RANCHER

Monitoring and Alerting with Prometheus and Grafana

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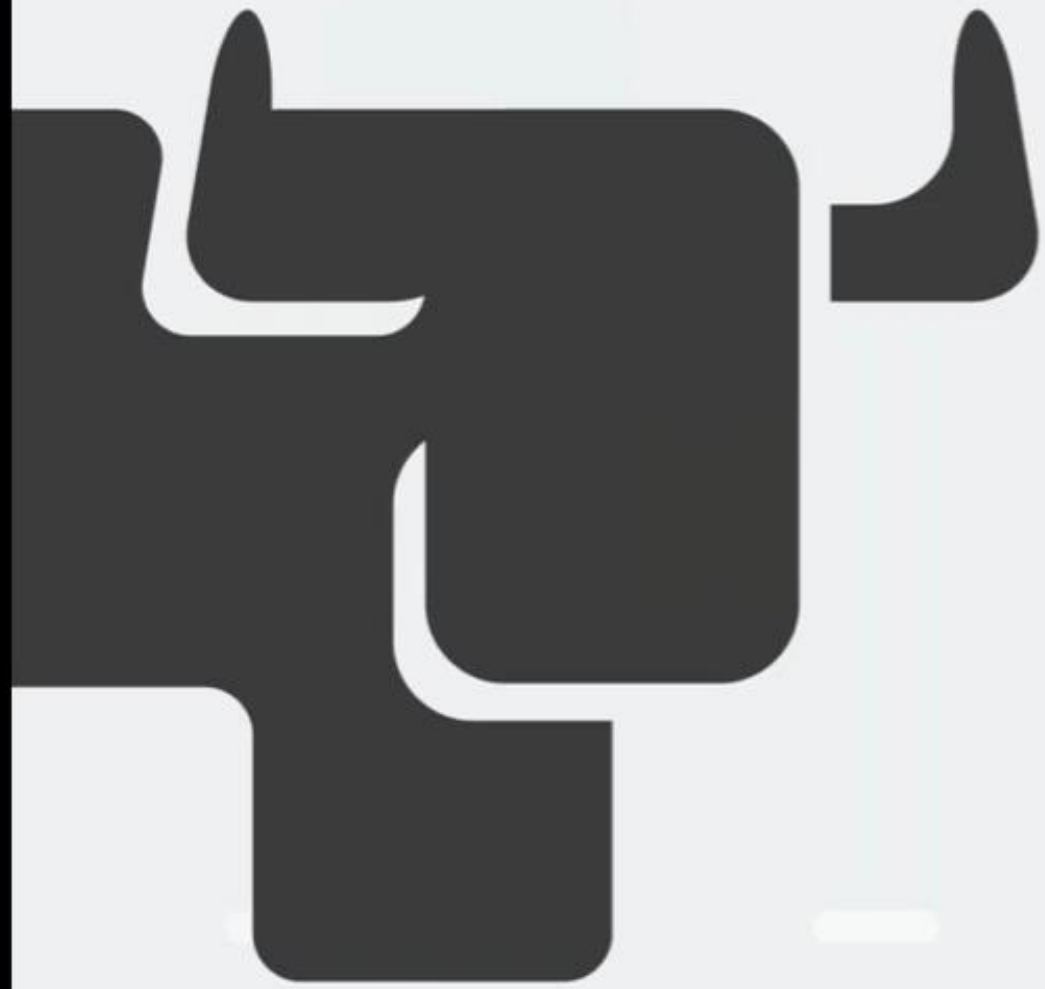


Rancher Master Class Series:

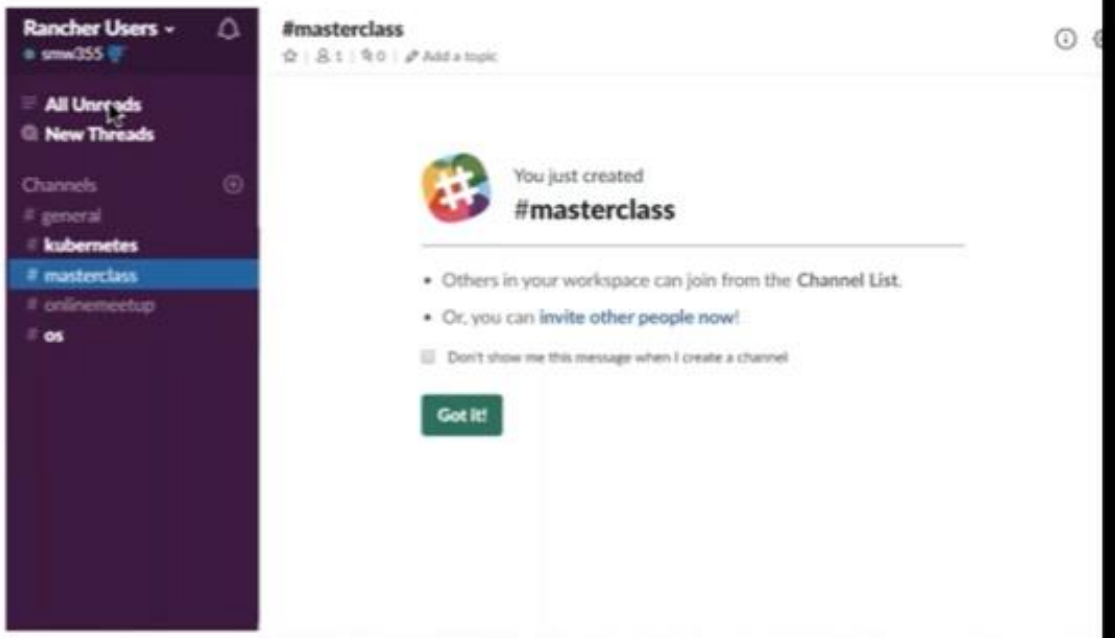
- 60 – 75 Minutes
- Questions are always welcome
- Use the questions tab to write your questions
- We may respond to all, so mark your question as private if needed.

This session is being recorded!

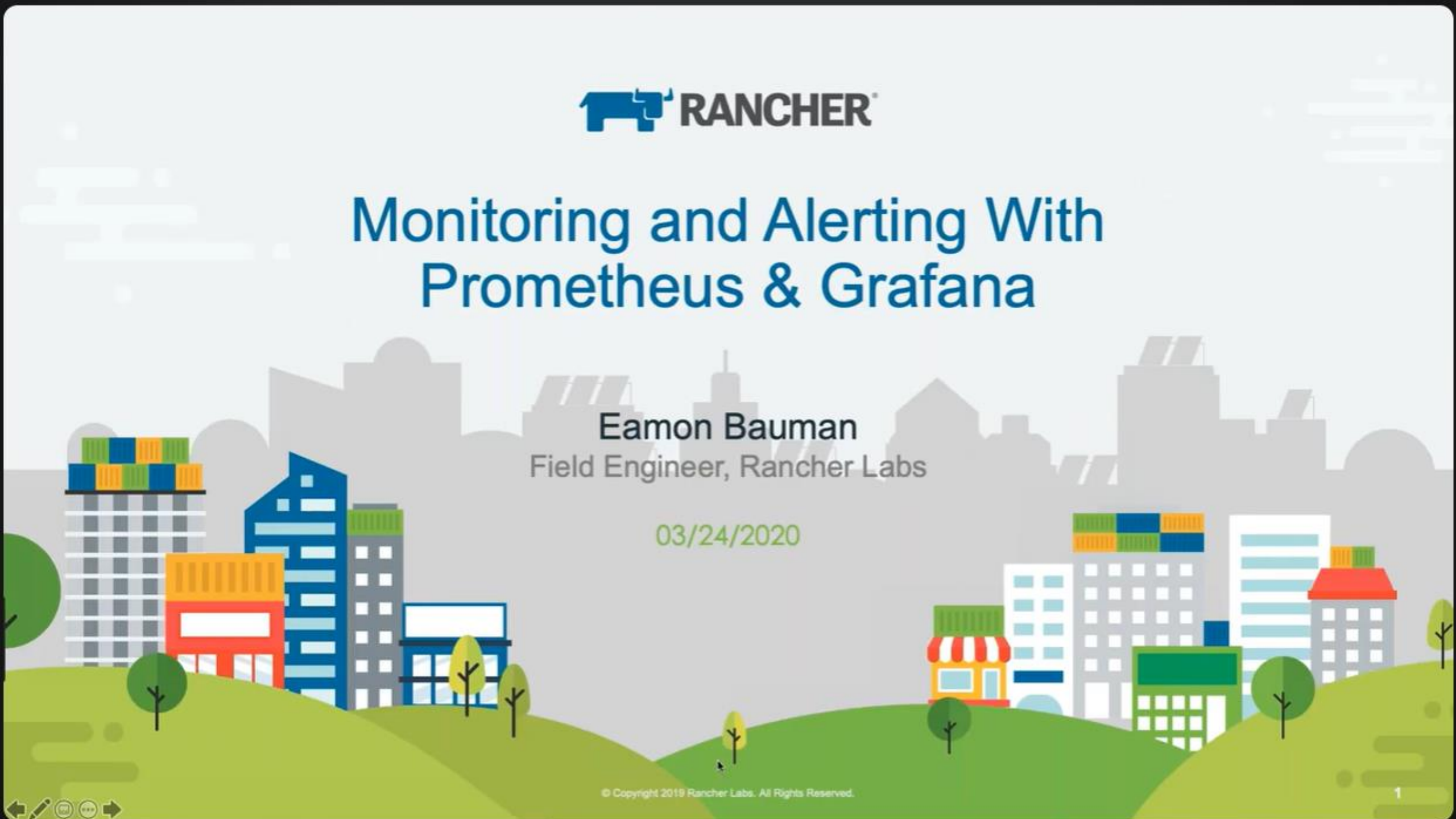
http://youtube.com/c/rancher

Join the conversation on Slack

http://slack.rancher.io



#masterclass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Monitoring and Alerting With Prometheus & Grafana
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Here's what we're doing today.

- Prometheus & Grafana – What Are They?
- Basic concepts
- Deploy Prometheus & Grafana
- Rancher Monitoring

Prometheus & Grafana – what are they?

- Prometheus – Time-series database and monitoring system
  - Stores “metrics” over a period of time
  - Allows for querying of metrics using expressive language (PromQL)
  - Generates alerts based on criteria
  - Exports metrics from nodes (in Kubernetes)
- Grafana – Visualization tool
  - Build visualizations of Prometheus metrics
  - Import other data sources (e.g. Elasticsearch, MySQL) and visualize
  - Create complex visualizations from several data sources
  - Compile visualizations into dashboards and other groupings

Prometheus

- Time-series database
  - Tracks changes to a metric over time
- Collects metrics from many sources
  - Clients
  - Exporters
    - Kubernetes
    - Nodes
- Generates alerts based on criteria
  - Criteria are called “rules”
  - ”Receivers” are where the alerts go

Grafana

- Build visualizations of Prometheus metrics
  - Connect Grafana to Prometheus
  - Build visualizations using PromQL queries
- Build visualizations of other metrics
  - Connect Grafana to other sources (e.g. MySQL)
- Combine data sources to build complex visualizations

Deploying Prometheus & Grafana

Super easy – Helm charts!

Configuring Prometheus & Grafana

.....not so super easy.

Raise your right hand

… and repeat after me

I, Webinar Attendee, do solemnly swear

not to hold Eamon Bauman responsible

for any mishaps that occur during this live demo.

So Helm me Kubernetes

What did we just do?

- Deployed Prometheus
  - Explored basics of the tool
  - Saw how Kubernetes metrics were auto-imported
  - Discussed how alerts could be created
- Deployed Grafana
  - Explored the dashboard
  - Connected Grafana to Prometheus
  - Added our first visualization

Let’s deploy Prometheus And Grafana!

(from scratch)

What would we still need to do?

- Prometheus
  - Wire up metric sources from other things
    - kube-state-metrics
    - Custom sources
  - Build alerting rules
- Grafana
  - Build all visualizations
  - Build all dashboards
  - Integrate with other data sources

Rancher Monitoring

- Rancher…
- …deploys Prometheus and related exporters (node, kube state)
- …deploys Grafana and wires up the Prometheus data source\
- …configures visualizations in Grafana
- …configures dashboards in Grafana
- …imports visualizations into the Rancher UI
- …makes available alerting configurations via Rancher UI/API

- All with three clicks.

Rancher Monitoring

Telling is nice. Showing is better.

Demo time!

Rancher Monitoring - Recap

- Rancher deploys Prometheus & Grafana
- Rancher sets up metrics and visualizations on your behalf
- Visualizations are imported into the Rancher UI
  - Cluster-level
  - Workload-level
- You can configure alerting rules and notifiers in the Rancher UI/API
- You can enable *Monitoring* in the Cluster or Project context

Where to learn more / get more help?

- Rancher Users' Slack: https://slack.rancher.io/
- Rancher Forums: https://forums.rancher.com/
- GitHub Repo: https://github.com/rancher/rancher