Grafana and TICK stack demo

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What is this?

Some slides to guide workshop for TICK stack and Grafana demo.

Setup developer environment

Install docker

- Install docker
- Install docker-compose

Pull TICK docker images

TICK docker repository

```
mkdir -p ~/influxdb && \
    cd ~/influxdb && \
    git clone git@github.com:influxdata/TICK-docker.git docker
```

Add grafana to docker-compose.yml

```
nano ~/influxdb/docker/1.2/docker-compose.yml
```

```
grafana:
  image: grafana/grafana
  ports:
    - "3000:3000"
  links:
    - influxdb
```

Download it and run

```
cd ~/influxdb/docker/1.2 && \
    docker-compose up -d
```

InfluxDB

It is an open source, distributed time series database. It is written in Go and optimized for fast, high-availability storage and retrieval of time series data in fields such as operations monitoring, application metrics, Internet of Things sensor data, and real-time analytics.

TICK stack

- In a glance
- Falvours

Kapacitor

Kapacitor is an open source data processing framework that makes it easy to create alerts, run ETL jobs and detect anomalies. Kapacitor is the final piece of the TICK stack.

More...

Chronograf

Chronograf is InfluxData's open source web application. Use Chronograf with the other components of the TICK stack to visualize your monitoring data and easily create alerting and automation rules.

More...

Why influxdb?

Because of features!

outstanding query performance

storage designed to persist time series

retention and continuous query

Continuous Queries (CQ) are InfluxQL queries that run automatically and periodically on realtime data and store query results in a specified measurement.

Could be done with engine or Kapacitor

BUT clustering is paid

with some hope or troublesome option

Key concepts

- Use documentation luke!
- Getting started

Manage (basic)

- Chronograf - part of TICK stack
- Visit admin UI (deprecated!) and use query templates
- use influxdb client (CLI)
- use HTTP

```
curl -G \
     http://localhost:8086/query?q=CREATE+DATABASE+%22test3%22
```

Insert some data

- Line protocol
- UDP
- opentsdb
- collectd
- Graphite - must be enabled Hint: -e $\text{INFLUXDB}_{\text{GRAPHITEENABLED}}$=true

Common use case

To monitor host resources. Use Telegraf, metrics collector written in Go and Chronograf.

Grafana

Grafana is a data visualization tool that provides ways to create, explore, and share data in easy to understand graphical representation. It's mainly used to visualize time series data. It supports Graphite, ElasticSearch, Prometheus, InfluxDB, OpenTSDB, and KairosDB.

Play...

Create sample graphs

Grafana on docker

Sample plugins

- Status
- Heat map
- Diagram

Lets reuse existing templates!

- Download JSON Telegraf dashboard
- import it into grafana - done.
- Entities are sharing

Monitoring Java based systems

Use capsaicin (jolokia)

Jolokia home page

Spring-boot

Hey mum, see no codin'!

References

- InfluxDB schema design
- InfluxDb vs ES
- InfluxDb vs casaandra
- Easy developer setup for experiments
- Official docker image for influxdb
- Chronograf documentation
- Kibana vs Grafana

Thank you!

Have fun!