1. **Run the** Training/infrastruktur_pipelines/kubernetes/-/pipeline

2. Install kubeadm and run the following command on bastion primary and secondary hosts

```
kubeadm reset
```

3. Install hcloud cli

4.. In our Gitlab repository you will find the variable `TF_VAR_hcloud_token` under `Settings -> CI/CD ->`
`Variables`. This is the access token for the corresponding Hetzner project
5. With the hcloud CLI you create a context via `hcloud context create $NAME`, interactively asking for the
token.
6. After that, you can search/view/edit the firewall via `hcloud firewall list/describe/add-rule`.

7. Add firewall rules for both primary and secondary controlplanes and worker nodes to allow all TCP, UDP and
ICMP traffic among them. Also add rules to allow all traffic from our nodes to the internet. This will help to add
packages and tools directly to the nodes. Make sure that traffic from internet to our nodes is **NOT** allowed.

8. Login to each node and run the following command to cleanup the remaining kubernetes files,

```
kubeadm reset cleanup-node
```

9. Install docker in all the nodes

10. If you face issues in installing docker in the nodes, go to /etc/apt/sources.list.d/ and make sure there is only one
docker package.

11. Edit /etc/ssh/sshd_config and uncomment

```
AllowTcpForwarding yes
PubkeyAuthentication yes
```

12. To enable passwordless ssh from controlplane nodes to the worker nodes, get root access to the control plane
nodes and generate an ssh key

```
ssh-keygen
```

13. Move ssh key from controlplane node to bastion host, then bastion host to remaining nodes

```
private key should be pasted in /root/.ssh/id_rsa,

cp mykey /root/.ssh/id_rsa

public key should be appended in /root/.ssh/authorized_keys
```

14. Install kubectl and rke cli tools in bastion hosts

15. Create cluster.yml file

16.

```
rke up --config ./rancher-cluster.yml
```

17.

Assuming you have installed kubectl, you need to place the kubeconfig file in a location where kubectl can reach it. The kubeconfig file contains the credentials necessary to access your cluster with kubectl.

When you ran rke up, RKE should have created a kubeconfig file named kube_config_cluster.yml. This file has the credentials for kubectl and helm.

NOTE:
If you have used a different file name from rancher-cluster.yml, then the kube config file will be named kube_config_<FILE_NAME>.yml.

Move this file to $HOME/.kube/config, or if you are working with multiple Kubernetes clusters, set the KUBECONFIG environmental variable to the path of kube_config_cluster.yml:

```
export KUBECONFIG=$(pwd)/kube_config_cluster.yml
```

18.

```
helm repo add rancher-stable https://releases.rancher.com/server-charts/stable
```

19.

```
kubectl create namespace cattle-system
```