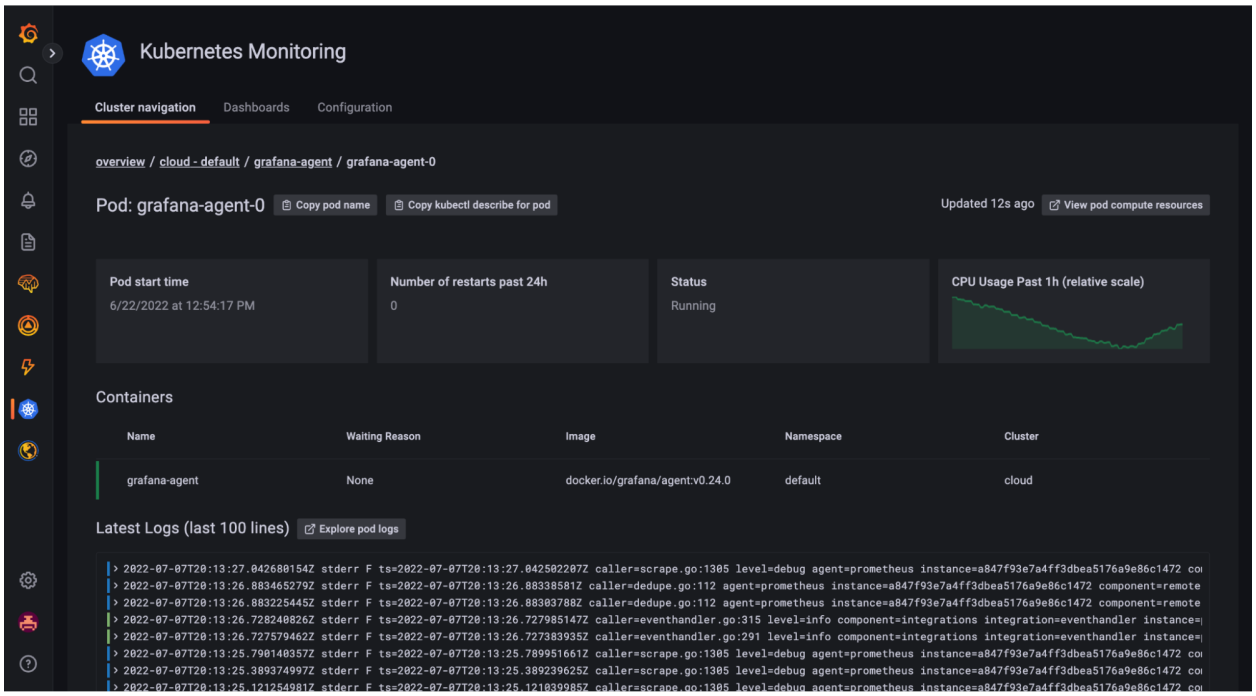
Monitoring Kubernetes with Grafana :

Kubernetes, Prometheus, and Grafana are a trio of technologies that have transformed cloud native development. However, despite how powerful these three technologies are, developers still face gaps in the process of implementing a mature Kubernetes environment.

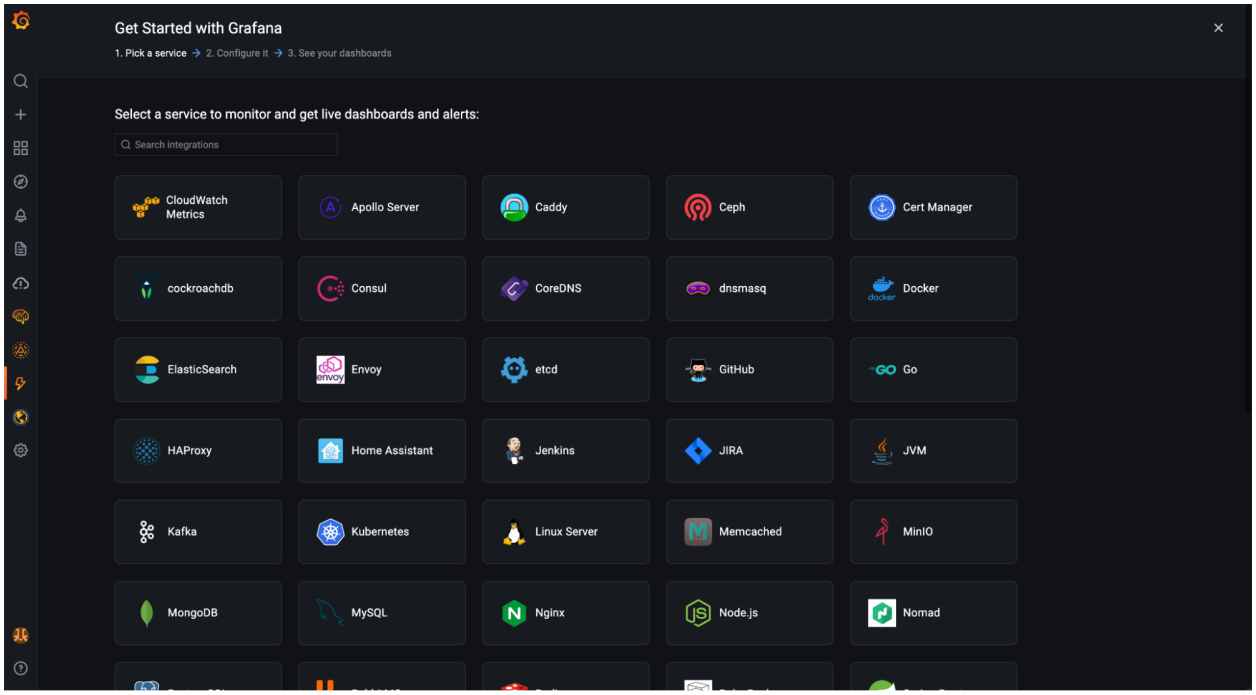
We all know that Kubernetes does not provide a native storage solution for logs. Grafana Cloud is now able to fill that need and provides the full solution for instrumenting out-of-the-box pod logs as well as metrics, alerting rules, and pre-built dashboards. The 10k series of metrics and 50GB of logs included in it.

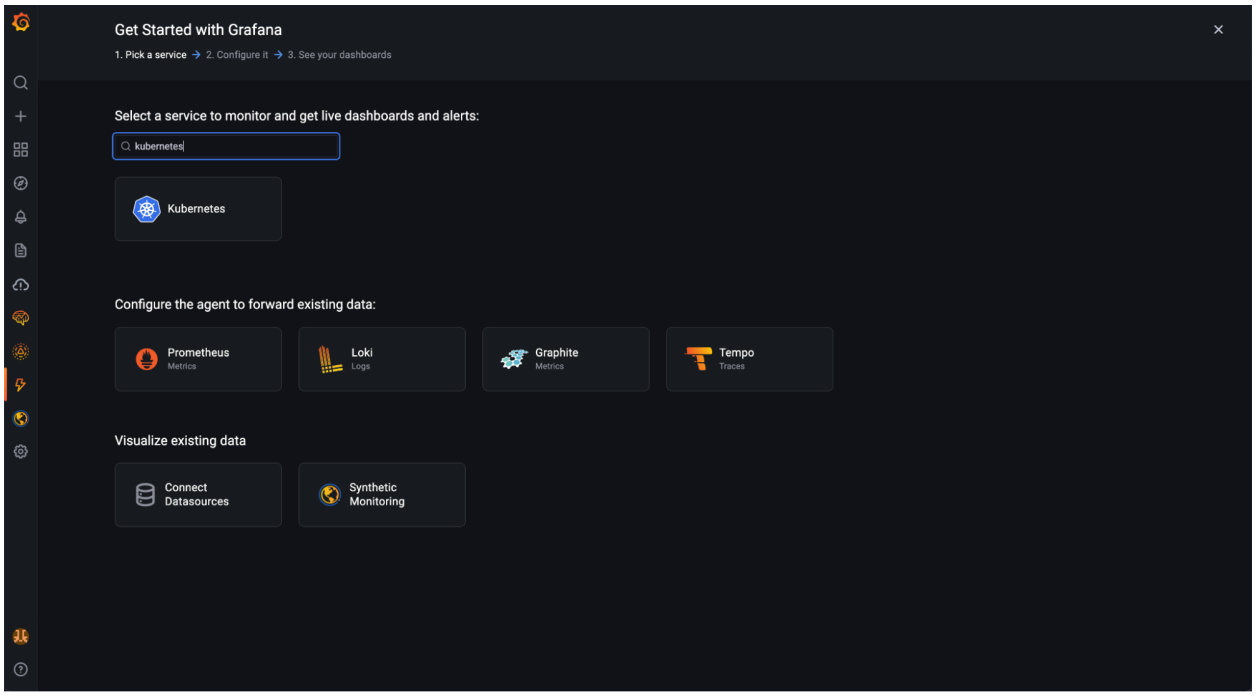


How to achieve this ?

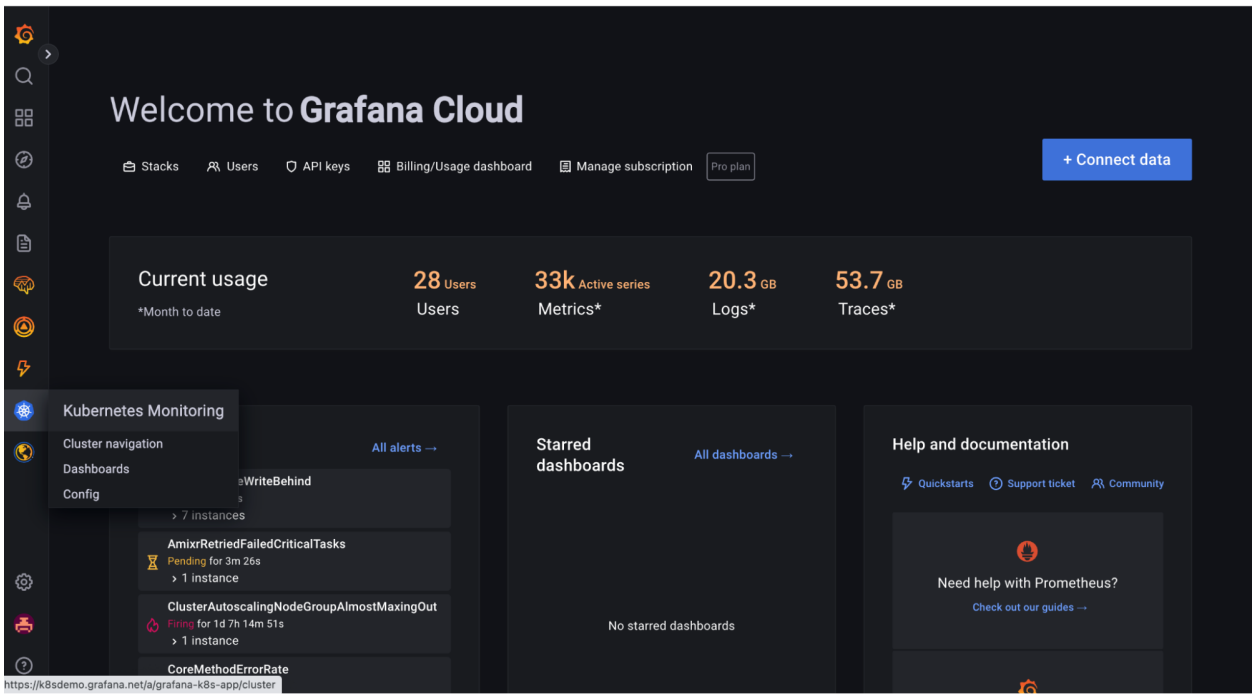
1. Login to the **Grafana Cloud :** https://grafana.com/products/cloud/?pg=blog&plcmt=body-txt

Get the Kubernetes integration in Grafana.





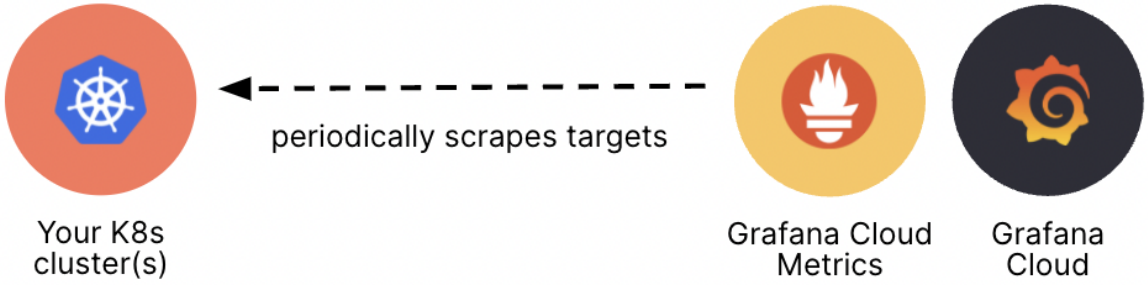
click on the Kubernetes icon on the left hand-side of navigation bar to view further.

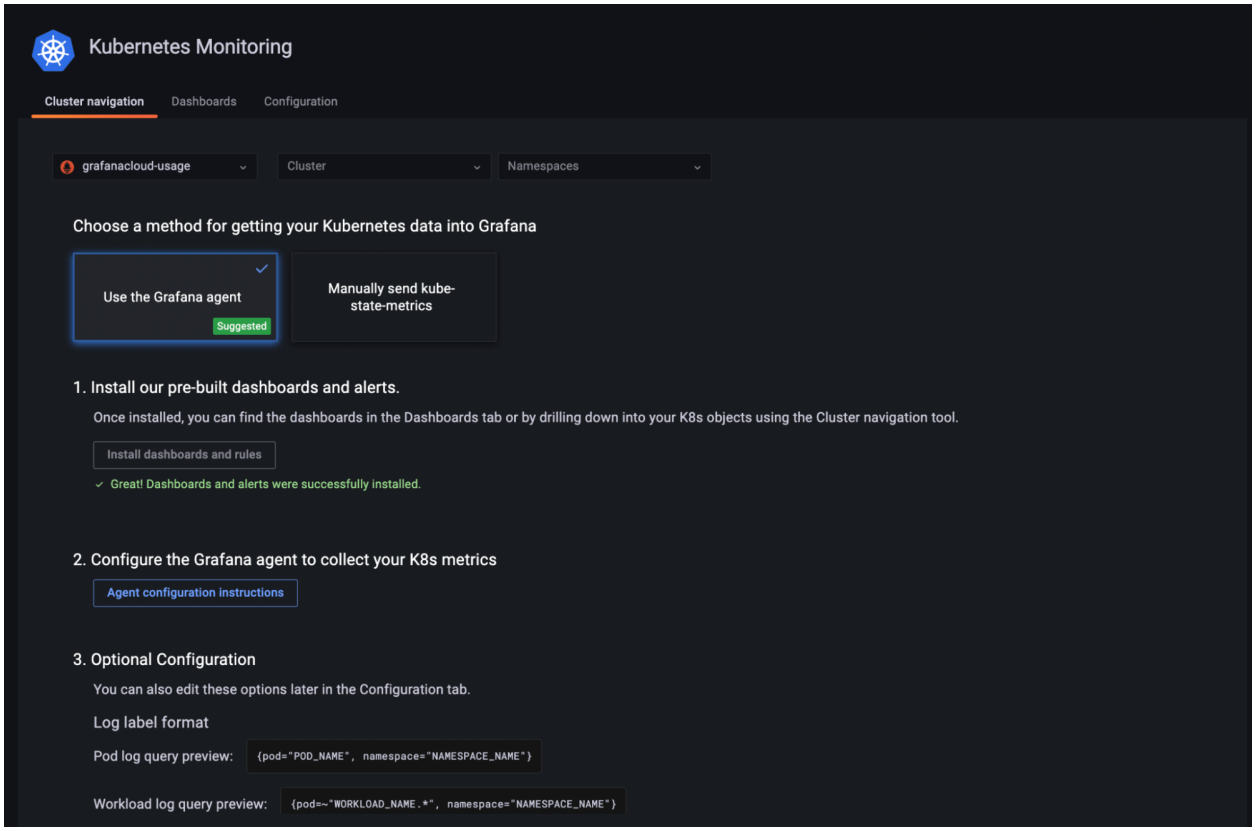


2. Connect your Kubernetes infrastructure with the Grafana Cloud. This means you need to deploy the Grafana Agent to the cluster by using remote_write to forward kube-state-metrics to Grafana Cloud. The following components will collect data at the time of installation:

- Grafana Agent single-replica StatefulSet that will collect Prometheus metrics and Kubernetes events from objects in your cluster.
- Kube-state-metrics Helm chart, which deploys a KSM deployment and service, along with some other access control objects.
- Grafana Agent DaemonSet that will collect logs from pods in your cluster.

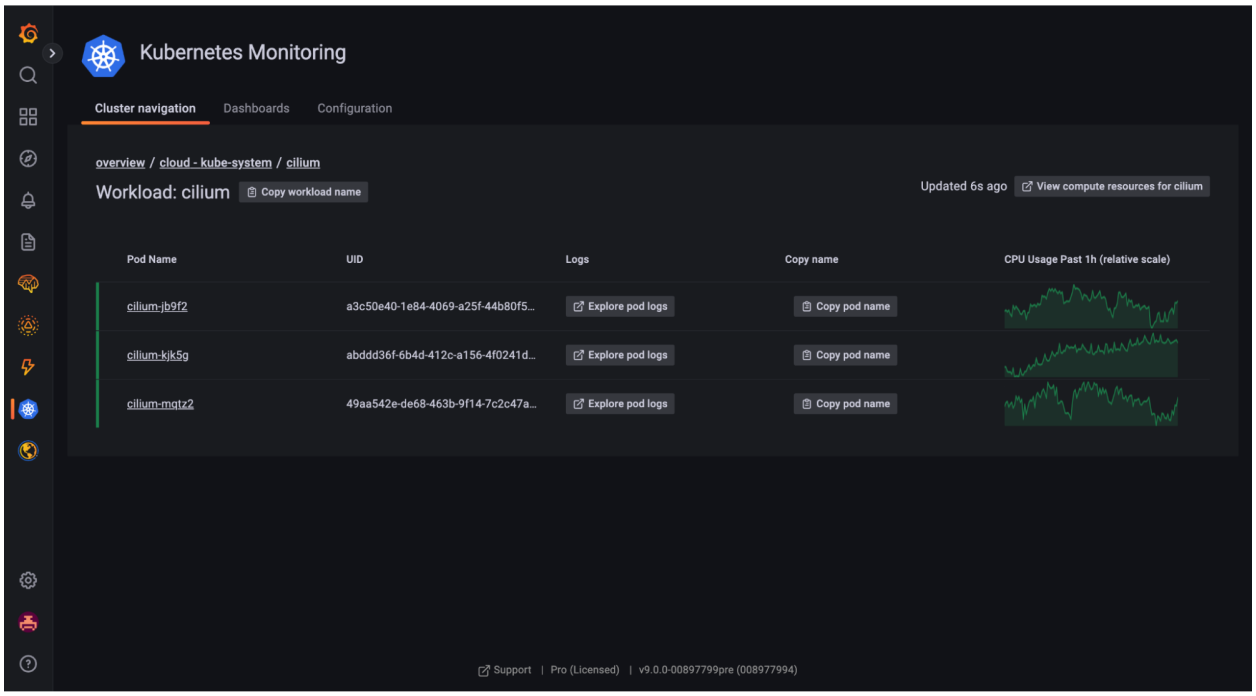
Once the Grafana Agent is deployed, data will start streaming to your Grafana Cloud stack.





3. Configure your data. By default, Kubernetes Monitoring scrapes cAdvisor (1 per node), kubelet (1 per node), and kube-state-metrics (1 replica by default) endpoints at 60-second intervals
4. Once you get started with Kubernetes Monitoring in Grafana Cloud and begin to visualize your Kubernetes logs, you will also have access to a host of other useful features. The cluster navigation view is a navigable, nested cluster

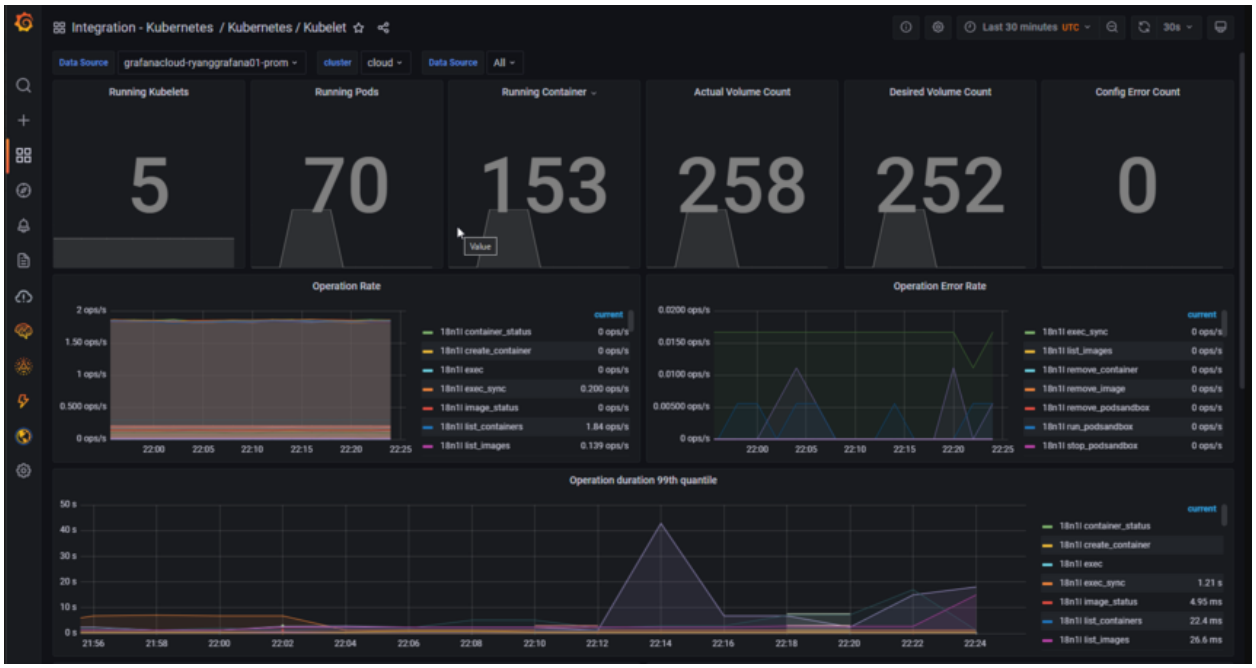
interface that allows users to swiftly detect root cause issues with correlation across metrics and logs, as well as relaying pod-specific Kubernetes events.



Cluster Dashboard :

Workload Dashboard:

Kubelet Dashboard :



For more info follow below links:

https://grafana.com/blog/2021/11/19/a-3-step-guide-to-troubleshooting-and-visualizing-kubernetes-with-grafana-cloud/

https://grafana.com/blog/2022/07/13/introducing-kubernetes-monitoring-in-grafana-cloud/

https://grafana.com/products/cloud/?pg=blog&plcmt=body-txt