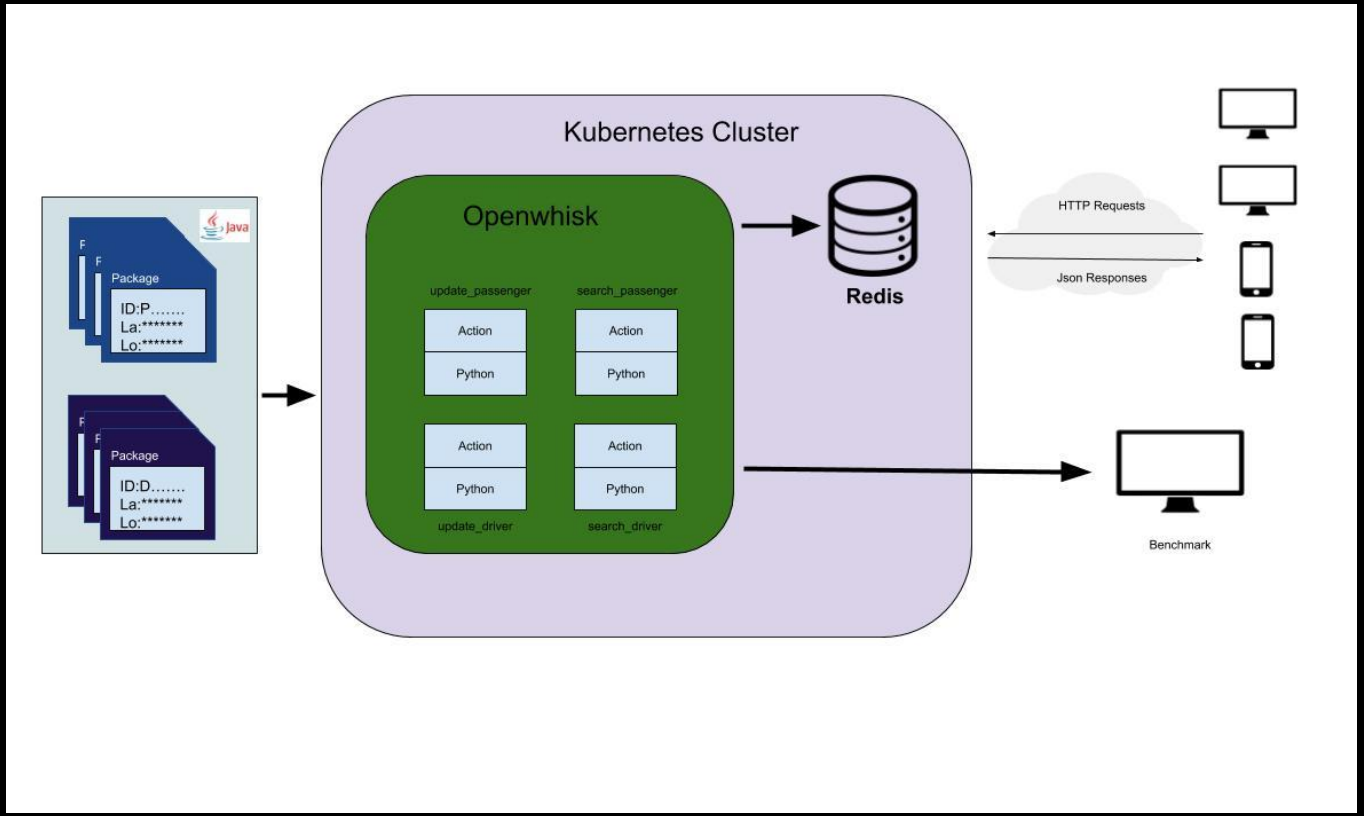
# Function as a Service

Sprint 3

# Once again: who we are

- Who we are: Function as a Service!
- What we are working on: Taxi - Passenger system
- What we use: Openwhisk, Kubernetes

# Recall: System Diagram



# Current Work

- Deployment
  - Deploy OpenWhisk on Google Cloud Platform
- Simulation
  - Improvement of simulating data
  - Visualization
- Analysis
  - Implement metric visualization

# Simulation: Recall

- Users (passengers and drivers) send their locations continuously

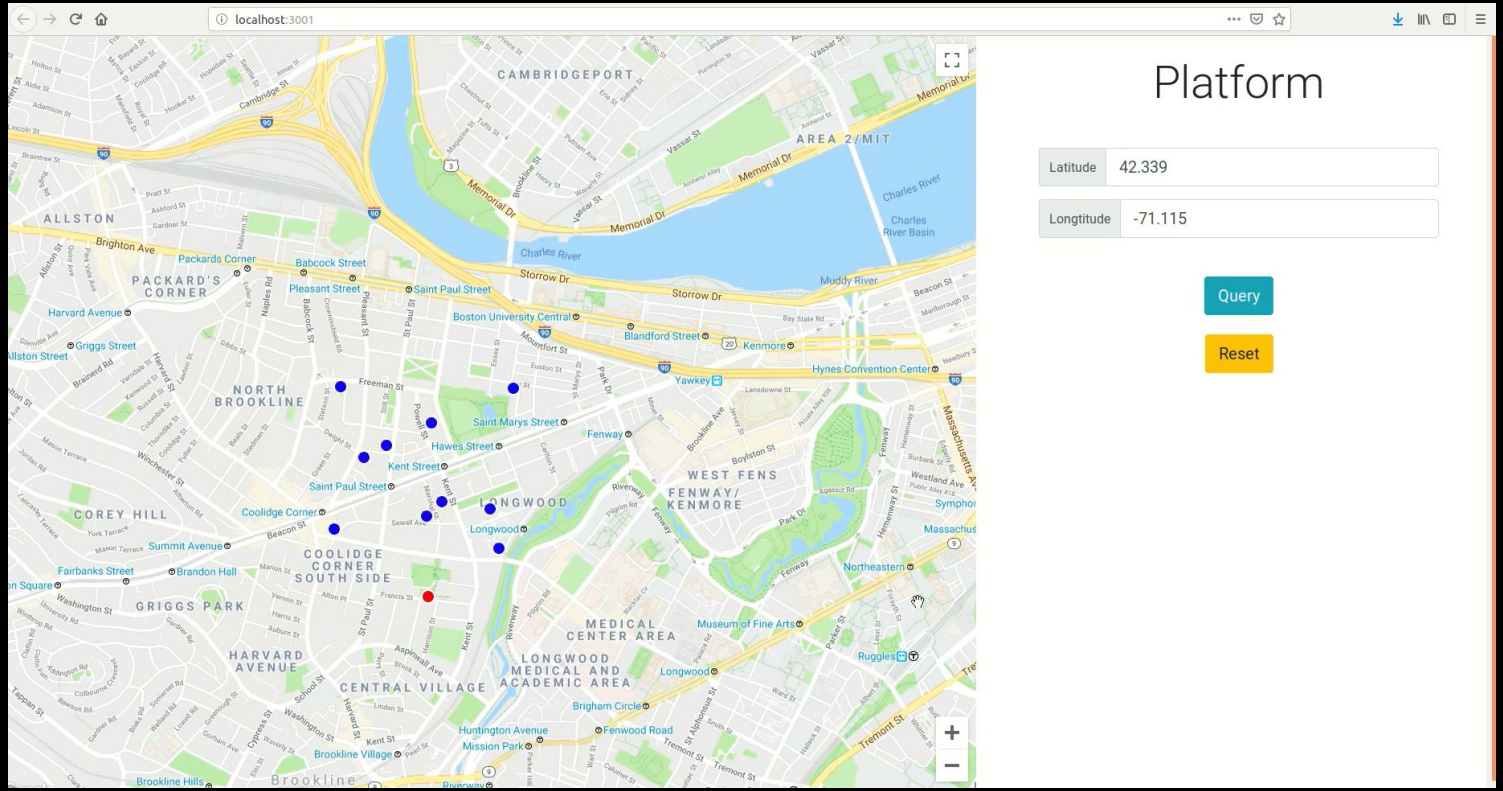
- Server synchronizes the information at database (Redis)

- Location Info:
  - ID: Unique ID for every user, first letter to distinguish between passengers and drivers
  - Latitude
  - Longitude

# Simulation: Improvement

- Movement of passengers and drivers
  - Random location -> Continuous location
  - Different moving parameters for drivers and passengers
    - Passenger: 0.9m/s
    - Driver: 10m/s
- Basic pairing function
  - More parameters
    - State
    - Destination
    - Assigned passenger/driver

# Simulation Visualization(React + Redux)



# Metrics Visualization

OpenWhisk Metrics Support

- System metrics
- User metrics

Example of Configuration:

```
metrics_kamon: true
metrics_kamon_tags: false
metrics_kamon_statsd_host: '192.168.99.100'
metrics_kamon_statsd_port: '8125'
metrics_log: true
```

# Metrics Visualization

## StatsD-prometheus-exporter:

Convert the statsd format data to prometheus data for the Prometheus backend services.

## Prometheus:

Prometheus is an open-source systems monitoring and alerting toolkit originally built at SoundCloud.

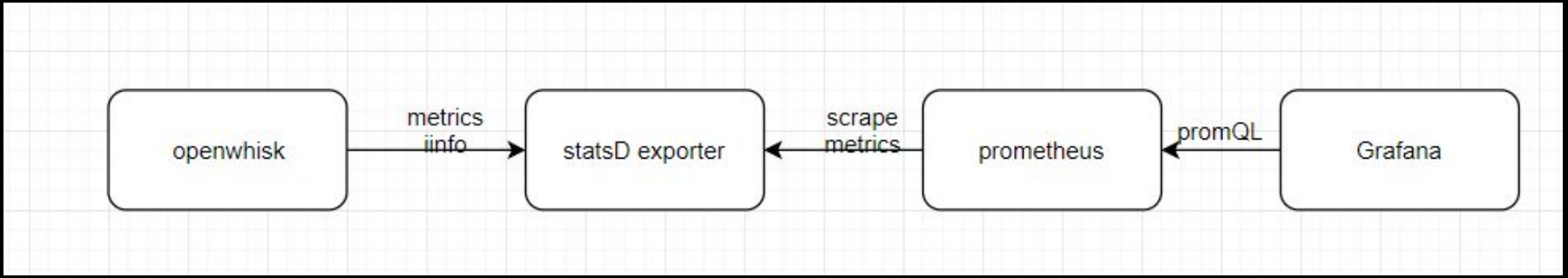
## Prometheus feature:

- Provide time series data
- Support PromQL, a flexible query language

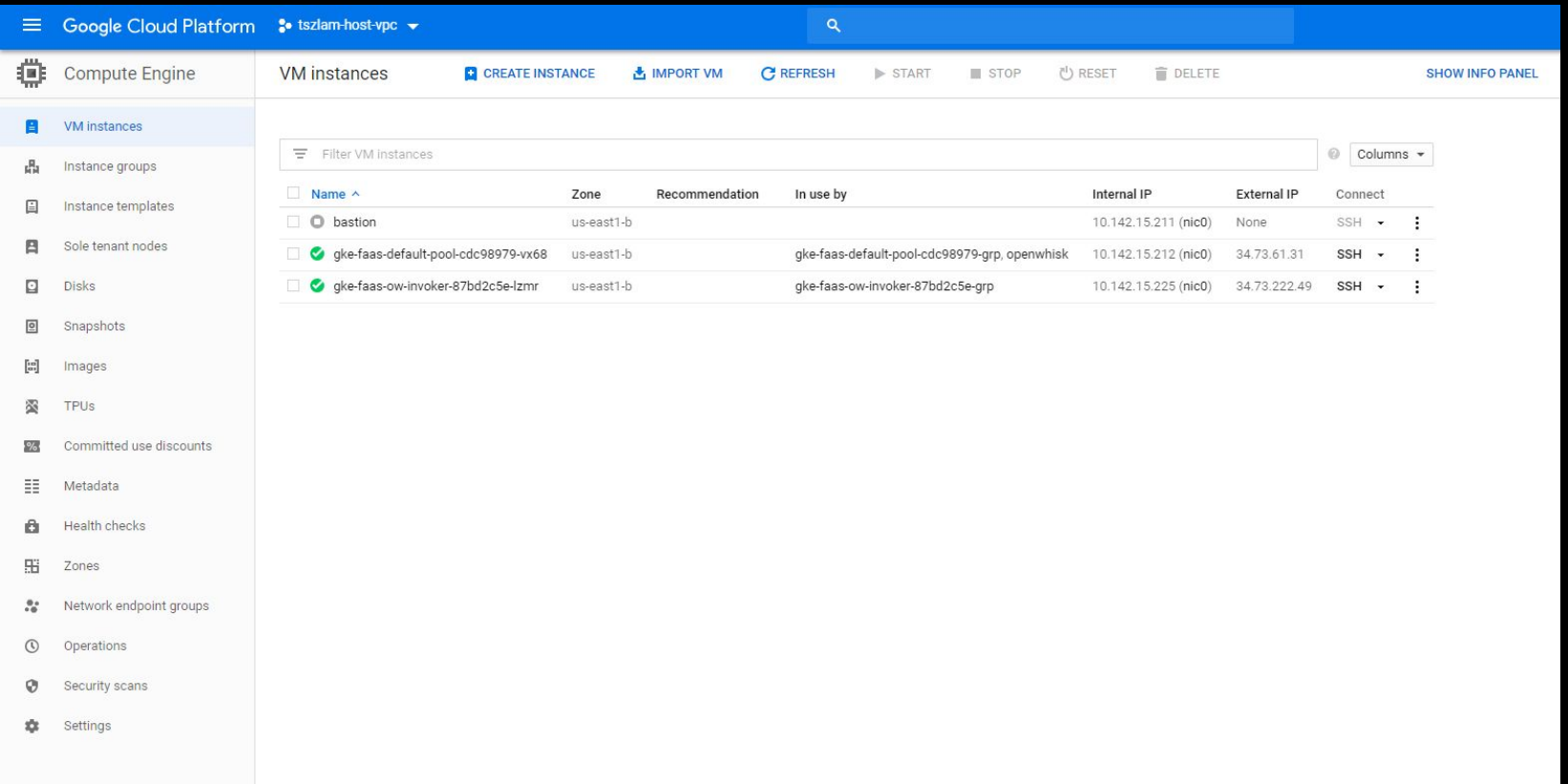
# Metrics Visualization

Grafana:

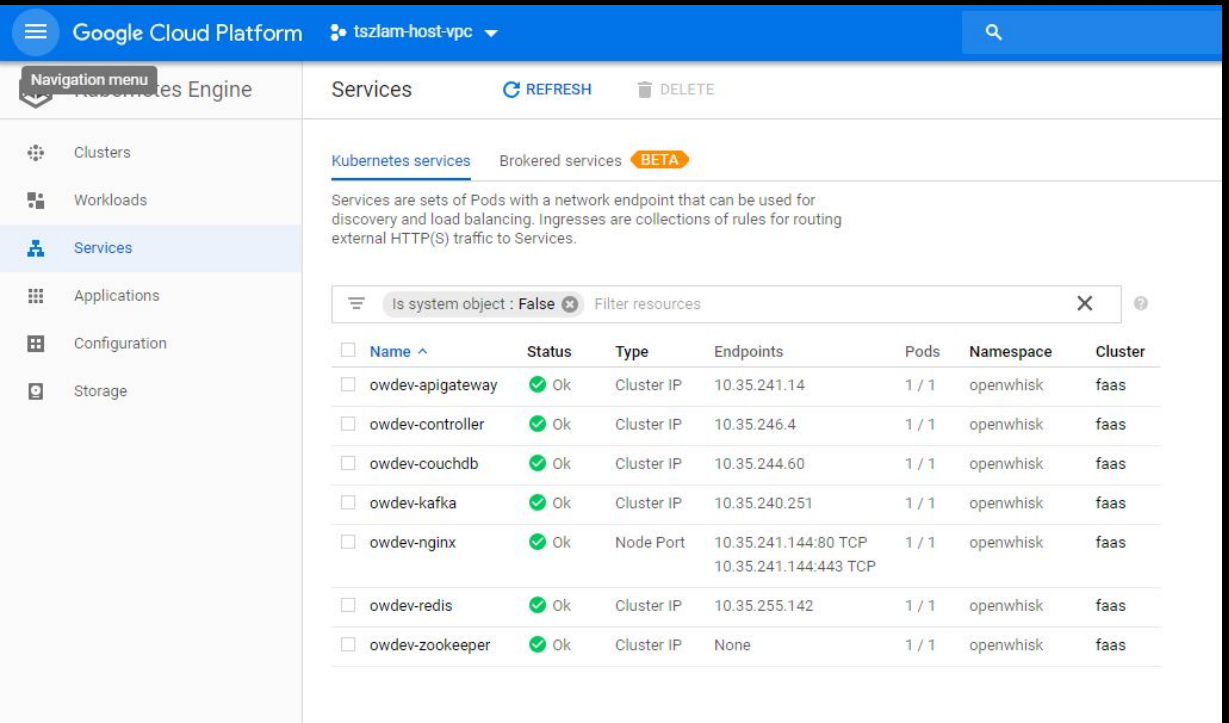
# Metrics Visualization



# Demo: Google Cloud Platform

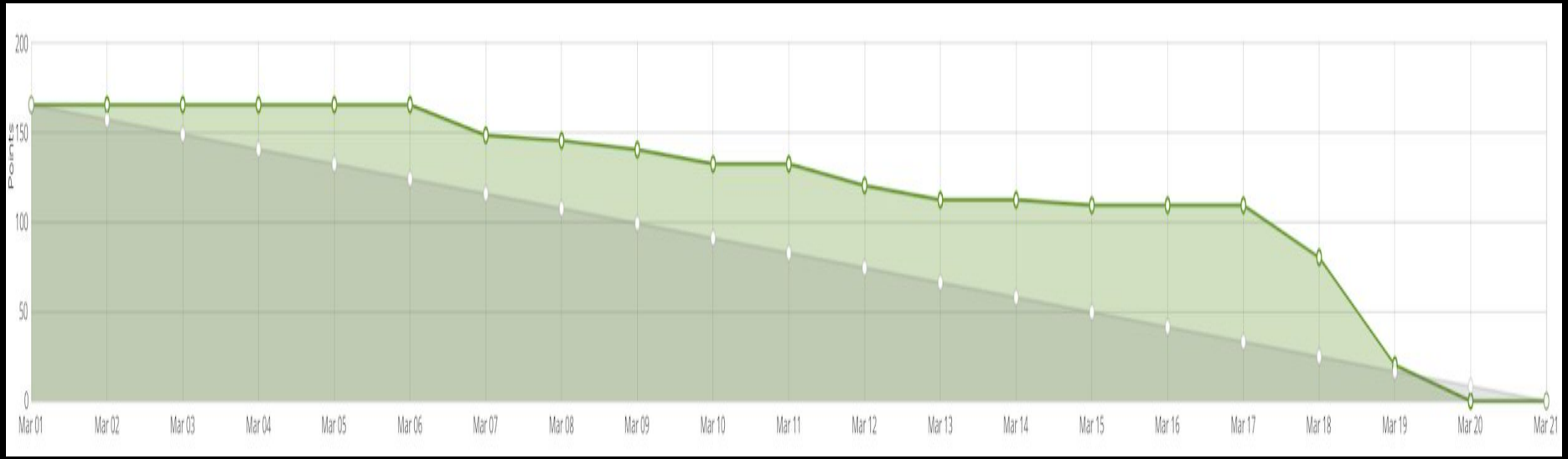


https://console.cloud.google.com/kubernetes/discovery?authuser=3&organizationId=669079940348&project=tszlam-host-vpc&service_list_tablesize=50



# Demo:

# Current Sprint: Burn Down Chart



Question?