MICHIGAN STATE
U N I V E R S I T Y

Beta Presentation
Kubernetes Cluster Inspection Tool

The Capstone Experience

Team Google

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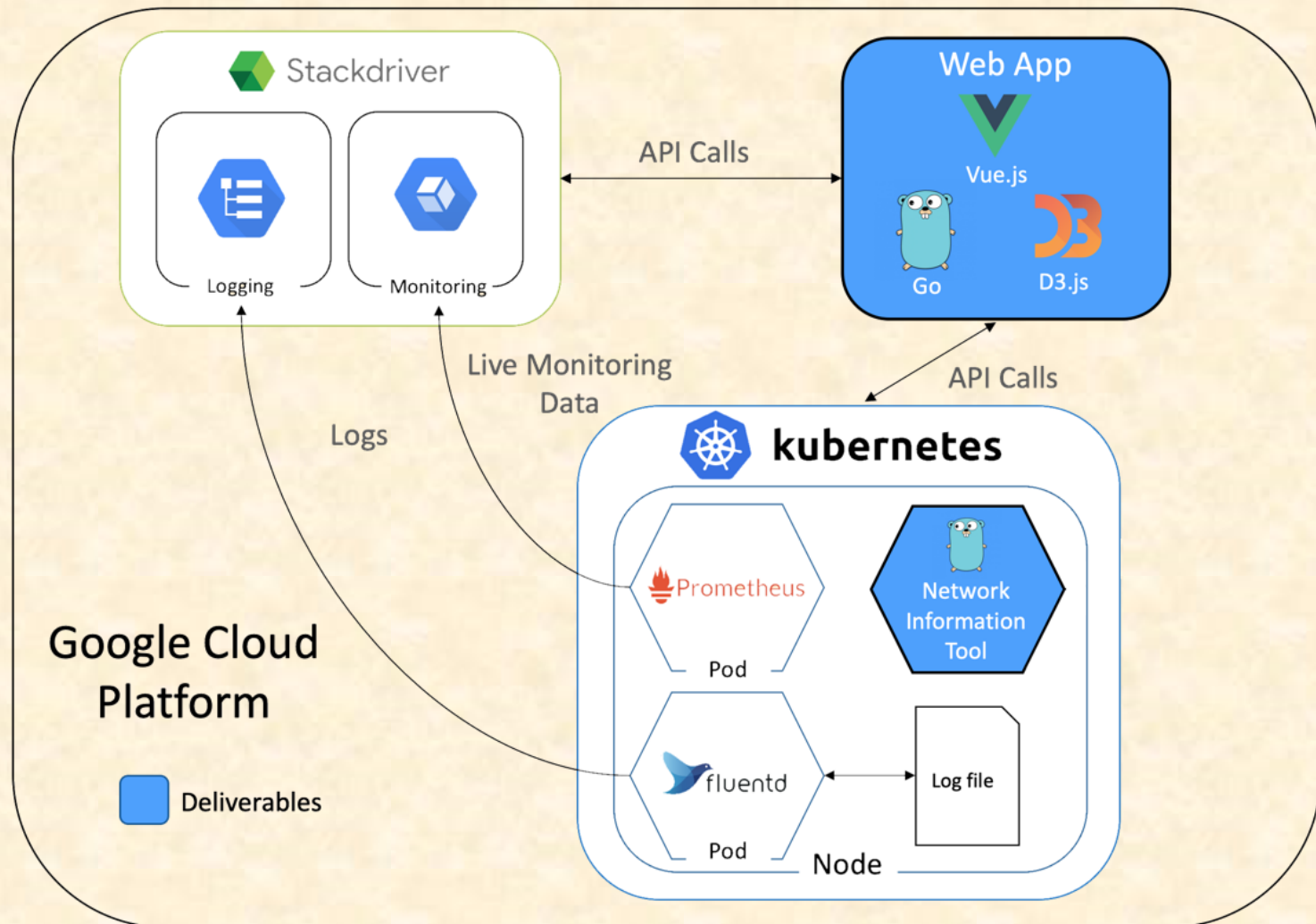Spring 2019

From Students…
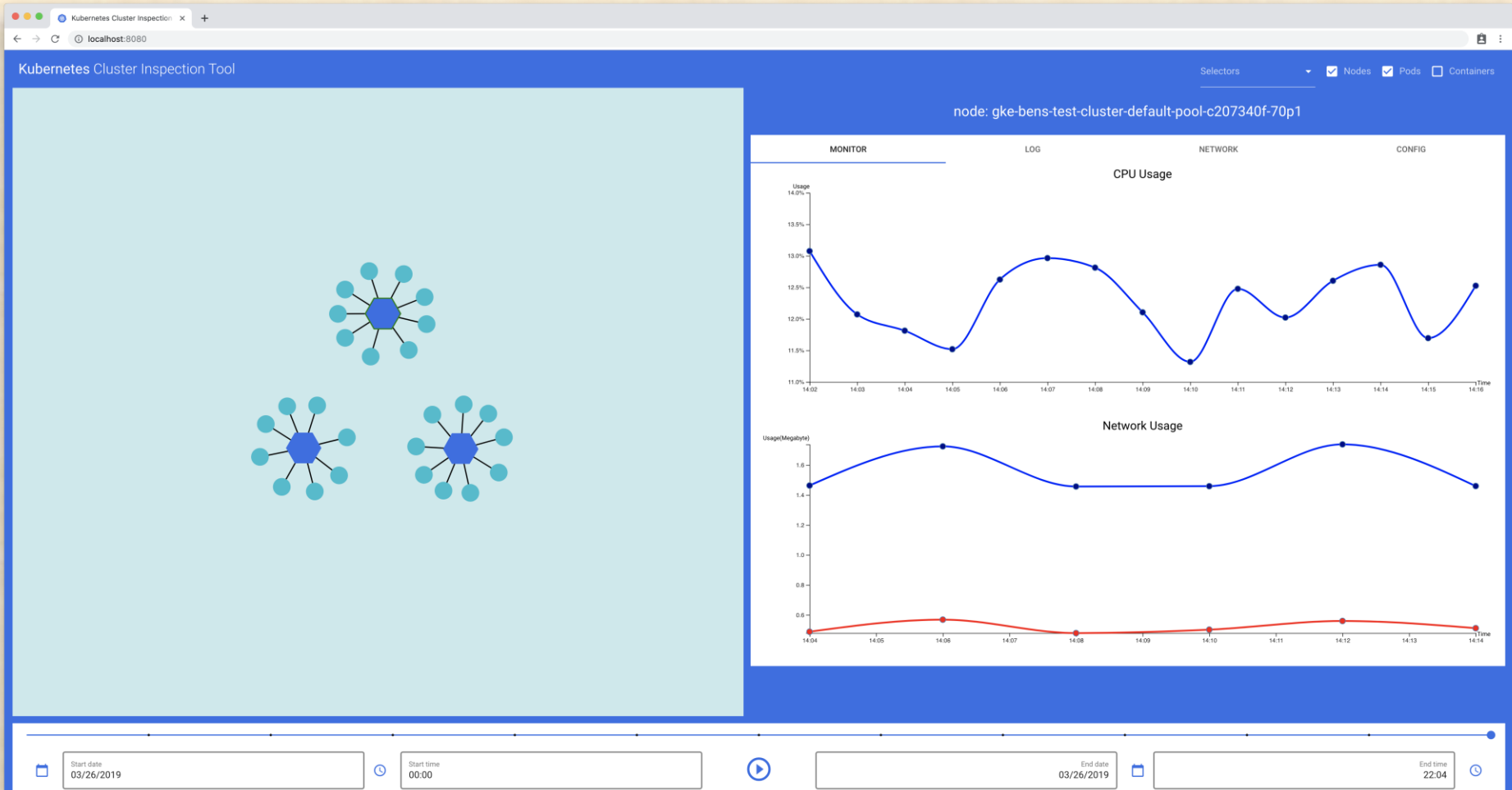   *…to Professionals*

Project Overview

- Provide Robust Inspection Tool of Kubernetes Cluster
  - Both Current and Historical State
- Gather All Cluster Data into a Single Interactive View
  - Provide Health, Performance, and Resource Changes
  - Ingest with Native, Kubernetes Stackdiver Agent
  - Trace Lifecycle of Nodes, Pods, and Containers
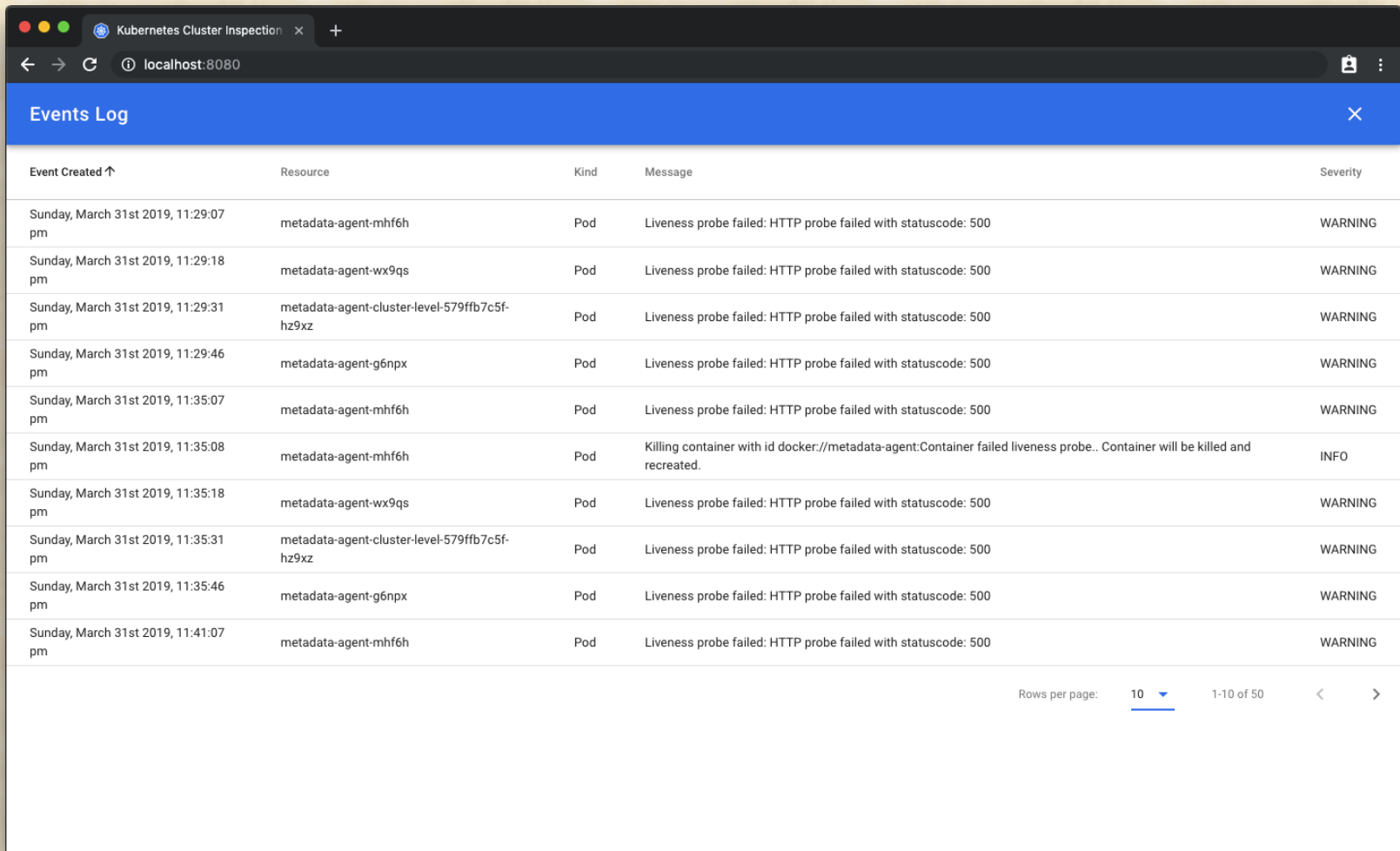- Implement Easily on Any GCP Kubernetes Cluster

System Architecture

Stackdriver Monitoring Metrics for a Selected Node
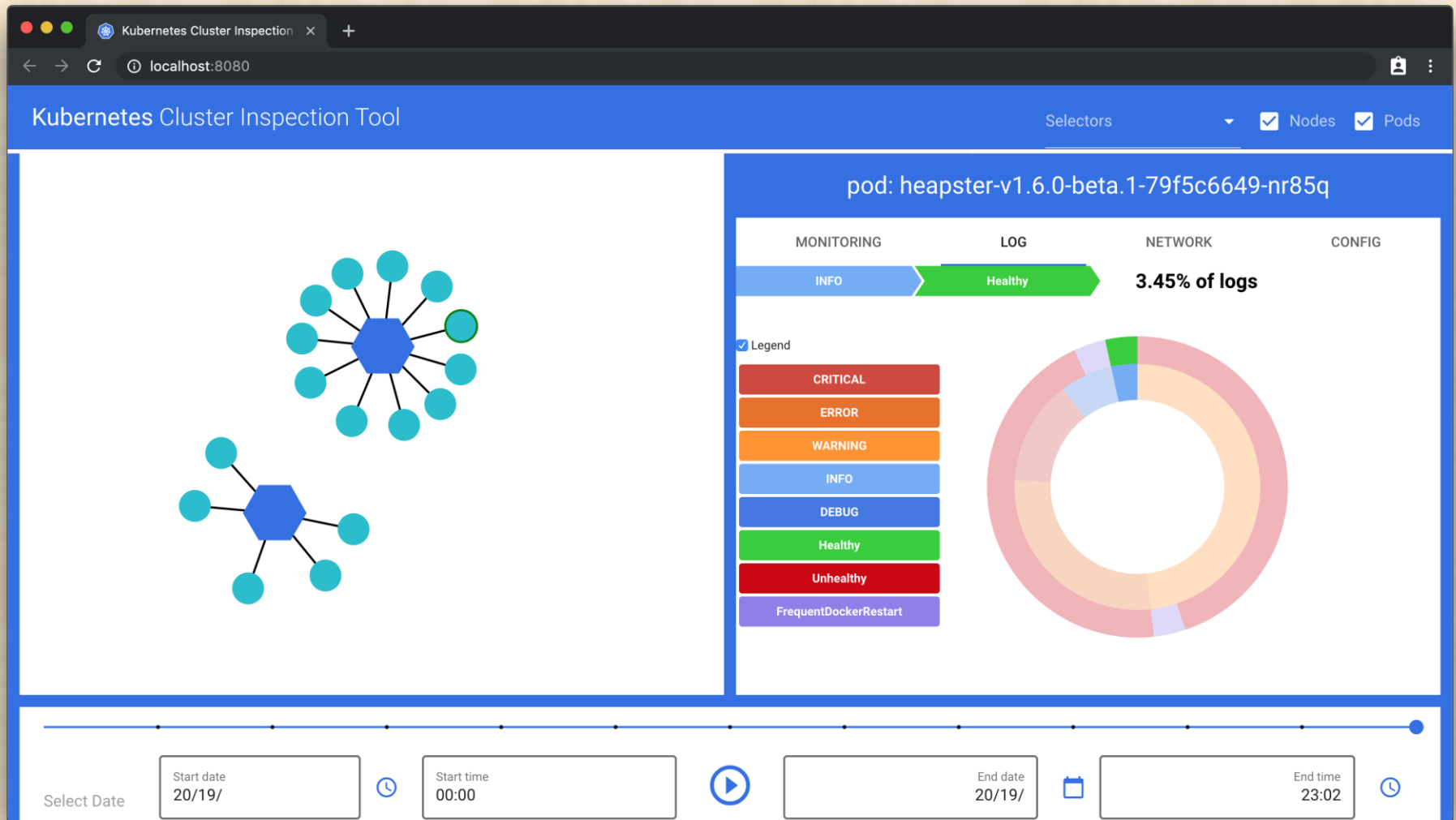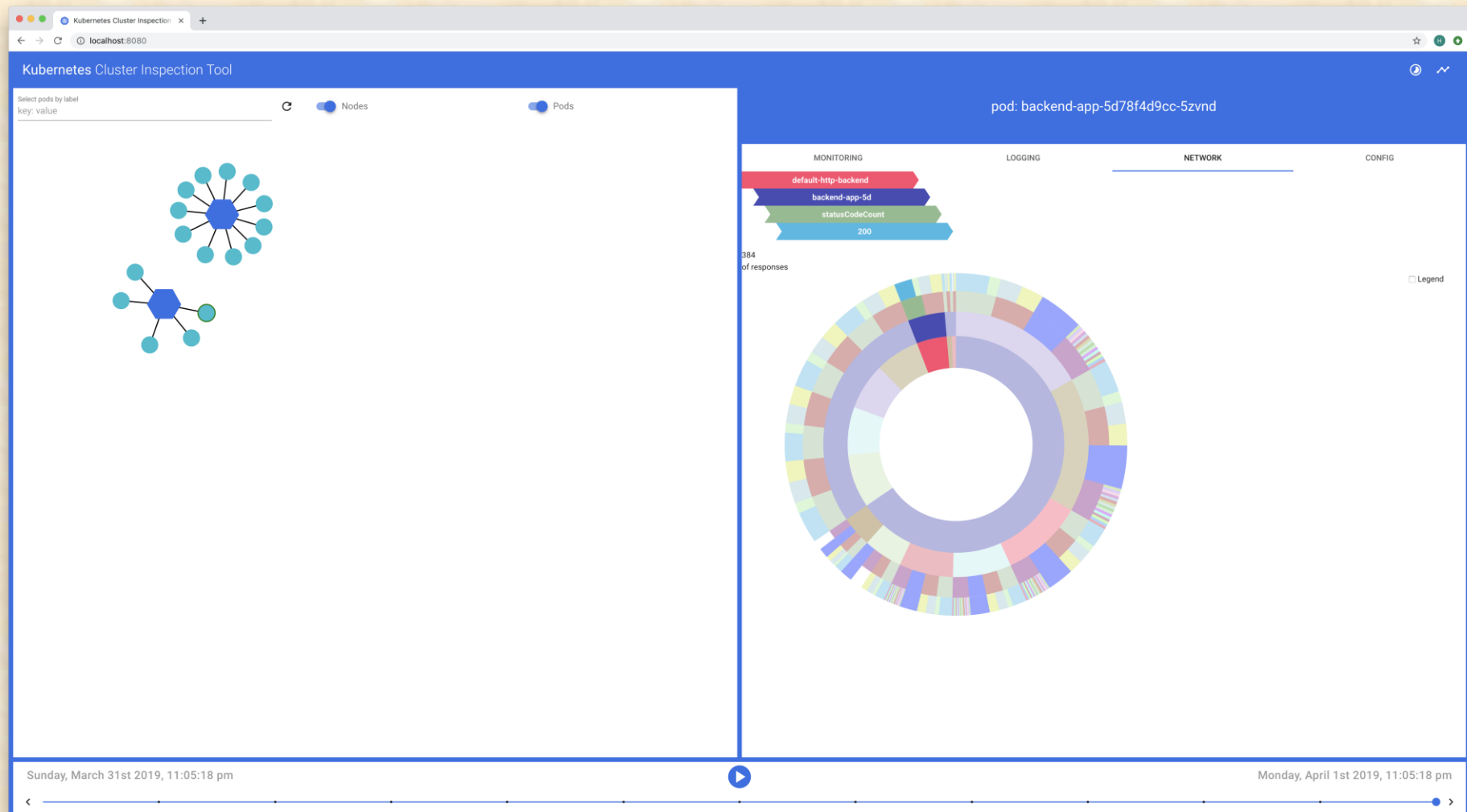
Cluster Events from Stackdriver Logging

Severity Insights from Stackdriver Logging

Network Traffic Between Pods

What's left to do?

- Google Cloud Platform Deployment of the Network Information Tool
- Specific Keyframes for Important Events in Playback
- Flexibility for Playback Timeframes
  - Timezones
- IAM Roles Instead of Tokens
- Polishing the Front End

Questions?

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