

Exercise 13.1: Review Log File Locations

Overview

In addition to various logs files and command output, you can use **journalctl** to view logs from the node perspective. We will view common locations of log files, then a command to view container logs. There are other logging options, such as the use of a **sidecar** container dedicated to loading the logs of another container in a pod.

Whole cluster logging is not yet available with Kubernetes. Outside software is typically used, such as **Fluentd**, part of <http://fluentd.org/>, which is another member project of **CNCF.io**, like Kubernetes.

Take a quick look at the following log files and web sites. As server processes move from node level to running in containers the logging also moves.

1. If using a **systemd**-based Kubernetes cluster, view the node level logs for **kubelet**, the local Kubernetes agent. Each node will have different contents as this is node specific.

```
student@cp:~$ journalctl -u kubelet |less
```

<output_omitted>

2. Major Kubernetes processes now run in containers. You can view them from the container or the pod perspective. Use the **find** command to locate the **kube-apiserver** log. Your output will be different, but will be very long.

```
student@cp:~$ sudo find / -name "*apiserver*log"
```

```
/var/log/containers/kube-apiserver-cp_kube-system_kube-apiserver-423  
d25701998f68b503e64d41dd786e657fc09504f13278044934d79a4019e3c.log
```

3. Take a look at the log file.

```
student@cp:~$ sudo less /var/log/containers/kube-apiserver-cp_kube-system_kube-  
apiserver-423d25701998f68b503e64d41dd786e657fc09504f13278044934d79a4019e3c.log
```

<output_omitted>

4. Search for and review other log files for **coredns**, **kube-proxy**, and other cluster agents.
5. If **not** on a Kubernetes cluster using **systemd** which collects logs via **journalctl** you can view the text files on the cp node.
 - (a) `/var/log/kube-apiserver.log`
Responsible for serving the API
 - (b) `/var/log/kube-scheduler.log`
Responsible for making scheduling decisions
 - (c) `/var/log/kube-controller-manager.log`
Controller that manages replication controllers
6. `/var/log/containers`
Various container logs
7. `/var/log/pods/`
More log files for current Pods.

8. Worker Nodes Files (on non-**systemd** systems)

(a) `/var/log/kubelet.log`

Responsible for running containers on the node

(b) `/var/log/kube-proxy.log`

Responsible for service load balancing

9. More reading: <https://kubernetes.io/docs/tasks/debug-application-cluster/debug-service/> and <https://kubernetes.io/docs/tasks/debug-application-cluster/determine-reason-pod-failure/>