

Grafana之KubeGraf可视化k8s资源(第十九篇)

KubeGraf是用于展示kubernetes集群资源性能的一个社区插件，是基于Grafana官方插件"grafana-kubernetes-app"的更新版（[grafana-kubernetes-app](https://grafana.com/grafana/plugins/grafana-kubernetes-app) <<https://grafana.com/grafana/plugins/grafana-kubernetes-app>> 官方已经2年没更新了）。KubeGraf允许您可视化和分析Kubernetes集群的性能，用图表来展示Kubernetes集群的主要服务度量和特性，同时也可检查应用程序的生命周期和错误日志。

一、插件安装

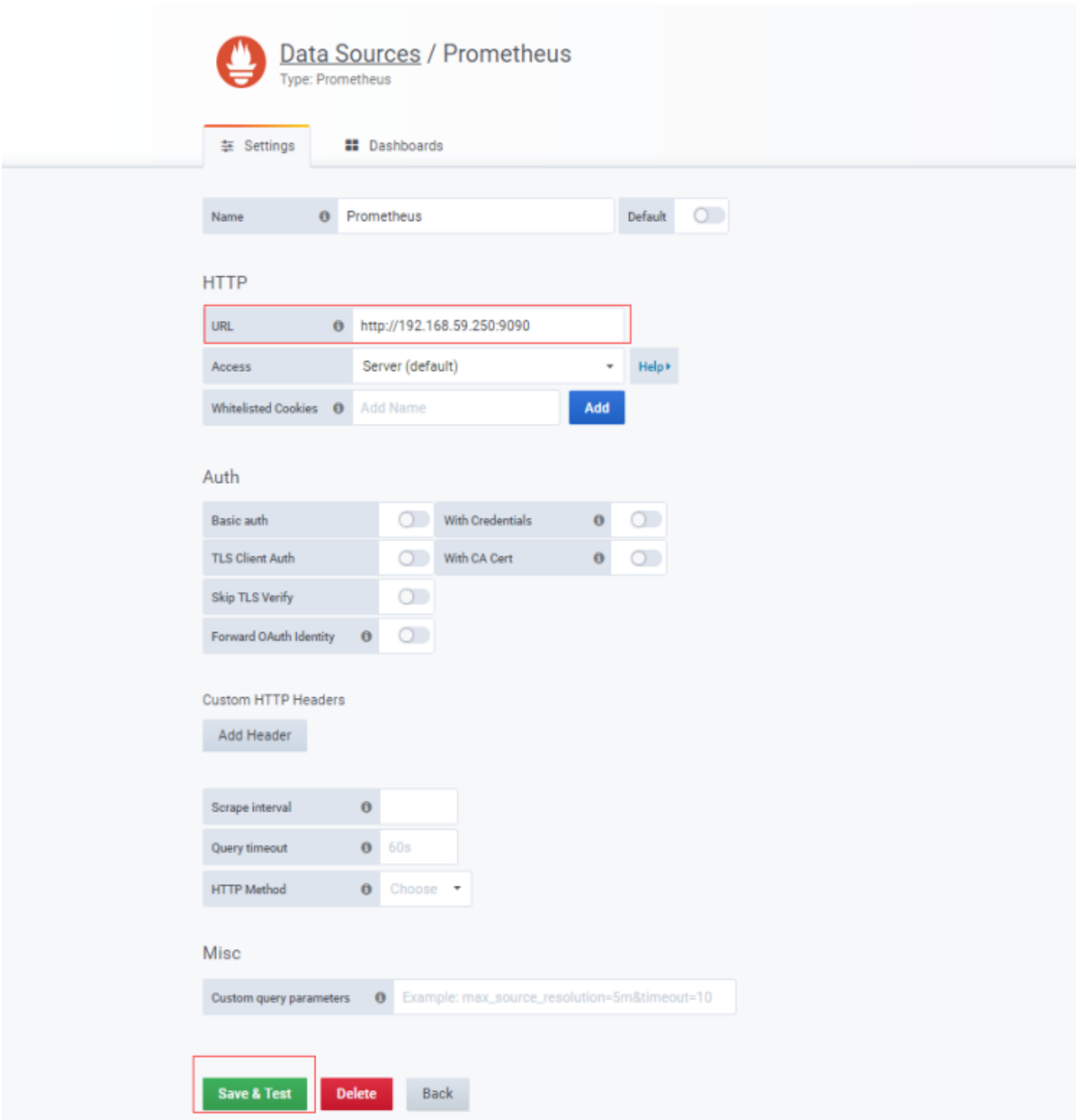
<https://grafana.com/grafana/plugins/devopsprodigy-kubegraf-app>
<<https://grafana.com/grafana/plugins/devopsprodigy-kubegraf-app>>

```
# grafana-cli plugins install devopsprodigy-kubegraf-app
# grafana-cli plugins install grafana-piechart-panel
# systemctl restart grafana-server
```

二、插件依赖环境：

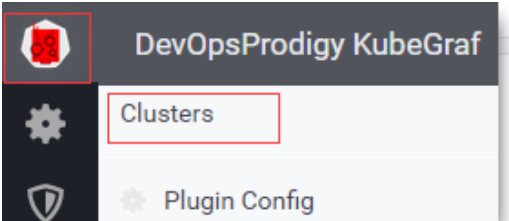
- 1、需先部署好kubernetes集群，因为我们要监控的目标就是kubernetes
- 2、需先部署好prometheus、node_exporter、kube-state-metrics、cAdvisor等，因为我们要依赖prometheus作为数据源来监控kubernetes，而prometheus需依赖node_exporter、kube-state-metrics、cAdvisor等来采集数据。
- 3、需先安装好Grafana-piechart-panel，因为KubeGraf中的Dashboard中用到piechart-panel。

说明：在grafana中添加prometheus数据源非常简单，只要配置prometheus的地址即可，不需要配置认证相关信息，如下图所示。

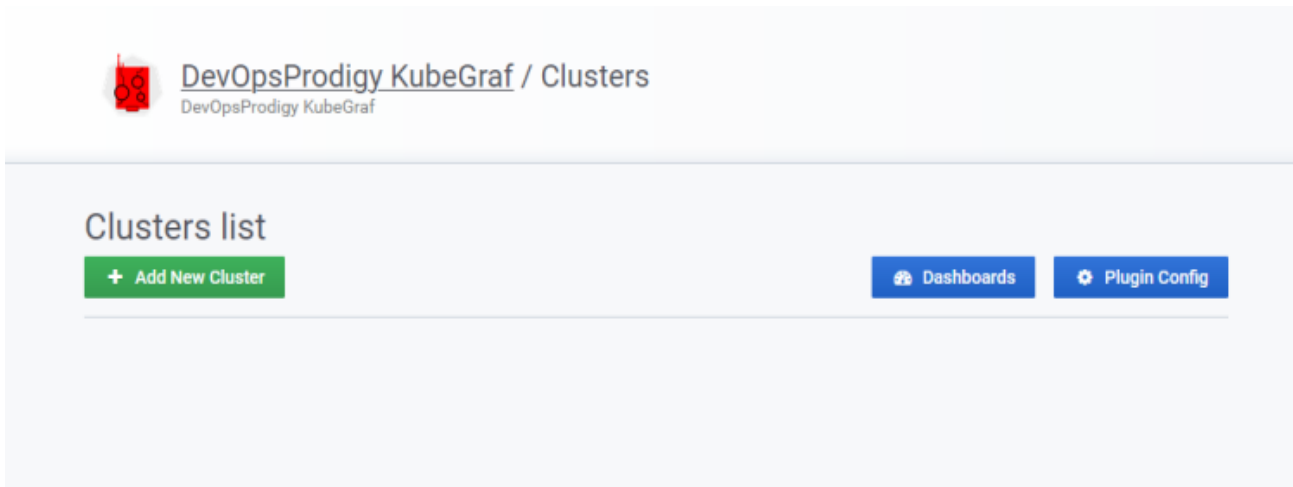


三、上述环境准备就绪后，开始配置KubeGraf

1、登录到grafana控制台，点击左侧菜单栏KubeGraf图标，选择"Clusters"，如下图所示



然后，再点击"Add New Cluster"，如下图所示。



通过kubectl cluster-info获取到master的URL

kubectl cluster-info

```
[root@master01 ~]# kubectl cluster-info
Kubernetes master is running at https://192.168.59.11:6443
KubeDNS is running at https://192.168.59.11:6443/api/v1/namespaces/kube-system/services/kube-dns:dns/proxy
Metrics-server is running at https://192.168.59.11:6443/api/v1/namespaces/kube-system/services/https:metrics-server:/proxy

To further debug and diagnose cluster problems, use 'kubectl cluster-info dump'.
[root@master01 ~]#
```

Add new cluster

Name

kubegraf

HTTP

URL

https://192.168.59.11:6443

Access

Server (default)

Whitelisted Cookies

Add Name

Add

Auth

Basic auth

With Credentials

TLS Client Auth

With CA Cert

Skip TLS Verify

Forward OAuth Identity

TLS Auth Details

Client Cert

-----BEGIN CERTIFICATE-----
YpjsowIDAQABoycwJTAOBgNVHQ8BAf8EBAMCBwAwEwYDVROlBAwwCgYIKwYBBQUH
AwIwDQYJKoZIhvcNAQELBQADggEBAEfg01Ly3JYlQ09SptmKqKUnlGBGLkZnq/
JQmoG4MfbBT4QXpy0o5kQJe+3L57HrC3Fx1Lh6zqYfId3XjBVBPXTxK3pW8ZPoMc
Yqmk9XyKRouJl30wZUjU5iueuuD7+w5CyOLLDOsO2YNoMGfyobjJzWA9ZphgT0
ov/EXCJxm7/sjMmiiplqLUtyXFirdQ+BC7bA9n5kPoVBzNBGI2xtLTTLzXxmuYY
bpM3A496otbzNo0oCg65bn8zOHEhr/MP4w0SGXFIh8U+kLbLUrp110WYpqLPWrs
BHUAxL4zB9wkXD40NjzW1KeBjAzwnRjaraGj4MhMzbTHCX2MWQ=
-----END CERTIFICATE-----

Client Key

-----BEGIN RSA PRIVATE KEY-----
Z5o1E5vB1OpP+DTTIsqK/Vuhjq0k809E7yPwPm1AKLbMV9HcWyLET29eEJpZZ7XJ
0wBk10nkINUR0CtNmKwgUQKBgFj0KwVfPFKYaebkfrZP8OR3ClDcmrCZlHnEQ7/J
nZ2Qaxb8c7gd5d6+18WxlznpHaS13y+NZI9n+y0f6ubziz+hkVxuPXIXRyfrsIRy
QMSphnttqDoudR7j6eQG6p6+Y9W8IS3/C8yX8+jhU55x7R7qyp6eVSuwHZtM3l4
8ulxAoGADXVwnZluTHKGJJDGDxradOTRy9NC1csx/i8jau0S0gkYwYIEGilyg1B7
3SnXBfU/rHBSJzbelqtoodIHGYegAah2427clXP780L9QyNGEcgrJcfsUjXZPwe
fgvRH7pP60U00TpGfBLBQd1qOolxpgQ/Yt8qfNyw2weW1bKk8=
-----END RSA PRIVATE KEY-----

Custom HTTP Headers

Add Header

Bearer token access

Access via token

Additional

Additional Prometheus datasource

Prometheus

Refresh pods' rate

1m

Save & Test

Back

通过 kubectl cluster-info命令获取到

开启TLS Client Auth, 并Skip TLS Verify

通过对/etc/kubernetes/admin.conf中的 client cert和client key进行base64 解码获取到

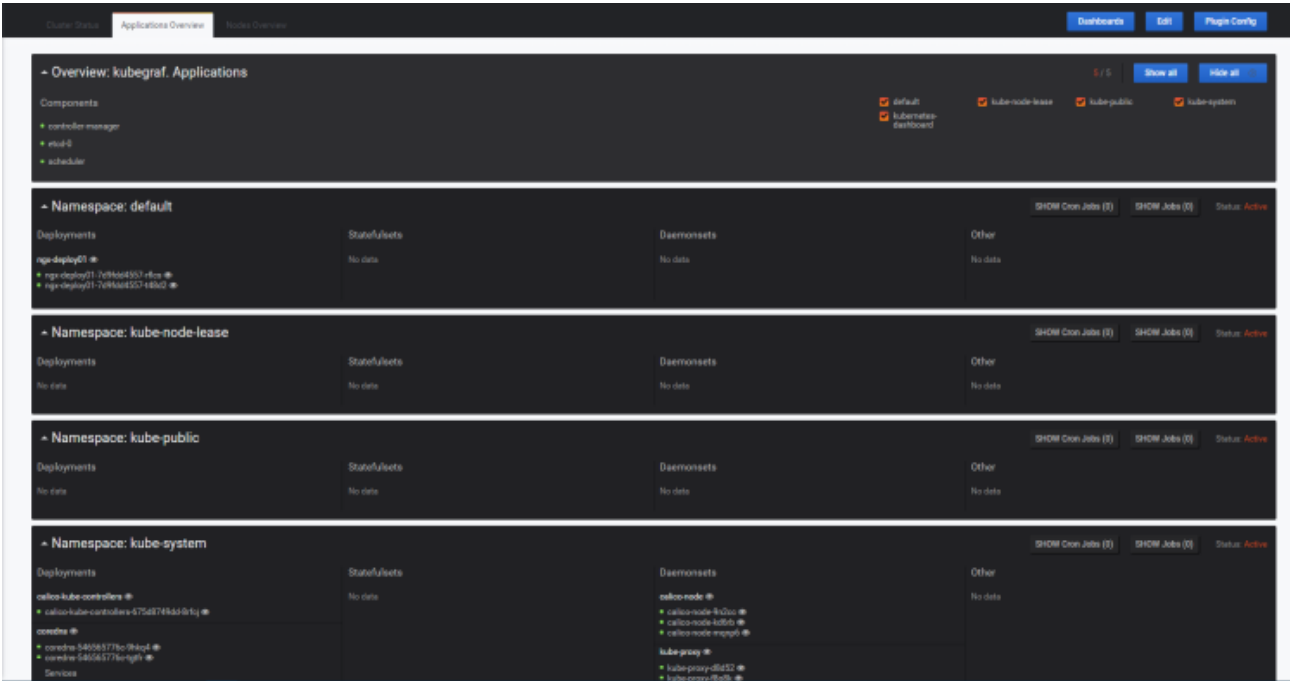
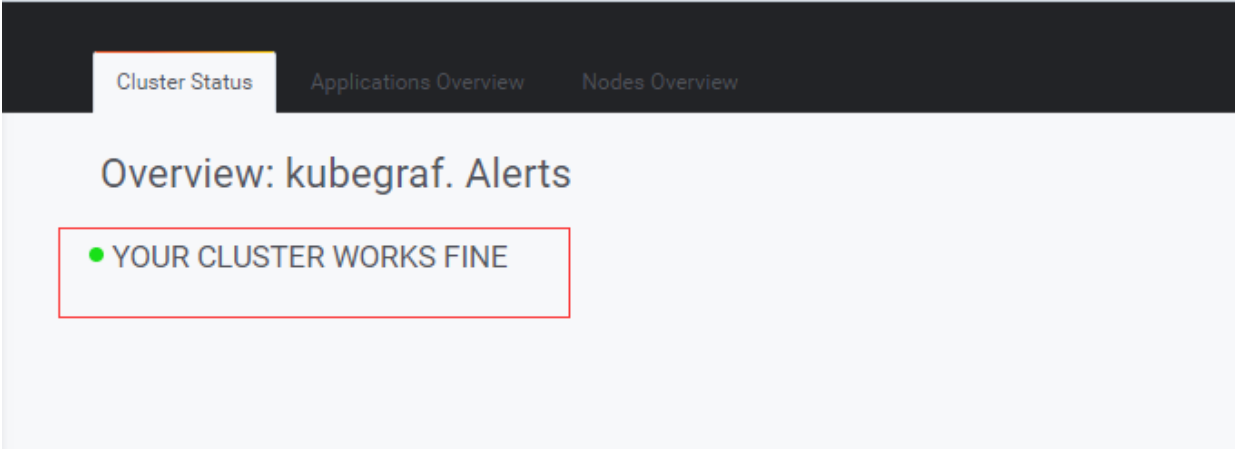
需先添加好prometheus数据源

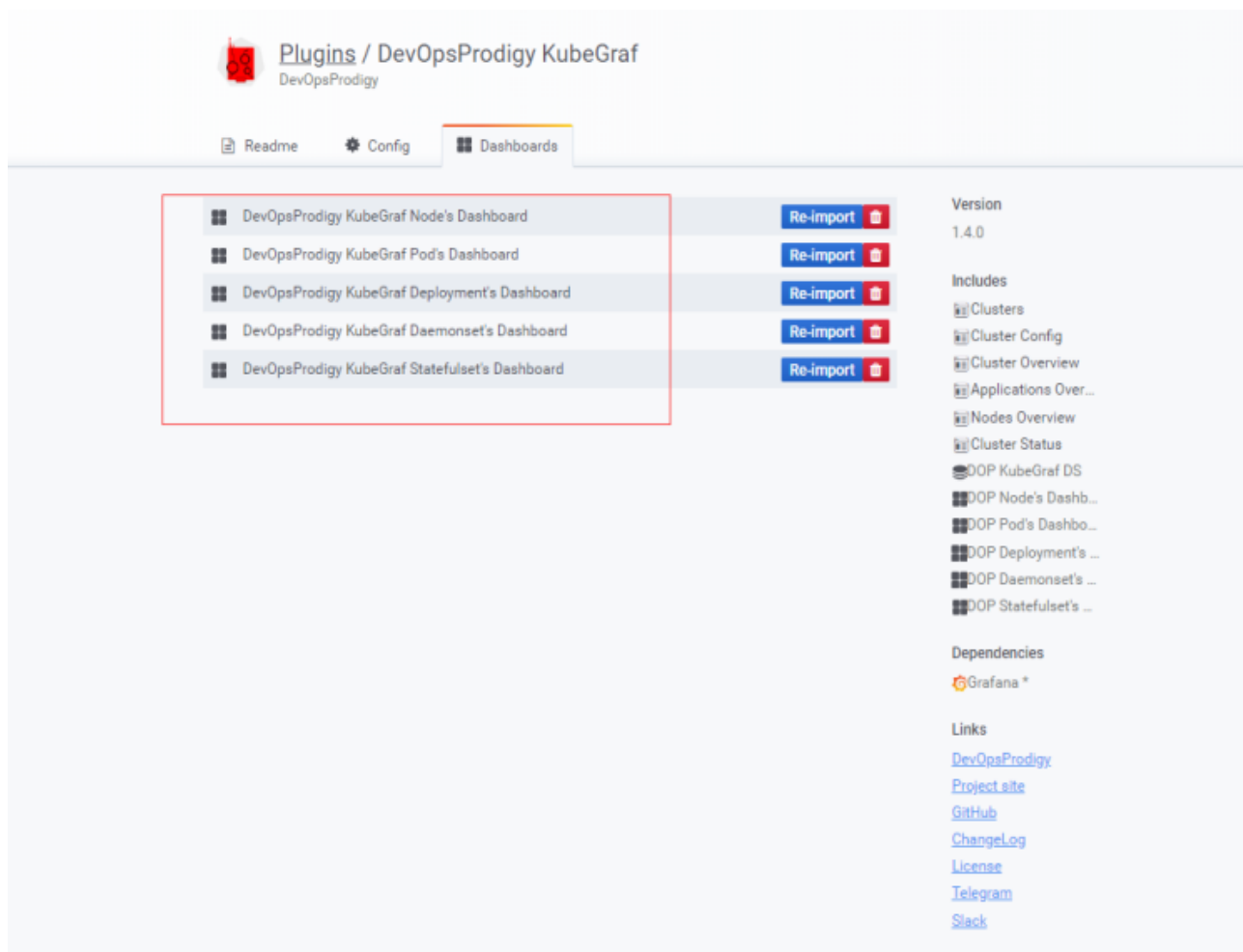
保存并测试, 确认没有报错

Client Cert和Client key解码获取方法如下：

https://www.yuque.com/firefly-drki3/kb/vz9q0q

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grafana-kubernetes-app或者kubeGraf对我们了解k8s的监控指标是很有帮助的。