



Module Checklist Monitoring with Prometheus

By Techworld with Nana

Video Overview



- ★ Introduction to Monitoring with Prometheus
- ★ Install Prometheus Stack in Kubernetes
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- ★ 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

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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



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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**

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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>



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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/>

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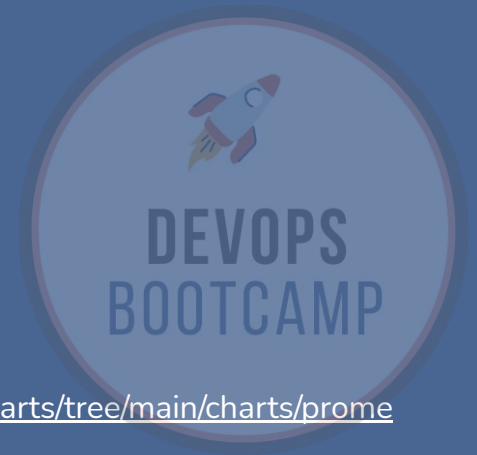


Deploy Redis Exporter

- ☐ 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>

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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>



More Resources...

Best Practices

- Official Best Practices: <https://prometheus.io/docs/practices/containers/>

