

Complete SRE environment with WSL, Minikube, Prometheus, Grafana, and our Angular-based dashboard application

```
~/Grafana/proj3$ ls
angular-app.ts      configmap-secrets.txt      frontend-deployment.txt  prometheus-setup.sh
angular-dockerfile.txt deployment-instructions.md  frontend-dockerfile.txt  wsl-minikube-setup.sh
backend-deployment.txt flask-api.py                grafana-setup.sh
backend-dockerfile.txt flask-dockerfile.txt       master-script.sh

~/Grafana/proj3$ ./wsl-minikube-setup.sh
===== WSL & Minikube Setup Script =====
This script will install and configure WSL, Docker, and Minikube
Updating and upgrading packages...
[sudo] password for hafsa_027:
Hit:2 https://deb.nodesource.com/node_20.x nodistro InRelease
Hit:3 https://download.docker.com/linux/ubuntu noble InRelease
Hit:4 https://storage.googleapis.com/bazel-apt stable InRelease
Get:5 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Ign:1 https://pkg.jenkins.io/debian-stable binary/ InRelease
Hit:6 https://pkg.jenkins.io/debian-stable binary/ Release
```

```
~/Grafana/proj3$ ./prometheus-setup.sh
===== Prometheus Setup Script =====
This script will install and configure Prometheus in Minikube
Applying Prometheus Kubernetes manifests...
configmap/prometheus-config created
deployment.apps/prometheus created
service/prometheus created
Waiting for Prometheus deployment to be ready...
Waiting for deployment "prometheus" rollout to finish: 0 of 1 updated replicas are available...
error: deployment "prometheus" exceeded its progress deadline
```

```
189 # Wait for Prometheus deployment to be ready
190 echo "Waiting for Prometheus deployment to be ready..."
191 sleep 30
192 kubectl -n ${NAMESPACE} rollout status deployment/prometheus
```

```
~/Grafana/proj3$ ./prometheus-setup.sh
===== Prometheus Setup Script =====
This script will install and configure Prometheus in Minikube
Applying Prometheus Kubernetes manifests...
configmap/prometheus-config unchanged
deployment.apps/prometheus unchanged
service/prometheus unchanged
Waiting for Prometheus deployment to be ready...
error: deployment "prometheus" exceeded its progress deadline
```

```
~/Grafana/proj3$ kubectl get pods -n sre-monitoring
NAME                                READY   STATUS    RESTARTS   AGE
prometheus-f697f88dd-94mdr         0/1     Pending   0           18m

~/Grafana/proj3$ kubectl get deployment prometheus -n sre-monitoring
NAME          READY   UP-TO-DATE   AVAILABLE   AGE
prometheus    0/1     1             0           20m

~/Grafana/proj3$ kubectl describe deployment prometheus -n sre-monitoring
Name:          prometheus
Namespace:     sre-monitoring
CreationTimestamp: Mon, 24 Mar 2025 04:43:33 +0000
Labels:        app=prometheus
Annotations:    deployment.kubernetes.io/revision: 1
```

```

~/Grafana/proj3$ kubectl describe pod prometheus-f697f88dd-94mdr -n sre-monitoring
Name:          prometheus-f697f88dd-94mdr
Namespace:     sre-monitoring
Priority:       0
Service Account: default
Node:          <none>
Labels:        app=prometheus

Events:
  Type      Reason      Age          From          Message
  ----      -
Warning    FailedScheduling  115s (x5 over 22m)  default-scheduler  0/1 nodes are available: 1 Insufficient memory.
preemption: 0/1 nodes are available: 1 No
preemption victims found for incoming pod.

```

1. In wsl-minikube-setup.sh:

Replace

minikube start --driver=docker --cpus=2 --memory=2048--disk-size=10g

with

minikube start --driver=docker --cpus=2 --memory=4096 --disk-size=10g

2. In prometheus-setup.sh:

```

resources:
  requests:
    cpu: 100m
    memory: 256Mi
  limits:
    cpu: 300m
    memory: 512Mi

```

```
~/Grafana/proj3$ ./prometheus-setup.sh
===== Prometheus Setup Script =====
This script will install and configure Prometheus in Minikube
Applying Prometheus Kubernetes manifests...
configmap/prometheus-config unchanged
deployment.apps/prometheus configured
service/prometheus unchanged
Waiting for Prometheus deployment to be ready...
Waiting for deployment "prometheus" rollout to finish: 0 of 1 updated replicas are available...
deployment "prometheus" successfully rolled out
Setting up port forwarding for Prometheus...
=====
Prometheus has been successfully deployed!
Access the Prometheus UI at: http://localhost:9090
=====
Note: Port forwarding is running in the background with PID: 51400
To stop port forwarding: kill 51400
```

```
~/Grafana/proj3$ ./grafana-setup.sh
===== Grafana Setup Script =====
This script will install and configure Grafana in Minikube
Applying Grafana Kubernetes manifests...
configmap/grafana-datasources created
configmap/grafana-dashboards-provider created
configmap/grafana-dashboards created
deployment.apps/grafana created
service/grafana created
Waiting for Grafana deployment to be ready...
Waiting for deployment "grafana" rollout to finish: 0 of 1 updated replicas are available...
error: deployment "grafana" exceeded its progress deadline

~/Grafana/proj3$ kubectl get pods -n sre-monitoring
NAME                                READY   STATUS              RESTARTS   AGE
grafana-79c48b8d7b-qlnjr            0/1     Pending             0           11m
prometheus-798fbcbdcc-22lhh         0/1     CrashLoopBackOff    7 (3m7s ago) 14m

~/Grafana/proj3$ kubectl describe pod prometheus-798fbcbdcc-22lhh -n sre-monitoring
```

```

Events:
  Type    Reason      Age           From              Message
  ----    -
Normal    Scheduled   14m           default-scheduler Successfully assigned sre-monitoring/prometheus-798fbcdbcc-22lhh to min
ikube
Warning   BackOff     4m36s (x46 over 14m) kubelet            Back-off restarting failed container prometheus in pod prometheus-798fb
cbdcc-22lhh_sre-monitoring(43dcf6a2-812e-4096-974d-1370c6309adc)
Normal    Pulled      3m46s (x8 over 14m) kubelet            Container image "prom/prometheus:v2.42.0" already present on machine
Normal    Created     3m45s (x8 over 14m) kubelet            Created container: prometheus
Normal    Started     3m45s (x8 over 14m) kubelet            Started container prometheus
ts=2025-03-24T05:37:56.336Z caller=main.go:468 level=error msg="Error loading config (--config.file=/etc/prometheus/prometheus.yml)" f
ile=/etc/prometheus/prometheus.yml err="parsing YAML file /etc/prometheus/prometheus.yml: yaml: line 65: mapping values are not allowe
d in this context"

```

```

replacement: /api/v1/nodes/\$1/proxy/metrics

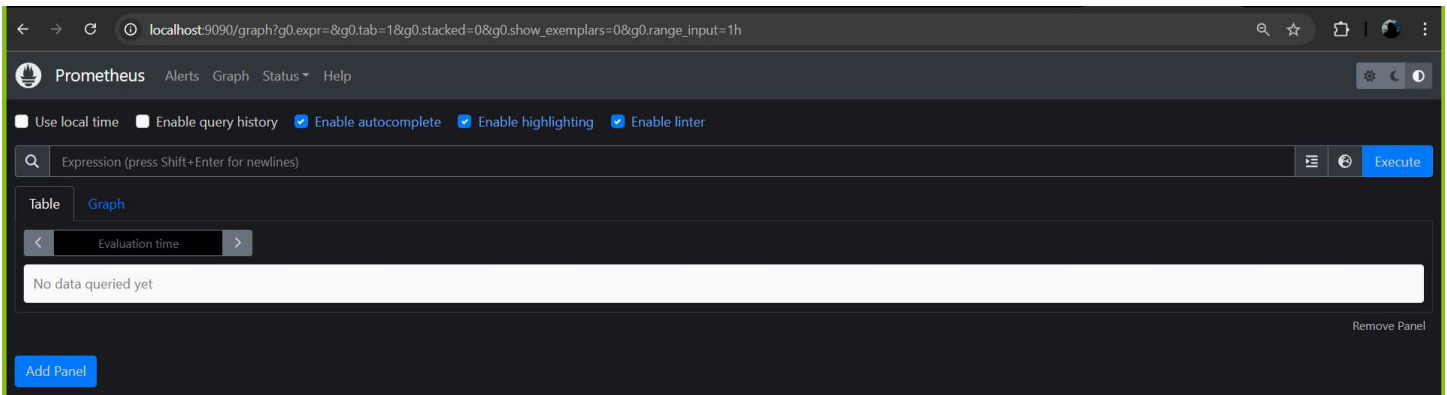
- job_name: "kubernetes-pods"
  kubernetes_sd_configs:
  - role: pod
  relabel_configs:
  - source_labels: [__meta_kubernetes_pod_annotation_prometheus_io_scrape]
    action: keep
    regex: true
  - source_labels: [__meta_kubernetes_pod_annotation_prometheus_io_path]
    action: replace
    target_label: __metrics_path__
    regex: (.+)
  - source_labels: [__address__, __meta_kubernetes_pod_annotation_prometheus_io_port]
    action: replace
    regex: ([^:]+)(?::\d+)?;(\d+)
    replacement: \$1:\$2

```



```
~/Grafana/proj3$ kubectl get nodes
NAME        STATUS    ROLES    AGE    VERSION
minikube    Ready     control-plane  4d22h  v1.32.0

~/Grafana/proj3$ ./prometheus-setup.sh
===== Prometheus Setup Script =====
This script will install and configure Prometheus in Minikube
Applying Prometheus Kubernetes manifests...
configmap/prometheus-config configured
deployment.apps/prometheus unchanged
service/prometheus unchanged
Waiting for Prometheus deployment to be ready...
Waiting for deployment "prometheus" rollout to finish: 0 of 1 updated replicas are available...
deployment "prometheus" successfully rolled out
Setting up port forwarding for Prometheus...
=====
Prometheus has been successfully deployed!
Access the Prometheus UI at: http://localhost:9090
=====
Note: Port forwarding is running in the background with PID: 76014
To stop port forwarding: kill 76014
```



```
~/Grafana/proj3$ ./grafana-setup.sh
===== Grafana Setup Script =====
This script will install and configure Grafana in Minikube
Applying Grafana Kubernetes manifests...
configmap/grafana-datasources unchanged
configmap/grafana-dashboards-provider unchanged
configmap/grafana-dashboards unchanged
deployment.apps/grafana unchanged
service/grafana unchanged
Waiting for Grafana deployment to be ready...
error: deployment "grafana" exceeded its progress deadline

~/Grafana/proj3$ kubectl get pods -n sre-monitoring
NAME                                READY   STATUS    RESTARTS   AGE
grafana-79c48b8d7b-qlnjr            0/1     Pending   0           49m
prometheus-798fbcdbcc-22lhh         1/1     Running   14 (10m ago)  52m

~/Grafana/proj3$ kubectl describe pod grafana-79c48b8d7b-qlnjr -n sre-monitoring
```

```
Events:
  Type      Reason             Age          From          Message
  ----      -
Warning    FailedScheduling   3m15s (x10 over 50m)  default-scheduler  0/1 nodes are available: 1 Insufficient memory.
preemption: 0/1 nodes are available: 1 No preemption victims found for incoming pod.

~/Grafana/proj3$ kubectl get pods -n sre-monitoring
NAME                                READY   STATUS    RESTARTS   AGE
grafana-79c48b8d7b-qlnjr            0/1     Pending   0           51m
prometheus-798fbcdbcc-22lhh         1/1     Running   14 (12m ago)  54m
```

resources:

```
requests:
```

cpu: 50m

```
memory: 128Mi
```

```
limits:
```

cpu: 150m

```
memory: 256Mi
```

Grafana has been successfully deployed!

Access Grafana UI at: <http://localhost:3000>

Default login credentials: admin/admin

Grafana Instructions:

1. After logging in with the default credentials (admin/admin), you'll be prompted to change the password.
2. The Prometheus data source is already configured.
3. A basic SRE dashboard has been pre-configured with key metrics.
4. To create additional dashboards:
 - Click on '+ Create' in the left sidebar menu
 - Select 'Dashboard' to create a new dashboard
 - Click 'Add new panel' to add monitoring metrics
 - In the query panel, you can use PromQL to query metrics from Prometheus
5. For monitoring Angular and Flask applications:
 - Use metrics like 'http_requests_total' for request counts
 - 'http_request_duration_seconds' for response times
 - 'container_memory_usage_bytes' and 'container_cpu_usage_seconds_total' for resource usage
6. To set up alerts:
 - Go to Alerting in the left sidebar
 - Click 'Create Alert Rule' to set up new alerts
 - Configure alerts for response time thresholds, error rates, or resource usage

Note: Port forwarding is running in the background with PID: 81920

```
To stop port forwarding: kill 81920
```

```
~/Grafana/proj3$ kubectl get pods -n sre-monitoring
```

NAME	READY	STATUS	RESTARTS	AGE
grafana-6d4895b584-nzfc	1/1	Running	0	5m30s
prometheus-798fbc	1/1	Running	14 (20m ago)	63m

```
~/Grafana/proj3$ kubectl port-forward -n sre-monitoring svc/grafana 3000:3000
```

```
Forwarding from 127.0.0.1:3000 -> 3000
```

```
Forwarding from [::1]:3000 -> 3000
```

```
Handling connection for 3000
```

```
Handling connection for 3000
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Handling connection for 3000
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Handling connection for 3000
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Handling connection for 3000
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Handling connection for 3000
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Handling connection for 3000

Handling connection for 3000

Handling connection for 3000

Handling connection for 3000

master script:-

```
1 warning found (use docker --debug to expand):
- FromAsCasing: 'as' and 'FROM' keywords' casing do not match (line 3)
Dockerfile:17
-----
15 |
16 | # Build the application
17 | >>> RUN npm run build --prod
18 |
19 | # Production stage
-----
ERROR: failed to solve: process "/bin/sh -c npm run build --prod" did not complete successfully: exit code: 127
```

Dockerfile for Angular App
FROM node:18 AS build

// ... existing code ...

Build the application
RUN npm run build --configuration=production

// ... existing code ...

```
=> CACHED [build 5/6] COPY . . 0.0s
=> ERROR [build 6/6] RUN npm run build --configuration=production 15.7s
-----
> [build 6/6] RUN npm run build --configuration=production:
5.051
5.051 > sre-dashboard@0.0.0 build
5.051 > ng build
5.051
7.304 Workspace extension with invalid name () found.
15.33 An unhandled exception occurred: error TS500: Error: ENOENT: no such file or directory, lstat '/app/tsconfig.app.json'
15.33   at Object.lstatSync (node:fs:1666:3)
15.33   at NodeJSFileSystem.lstat (file:///app/node_modules/@angular/compiler-cli/bundles/chunk-75YFKYUJ.js:341:16)
15.33   at calcProjectFileAndBasePath (file:///app/node_modules/@angular/compiler-cli/bundles/chunk-LV7FGTGX.js:10260:29)
15.33   at readConfiguration (file:///app/node_modules/@angular/compiler-cli/bundles/chunk-LV7FGTGX.js:10286:39)
15.33   at readTsconfig (/app/node_modules/@angular-devkit/build-angular/src/utils/read-tsconfig.js:49:26)
15.33   at async configureI18nBuild (/app/node_modules/@angular-devkit/build-angular/src/utils/i18n-options.js:125:22)
15.33   at async generateI18nBrowserWebpackConfigFromContext (/app/node_modules/@angular-devkit/build-angular/src/utils/webpack-browser-config.js:66:36)
15.33   at async initialize (/app/node_modules/@angular-devkit/build-angular/src/builders/browser/index.js:68:62)
15.33   at async /app/node_modules/@angular-devkit/build-angular/src/builders/browser/index.js:98:32
15.33 See "/tmp/ng-aHnJUE/angular-errors.log" for further details.
-----
Dockerfile:17
-----
15 |
16 | # Build the application
17 | >>> RUN npm run build --configuration=production
18 |
19 | # Production stage
-----
ERROR: failed to solve: process "/bin/sh -c npm run build --configuration=production" did not complete successfully: exit code: 127
```

added tsconfig.json

The next issues related to script.sh:-

1. 🧨 Exiting due to PROVIDER_DOCKER_NOT_RUNNING: deadline exceeded running "docker version --format <no value>-<no value>:<no value>": signal: killed

💡 Suggestion: Restart the Docker service

i) Existing Minikube Profile

- **Message:** Using the docker driver based on an existing profile.
- **Problem:** Minikube detected an existing cluster profile, which might be corrupted or misconfigured from a previous failed run (e.g., due to memory or Docker issues).

Fixes : -

Restart and Verify Docker:

- Ensure Docker is running and responsive, as Minikube relies on it.

Clean Up Minikube:

- Remove any existing Minikube profile to avoid conflicts or corrupted states.

```
~/:~/sre-app$ kubectl -n sre-monitoring get svc
```

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
angular-ui-service	ClusterIP	10.104.2.161	<none>	80/TCP	3m43s
grafana	ClusterIP	10.96.10.237	<none>	3000/TCP	16m
prometheus	ClusterIP	10.105.150.221	<none>	9090/TCP	19m