
newgrp docker
```

Rancher set-up

Once you have installed Docker, you can proceed by Rancher installation Let's start by creating an installation folder for Rancher and enter into it:

```
mkdir Rancher
cd Rancher
```

Get the installation *RKE* file and move it to */bin*, then install Kubectl

```
wget https://github.com/rancher/rke/releases/download/v1.3.7/rke_linux-amd64
sudo mv rke_linux-amd64 /usr/bin/rke
sudo chmod +x /usr/bin/rke
sudo snap install kubectl --classic
```

It's necessary to generate a SSH key (if you haven't already generated one) and put it in our own authorized keys file:

```
ssh-keygen
echo >> ../.ssh/authorized_keys
cat ../.ssh/id_rsa.pub >> ../.ssh/authorized_keys
```

Create cluster.yml manifest file

```
touch cluster.yml
```

Copy the content of the configuration that have the same name, that was provided to you with this guide, inside of it; then, update some fields:

- Replace *YOUR_MACHINE_IP* with the internal IP address through whichyour node will be reachable

- Replace *YOUR_USER_NAME* with name of your user... if you don't know it, just launch "echo $USER"
- Replace YOUR_MTU with the value that you can find specified in your network interface info, by launch "ip address" or similars (1500 should be fine, but it is always better to enter exact values to avoid losing packets)

Ok, we are ready! We can launch:

```
rke up
export KUBECONFIG=kube_config_cluster.yml
kubectl apply -f https://github.com/jetstack/cert-
manager/releases/download/v1.5.1/cert-manager.crds.yaml
```

It's time to get Helm and add first repos

```
curl -fsSL -o get_helm.sh
https://raw.githubusercontent.com/helm/helm/main/scripts/get-helm-3
chmod 700 get_helm.sh
./get_helm.sh
helm repo add rancher-latest https://releases.rancher.com/server-charts/latest
helm repo update
helm repo add jetstack https://charts.jetstack.io
helm install cert-manager jetstack/cert-manager   --namespace cert-manager   --create-
namespace   --version v1.5.1
```

Check is everything is ok:

```
kubectl get pods --namespace cert-manager
```

Ok, last steps before getting rancher GUI... (remember the bootstrpPassword, you will need it very soon)

```
kubectl create namespace cattle-system
helm install rancher rancher-latest/rancher --namespace cattle-system --set
hostname=rancher.YOUR_EXTERNAL_MACHINE_IP.nip.io --set bootstrapPassword=SOME_OTP
```

Well done! You Rancher GUI will be available at **rancher.YOUR_EXTERNAL_MACHINE_IP.nip.io**

Rancher initialization

- Go to *rancher.YOUR_EXTERNAL_MACHINE_IP.nip.io*;
- fill the Bootstrap Password field with the one set before;
- pin the new password generated by Rancher or set a new specific one (and pin it).

Longhorn, approach to Helm Charts

Our first Deploy in Rancher

Atlassian

Helm Charts Repos

From here on, https://artifacthub.io will be a great friend of yours

Mattermost