Module Checklist
Monitoring with Prometheus

By Techworld with Nana

Video Overview

- ★ Introduction to Monitoring with Prometheus
- ★ Install Prometheus Stack in Kubernetes
- ★ Data Visualization with Prometheus UI
- ★ Introduction to Grafana
- ★ Alert Rules in Prometheus
- ★ Create own Alert Rules - Part 1
- ★ Create own Alert Rules - Part 2
- ★ Create own Alert Rules - Part 3
- ★ Introduction to Alertmanager
- ★ Configure Alertmanager with Email Receiver
- ★ Trigger Alerts for Email Receiver
- ★ Monitor Third-Party Applications
- ★ Deploy Redis Exporter
- ★ Alert Rules & Grafana Dashboard for Redis
- ★ Collect & Expose Metrics with Prometheus Client Library (Monitor own App - Part 1)
- ★ Scrape Own Application Metrics & Configure Own Grafana Dashboard (Monitor own App - Part 2)

Video Overview

Git Repos used in the module	
Prometheus Configuration Files	https://gitlab.com/devops-bootcamp3/prometheus-monitoring
Nodejs Application	https://gitlab.com/devops-bootcamp3/nodejs-app-monitoring

Introduction to Monitoring with Prometheus

- ❏ Watched video

Useful Links:

- Official Exporters List: https://prometheus.io/docs/instrumenting/exporters/
- Client Libraries: https://prometheus.io/docs/instrumenting/clientlibs/

Install Prometheus Stack in Kubernetes
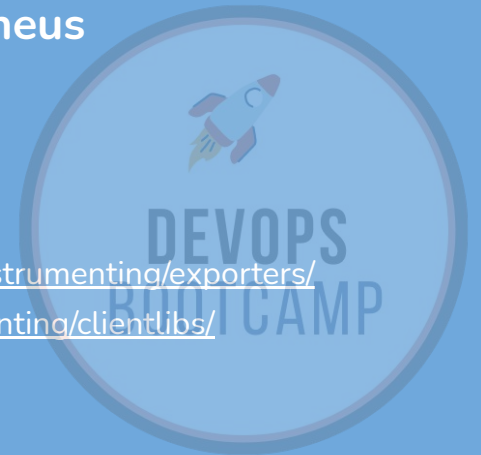
- ❏ Watched video
- ❏ **Demo executed**:
    - ❏ Create EKS cluster using eksctl
    - ❏ Deploy Microservices Application
    - ❏ Explore deployed Prometheus Stack

Useful Links:

- Microservices App Git Repo: https://github.com/nanuchi/microservices-demo
- Configuration Files for Microservices App:
  https://gitlab.com/nanuchi/online-shop-microservices-deployment
- Prometheus Helm Chart:
  https://github.com/prometheus-community/helm-charts

Data Visualization with Prometheus UI

- ❏ Watched video
- ❏ **Demo executed**
    - ❏ Access Prometheus UI and explore endpoints

Introduction to Grafana

- ❏ Watched video
- ❏ **Demo executed**
  - ❏ Access Grafana
  - ❏ Test CPU Spike

Useful Links:

- Official Doc of Grafana Dashboards:
  https://grafana.com/docs/grafana/latest/dashboards/

Alert Rules in Prometheus

- ❏ Watched video

Useful Links:

- Alerting Overview: https://prometheus.io/docs/alerting/latest/overview/

Create own Alert Rules - Part 1

- ❏ Watched video
- ❏ **Demo executed - Create Alerting Rule Configuration**

Create own Alert Rules - Part 2

- ❏ Watched video
- ❏ **Demo executed**
    - ❏ Created PrometheusRule component with 1st Alert Rule
    - ❏ Wrote 2nd Alert Rule
    - ❏ Applied Alert Rules

Useful Links:

- PrometheusRule Docs: https://docs.openshift.com/container-platform/4.7/rest_api/monitoring_apis/prometheusrule-monitoring-coreos-com-v1.html

Create own Alert Rules - Part 3

- ❏ Watched video
- ❏ **Demo executed - Test Alert Rule**

Introduction to Alertmanager

- ❏ Watched video

Useful Links:

- Official Doc: https://prometheus.io/docs/alerting/latest/alertmanager/
- Configuration: https://prometheus.io/docs/alerting/latest/configuration

Configure Alertmanager with Email Receiver

❏   Watched video
❏   **Demo executed - Configure Email Notification**

Useful Links:

●   AlertmanagerConfig:
https://docs.openshift.com/container-platform/4.7/rest_api/monitoring_apis/alertmanagerconfig-monitoring-coreos-com-v1alpha1.html

Trigger Alerts for Email Receiver

❏   Watched video
❏   **Demo executed - Test Email Notification**

Monitor Third-Party Applications

❏   Watched video

Useful Links:

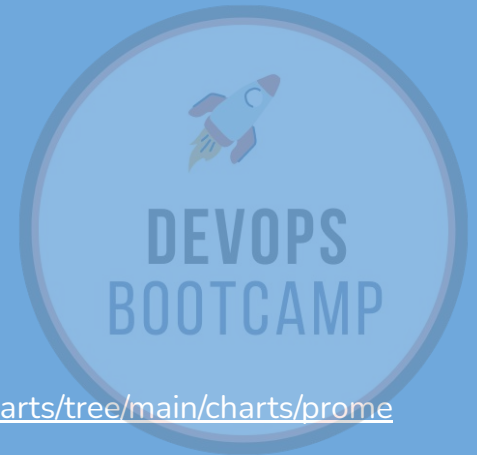●   Official Docs: https://prometheus.io/docs/instrumenting/exporters/

Deploy Redis Exporter

- ❏ Watched video
- ❏ **Demo executed**

Useful Links:

- ● Redis Exporter Helm Chart:
  https://github.com/prometheus-community/helm-charts/tree/main/charts/prometheus-redis-exporter

Alert Rules & Grafana Dashboard for Redis

- ❏ Watched video
- ❏ **Demo executed**
  - ❏ Create Prometheus Rules for Redis
  - ❏ Apply Redis Alert Rules
  - ❏ Trigger RedisDown Alert
  - ❏ Import existing Dashboard in Grafana

Useful Links:

- ● Collection of Prometheus Alert Rules:
  https://awesome-prometheus-alerts.grep.to/
- ● Grafana Dashboards: https://grafana.com/grafana/dashboards
- ● Redis Dashboard: https://grafana.com/grafana/dashboards/763

Collect & Expose Metrics with Prometheus Client Library (Monitor own App - Part 1)

- ❏ Watched video
- ❏ **Demo executed - Deploy app into K8s cluster**
  - ❏ Built Docker Image
  - ❏ Pushed to Docker Repository
  - ❏ Created Deployment & Service Configuration
  - ❏ Created Secret component - type: docker-registry
  - ❏ Deployed App into K8s cluster

Useful Links:

- Official Client Libraries: https://prometheus.io/docs/instrumenting/clientlibs/
- Nodejs App Git Repo:
  https://gitlab.com/devops-bootcamp3/nodejs-app-monitoring
- Nodejs Prometheus Client:: https://www.npmjs.com/package/prom-client

Scrape Own Application Metrics and Configure Own Grafana Dashboard (Monitor own App - Part 2)

- ❏ Watched video
- ❏ **Demo executed**
  - ❏ Deployed ServiceMonitor component
  - ❏ Created Grafana Dashboard

Useful Links:

- Rate function:
  https://prometheus.io/docs/prometheus/latest/querying/functions/#rate

Best Practices

- Official Best Practices: https://prometheus.io/docs/practices/consoles/