

Grafana基础使用手册

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1.概述

Grafana是一个开源指标分析和可视化套件。它最常用于可视化基础设施性能数据和应用程序分析的时间序列数据。Grafana也应用于其它领域，包括工业传感器，家庭自动化，天气和过程控制。

当然作为IT工程师来讲，无非最关注的是如何把数据进行聚合后进行展示，例如：服务器性能数据、应用程序数据分析、elasticsearch、大数据分析数据等。那此时选择Grafana就是一个及好的选择，因为它支持多种数据来源。我们以前使用开源监控系统zabbix，但后来发现，如果要把监控数据和日志分析系统统一进行展示和分析时，就需要开发一套系统来对接。现在有了grafana过后变的相当Easy！

2.安装

grafana支持在多种环境下安装，包括windows、centos、ubuntu、mac、docker等环境。我将grafana安装在centos环境下。下面是安装方法。

支持以下安装方式

1.在线下载grafana

Description	Download
Stable for CentOS / Fedora / OpenSuse / Redhat Linux	4.1.2 (x86-64 rpm)

2.yum 远程安装稳定版本

```
yum install https://grafanarel.s3.amazonaws.com/builds/grafana-4.1.2-1486989747.x86_64.rpm
```

Install Stable
You can install Grafana using Yum directly.
<pre>\$ sudo yum install https://grafanarel.s3.amazonaws.com/builds/grafana-4.1.2-1486989747.x86_64.rpm</pre>

3.使用yum仓库方式

保存以下信息到/etc/yum.repos.d/grafana.repo

```
[grafana]
name=grafana
baseurl=https://packagecloud.io/grafana/stable/el/6/$basearch
repo_gpgcheck=1
enabled=1
gpgcheck=1
gpgkey=https://packagecloud.io/gpg.key https://grafanarel.s3.amazonaws.com/RPM-GPG-KEY-grafana
sslverify=1
sslcacert=/etc/pki/tls/certs/ca-bundle.crt
```

使用yum install grafana -y

安装包的基本细节

二进制文件安装到 /usr/sbin/grafana-server
启动脚本复制到 /etc/init.d/grafana-server
环境变量文件 /etc/sysconfig/grafana-server
配置文件 /etc/grafana/grafana.ini
systemd服务名 grafana-server.service

默认日志文件 /var/log/grafana/grafana.log
默认数据库文件 /var/lib/grafana/grafana.db

启动服务

centos 6:

```
/etc/init.d/grafana-server start
```

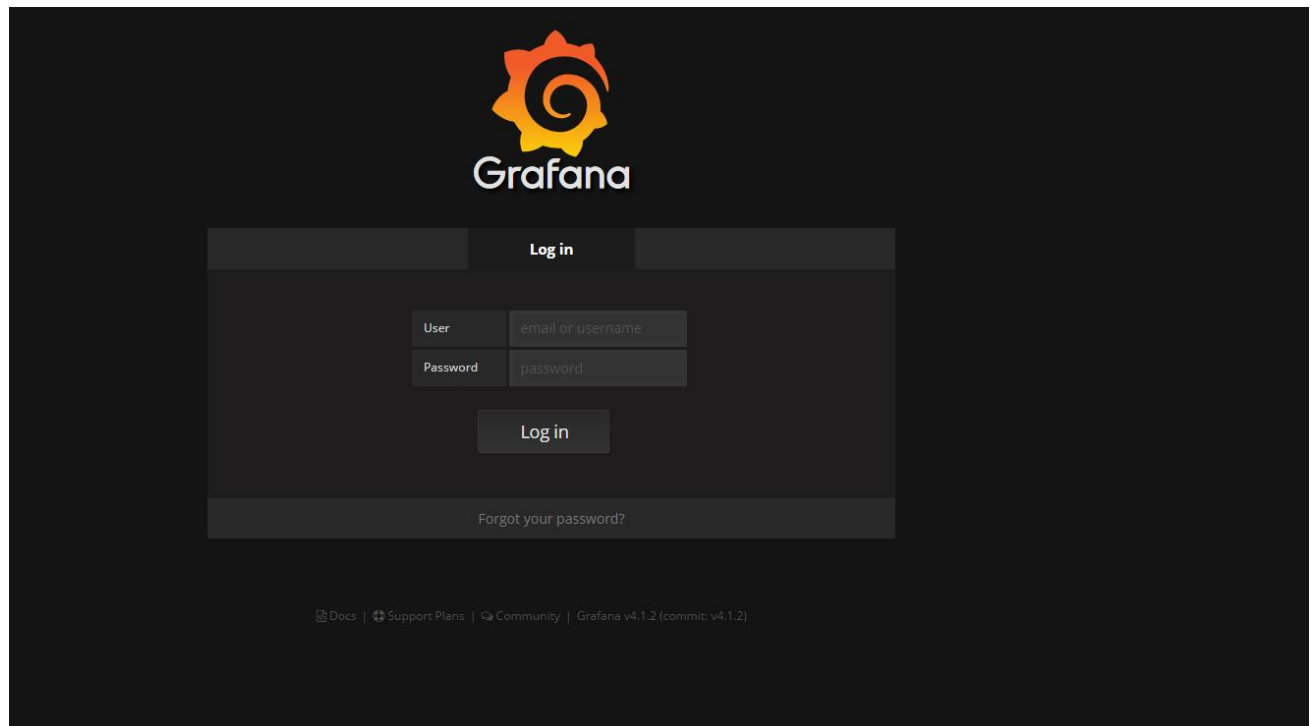
centos 7:

```
systemctl enable grafana-server  
systemctl start grafana-server
```

3.基础介绍

登录 : `http://x.x.x.x:3000` grafana默认启动端口为3000，可以在配置文件的[server]配置中修改grafana的相关配置信息。

默认用户名和密码：admin admin



4.配置文件

grafana默认配置文件/etc/grafana/grafana.ini,那下面我们来看一下grafana的基础配置。
以下配置文件中，“;”注释的配置项表示默认值，如果需要修改请把“;”去除修改配置即可。

以下为主要配置文件：

```
##### Grafana Configuration Example #####  
#
```

```
# Everything has defaults so you only need to uncomment things you want to
# change
```

```
# possible values : production, development
; app_mode = production
```

```
#实例名称，如要HOSTNAME 变量为空，默认就为主机名
; instance_name = ${HOSTNAME}
```

```
##### Paths #####
```

```
[paths]
```

```
# 默认数据存储目录如，db，session等
```

```
#
```

```
; data = /var/lib/grafana
```

```
#
```

```
#日志存储目录
```

```
#
```

```
; logs = /var/log/grafana
```

```
#
```

```
#插件安装目录，Grafana会自动扫描并查找插件
```

```
#
```

```
; plugins = /var/lib/grafana/plugins
```

```
[server]
```

```
# 协议 (http or https)
```

```
; protocol = http
```

```
# 绑定的IP地址，为空将在所有接口上绑定
```

```
; http_addr =
```

```
# 默认端口
```

```
; http_port = 3000
```

```
# 对外的域名
```

```
; domain = localhost
```

```
# 如果主机头与域不匹配，则重定向到正确的域
```

```
#防止DNS重新绑定攻击
```

```
; enforce_domain = false
```

```
# 在浏览器中使用的完全公开的网址，用于重定向和电子邮件
```

```
# 如果使用反向代理和子路径指定完整url（带子路径）
```

```
; root_url = http://localhost:3000
```

```
# web 请求日志
```

```
; router_logging = false
```

```
#相对路径
```

```
; static_root_path = public
```

```
# gzip压缩
;enable_gzip = false

# https证书
;cert_file =
;cert_key =

##### Database #####
[database]
# 默认数据库配置
# as separate properties or as on string using the url propertie.

# Either "mysql", "postgres" or "sqlite3", it's your choice
;type = sqlite3
;host = 127.0.0.1:3306
;name = grafana
;user = root
# If the password contains # or ; you have to wrap it with trippel quotes. Ex ""#password;""
;password =

# 使用URL或以前的字段来配置数据库
# Example: mysql://user:secret@host:port/database
;url =

# For "postgres" only, either "disable", "require" or "verify-full"
;ssl_mode = disable

# 仅适用于sqlite3数据库。将存储数据库的文件路径
;path = grafana.db

##### Security #####
[security]
# 系统默认用户为admin，在启动时创建
;admin_user = admin

# 默认admin密码，可以在第一次启动grafana之前更改，或在配置文件中设置
;admin_password = admin

# used for signing
;secret_key = SW2YcwTlb9zpOOhoPsMm

# 自动登录记住天数
;login_remember_days = 7
;cookie_username = grafana_user
;cookie_remember_name = grafana_remember

# 禁用用户头像
;disable_gravatar = false

# 数据源代理白名单 ( ip_or_domain : 端口以空格分隔 )
;data_source_proxy_whitelist =
```

```
##### Users #####
[users]
# 禁用用户注册
allow_sign_up = false

# 允许非管理员创建组织
;allow_org_create = true

# 如果为true，将自动将新用户分配到 (id为1)的组织
;auto_assign_org = true

# 新用户默认角色
;auto_assign_org_role = Viewer

# 登录页面的html字段说明
;login_hint = email or username

# 默认UI主题 ("dark" or "light")
;default_theme = dark

[auth]
# 可禁用登录表单，如果使用OAuth登录时非常有用
;disable_login_form = false

##### SMTP / Emailing #####
[smtp]
;enabled = false
;host = localhost:25
;user =
;password =
;cert_file =
;key_file =
;skip_verify = false
;from_address = admin@grafana.localhost

[emails]
;welcome_email_on_sign_up = false

##### Alerting #####
[alerting]
# Makes it possible to turn off alert rule execution.
;execute_alerts = true
```

5.数据源

Grafana支持以时间序列存储数据的相关数据源，每个数据源都有一个特定的查询编辑器，该编辑器针对特定数据源公开的功能进行自定义。当前grafana支持以下数据源：Graphite、InfluxDB、OpenTSDB、Prometheus、Elasticsearch、CloudWatch。每个数据源的查询语言和功能是不同的，Grafana可以将不同尖的数据合并到单个Dashboard中。但每个面板都要与属于特定组织的数据源相关联。换句话说就是每个panel只能使用属于当前组织的数据源。

下面以使用influxdb为例：

1. 安装influxdb

配置yum

```
cat <<EOF | sudo tee /etc/yum.repos.d/influxdb.repo
[influxdb]
name = InfluxDB Repository - RHEL $releasever
baseurl = https://repos.influxdata.com/rhel/$releasever/$basearch/stable
enabled = 1
gpgcheck = 1
gpgkey = https://repos.influxdata.com/influxdb.key
EOF
```

安装

```
yum install influxdb
```

配置

默认配置文件为：/etc/influxdb/influxdb.conf

[admin]

Determines whether the admin service is enabled.

enabled = true #开启admin管理

The default bind address used by the admin service.

bind-address = ":8083"

Whether the admin service should use HTTPS.

https-enabled = false

The SSL certificate used when HTTPS is enabled.

https-certificate = "/etc/ssl/influxdb.pem"

[http]

Determines whether HTTP endpoint is enabled.

enabled = true

The bind address used by the HTTP service.

bind-address = ":8086"

Determines whether HTTP authentication is enabled.

auth-enabled = true #开启用户验证 生产环境一定要注意

The default realm sent back when issuing a basic auth challenge.

realm = "InfluxDB"

Determines whether HTTP request logging is enabled.

log-enabled = true

Determines whether detailed write logging is enabled.

write-tracing = false

Determines whether the pprof endpoint is enabled. This endpoint is used for

troubleshooting and monitoring.

pprof-enabled = true

Determines whether HTTPS is enabled.

https-enabled = false

The SSL certificate to use when HTTPS is enabled.

https-certificate = "/etc/ssl/influxdb.pem"

启动

centos7

systemctl start influxdb

centos6

service influxdb start

创建数据库

```
[root@localhost ~]# influx -host '127.0.0.1' -port '8086'
```

```
Connected to http://127.0.0.1:8086 version 1.2.0
```

```
InfluxDB shell version: 1.2.0
```

```
>
```

```
>
```

```
> show databases;
```

```
name: databases
```

```
name
```

```
----
```

```
_internal
```

```
> create database grafana
```

```
> use grafana
```

```
Using database grafana
```

```
> create user "grafana" with password 'grafana' with all privileges
```

```
>
```

登录http://x.x.x.x:8083 输入用户名、密码、数据库、端口进行登录

The screenshot shows the InfluxDB web interface. At the top, there's a navigation bar with the InfluxDB logo, 'Write Data', 'Documentation', and a dropdown menu for 'Database: _internal'. Below the navigation bar, there's a query input field with the text 'Query: SHOW DATABASES'. To the right of the input field are two buttons: 'Generate Query URL' and 'Query Templates'. Below the query input, the title 'databases' is displayed. Underneath the title, there's a table with the following content:

name
_internal
grafana

基本语法

SHOW DATABASES	查看所有的数据库
SHOW MEASUREMENTS	查看当前库中的表
SHOW TAG KEYS FROM "diskio"	查看表中的keys
SHOW USERS	查看Users
SHOW STATS	查看数据库状态
select * from httpd order by time desc limit 10	执行基础SQL语句

参考文档：<https://docs.influxdata.com/influxdb/v1.2/introduction/installation/>

添加数据源

Data Sources

Add data source

Config

Dashboards

Name

My data source name ⓘ

Default

☐

Type

Graphite ▾

Http settings

Url

http://localhost:8080 ⓘ

Access

proxy ▾ ⓘ

Http Auth

Basic Auth

☐

With Credentials ⓘ

☐

TLS Client Auth

☐

With CA Cert ⓘ

☐

Add

Cancel

Name	influxdb ?	Default	<input checked="" type="checkbox"/>
Type	InfluxDB ▼		

Http settings

Url	[REDACTED] 86 ?
Access	direct ▼ ?

Http Auth

Basic Auth	<input type="checkbox"/>	With Credentials ?	<input type="checkbox"/>
------------	--------------------------	---------------------------------	--------------------------

InfluxDB Details

Database	grafana		
User	grafana	Password

Default group by time	example: ?
-----------------------	-------------------------

Success
Data source is working

Save & Test	Delete	Cancel
-------------	--------	--------

6.Telegraf

Telegraf 是一个用 Go 编写的代理程序，可收集系统和服务的统计数据，并写入到 Influxdb 数据库。Telegraf 具有内存占用小的特点，通过插件系统开发人员可轻松添加支持其他服务的扩展。

目前已有的插件包括：(官方文档：<https://docs.influxdata.com/telegraf/v1.2/>)

- System (memory, CPU, network, etc.)
- Docker
- MySQL
- PostgreSQL
- Redis

支持系统：

- Ubuntu
- Redhat
- SLES
- FreeBSD
- MAC
- Windows

安装：

```
cat <<EOF | sudo tee /etc/yum.repos.d/influxdb.repo
[influxdb]
name = InfluxDB Repository - RHEL $releasever
baseurl = https://repos.influxdata.com/rhel/$releasever/$basearch/stable
enabled = 1
```

```
gpgcheck = 1
gpgkey = https://repos.influxdata.com/influxdb.key
EOF
```

centos 6 :

```
yum install telegraf
service telegraf start
```

centos 7:

```
yum install telegraf
systemctl start telegraf
```

配置文件 :

```
[global_tags]
# dc = "us-east-1" # will tag all metrics with dc=us-east-1
# rack = "1a"
## Environment variables can be used as tags, and throughout the config file
# user = "$USER"

[agent]
## Default data collection interval for all inputs
interval = "10s"
## Rounds collection interval to 'interval'
## ie, if interval="10s" then always collect on :00, :10, :20, etc.
round_interval = true
## Telegraf will send metrics to outputs in batches of at most
## metric_batch_size metrics.
## This controls the size of writes that Telegraf sends to output plugins.
metric_batch_size = 1000
## For failed writes, telegraf will cache metric_buffer_limit metrics for each
## output, and will flush this buffer on a successful write. Oldest metrics
## are dropped first when this buffer fills.
## This buffer only fills when writes fail to output plugin(s).
metric_buffer_limit = 10000
## Collection jitter is used to jitter the collection by a random amount.
## Each plugin will sleep for a random time within jitter before collecting.
## This can be used to avoid many plugins querying things like sysfs at the
## same time, which can have a measurable effect on the system.
collection_jitter = "0s"
## Default flushing interval for all outputs. You shouldn't set this below
## interval. Maximum flush_interval will be flush_interval + flush_jitter
flush_interval = "10s"
## Jitter the flush interval by a random amount. This is primarily to avoid
## large write spikes for users running a large number of telegraf instances.
## ie, a jitter of 5s and interval 10s means flushes will happen every 10-15s
flush_jitter = "0s"
## By default, precision will be set to the same timestamp order as the
## collection interval, with the maximum being 1s.
## Precision will NOT be used for service inputs, such as logparser and statsd.
## Valid values are "ns", "us" (or "µs"), "ms", "s".
precision = ""
## Logging configuration:
## Run telegraf with debug log messages.
```

```

debug = false
## Run telegraf in quiet mode (error log messages only).
quiet = false
## Specify the log file name. The empty string means to log to stderr.
logfile = ""
## Override default hostname, if empty use os.Hostname()
hostname = "ecs-ci-139.129.213.65"  #agent主机名可以采用salt来部署
## If set to true, do not set the "host" tag in the telegraf agent.
omit_hostname = false
[[outputs.influxdb]]
## The full HTTP or UDP endpoint URL for your InfluxDB instance.
## Multiple urls can be specified as part of the same cluster,
## this means that only ONE of the urls will be written to each interval.
# urls = ["udp://localhost:8089"] # UDP endpoint example
urls = ["http://x.x.x.x:8086"]  # influxdb地址必填
## The target database for metrics (telegraf will create it if not exists).
database = "grafana" # required      #influxdb数据库
## Retention policy to write to. Empty string writes to the default rp.
retention_policy = ""
## Write consistency (clusters only), can be: "any", "one", "quorum", "all"
write_consistency = "any"
## Write timeout (for the InfluxDB client), formatted as a string.
## If not provided, will default to 5s. 0s means no timeout (not recommended).
timeout = "5s"
username = "grafana"
password = "xxxxxxx"
## Set the user agent for HTTP POSTs (can be useful for log differentiation)
# user_agent = "telegraf"
## Set UDP payload size, defaults to InfluxDB UDP Client default (512 bytes)
# udp_payload = 512
## Optional SSL Config
# ssl_ca = "/etc/telegraf/ca.pem"
# ssl_cert = "/etc/telegraf/cert.pem"
# ssl_key = "/etc/telegraf/key.pem"
## Use SSL but skip chain & host verification
# insecure_skip_verify = false
# [[ ]]以下为插件配置，如需要配置请取消#号即可
[[inputs.cpu]]
## Whether to report per-cpu stats or not
percpu = true
## Whether to report total system cpu stats or not
totalcpu = true
## If true, collect raw CPU time metrics.
collect_cpu_time = false
[[inputs.disk]]
## By default, telegraf gather stats for all mountpoints.
## Setting mountpoints will restrict the stats to the specified mountpoints.
# mount_points = ["/"]
## Ignore some mountpoints by filesystem type. For example (dev)tmpfs (usually
## present on /run, /var/run, /dev/shm or /dev).
ignore_fs = ["tmpfs", "devtmpfs"]
[[inputs.diskio]]

```

```
## By default, telegraf will gather stats for all devices including
## disk partitions.
## Setting devices will restrict the stats to the specified devices.
# devices = ["sda", "sdb"]
## Uncomment the following line if you need disk serial numbers.
# skip_serial_number = false
[[inputs.kernel]]
# no configuration
[[inputs.mem]]
# no configuration
[[inputs.processes]]
# no configuration
[[inputs.swap]]
# no configuration
[[inputs.system]]
# no configuration
[[inputs.net]]
[[inputs.netstat]]
```

7.面板绘图

User and Org

用户：

默认登录系统是以admin用户进行登录，在帐号下是你所在的组织。



选择可以编辑当前用户的基本信息，同时也可以修改用户密码

Profile

Information

Name	
Email	admin@localhost
Username	admin

Update

Preferences

UI Theme	Light
Home Dashboard	Default
Timezone	Local browser time

Update

Password

Change Password

Organizations

Name	Role	
Main Org.	Admin	Current

组织：
可以修改组织名，地址等基本信息

Org Preferences

General

Name	Main Org.	Update
------	-----------	--------

Preferences

UI Theme	Default
Home Dashboard	Default
Timezone	Default

Update

Address

Address1		Address2	
City		Postal code	
State		Country	

Update

Admin Pages

Users & Roles API Keys

管理组织当中的用户，可配置相关角色权限。默认权限有：Admin、Viewer、Editor、Read Only Editor。Grafana有两个级别的管理，分别是组织管理员和Grafana管理员。后面后有相关介绍

Organization users

Users (1)		Pending Invitations (0)	+ Add or Invite	
Login	Email	Role		
admin	admin@localhost	Admin		✕

[Docs](#) | [Support Plans](#) | [Community](#) | Grafana v4.1.2 (commit: v4.1.2)

在此可以设置grafana的相关API key

API Keys

Add new

Add a key	<input type="text" value="Name"/>	Role	Viewer	Add
-----------	-----------------------------------	------	--------	---------------------

Existing Keys

Name	Role
------	------

[Docs](#) | [Support Plans](#) | [Community](#) | Grafana v4.1.2 (commit: v4.1.2)

创建一个组织

New Organization

Each organization contains their own dashboards, data sources and configuration, and cannot be shared between orgs. While users may belong to more than one, multiple organization are most frequently used in multi-tenant deployments.

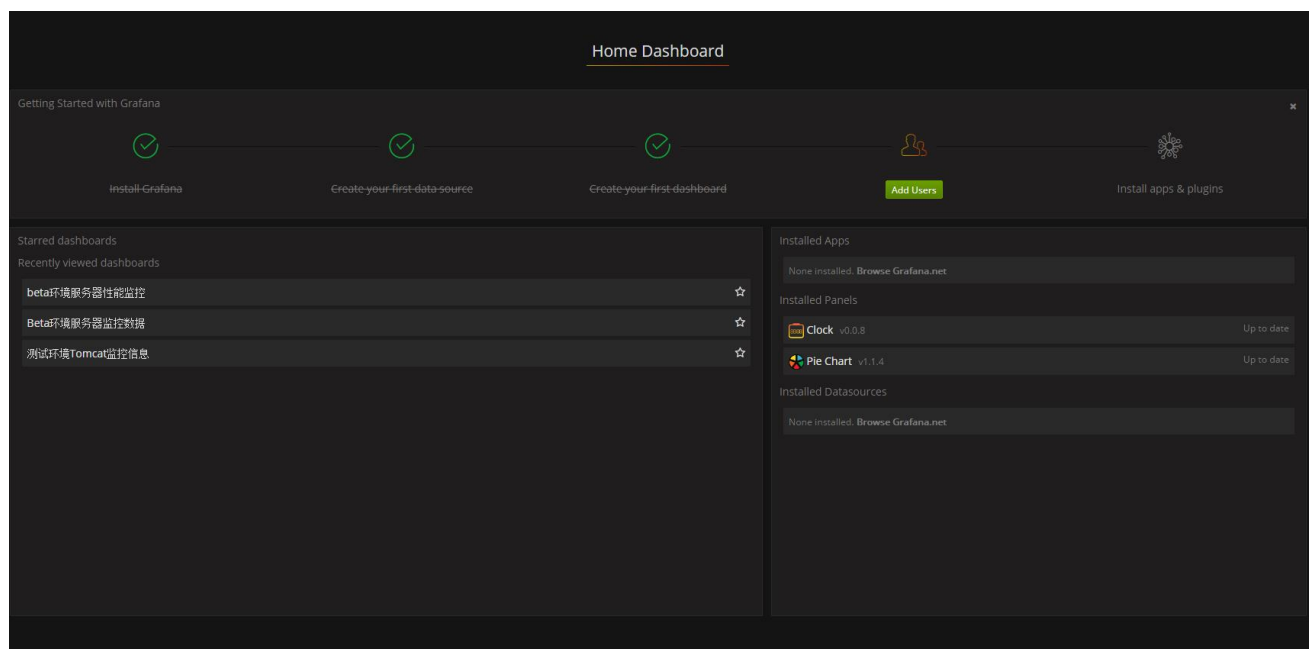
Org. name	IT部
-----------	-----

Create

[Docs](#) | [Support Plans](#) | [Community](#) | Grafana v4.1.2 (commit: v4.1.2)

Home Dashboard

是grafana的全局视图，可以认为是一组一个或多个面板的组成。可以通过右上角的仪表时间选择器进行控制。



上面是安装完grafana后需要做的操作流程

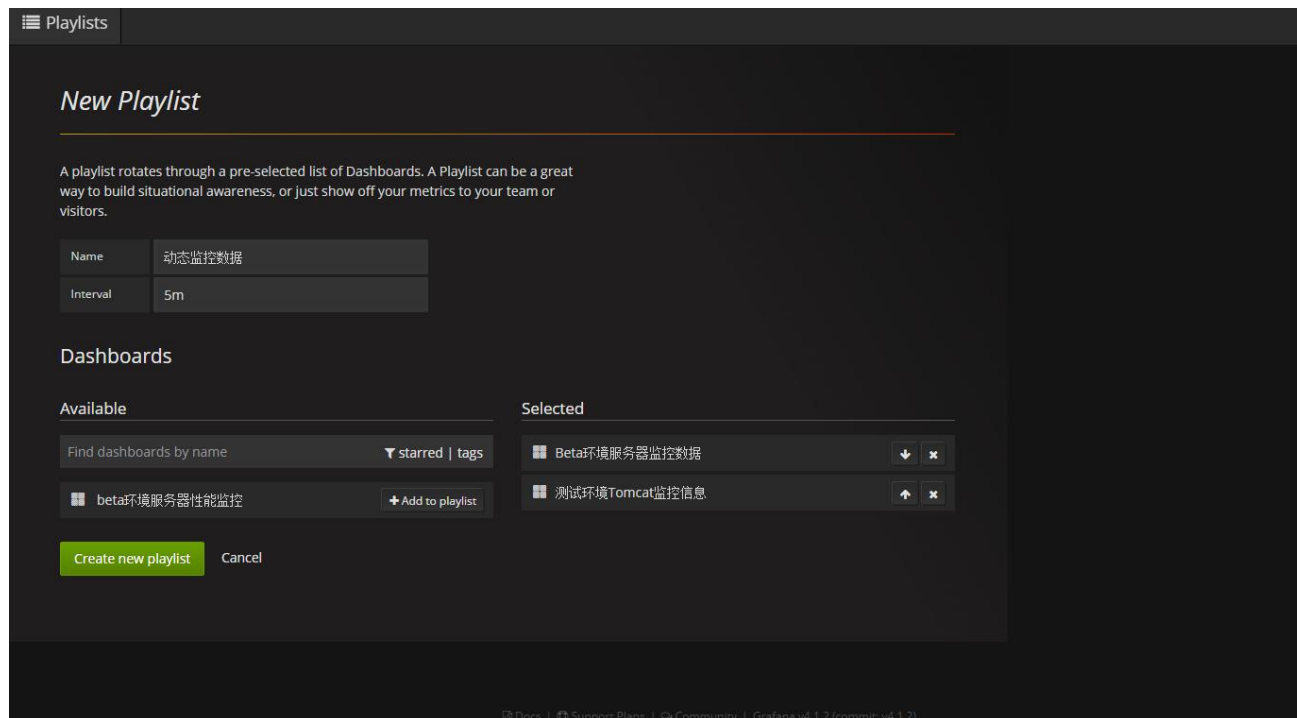
1. 安装grafana
2. 创建您的数据来源
3. 创建一个dashborad
4. 添加用户
5. 安装apps或插件

Dashboard还包含如下信息

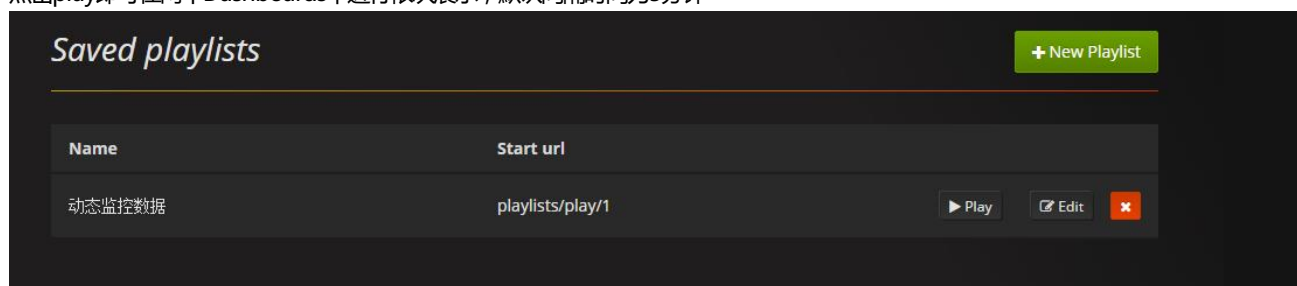
1. 共享的Dashboard列表
2. 最近查看的Dashboards列表
3. 已安装的Apps
4. 已安装的面板
如上图可以看出我们安装了两个面板：时间面板和饼图面板
5. 已安装的数据源

playlist (播放列表)

它是一种特殊类型的信息中心，可通过信息显示板列表进行滚动



点击play即可在两个Dashboards中进行依次展示，默认间隔时间为5分钟



可以对播放列表进行控制




导入模板

下载模板

<https://grafana.net/dashboards/928>

导入

在Dashboards中选择Import-->选择json的模板文件

 **Import Dashboard** ✕

Upload .json File


Grafana.net Dashboard

Paste Grafana.net dashboard url or id

Or paste JSON

Load

导入模板

 **Import Dashboard** ✕

Importing Dashboard from [Grafana.net](#)

Published by

Updated on

Options

Name	Telegraf templated host overview	✓
InfluxDB telegraf	<div>influxdb</div>	✓

Import

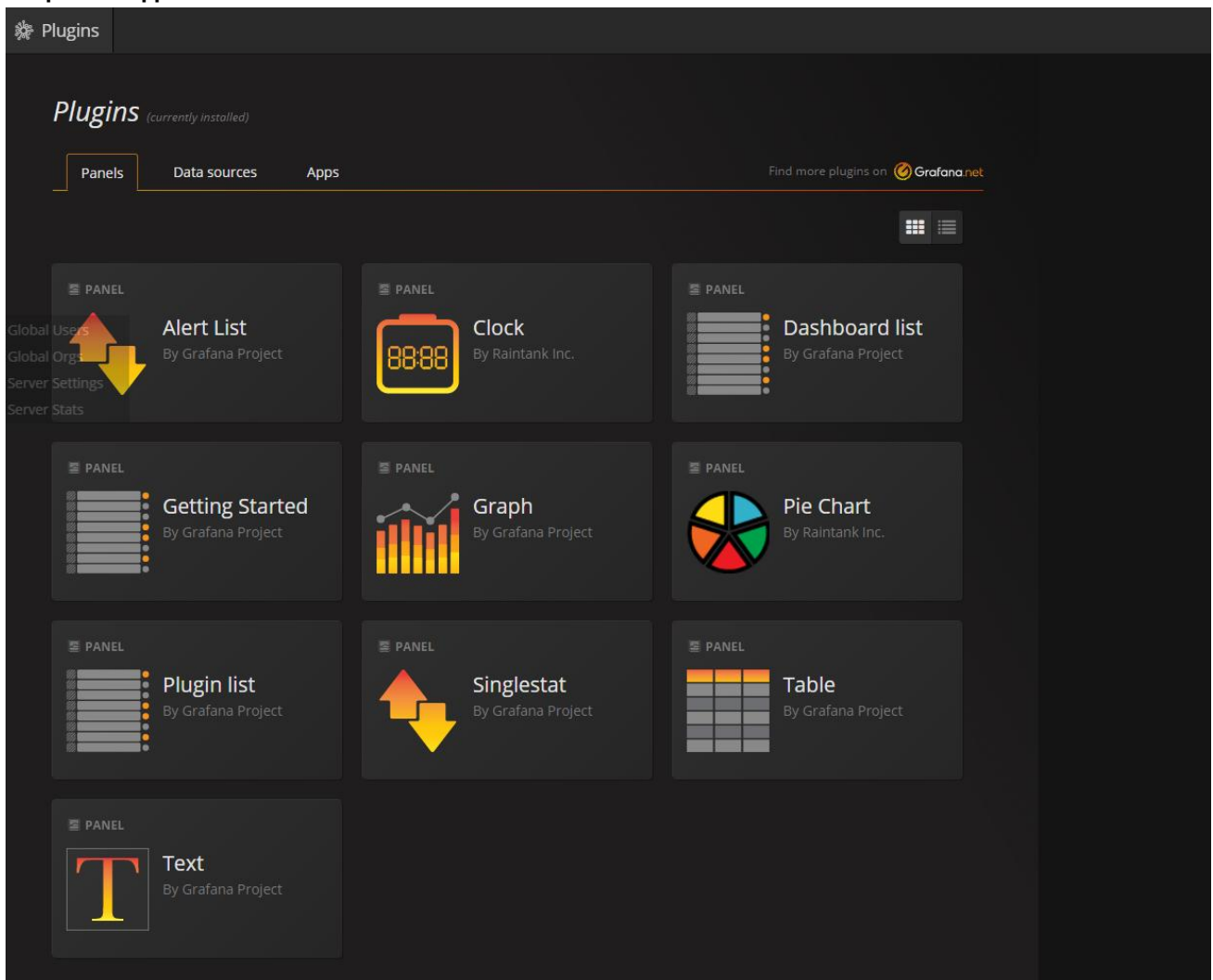
Cancel

Back


结果



插件panels和apps



下载插件需要去官网下载您需要的具体panels和apps，官方支持plugins很多支持以下panel

 Panel plugins allow new data visualizations to be added to Grafana, for both time series and non-time series data.

 PANEL



Worldmap Panel

by Grafana Project

World Map panel for grafana. Displays time series data or geohash data from Elasticsearch...

 PANEL



Clock

by Grafana Project

Clock panel for grafana

 PANEL



Pie Chart

by Grafana Project

Pie chart panel for grafana

 PANEL



Dashboard list

by Grafana Project

 PANEL



Graph

by Grafana Project

 PANEL



Singlestat

by Grafana Project

 PANEL



Table

by Grafana Project

 PANEL



Text

by Grafana Project

 PANEL



AJAX

by ryantxu

AJAX panel for grafana

 PANEL



Alarm Box

by btplc

Box panel counting values in a series

 PANEL



Breadcrumb

by digiapulssi

Breadcrumb Panel for Grafana

 PANEL



Cal-HeatMap

by neocat

Cal-HeatMap panel for Grafana

如果需要下载就选中后按配置方法安装即可。以下以安装 worldmap panel为例。点击install plugin



Worldmap Panel by Grafana Project

PANEL

World Map panel for grafana. Displays time series data or geohash data from Elasticsearch overlaid on a world map.

Overview

Installation

[Install Plugin](#)

Version

0.0.16

Dependencies:

GRAFANA 3.X.X

Links:

[Project site](#)
[MIT License](#)

Worldmap Panel Plugin for Grafana

The Worldmap Panel is a tile map of the world that can be overlaid with circles representing data points from a query. It can be used with time series metrics, with geohash data from Elasticsearch or Table Data.



执行安装步骤

Overview

Installation

Installing on a local Grafana:

For local instances, plugins are installed and updated via a simple CLI command.

Plugins are not updated automatically, however you will be notified when updates are available right within your Grafana.

1 Install the Panel

Use the grafana-cli tool to install Worldmap Panel from the commandline:

```
grafana-cli plugins install grafana-worldmap-panel
```

The plugin will be installed into your grafana plugins directory; the default is `/var/lib/grafana/plugins`. [More information on the cli tool.](#)

Note: Grafana 3.0 or greater is required to install and use plugins. [Download Grafana latest.](#)

2 Add the Panel to a Dashboard

Installed panels are available immediately in the

Dashboards

section in your Grafana main menu, and can be added like any other core panel in Grafana.

To see a list of installed panels, click the **Plugins** item in the main menu. Both core panels and installed panels will appear.

下载插件目录位于/var/lib/grafana/plugins

```
[root@localhost ~]# grafana-cli plugins install grafana-worldmap-panel
```

installing grafana-worldmap-panel @ 0.0.16

from url: <https://grafana.net/api/plugins/grafana-worldmap-panel/versions/0.0.16/download>

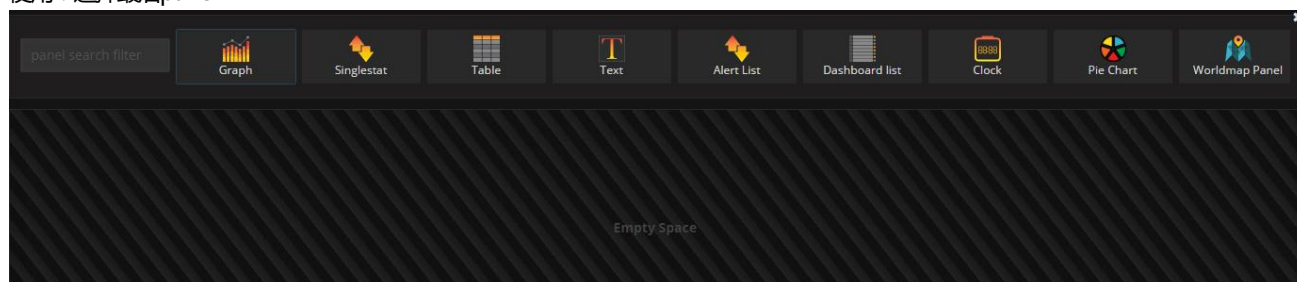
into: /var/lib/grafana/plugins

✓ Installed grafana-worldmap-panel successfully

Restart grafana after installing plugins . <service grafana-server restart>

```
[root@localhost ~]#systemctl restart grafana-server    #重启grafana
```

使用：选择最后panel



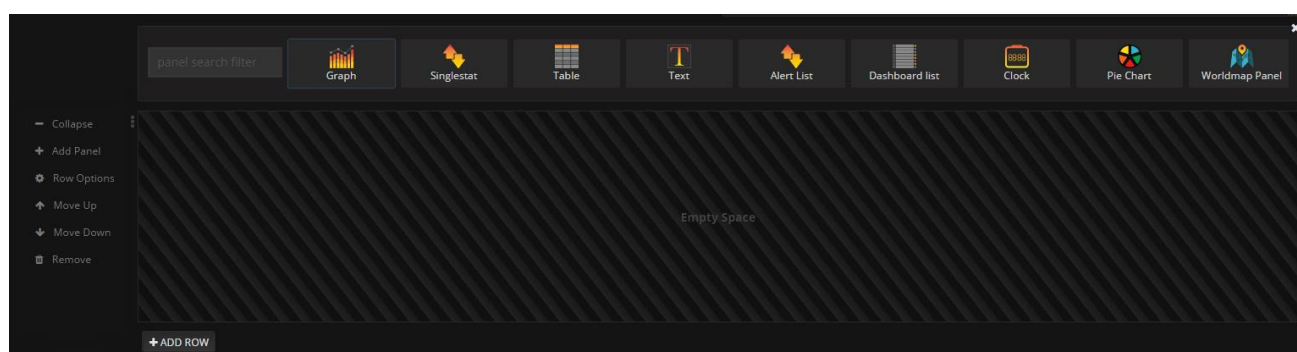
8.自定义绘图

下面我们在一个新的DashBoard中创建下面板信息,那建立以下信息需要安装一个clock plugin用来建立时间面板。

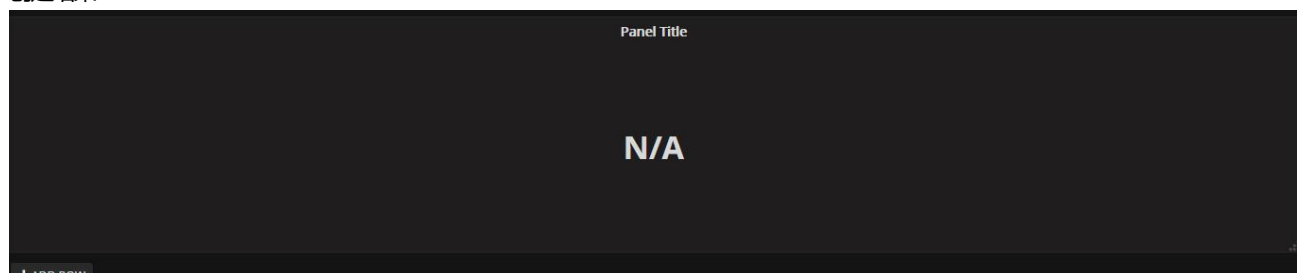
在创建这边面板之前，我们来看一个Dashboard是如何组成的。Dashboard由多个Row组成，在Row中创建面板，一行Row分为12列，面板默认Span为12。可以自定每个面板的Span宽度。也可以自定义高度等。



添加Row时需要添加指定类型的面板，那Uptime 我们数据是要从数据源中获取。就需要选择Singlestat，如果需要绘线性图表就需要选择Graph。



创建结果



点击Panel Title----Edit新编辑一个面板的配置信息，点击还可以共享面板和查看面板具体信息

默认进入Metrics中进行配置，其中默认就有一条默认配置，该查询语句是根据您所选择的默认数据源类型来生成的默认语句。“A” 表示一条语句，一个面板可以由多个查询组成，如果需要可点击Add query

+ Add query

Panel Title

N/A

Singlestat General Metrics Options Value Mappings Time range

▶ A SELECT mean("value") FROM "measurement" WHERE \$timeFilter GROUP BY time(\$interval) fill(null)

Panel data source default + Add query

Group by time interval example: >10s

alias patterns stacking & fill group by time

+ ADD ROW

点击A查询展开查询

Singlestat General Metrics Options Value Mappings Time range

▼ A FROM default select measurement WHERE +

SELECT field (value) mean () +

GROUP BY time (\$interval) fill (null) +

ALIAS BY Naming pattern Format as Time series

Panel data source default + Add query

Group by time interval example: >10s

alias patterns stacking & fill group by time

选择数据源和表，数据源为influxdb，表为telegraf默认创建的表system，选择具体的字段数据

▼ A FROM default system WHERE +

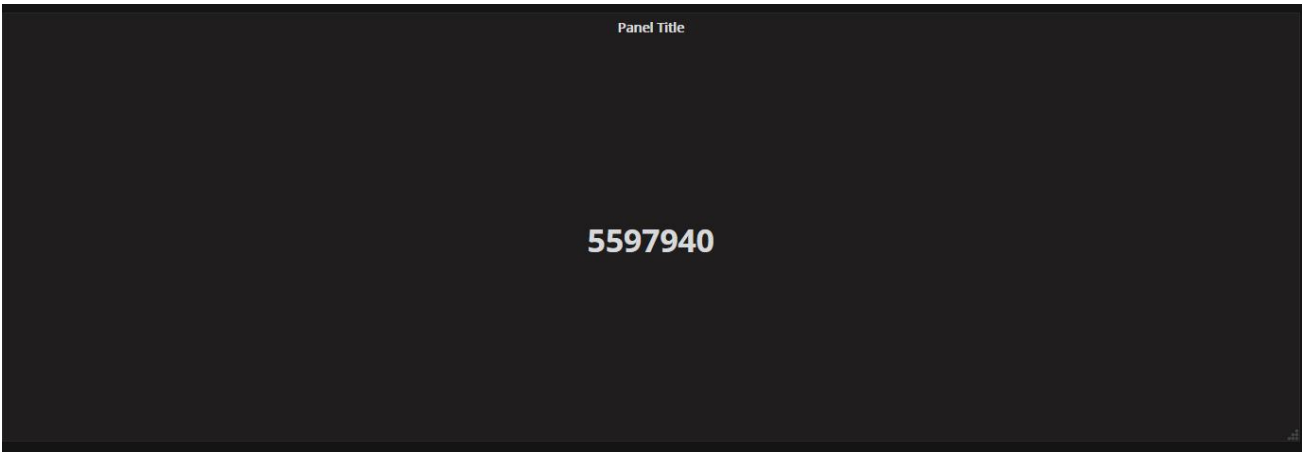
SELECT field (uptime) mean () +

GROUP BY time (\$interval) fill (null) +

ALIAS BY Naming pattern Format as Time series

Panel data source influxdb + Add query

查询结果为5597940，默认为秒，那如何把数据转换成我们可以正常识别的值呢，点击Options



选择Unit单位

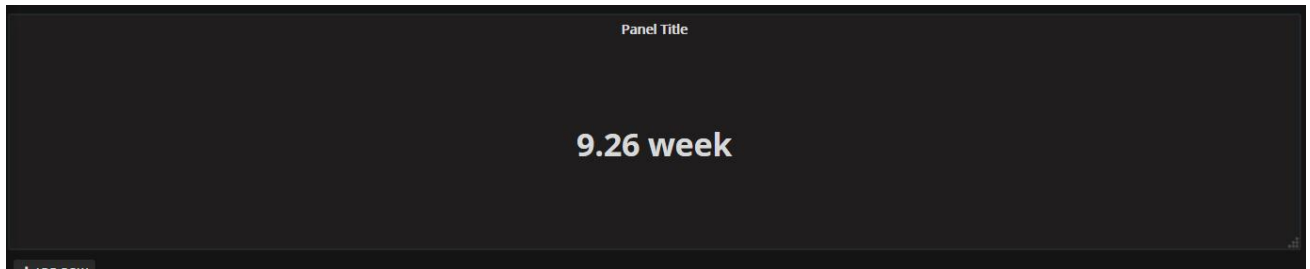
The screenshot shows the configuration panel for a single-stat panel. The "Options" tab is selected. The "Value" section includes fields for Stat (avg), Font size (80%), Prefix, Postfix, Unit (none), and Decimals (auto). The "Coloring" section includes Background, Value, Thresholds (50.80), and Colors (red, orange, green, invert). The "Spark lines" and "Gauge" sections each have a "Show" checkbox.

默认支持的单位格式有很多，我们选择secons(s)即可

The screenshot shows the configuration panel for a single-stat panel. The "Options" tab is selected. The "Unit" dropdown menu is open, showing a list of units: none, currency, time, data (IEC), data (Metric), data rate, throughput, length, velocity, volume, energy, and temperature. The "Unit" field is currently set to "none".

Value			
Stat	avg	Font size	80%
Prefix		Font size	50%
Postfix		Font size	50%
Unit	seconds (s)		
Decimals	auto		

保存面板：Ctrl+s后点击x关闭后查看Dashboard

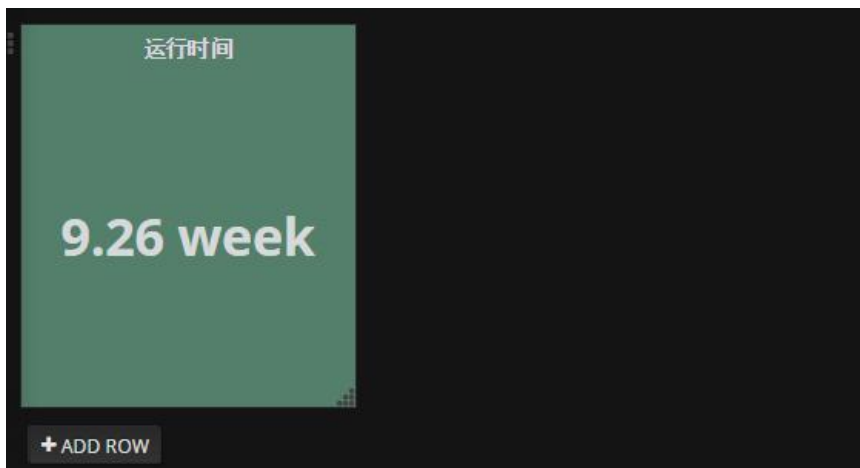


刚已经提到，一条Row默认有12行，我们此时需要调整span和title信息，ctrl+s保存

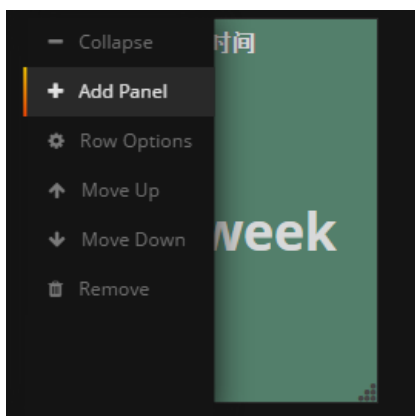
The image shows the configuration interface for a 'Singlestat' panel. It has tabs for 'General', 'Metrics', 'Options', 'Value Mappings', and 'Time range'. The 'General' tab is active. It contains sections for 'Info' (Title, Description), 'Dimensions' (Span, Height, Transparent), and 'Templating' (Repeat Panel, Min span). There is also a 'Drilldown / detail link' section with an 'Add link' button.

再次编辑面板选择Options--设置coloring--勾选background--点击中间的colors选择背景颜色,也可以设置Thresholds的一个区间值，下面的colors就与此对应：比如50，80那第一个color为0-50的颜色标记，第二个color 为50-80，第三个为80-100的色值。

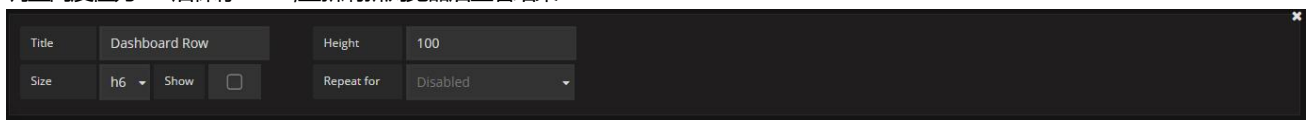
The image shows the configuration interface for a 'Singlestat' panel with the 'Options' tab selected. It contains sections for 'Coloring' (Background, Thresholds, Colors), 'Spark lines' (Show), and 'Gauge' (Show). The 'Background' checkbox is checked. The 'Thresholds' section shows a range of '50-80'. The 'Colors' section shows three color swatches: green, grey, and blue.



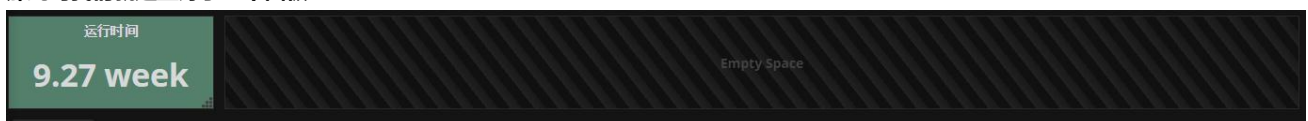
我们调整Row的高度，让它保存一个合理的高度--点击Row Options进行调整



调整高度值为100后保存ctrl+s,重新刷新浏览器后查看结果



那此时我们就建立好了一个面板



那后面以此建立即可

添加clock面板



点击Panel Title



配置Title信息和span宽度

Clock

GeneralOptions

Info

Title

北京时间

Description

Panel description, supports markdown & links

Dimensions

Span

2

Height

100px

Transparent

☐

Templating

Repeat Panel

Min span

Drilldown / detail link

+ Add link

勾选Date Options显示格式，还可以自定义背景页面，调整字体大小为40px

Clock

GeneralOptions

Clock options

Clock Mode

time

Bg Color

Time format

12 or 24 hour

24 hour

Offset from UTC (hours)

+/- hours

Offset from UTC (mins)

+/- minutes

Font Size

40px

Font Weight

normal

Date options

Show

☒

Format

YYYY-MM-DD

Font Size

20px

Font Weight

normal

配置/分区使用展示

Singlestat

GeneralMetricsOptionsValue MappingsTime range

Info

Title

分区使用

Description

Panel description, supports markdown & links

Dimensions

Span

4

Height

100px

Transparent

☐

Templating

Repeat Panel

Min span

Drilldown / detail link

+ Add link

+ ADD ROW

Singlestat

GeneralMetricsOptionsValue MappingsTime range

Value

Stat

avg

Font size

80%

Prefix

Font size

50%

Postfix

Font size

50%

Unit

percent (0-100)

Decimals

auto

Coloring

Background

☐

Value

☐

Thresholds

70,90

Colors

☒

☒

☒

Invert

Spark lines

Show

☐

Gauge

Show

☒

Min

0

Max

100

Threshold labels

☐

Threshold markers

☒

+ ADD ROW

Singlestat General **Metrics** Options Value Mappings Time range

FROM default disk **WHERE** path = / +
 SELECT field (used_percent) mean () +
 GROUP BY time (\$interval) fill (null) +
 ALIAS BY Naming pattern Format as Time series

Panel data source default + Add query

Group by time interval example: >10s

alias patterns stacking & fill group by time

自定义绘图结果



我们现在来定义一个CPU信息

Graph General **Metrics** Axes Legend Display Alert Time range

Info: Title CPU Idle 空闲, Description Panel description, supports markdown & links
 Dimensions: Span 12, Height 100px, Transparent
 Templating: Repeat Panel, Min span

Drilldown / detail link + Add link

+ ADD ROW

Graph General **Metrics** Axes Legend Display Alert Time range

FROM default cpu **WHERE** +
 SELECT field (usage_idle) mean () +
 GROUP BY time (\$interval) fill (null) +
 ALIAS BY Naming pattern Format as Time series

Panel data source default + Add query

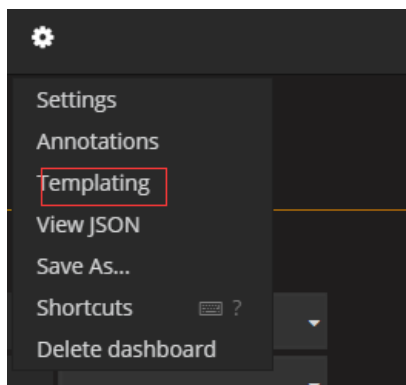
Group by time interval example: >10s

alias patterns stacking & fill group by time



8.模板信息

可以把一个自定义的Dashboard制作成模板，那后面就可以直接使用该模板即可。如果一个模板中需要查看不同主机或者不同CPU，磁盘有情的监控信息。那此时就可以在模板中创建变量。



配置变量名为Host,数据来源于influxdb ,Query语句语法来源influxdb中 ,

A screenshot of the InfluxDB query interface. The query bar contains the text "SHOW TAG KEYS FROM 'cpu'". Below the query bar, the results are displayed in a table with the title "cpu". The table has a single column labeled "tagKey" and contains two rows: "cpu" and "host".

tagKey
cpu
host

A screenshot of the InfluxDB query interface. The query bar contains the text "SHOW TAG VALUES WITH KEY = 'host'". Below the query bar, the results are displayed in a table with the title "cpu". The table has two columns: "key" and "value". The "key" column contains the value "host" for all rows. The "value" column contains redacted values, represented by red bars. There are five rows in total.

key	value
host	[REDACTED]
host	[REDACTED]
host	[REDACTED]
host	[REDACTED]
host	[REDACTED]

Templating

Variables

New

Variable

Name	Host	Type	Query
Label	optional display name	Hide	

Query Options

Data source	influxdb	Refresh	On Dashboard Load
Query	SHOW TAG VALUES WITH KEY = "host"		
Regex	/^beta/		
Sort	Disabled		

Selection Options

Multi-value	<input checked="" type="checkbox"/>
Include All option	<input checked="" type="checkbox"/>
Custom all value	blank = auto

Value groups/tags (Experimental feature)

Enabled ☐

Preview of values (shows max 20)

All

Add

Templating

Variables

\$Host	SHOW TAG VALUES WITH KEY = "host"	↓	Duplicate	Edit	×
\$summarize	1m,10m,30m,1h,6h,12h,1d,7d,14d,30d	↑	Duplicate	Edit	×

+ New

调整面板中的metrics，加上where语句

Singlestat

General

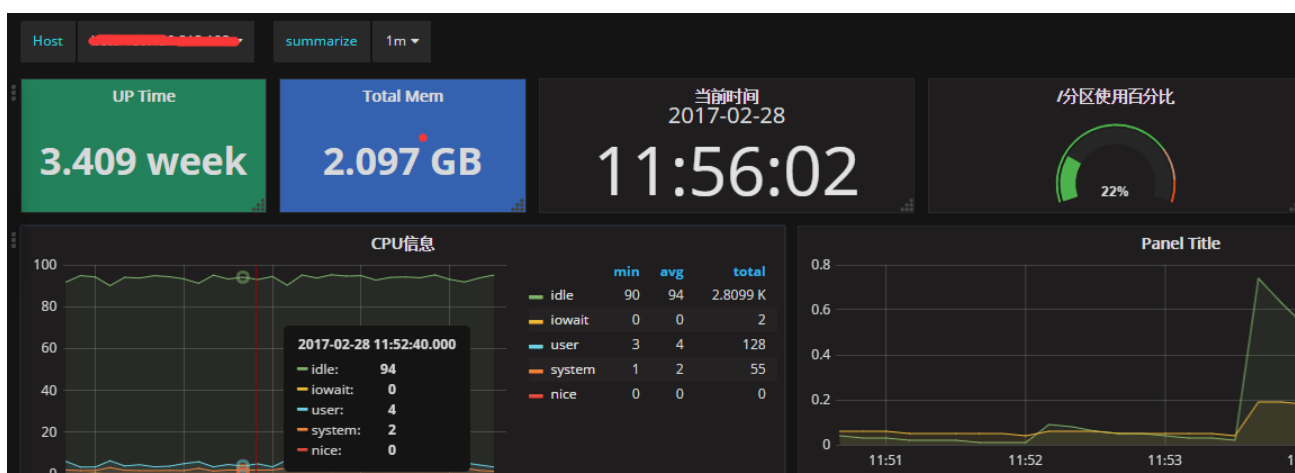
Metrics

Options

Value Mappings

Time range

FROM	default	system	WHERE	host	=	/^\$Host\$/	+
SELECT	field (uptime)	last ()	+				
GROUP BY	time (\$interval)	fill (null)	+				
ALIAS BY	Naming pattern		Format as	Time series			



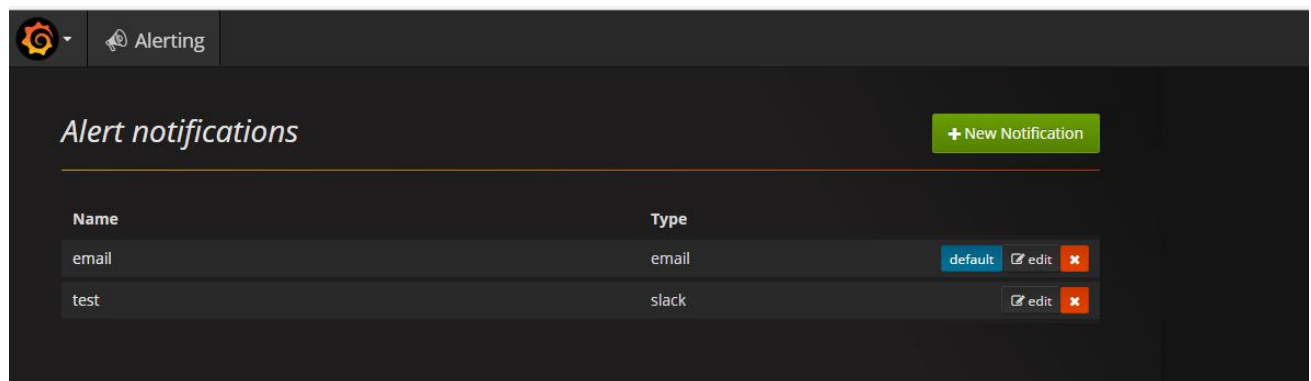
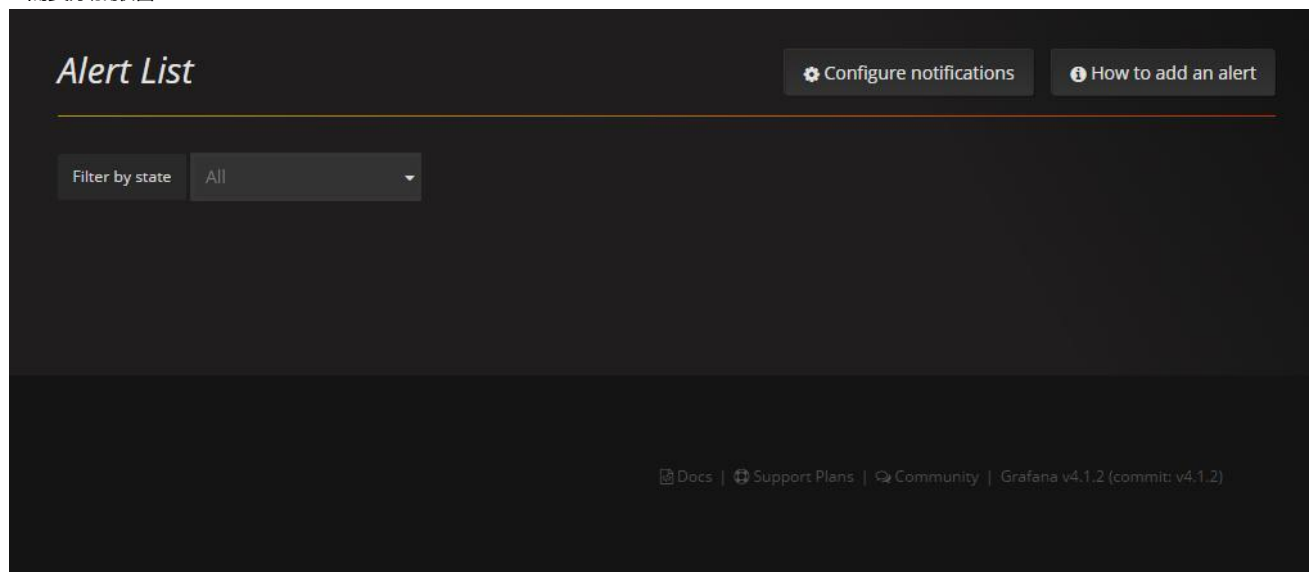
9.报警

grafana支持以下报警方式

- 1.email
- 2.slack
- 3.webhook
- 4.pagerduty
- 5.victorops
- 6.opsgenie

配置报警

1.需要添加报警 notifications



2.修改smtp配置

[smtp]

enabled = true

host = smtp.sina.com:25 #必须加端口

user = roddy1219@sina.com

password = xxxxxxxx

;cert_file =

;key_file =

skip_verify = true

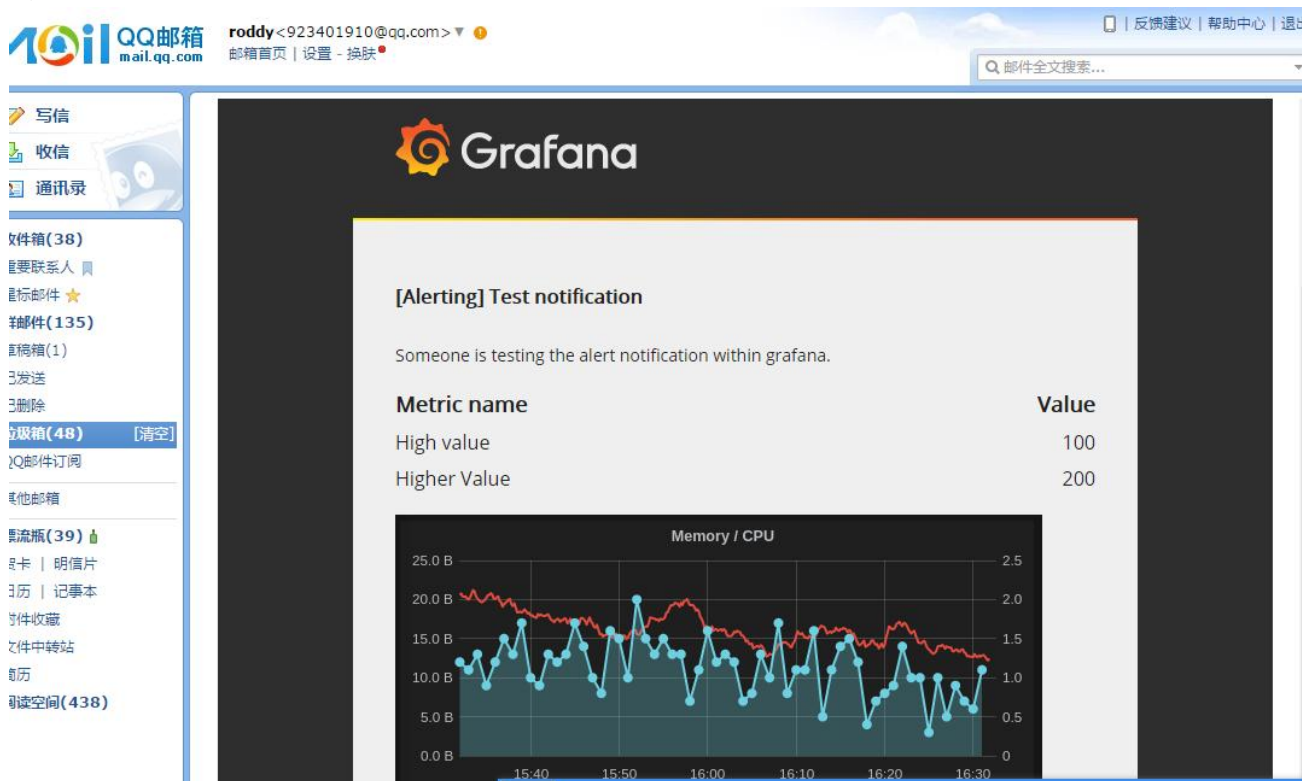
from_address = roddy1219@sina.com

[alerting]

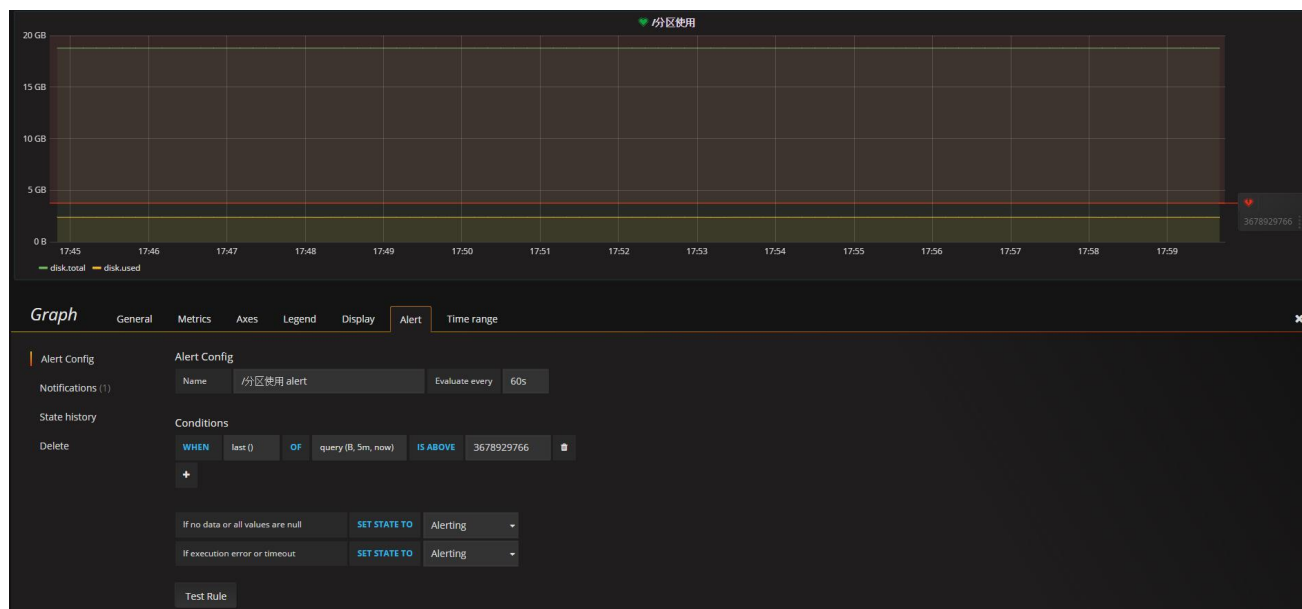
Makes it possible to turn off alert rule execution.

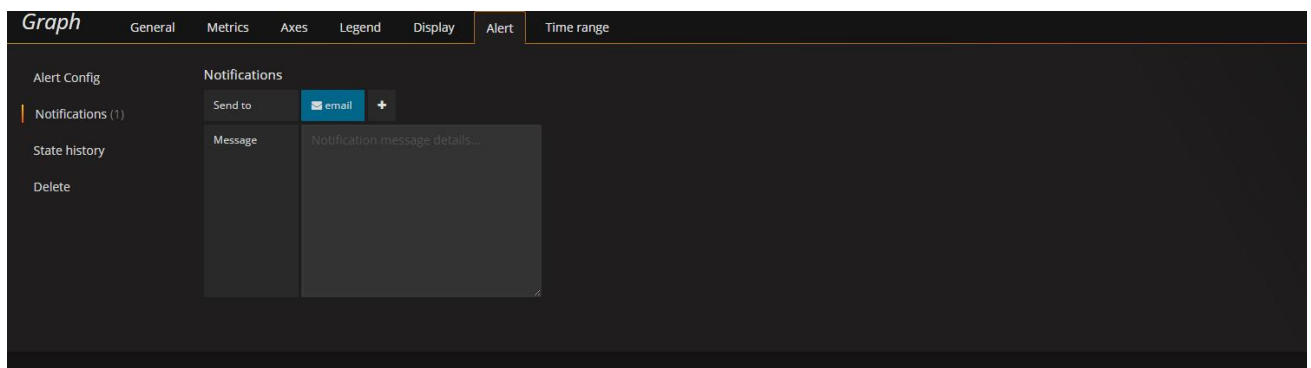
execute_alerts = true

3.测试



5.配置报警





可以看到此监控的状态改变情况

