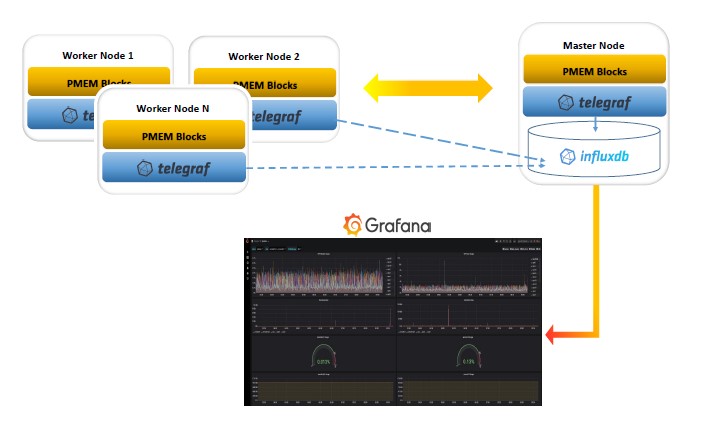
**PMEM-Monitoring Setup**



**InfluxDB Setup:**

**At Master Machine**

<https://docs.influxdata.com/influxdb/v1.8/introduction/install/>

wget -qO- https://repos.influxdata.com/influxdb.key | sudo apt-key add -

source /etc/lsb-release

echo "deb https://repos.influxdata.com/${DISTRIB\_ID,,} ${DISTRIB\_CODENAME} stable" | sudo tee /etc/apt/sources.list.d/influxdb.list

sudo apt-get update && sudo apt-get install influxdb

sudo service influxdb start

**create user:**

CREATE USER ‘<username>’ WITH PASSWORD ‘<password>’ WITH ALL PRIVILEGES

**Create databases:**

CREATE DATABASE “telegraf” (Data from host machines)

CREATE DATABASE “k8s\_demo” (Data from kuberenetes cluster)

**Grafana Setup**:

**At Master Machine**

<https://grafana.com/docs/grafana/latest/installation/debian/>

sudo apt-get install -y apt-transport-https

sudo apt-get install -y software-properties-common wget

wget -q -O - https://packages.grafana.com/gpg.key | sudo apt-key add -

sudo add-apt-repository "deb https://packages.grafana.com/oss/deb stable main"

sudo apt-get update

sudo apt-get install grafana

sudo systemctl daemon-reload

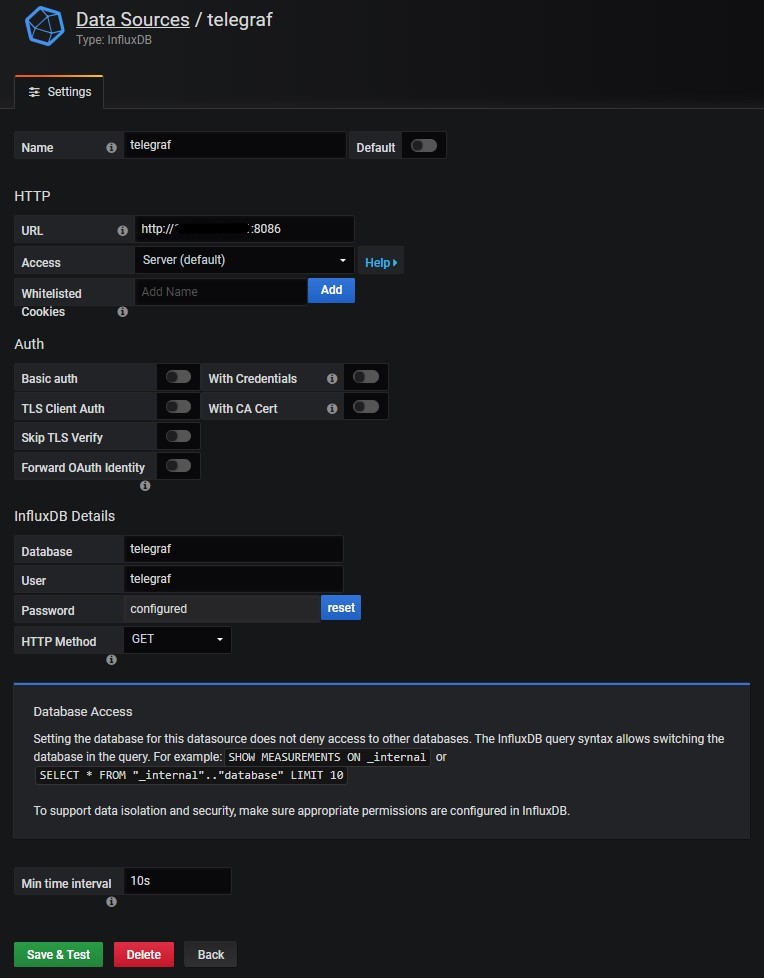
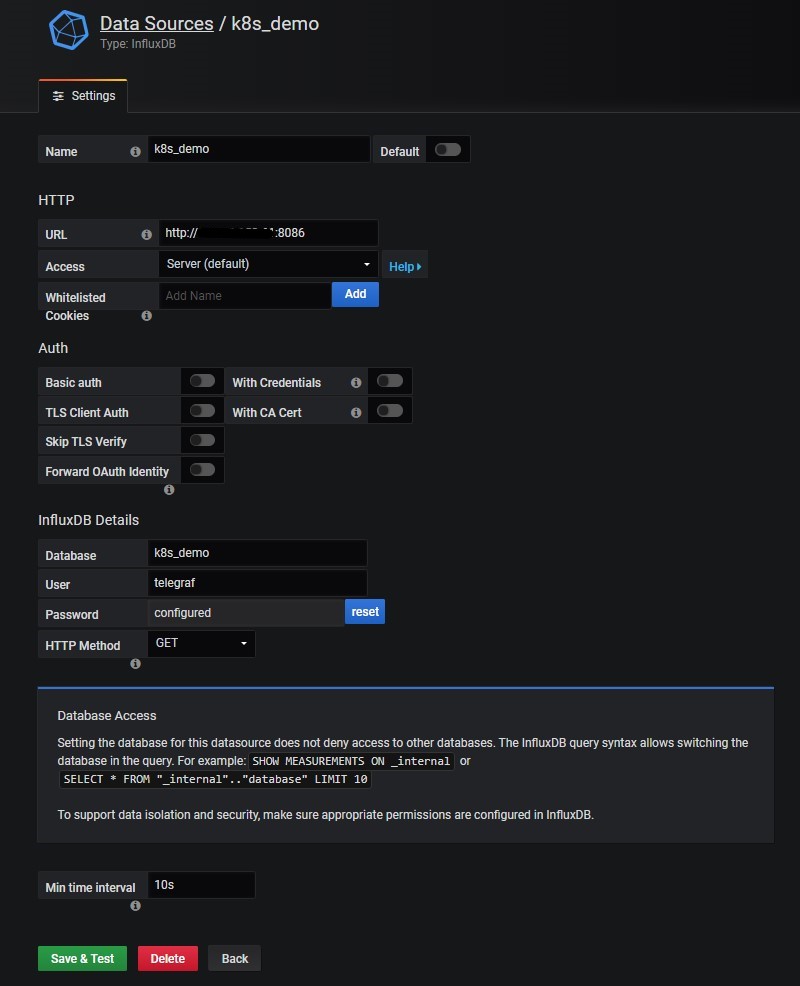
sudo systemctl start grafana-server

sudo systemctl status grafana-server

Open browser, go to <grafana host machine ip>:3000 (3000 is default port of grafana service)

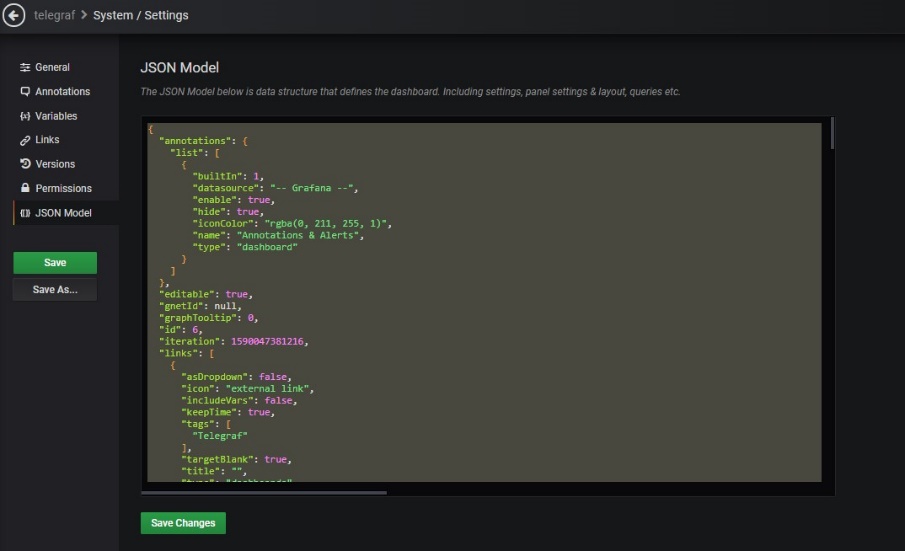
**Configure Datasource:**

URL: <IP of influxDB’s host machine>:8086

**Add Dashboards:**

Create New Dashboards, go to Dashboard settings/JSON Model. Overwrite the content with the JSON files under ./Grafana/ModelJSON.



**Telegraf Setup**:

<https://docs.influxdata.com/telegraf/v1.13/introduction/installation/>

**Install:**

wget -qO- https://repos.influxdata.com/influxdb.key | sudo apt-key add –

source /etc/lsb-release

echo "deb https://repos.influxdata.com/${DISTRIB\_ID,,} ${DISTRIB\_CODENAME} stable" | sudo tee /etc/apt/sources.list.d/influxdb.list

sudo apt-get update && sudo apt-get install telegraf

sudo service telegraf start

Note: Telegraf will use the configuration file at default location(/etc/telegraf/telegraf.conf).

**Specify the config for telegraf:**

telegraf --config path/to/file.conf

**To generate a template config file:**

telegraf config > telegraf.conf

**Configure output location in the config file:**

....

[[outputs.influxdb]]

.....

urls = ["http://<influxDB's IP>:8086"]

database = "database"

....

## HTTP Basic Auth

username = "username"

password = "password"

...

**To use configured config file:**

Copy and paste the /telegraf/telegraf.config to /etc/telegraf.

**Note:**One of telegraf plugins needs permission to access docker socket, you can either:

**1. Run telegraf as root**

sudo telegraf ...

It's not recommended to run telegraf as root.<br>

**2. Add telegraf to docker group (Recommand)**

sudo usermod -aG docker telegraf

(Logout and Login)

Sudo service docker restart

**Collect non-supported/custom metics:**

There are some custom metrics we want to collect using our scripts(in /telegraf/scripts folder), so we need to utilize the exec plugin. Add these command in exec plugin section in telegraf config file:

commands = [

"sudo python3 /path/to/pmem\_py3.py",

"sudo python3 /path/to/docker\_status.py",

"sudo python3 /path/to/vm\_status.py"

]

**Note:**You may need to install necessary packages. You also need to allow telegraf to execute command with "sudo", you can do that by:

visudo

(@sudoers file)

Add:

telegraf ALL=(ALL) NOPASSWD: ALL

**Telegraf Setup in Kubernetes**:

Since k8s uses Role-Based Access Control(RBAC), so we need to create required resources first. All permissions related resources have been configured. Simply:

kubectl create -f /telegraf/kubernetes/roles.yaml

Then, you can create pods to monitor resources in k8s cluster:

kubectl create -f /telegraf/kubernetes/Cluster

Or, k8s pods on each node:

kubectl create -f /telegraf/kubernetes/Daemonset

**Note:** Please modify telegraf-secrets.yaml file with your configurations, so that telegraf can connect to your database correctly. You can also modify config files to configure the telegraf.

You can find descriptions about plugins at https://github.com/influxdata/telegraf.

**Reference**:

* <https://docs.influxdata.com/influxdb/v1.8/introduction/install/>
* https://grafana.com/docs/grafana/latest/installation/debian/
* https://docs.influxdata.com/telegraf/v1.13/introduction/installation/
* https://github.com/influxdata/telegraf