Troubleshooting Rancher API Server Logs

Lab 15

What are you Learning?

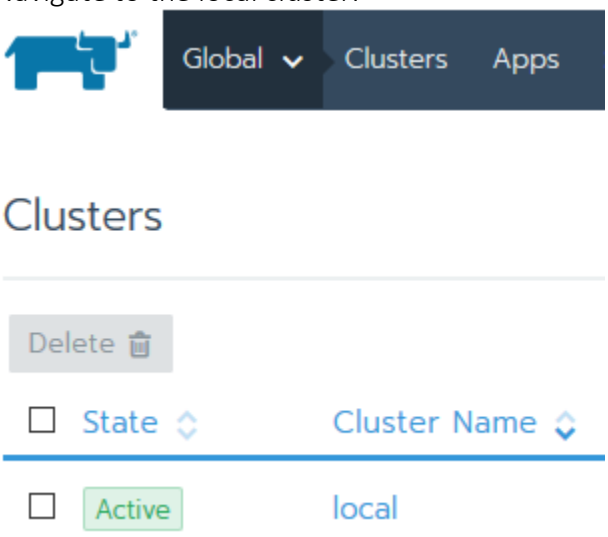
In this lab you're going to discover the different areas of Rancher you would check in order to troubleshoot your installation.

Why is it important?

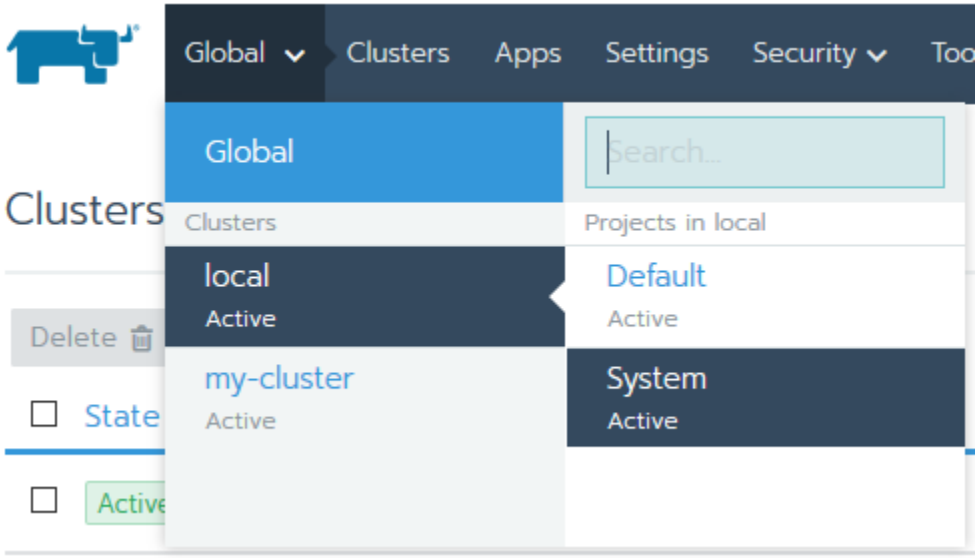
Distributed computing is complex, Kubernetes has a lot of moving parts. So does Rancher. From operating system, to networking, to hardware, there are a lot of layers that can affect the behavior or Kubernetes and Rancher. No software is perfect, so having a good process for diagnosing issues can save a lot of time and stress when there's an issue with your production clusters.

Troubleshooting Rancher HA

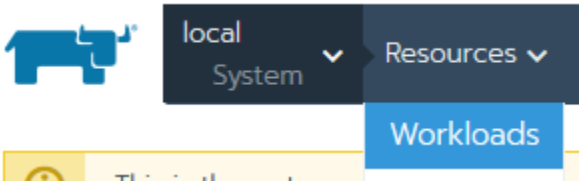
1. You'll need cluster access. Depending on the state of the system how you access the components below will vary.
    a. You may have access to the UI. In this case the logs we'll be looking at will be as follow.
        i. Navigate to the local cluster.



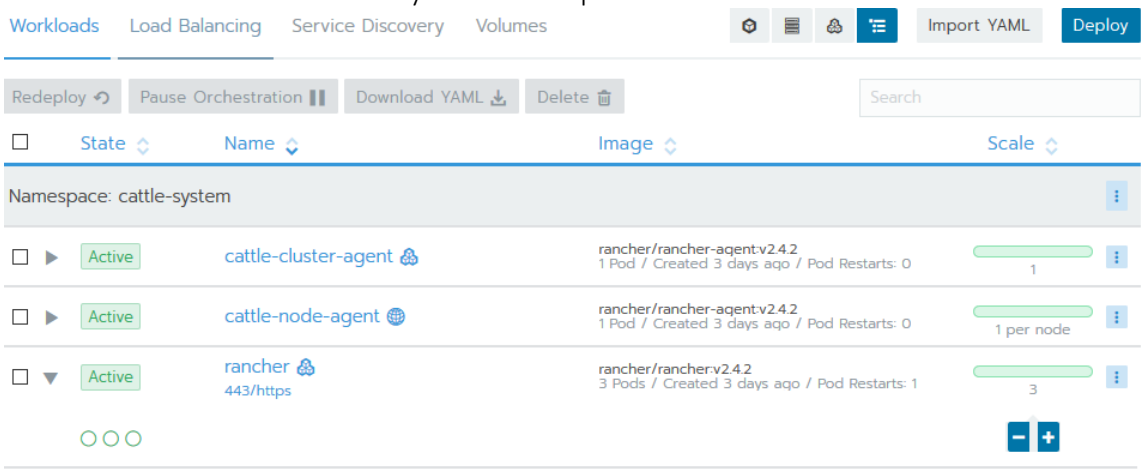
ii. Select the system project



iii. Select the workloads



iv. Resources will be in the cattle-system namespace



b. If the Rancher Authentication Proxy is still running, you can use the kubeconfig file provided by Rancher.
c. If the Authentication Proxy is down, you'll need to connect to the cluster directly. There are a number of ways to do this, an Authorized Cluster Endpoint is how this is accomplished with RKE.

2. First, check all the Rancher pods. If the pods are not status: Running, or there's lots of restarts, there's likely a problem.
3. Check the pods' details for additional information.

4. Namespaces will aggregate events for the various pods. This will also show events like the frequency of restarts.
5. The next layer that could be affected is the Rancher ingress.
6. The ingress controller that handles the Rancher ingress rule is in the ingress-nginx namespace, so don't forget to change the -n flag when you check it.
7. Finally, if Rancher is misbehaving, they'll be a significant bouncing of the leader election.

Testing That it Works

If Rancher is behaving as expected, everything is likely fine. In future labs you'll learn how to setup alerts and notifications so that you find issues, before your clients do.

References

- Kubernetes Components - https://rancher.com/docs/rancher/v2.x/en/troubleshooting/kubernetes-components/
- Rancher Architecture - https://rancher.com/docs/rancher/v2.x/en/overview/architecture/
- Kubernetes Issues - https://github.com/kubernetes/kubernetes/issues
- The Authentication Proxy - https://rancher.com/docs/rancher/v2.x/en/overview/architecture/#1-the-authentication-proxy
- Accessing Clusters with kubectl from your workstation - https://rancher.com/docs/rancher/v2.x/en/cluster-admin/cluster-access/kubectl/#accessing-clusters-with-kubectl-from-your-workstation
- Authenticating Directly with Downstream Clusters - https://rancher.com/docs/rancher/v2.x/en/cluster-admin/cluster-access/kubectl/#authenticating-directly-with-a-downstream-cluster
- Rancher HA - https://rancher.com/docs/rancher/v2.x/en/troubleshooting/rancherha