# Kubernetes Monitoring on Minikube using Prometheus, Grafana & New Relic

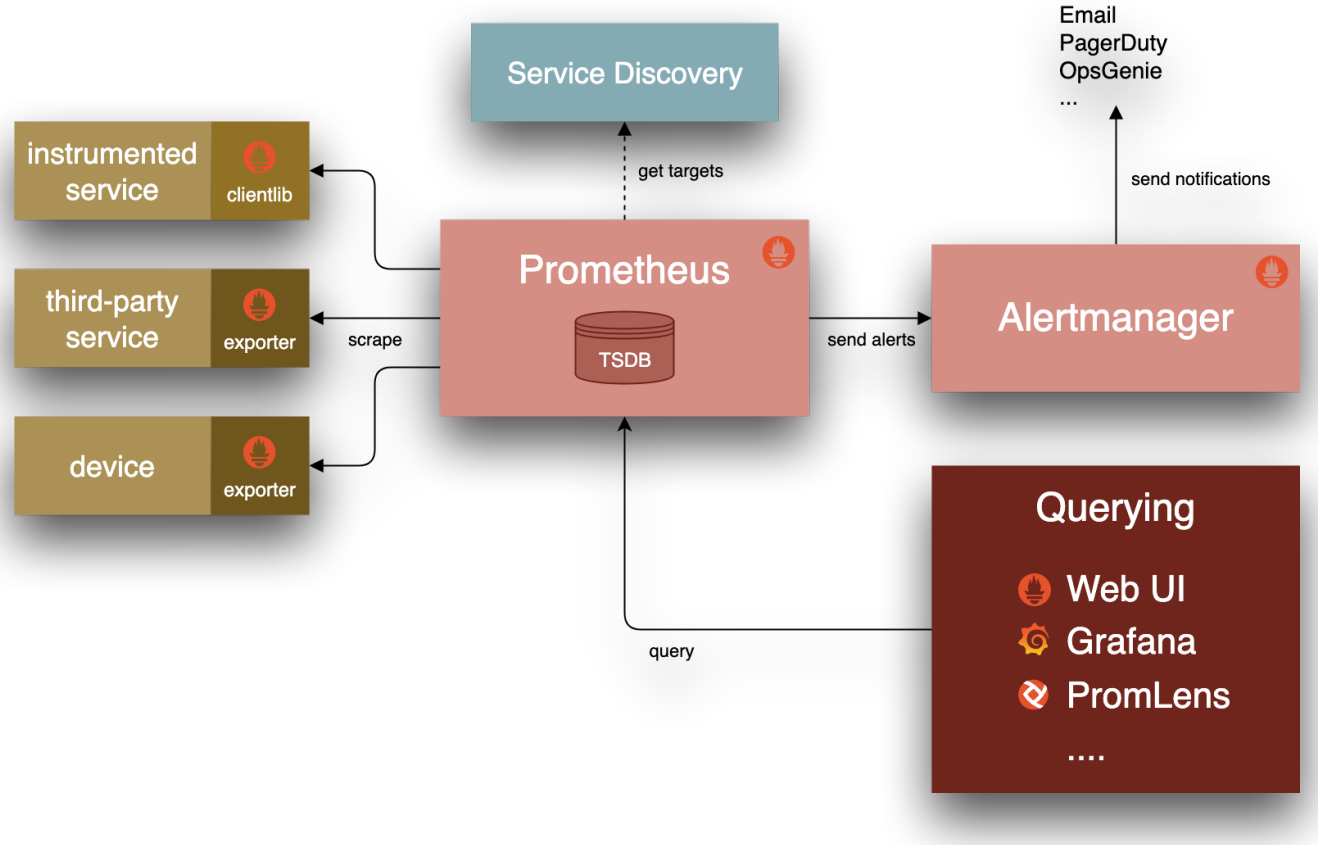
**Project Overview**

This project showcases how to set up monitoring stack using Newrelic, Prometheus and Grafana on a local Kubernetes cluster created with Minikube(using Docker Desktop), Installing monitoring tools using Helm.

**Prerequisites**

1. Minikube
2. Docker Desktop
3. Minikube
4. Kubectl (kubernetes CLI)
5. Helm
6. Newrelic account

**Prometheus & Grafana:**




source: web

# Prometheus

Step-by-Step Setup

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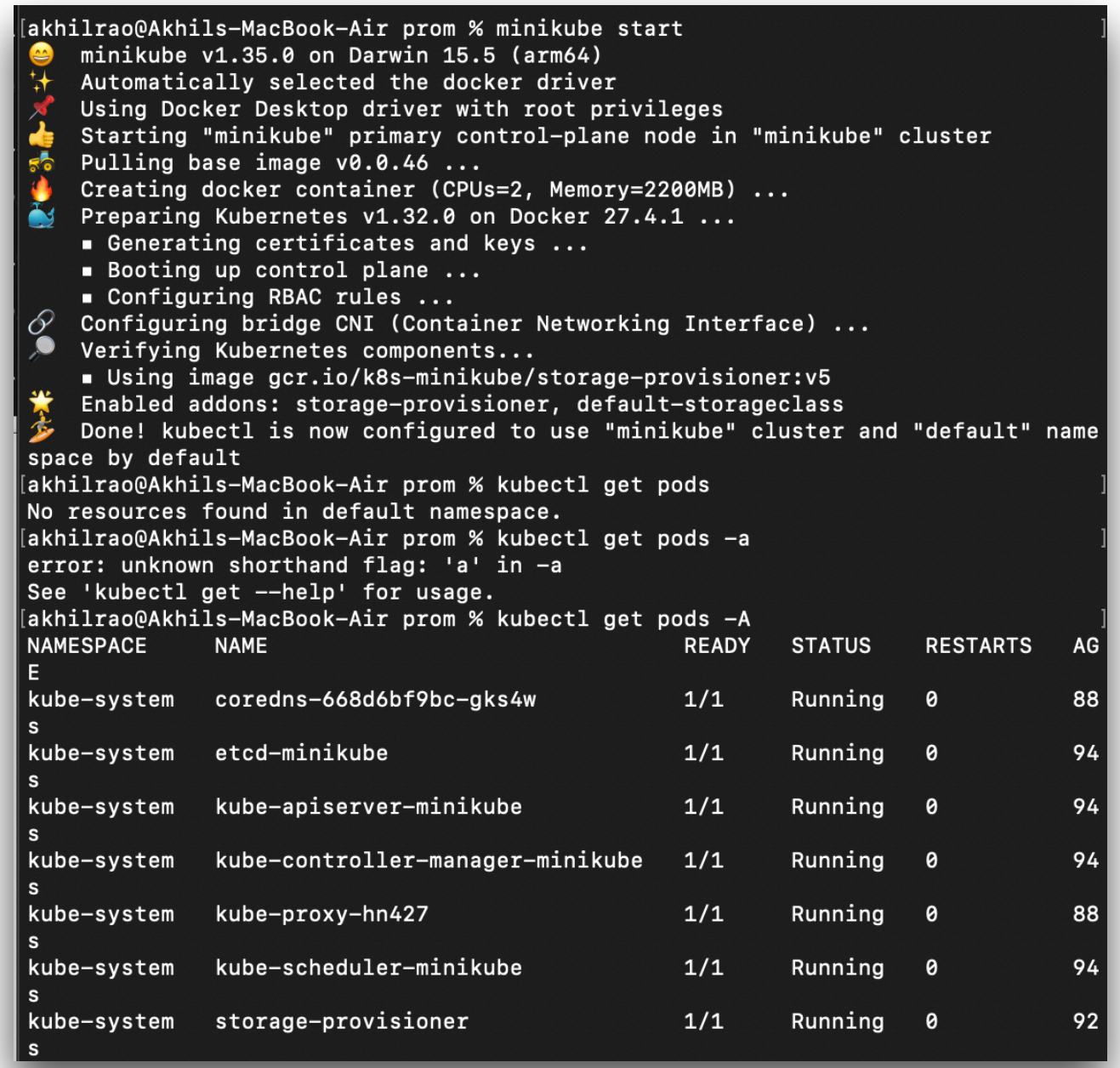
**1. Create a Minikube Cluster (linux/macOS - Docker Driver)**

minikube start --driver=docker



## 2. Add the Prometheus Helm Chart & Install

```
helm repo add prometheus-community https://prometheus-
community.github.io/helm-charts
helm repo update

helm install prometheus prometheus-community/prometheus
```

```
akhilrao@Akhils-MacBook-Air prom % helm repo add prometheus-community https://prometheus-community.github.io/helm-charts
helm repo update
"prometheus-community" already exists with the same configuration, skipping
Hang tight while we grab the latest from your chart repositories...
...Successfully got an update from the "prometheus-community" chart repository
Update Complete. ⎈Happy Helming!⎈
```

```
akhilrao@Akhils-MacBook-Air prom % helm repo update
Hang tight while we grab the latest from your chart repositories...
...Successfully got an update from the "prometheus-community" chart repository
Update Complete. ⎈Happy Helming!⎈
akhilrao@Akhils-MacBook-Air prom % helm install prometheus prometheus-community/prometheus
NAME: prometheus
LAST DEPLOYED: Sun Jun  8 15:04:50 2025
NAMESPACE: default
STATUS: deployed
REVISION: 1
TEST SUITE: None
NOTES:
The Prometheus server can be accessed via port 80 on the following DNS name from within your cluster:
prometheus-server.default.svc.cluster.local


Get the Prometheus server URL by running these commands in the same shell:
  export POD_NAME=$(kubectl get pods --namespace default -l "app.kubernetes.io/name=prometheus,app.kubernetes.io/instance=prometheus" -o jsonpath="{.it
[0].metadata.name}")
  kubectl --namespace default port-forward $POD_NAME 9090


The Prometheus alertmanager can be accessed via port 9093 on the following DNS name from within your cluster:
prometheus-alertmanager.default.svc.cluster.local


Get the Alertmanager URL by running these commands in the same shell:
  export POD_NAME=$(kubectl get pods --namespace default -l "app.kubernetes.io/name=alertmanager,app.kubernetes.io/instance=prometheus" -o jsonpath="{.
ms[0].metadata.name}")
  kubectl --namespace default port-forward $POD_NAME 9093
#################################################################################
######   WARNING: Pod Security Policy has been disabled by default since    #####
######            it deprecated after k8s 1.25+. use                        #####
######            (index .Values "prometheus-node-exporter" "rbac"          #####
###### .          "pspEnabled") with (index .Values                         #####
######            "prometheus-node-exporter" "rbac" "pspAnnotations")       #####
######            in case you still need it.                                #####
#################################################################################


The Prometheus PushGateway can be accessed via port 9091 on the following DNS name from within your cluster:
prometheus-prometheus-pushgateway.default.svc.cluster.local


Get the PushGateway URL by running these commands in the same shell:
  export POD_NAME=$(kubectl get pods --namespace default -l "app=prometheus-pushgateway,component=pushgateway" -o jsonpath="{.items[0].metadata.name}")
  kubectl --namespace default port-forward $POD_NAME 9091
```

## 3. 🌐 Expose Prometheus via NodePort to Access in Browser

```
kubectl expose service prometheus-server --type=NodePort --target-
port=9090 --name=prometheus-server-ext
```

Changes made:

type: ClusterIP

To:

type: NodePort

Then:

```
minikube ip
```