



Deploy an RKE Cluster

Lab 3



What are you Learning?

In this lab you will provision a Rancher Kubernetes Engine (RKE) based cluster with the configuration file you [created in Lab 2 with rke config](#).

Why is it important?

This lab will show you how easy it is to provision and manage a Kubernetes cluster with RKE. You will be able to use this configuration file as a template for other RKE clusters you may wish to provision in the future.

Use **rke up** to Deploy a Single Node Cluster

You'll use the configuration file in Lab 2 to deploy a single node Kubernetes Cluster. If you haven't already, provision a single virtual machine from a cloud provider or internal on-premises lab environment. Don't use an ephemeral environment like an [EC2 spot instance](#) as you will need this environment for future labs.

1. Configure your infrastructure so that your single node meets [the RKE prerequisites](#).
2. Use [rke config](#) to list the versions of Kubernetes supported by this version of rke.
3. In Lab 2 you should have selected one that is not the most recent. In Lab 4, we'll upgrade the cluster to the latest version.
4. [Use rke up](#) to deploy the cluster to the single node.

```
rke up
```

```
INFO[0000] Building Kubernetes cluster
INFO[0000] [dialer] Setup tunnel for host [10.0.0.1]
INFO[0000] [network] Deploying port listener containers
INFO[0000] [network] Pulling image [alpine:latest] on host
[10.0.0.1]
...
INFO[0101] Finished building Kubernetes cluster successfully
```

5. RKE will have [created several files](#). Keep these in a safe place.

Testing That It Works

1. If you haven't already [setup kubectl](#).
2. You can now use the [kubeconfig file](#) with [kubectl](#) to test access to the cluster.

References

- Creating the Cluster Configuration File - <https://rancher.com/docs/rke/latest/en/installation/#creating-the-cluster-configuration-file>

- RKE Requirements - <https://rancher.com/docs/rke/latest/en/os/>
- Save Your Files - <https://rancher.com/docs/rke/latest/en/installation/#save-your-files>
- Kubeconfig File - <https://rancher.com/docs/rke/latest/en/kubeconfig/>
- Configure Access to Multiple Clusters - <https://kubernetes.io/docs/tasks/access-application-cluster/configure-access-multiple-clusters/>