Deploying a Cluster

Unit 3.2.5

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The process for deploying a cluster from the Rancher UI is intuitive.

Hosted Provider

If you choose a hosted provider, you'll be walked through a series of pages that begin with authentication. After providing your authentication credentials, the information presented on subsequent pages has been pulled directly from your account with the provider. Continue through the configuration pages to deploy the cluster.

Infrastructure Provider

Clusters deployed in an infrastructure provider utilize node templates and can also use RKE templates.

Custom Clusters

When you provision a cluster with an infrastructure provider, Rancher first stands up the infrastructure and then builds an RKE cluster on it. A custom cluster is the second part of this process. Use it when you're provisioning infrastructure via any other means, including on bare metal.

The only requirement for a custom cluster is that the hosts have a supported version of Docker installed. Rancher provides an easy installation script that you can use on any host to make sure that you're using the correct, unmodified, upstream version of Docker.

The custom install command that Rancher provides is unique to the cluster you're creating. You can add it to your external provisioner, and when you scale up nodes with the provisioner, those nodes will automatically join the cluster.

Windows Workers in Custom Clusters

Rancher supports Kubernetes on Windows and treats Windows workers as first class citizens.

When deploying a cluster with Windows workers, you must first deploy a Linux control plane and one Linux worker to act as the ingress controller. Kubernetes on Windows only works with the Flannel CNI, and once you choose this option, you can enable Windows support.

Imported Clusters

If you want to manage an existing cluster with Rancher, you can import it. This option gives you a kubectl apply command that you can run against the cluster. It will pull its information from the Rancher server and install the agents to manage the cluster.

Rancher provides two versions of the command. One is for a Rancher installation that uses real certificates. The other is for a Rancher installation that uses a certificate signed by an unknown CA. Kubectl won't connect to this type of endpoint, so you have to pull the manifest with curl and pipe it to kubectl.

References

Provisioning Clusters From Hosted Kubernetes Providers - https://rancher.com/docs/rancher/v2.x/en/cluster-provisioning/hosted-kubernetes-clusters/

Provisioning Clusters in an Infrastructure Provider - https://rancher.com/docs/rancher/v2.x/en/cluster-provisioning/rke-clusters/node-pools/

Provisioning Clusters on Existing Custom Nodes - https://rancher.com/docs/rancher/v2.x/en/cluster-provisioning/rke-clusters/custom-nodes/

Deploying a Cluster With Windows Workers - https://rancher.com/docs/rancher/v2.x/en/cluster-provisioning/rke-clusters/windows-clusters/

Importing Existing Clusters Into Rancher - https://rancher.com/docs/rancher/v2.x/en/cluster-provisioning/imported-clusters/