

Dave Mangot

Section 6

Measurement



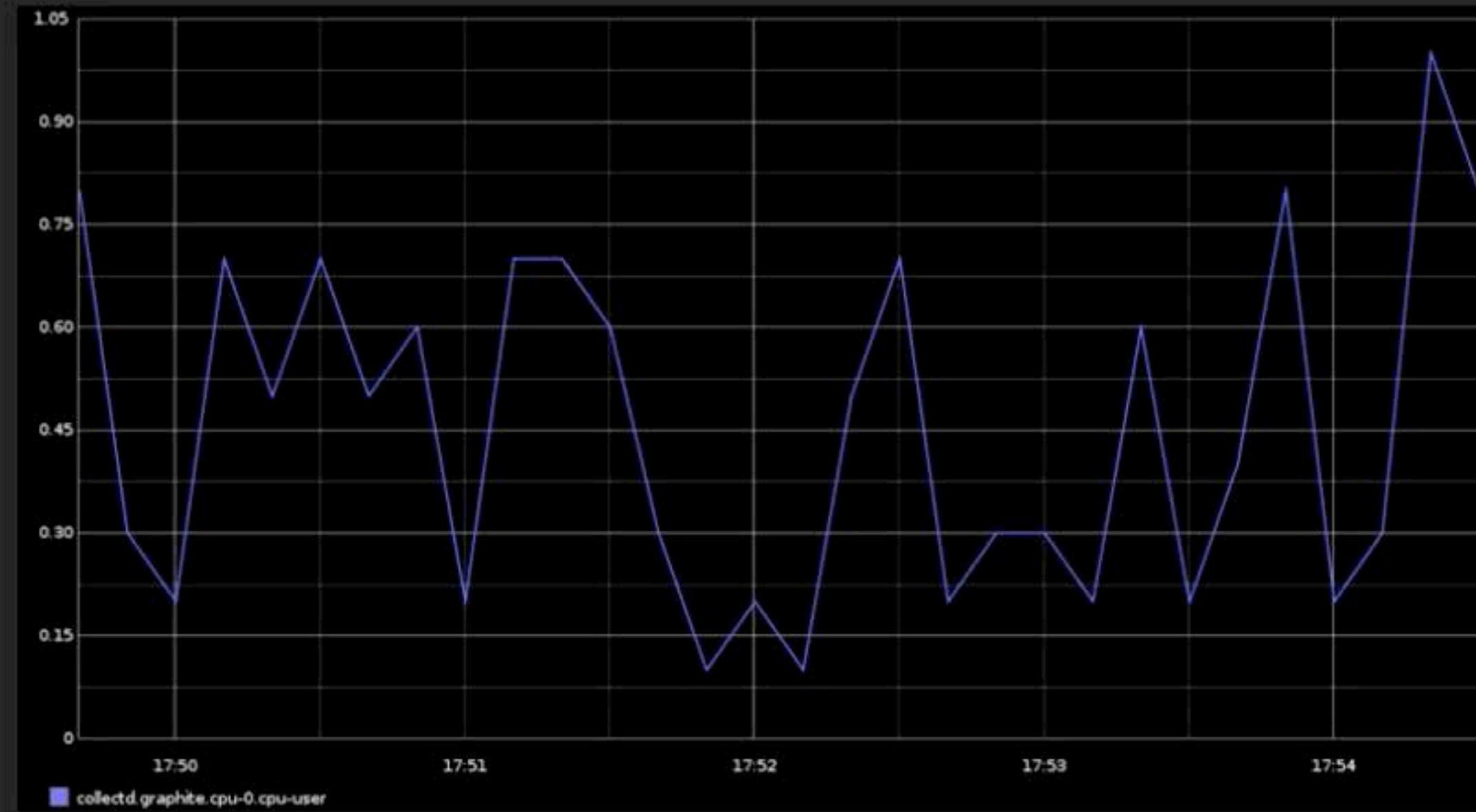
In this Section, we are going to take a look at...

- Measurement concepts
- A tour of graphite
- Getting your data into graphite
- Monitoring agent examples
- Actionable data

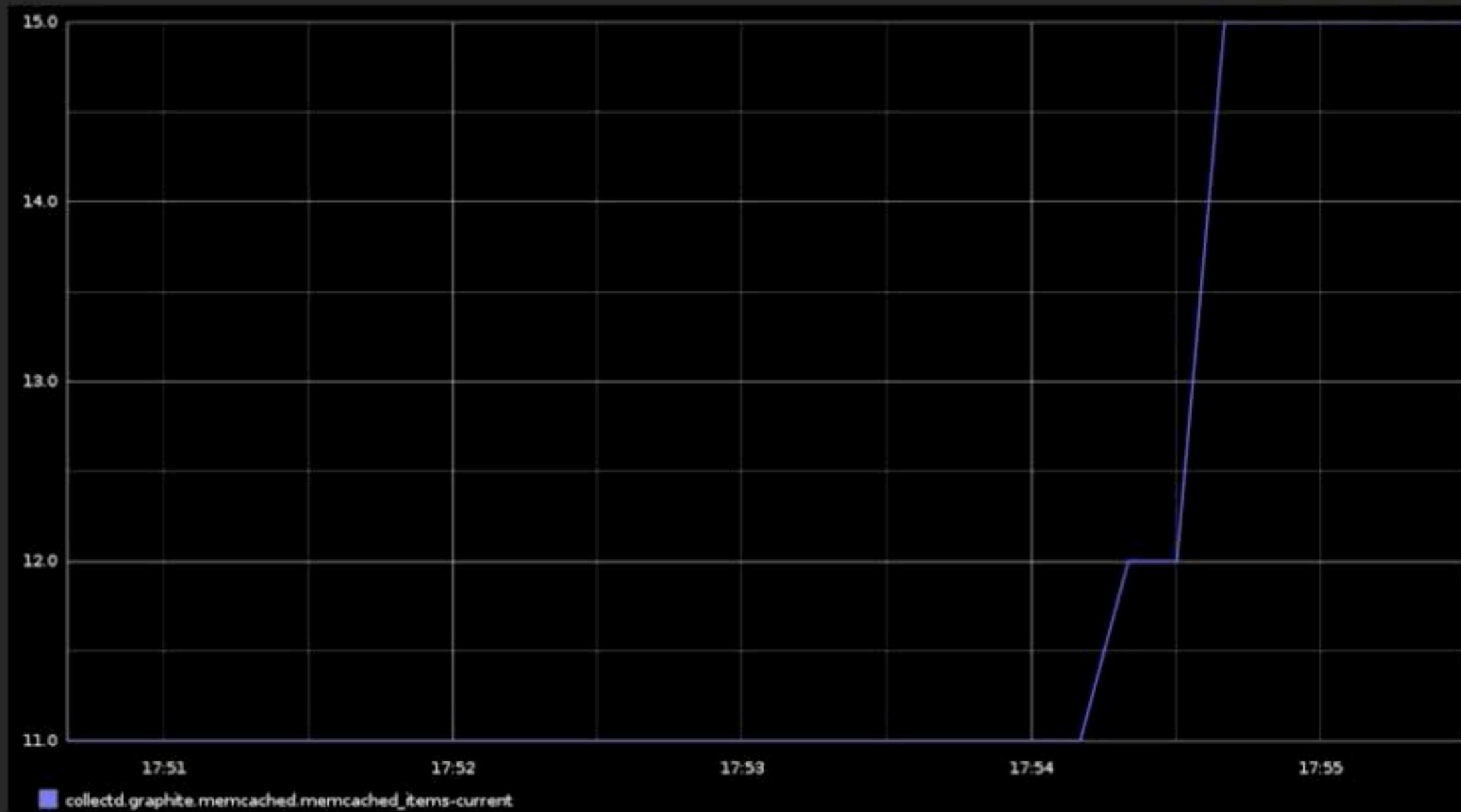
In this Video, we are going to take a look at...

- Types of metrics
- Push versus pull
- Dashboard pros and cons

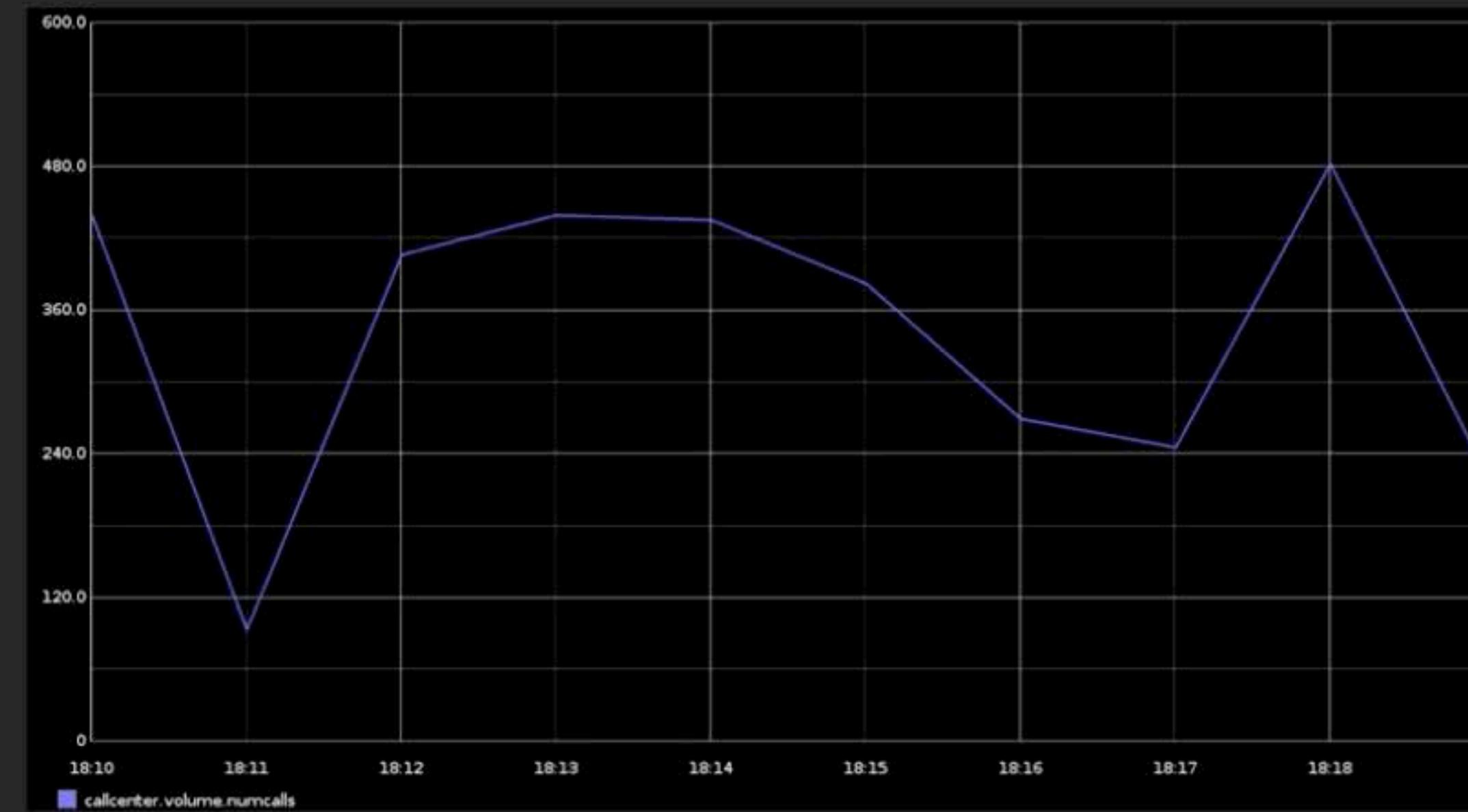
Types of Metrics: System



Types of Metrics: Application



Types of Metrics: KPIs



Push Versus Pull



Push Versus Pull



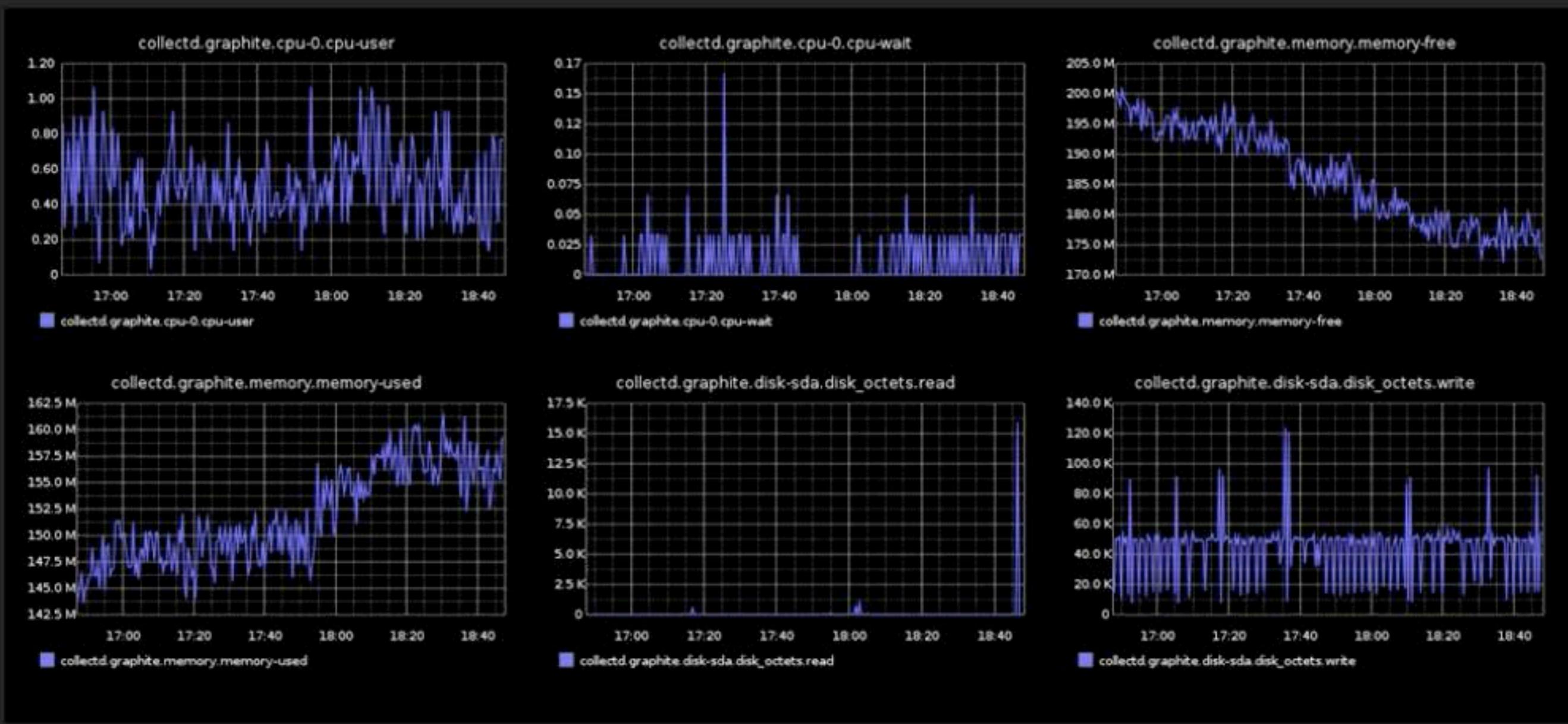
Push Versus Pull



Tools Mentioned

- Prometheus - <https://prometheus.io/>
- JMXtrans - <http://www.jmxtrans.org/>
- Nagios - <https://www.nagios.org>

Dashboards: Pros and Cons



Dashboards: Pros and Cons

- Pros:
 - Information at a glance (example: troubleshooting)
 - Acclimation to “normal”
 - Highlight important metrics (example: radiators)

Dashboards: Pros and Cons

- Cons:
 - Who wants to stare at a dashboard all day/night
 - Doesn't scale

Next Video

A Tour of Graphite

Mastering DevOps

Dave Mangot

Video 6.2

A Tour of Graphite



In this Video, we are going to take a look at...

- Synthesize
- Graphite listeners
- Data Storage
- Troubleshooting
- UI

Graphite



<https://github.com/obfusccurity/synthesize>

GitHub - obfuscuity/synthesize <https://localhost:8443/> is not available New Tab The Render URL API — Graph... Dave

GitHub, Inc. [US] https://github.com/obfuscuity/synthesize

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obfuscuity / synthesize

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[Code](#)[Issues 4](#)[Pull requests 1](#)[Pulse](#)[Graphs](#)

Easy installer for Graphite and StatsD

[81 commits](#)[4 branches](#)[17 releases](#)[9 contributors](#)

Branch: master

[New pull request](#)[Find file](#)[Clone or download](#)

obfuscuity Merge pull request #43 from woodsaJ/master ...

[templates](#)

better wsgi setup for apache

[.gitignore](#)

support for Vagrant

[LICENSE](#)

MIT license

[README.md](#)

bump to Graphite 0.9.15

[Vagrantfile](#)

bump to Graphite 0.9.15

[app.yml](#)

Fix hostname, ram decreased to 512mb

[install](#)

fix typo in statsite install instructions.

Clone with HTTPS

Use Git or checkout with SVN using the web URL.

<https://github.com/obfuscuity/synthesize>

[Open in Desktop](#)[Download ZIP](#)

10 months ago

10 months ago

2 years ago

6 months ago

2. vagrant@vagrant: /opt/graphite/storage/log/carbon-cache/carbon-cache-1 (bash)

vagrant@vagrant: /opt/graphit...

blackmacbook:synthesize dave\$ git clone https://github.com/obfuscury/synthesize.git

Cloning into 'synthesize'...

remote: Counting objects: 352, done.

remote: Total 352 (delta 0), reused 0 (delta 0), pack-reused 352

Receiving objects: 100% (352/352), 81.28 KiB | 0 bytes/s, done.

Resolving deltas: 100% (169/169), done.

Checking connectivity... done.

blackmacbook:synthesize dave\$ █ / synthesize

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Easy installer for Graphite and StatsD

81 commits

4 4 branches

17 releases

18 9 contributors

Branches master →

Find file

Clone or download

-  Merge pull request #1 from woodsey/master
-  terminates
-  better-log-setup for apache
-  support for Vagrant
-  LICENSE
-  MIT licence
-  README.md
-  Bump to Graphite 0.10.10
-  Vagrantfile
-  ancsvm
-  install

[Clone with HTTPS](#)

Use Git or checkout with SVN using the web URL

<https://github.com/obfuscury/synthesize>[Open in Desktop](#)[Download ZIP](#)

79 months ago

10 months ago

2 years ago

6 months ago

Vagrant

Synthesize configures the following host ports to forward to the private vagrant box:

```
config.vm.network :forwarded_port, guest: 443, host: 8443
config.vm.network :forwarded_port, guest: 8125, host: 8125
config.vm.network :forwarded_port, guest: 2003, host: 22003
config.vm.network :forwarded_port, guest: 2004, host: 22004
```

```
$ cd synthesize
$ Vagrant plugin install vagrant-vbguest
$ vagrant up
```

Administration

There is a superuser (Django) account that grants access to the administrative features in the backend Django database. The default credentials are:

- username admin
- password graphite_me_synthesize

These credentials can be changed with the following commands:

```
$ cd /opt/graphite/webapp/graphite
$ sudo python manage.py changepassword admin
```

2. vagrant@vagrant: /opt/graphite/storage/log/carbon-cache/carbon-cache-1 (ruby)

vagrant@vagrant: /opt/graphit...

blackmacbook:synthesize dave\$ git clone https://github.com/obfuscuity/synthesize.git

Cloning into 'synthesize'...

remote: Counting objects: 352, done.

remote: Total 352 (delta 0), reused 0 (delta 0), pack-reused 352

Receiving objects: 100% (352/352), 81.28 KiB | 0 bytes/s, done.

Resolving deltas: 100% (169/169), done.

Configures the following host ports to forward to the private vagrant box:

Checking connectivity... done.

blackmacbook:synthesize dave\$ ls

synthesize config.vagrant network forwarded_port guest: 443 host: 8443

blackmacbook:synthesize dave\$ cd synthesize/ config.vagrant forwarded_port guest: 8125 host: 8125

blackmacbook:synthesize dave\$ ls config.vagrant forwarded_port guest: 2003 host: 22003

LICENSE README.md Vagrantfile app.yml install templates uninstall upgrade

blackmacbook:synthesize dave\$ vagrant plugin install vagrant-vbguest

\$ cd synthesize

\$ vagrant plugin install vagrant-vbguest

\$ vagrant up

Administration

There is a superuser (Django) account that grants access to the administrative features in the backend Django database. The default credentials are:

- username admin
- password graphite_me_synthesize

These credentials can be changed with the following commands:

```
$ cd /opt/graphite/webapp/graphite
```

```
$ sudo python manage.py changepassword admin
```

```
iTerm Shell Edit View Profiles Toolkit Window Help 0.0KB/s 0.0KB/s Sep 11 1:53 PM Dave Mangot Q :=  
2. vagrant@vagrant: /opt/graphite/storage/log/carbon-cache/carbon-cache-1 (bash)  
vagrant@vagrant: /opt/graphit...  
blackmacbook:synthesize dave$ git clone https://github.com/obfuscury/synthesize.git  
Cloning into 'synthesize'...  
remote: Counting objects: 352, done.  
remote: Total 352 (delta 0), reused 0 (delta 0), pack-reused 352  
Receiving objects: 100% (352/352), 81.28 KiB | 0 bytes/s, done.  
Resolving deltas: 100% (169/169), done.  
Checking connectivity... done.  
blackmacbook:synthesize dave$ ls  
synthesize config.vm.network forwarded_port, guest: 443, host: 8443  
blackmacbook:synthesize dave$ cd synthesize/  
blackmacbook:synthesize dave$ ls  
LICENSE README.md Vagrantfile app.yml install templates uninstall upgrade  
blackmacbook:synthesize dave$ vagrant plugin install vagrant-vbguest  
Installing the 'vagrant-vbguest' plugin. This can take a few minutes...  
Installed the plugin 'vagrant-vbguest (0.13.0)'!  
blackmacbook:synthesize dave$ vagrant up  
$ vagrant plugin install vagrant-vbguest  
$ {your task}
```

Administration

There is a superuser (Django) account that grants access to the administrative features in the backend Django database. The default credentials are:

- username admin
- password graphite_me_synthesize

These credentials can be changed with the following commands:

```
$ cd /opt/graphite/webapp/graphite  
$ sudo python manage.py changepassword admin
```

2. vagrant@vagrant: /opt/graphite/storage/log/carbon-cache/carbon-cache-1 (bash)

```
vagrant@vagrant: /opt/graphit...
=> default: + mkdir /opt/graphite/storage/log/apache2
=> default: + chown www-data /opt/graphite/storage/log/webapp
=> default: + chmod +x /etc/init.d/carbon-cache
=> default: + cp /vagrant/templates/graphite/cron/build-index /etc/cron.hourly/graphite-build-index
=> default: + chmod 755 /etc/cron.hourly/graphite-build-index
=> default: + sudo -u www-data /opt/graphite/bin/build-index.sh
=> default: [Sun Sep 11 21:04:45 UTC 2016] building index...
=> default: [Sun Sep 11 21:04:45 UTC 2016] complete, switching to new index file
=> default: + update-rc.d carbon-cache defaults
=> default: update-rc.d: warning: /etc/init.d/carbon-cache missing LSB information
=> default: update-rc.d: see <http://wiki.debian.org/LSBInitScripts>
=> default: Adding system startup for /etc/init.d/carbon-cache
=> default:    in runlevel S          started at: 2004, host: 22084
=> default:    /etc/rc0.d/K20carbon-cache -> ../init.d/carbon-cache
=> default:    /etc/rc1.d/K20carbon-cache -> ../init.d/carbon-cache
=> default:    /etc/rc6.d/K20carbon-cache -> ../init.d/carbon-cache
=> default:    /etc/rc2.d/S20carbon-cache -> ../init.d/carbon-cache
=> default:    /etc/rc3.d/S20carbon-cache -> ../init.d/carbon-cache
=> default:    /etc/rc4.d/S20carbon-cache -> ../init.d/carbon-cache
=> default:    /etc/rc5.d/S20carbon-cache -> ../init.d/carbon-cache
=> default: + service carbon-cache start
=> default: Starting carbon-cache-1:
=> default: succeeded Administration
=> default: carbon-cache-1 (pid: 21466):
=> default: running
=> default: + service memcached start
=> default: Starting memcached: The default credentials are:
=> default: memcached.
=> default: + service collectd start
=> default: * Starting statistics collection and monitoring daemon collectd
=> default: ...done. * password graphite_me_synthesize
=> default: + service apache2 start
=> default: * Starting web server apache2: be changed with the following commands:
=> default: *
=> default: + service statsite start
=> default: statsite start/running, process 21609
blackmacbook:synthesize dave$ python manage.py changepassword admin
```

2. vagrant@vagrant: ~ (ssh)

```
vagrant@vagrant: ~ (ssh)
--> default: carbon-cache-1 (pid: 21466): com.sensu.sensu-poller[1]
--> default: running
--> default: + service memcached start
--> default: Starting memcached
--> default: memcached.
--> default: + service collectd start
--> default: * Starting statistics collection and monitoring daemon collectd
--> default: ...done.
--> default: + service apache2 start
--> default: * Starting web server apache2
--> default: *
--> default: + service statsite start
--> default: statsite start/running, process 21609
```

blackmacbook:synthesize dave\$ vagrant ssh

Welcome to Ubuntu 14.04.3 LTS (GNU/Linux 3.19.0-25-generic x86_64)

\$ cd synthesize

* Documentation: <https://help.ubuntu.com/install/vagrant-vbquest>

vagrant@vagrant:~\$ sudo lsof -i -P | grep LISTEN

Process	User	FD	Type	IP	Port	Flags	Program
rpcbind	root	8u	IPv4	10431	0t0	TCP	*:111 (LISTEN)
rpcbind	root	11u	IPv6	10434	0t0	TCP	*:111 (LISTEN)
rpc.statd	statd	9u	IPv4	11425	0t0	TCP	*:39489 (LISTEN)
rpc.statd	statd	11u	IPv6	11431	0t0	TCP	*:51618 (LISTEN)
sshd	root	3u	IPv4	10708	0t0	TCP	*:22 (LISTEN)
sshd	root	4u	IPv6	10710	0t0	TCP	*:22 (LISTEN)
carbon-ca	carbon	9u	IPv4	30382	0t0	TCP	*:2003 (LISTEN)
carbon-ca	carbon	10u	IPv4	30383	0t0	TCP	*:2004 (LISTEN)
carbon-ca	carbon	11u	IPv4	30384	0t0	TCP	*:7002 (LISTEN)
memcached	memcache	26u	IPv4	30758	0t0	TCP	localhost:11211 (LISTEN)
apache2	root	4u	IPv6	30545	0t0	TCP	*:80 (LISTEN)
apache2	root	6u	IPv6	30549	0t0	TCP	*:443 (LISTEN)
apache2	www-data	4u	IPv6	30545	0t0	TCP	*:80 (LISTEN)
apache2	www-data	6u	IPv6	30549	0t0	TCP	*:443 (LISTEN)
apache2	www-data	4u	IPv6	30545	0t0	TCP	*:80 (LISTEN)
apache2	www-data	6u	IPv6	30549	0t0	TCP	*:443 (LISTEN)
statsite	root	5u	IPv4	30575	0t0	TCP	*:8125 (LISTEN)

vagrant@vagrant:~\$

2. vagrant@vagrant: ~ (ssh)

```
vagrant@vagrant: ~ (ssh)
--> default: carbon-cache-1 (pid: 21466): com.sensu.sensu-carbon[carbon]
--> default: running
--> default: + service memcached start
--> default: Starting memcached
--> default: memcached.
--> default: + service collectd start
--> default: * Starting statistics collection and monitoring daemon collectd
--> default: ...done.
--> default: + service apache2 start
--> default: * Starting web server apache2
--> default: *
--> default: + service statsite start
--> default: statsite start/running, process 21609
```

```
blackmacbook:synthesize dave$ vagrant ssh
```

```
Welcome to Ubuntu 14.04.3 LTS (GNU/Linux 3.19.0-25-generic x86_64)
```

```
$ cd synthesize
* Documentation: https://help.ubuntu.com/install/vagrant-vbguest
```

```
vagrant@vagrant:~$ sudo lsof -i -P | grep LISTEN
rpcbind    629      root    8u  IPv4  10431      0t0  TCP *:111 (LISTEN)
rpcbind    629      root   11u  IPv6  10434      0t0  TCP *:111 (LISTEN)
rpc.statd  669      statd    9u  IPv4  11425      0t0  TCP *:39489 (LISTEN)
rpc.statd  669      statd   11u  IPv6  11431      0t0  TCP *:51618 (LISTEN)
sshd      824      root    3u  IPv4  10708      0t0  TCP *:22 (LISTEN)
sshd      824      root    4u  IPv6  10710      0t0  TCP *:22 (LISTEN)
carbon-ca 21466    carbon    9u  IPv4  30382      0t0  TCP *:2003 (LISTEN)
carbon-ca 21466    carbon   10u  IPv4  30383      0t0  TCP *:2004 (LISTEN)
carbon-ca 21466    carbon   11u  IPv4  30384      0t0  TCP *:7002 (LISTEN)
memcached 21480 memcache  26u  IPv4  30758      0t0  TCP localhost:11211 (LISTEN)
apache2   21521      root    4u  IPv6  30545      0t0  TCP *:80 (LISTEN)
apache2   21521      root    6u  IPv6  30549      0t0  TCP *:443 (LISTEN)
apache2   21525 www-data   4u  IPv6  30545      0t0  TCP *:80 (LISTEN)
apache2   21525 www-data   6u  IPv6  30549      0t0  TCP *:443 (LISTEN)
apache2   21526 www-data   4u  IPv6  30545      0t0  TCP *:80 (LISTEN)
apache2   21526 www-data   6u  IPv6  30549      0t0  TCP *:443 (LISTEN)
statsite  21609      root    5u  IPv4  30575      0t0  TCP *:8125 (LISTEN)
vagrant@vagrant:~$
```

iTerm Shell Edit View Profiles Toolkit Window Help 0.0KB/s 0.0KB/s Sep 11 2:06 PM Dave Mangot

vagrant@vagrant: ~ (ssh)

```
--> default: carbon-cache-1 (pid: 21466): com.splunk.hec[21466]
--> default: running
--> default: + service memcached start
--> default: Starting memcached:
--> default: memcached.
--> default: + service collectd start
--> default: * Starting statistics collection and monitoring daemon collectd
--> default: ...done.
--> default: + service apache2 start
--> default: * Starting web server apache2
--> default: *
--> default: + service statsite start
--> default: statsite start/running, process 21609
```

blackmacbook:synthesize dave\$ vagrant ssh

Welcome to Ubuntu 14.04.3 LTS (GNU/Linux 3.19.0-25-generic x86_64)

```
$ cd synthesize
* Documentation: https://help.ubuntu.com/install/vagrant-vbguest
vagrant@vagrant:~$ sudo lsof -i -P | grep LISTEN
rpcbind    629      root    8u   IPv4  10431      0t0  TCP *:111 (LISTEN)
rpcbind    629      root   11u   IPv6  10434      0t0  TCP *:111 (LISTEN)
rpc.statd  669      statd    9u   IPv4  11425      0t0  TCP *:39489 (LISTEN)
rpc.statd  669      statd   11u   IPv6  11431      0t0  TCP *:51618 (LISTEN)
sshd      824      root    3u   IPv4  10708      0t0  TCP *:22 (LISTEN)
sshd      824      root    4u   IPv6  10710      0t0  TCP *:22 (LISTEN)
carbon-ca 21466    carbon   9u   IPv4  30382      0t0  TCP *:2003 (LISTEN)
carbon-ca 21466    carbon   10u   IPv4  30383      0t0  TCP *:2004 (LISTEN)
carbon-ca 21466    carbon   11u   IPv4  30384      0t0  TCP *:7002 (LISTEN)
memcached 21480 memcache 26u   IPv4  30758      0t0  TCP localhost:11211 (LISTEN)
apache2   21521      root    4u   IPv6  30545      0t0  TCP *:80 (LISTEN)
apache2   21521      root    6u   IPv6  30549      0t0  TCP *:443 (LISTEN)
apache2   21525 www-data   4u   IPv6  30545      0t0  TCP *:80 (LISTEN)
apache2   21525 www-data   6u   IPv6  30549      0t0  TCP *:443 (LISTEN)
apache2   21526 www-data   4u   IPv6  30545      0t0  TCP *:80 (LISTEN)
apache2   21526 www-data   6u   IPv6  30549      0t0  TCP *:443 (LISTEN)
statsite  21609      root    5u   IPv4  30575      0t0  TCP *:8125 (LISTEN)
vagrant@vagrant:~$
```

2. vagrant@vagrant: /opt/graphite (ssh)

```
vagrant@vagrant: /opt/graphit...
==> default: Starting memcached: /github.com/etcd-io/etcd/v3.3.10/memc...
==> default: memcached.
==> default: + service collectd start
==> default: * Starting statistics collection and monitoring daemon collectd
==> default: ...done.
==> default: + service apache2 start
==> default: * Starting web server apache2
==> default: *
==> default: + service statsite start
==> default: * Starting statsite statsite
==> default: statsite start/running, process 21609
blackmacbook:synthesize dave$ vagrant ssh
Welcome to Ubuntu 14.04.3 LTS (GNU/Linux 3.19.0-25-generic x86_64)
```

```
* Documentation: https://help.ubuntu.com/
vagrant@vagrant:~$ sudo lsof -i -P | grep LISTEN
rpcbind    629      root  8u  IPv4  10431      0t0  TCP  *:111  (LISTEN)
rpcbind    629      root  11u  IPv6  10434      0t0  TCP  *:111  (LISTEN)
rpc.statd   669     statd  9u  IPv4  11425      0t0  TCP  *:39489  (LISTEN)
rpc.statd   669     statd  11u  IPv6  11431      0t0  TCP  *:51618  (LISTEN)
sshd       824      root  3u  IPv4  10708      0t0  TCP  *:22  (LISTEN)
sshd       824      root  4u  IPv6  10710      0t0  TCP  *:22  (LISTEN)
carbon-ca  21466    carbon  9u  IPv4  30382      0t0  TCP  *:2003  (LISTEN)
carbon-ca  21466    carbon  10u  IPv4  30383      0t0  TCP  *:2004  (LISTEN)
carbon-ca  21466    carbon  11u  IPv4  30384      0t0  TCP  *:7002  (LISTEN)
memcached  21480  memcache 26u  IPv4  30758      0t0  TCP  localhost:11211  (LISTEN)
apache2    21521    root  4u  IPv6  30545      0t0  TCP  *:80  (LISTEN)
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apache2    21525  www-data  4u  IPv6  30545      0t0  TCP  *:80  (LISTEN)
apache2    21525  www-data  6u  IPv6  30549      0t0  TCP  *:443  (LISTEN)
apache2    21526  www-data  4u  IPv6  30545      0t0  TCP  *:80  (LISTEN)
apache2    21526  www-data  6u  IPv6  30549      0t0  TCP  *:443  (LISTEN)
statsite   21609    root  5u  IPv4  30575      0t0  TCP  *:8125  (LISTEN)
vagrant@vagrant:~$ cd /opt/graphite/
vagrant@vagrant:/opt/graphite$ ls
bin  conf  examples  lib  storage  webapp
vagrant@vagrant:/opt/graphite$ ./python manage.py changepassword admin
```

2. vagrant@vagrant: /opt/graphite/storage (ssh)

vagrant@vagrant: /opt/graphit...

```
--> default: * Starting statistics collection and monitoring daemon collectd
--> default: ...done.
--> default: + service apache2 start
--> default: * Starting web server apache2
--> default: *
--> default: + service statsite start figures the following host ports to forward to the private vagrant box:
--> default: statsite start/running, process 21609
```

blackmacbook:synthesize dave\$ vagrant ssh

Welcome to Ubuntu 14.04.3 LTS (GNU/Linux 3.19.0-25-generic x86_64)

```
* Documentation: https://help.ubuntu.com/
vagrant@vagrant:~$ sudo lsof -i -P | grep LISTEN
rpcbind    629      root    8u   IPv4  10431      0t0    TCP *:111 (LISTEN)
rpcbind    629      root    11u   IPv6  10434      0t0    TCP *:111 (LISTEN)
rpc.statd  669     statd    9u   IPv4  11425      0t0    TCP *:39489 (LISTEN)
rpc.statd  669     statd    11u   IPv6  11431      0t0    TCP *:51618 (LISTEN)
sshd      824      root    3u   IPv4  10708      0t0    TCP *:22 (LISTEN)
sshd      824      root    4u   IPv6  10710      0t0    TCP *:22 (LISTEN)
carbon-ca 21466    carbon    9u   IPv4  30382      0t0    TCP *:2003 (LISTEN)
carbon-ca 21466    carbon    10u   IPv4  30383      0t0    TCP *:2004 (LISTEN)
carbon-ca 21466    carbon    11u   IPv4  30384      0t0    TCP *:7002 (LISTEN)
memcached 21480 memcache 26u   IPv4  30758      0t0    TCP localhost:11211 (LISTEN)
apache2    21521    root    4u   IPv6  30545      0t0    TCP *:80 (LISTEN)
apache2    21521    root    6u   IPv6  30549      0t0    TCP *:443 (LISTEN)
apache2    21525 www-data  4u   IPv6  30545      0t0    TCP *:80 (LISTEN)
apache2    21525 www-data  6u   IPv6  30549      0t0    TCP *:443 (LISTEN)
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apache2    21526 www-data  6u   IPv6  30549      0t0    TCP *:443 (LISTEN)
statsite   21609    root    5u   IPv4  30575      0t0    TCP *:8125 (LISTEN)
```

vagrant@vagrant:~\$ cd /opt/graphite/

vagrant@vagrant:/opt/graphite\$ ls

```
bin  conf  examples  lib  storage  webapp can be changed with the following commands:
vagrant@vagrant:/opt/graphite$ cd storage/
vagrant@vagrant:/opt/graphite/storage$ ls
carbon-cache-1.pid  graphite.db  index  lists  log  rrd  whisper
vagrant@vagrant:/opt/graphite/storage$
```

2. vagrant@vagrant: /opt/graphite/storage (ssh)

vagrant@vagrant: /opt/graphit...

```
--> default: * Starting statistics collection and monitoring daemon collectd
--> default: ...done.
--> default: + service apache2 start
--> default: * Starting web server apache2
--> default: *
--> default: + service statsite start figures the following host ports to forward to the private vagrant box:
--> default: statsite start/running, process 21609
```

blackmacbook:synthesize dave\$ vagrant ssh

Welcome to Ubuntu 14.04.3 LTS (GNU/Linux 3.19.0-25-generic x86_64)

```
* Documentation: https://help.ubuntu.com/
vagrant@vagrant:~$ sudo lsof -i -P | grep LISTEN
rpcbind    629      root    8u   IPv4  10431      0t0  TCP *:111 (LISTEN)
rpcbind    629      root    11u   IPv6  10434      0t0  TCP *:111 (LISTEN)
rpc.statd   669     statd    9u   IPv4  11425      0t0  TCP *:39489 (LISTEN)
rpc.statd   669     statd    11u   IPv6  11431      0t0  TCP *:51618 (LISTEN)
sshd       824      root    3u   IPv4  10708      0t0  TCP *:22 (LISTEN)
sshd       824      root    4u   IPv6  10710      0t0  TCP *:22 (LISTEN)
carbon-ca  21466    carbon   9u   IPv4  30382      0t0  TCP *:2003 (LISTEN)
carbon-ca  21466    carbon   10u   IPv4  30383      0t0  TCP *:2004 (LISTEN)
carbon-ca  21466    carbon   11u   IPv4  30384      0t0  TCP *:7002 (LISTEN)
memcached  21480  memcache 26u   IPv4  30758      0t0  TCP localhost:11211 (LISTEN)
apache2    21521    root    4u   IPv6  30545      0t0  TCP *:80 (LISTEN)
apache2    21521    root    6u   IPv6  30549      0t0  TCP *:443 (LISTEN)
apache2    21525  www-data  4u   IPv6  30545      0t0  TCP *:80 (LISTEN)
apache2    21525  www-data  6u   IPv6  30549      0t0  TCP *:443 (LISTEN)
apache2    21526  www-data  4u   IPv6  30545      0t0  TCP *:80 (LISTEN)
apache2    21526  www-data  6u   IPv6  30549      0t0  TCP *:443 (LISTEN)
statsite   21609    root    5u   IPv4  30575      0t0  TCP *:8125 (LISTEN)
```

vagrant@vagrant:~\$ cd /opt/graphite/

vagrant@vagrant:/opt/graphite\$ ls

```
bin  conf  examples  lib  storage  webapp can be changed with the following commands:
vagrant@vagrant:/opt/graphite$ cd storage/
vagrant@vagrant:/opt/graphite/storage$ ls
carbon-cache-1.pid  graphite.db  index  lists  log  rrd  whisper
vagrant@vagrant:/opt/graphite/storage$
```

2. vagrant@vagrant: /opt/graphite/storage (ssh)

vagrant@vagrant: /opt/graphit...

```
--> default: * Starting statistics collection and monitoring daemon collectd
--> default: ...done.
--> default: + service apache2 start
--> default: * Starting web server apache2
--> default: *
--> default: + service statsite start
--> default: * Starting graphite statsite statsite
--> default: statsite start/running, process 21609
```

blackmacbook:synthesize dave\$ vagrant ssh

Welcome to Ubuntu 14.04.3 LTS (GNU/Linux 3.19.0-25-generic x86_64)

* Documentation: https://help.ubuntu.com/

```
vagrant@vagrant:~$ sudo lsof -i -P | grep LISTEN
rpcbind    629      root    8u   IPv4  10431      0t0    TCP *:111 (LISTEN)
rpcbind    629      root    11u   IPv6  10434      0t0    TCP *:111 (LISTEN)
rpc.statd  669      statd    9u   IPv4  11425      0t0    TCP *:39489 (LISTEN)
rpc.statd  669      statd    11u   IPv6  11431      0t0    TCP *:51618 (LISTEN)
sshd      824      root    3u   IPv4  10708      0t0    TCP *:22 (LISTEN)
sshd      824      root    4u   IPv6  10710      0t0    TCP *:22 (LISTEN)
carbon-ca 21466    carbon    9u   IPv4  30382      0t0    TCP *:2003 (LISTEN)
carbon-ca 21466    carbon    10u   IPv4  30383      0t0    TCP *:2004 (LISTEN)
carbon-ca 21466    carbon    11u   IPv4  30384      0t0    TCP *:7002 (LISTEN)
memcached 21480 memcache 26u   IPv4  30758      0t0    TCP localhost:11211 (LISTEN)
apache2    21521    root    4u   IPv6  30545      0t0    TCP *:80 (LISTEN)
apache2    21521    root    6u   IPv6  30549      0t0    TCP *:443 (LISTEN)
apache2    21525 www-data  4u   IPv6  30545      0t0    TCP *:80 (LISTEN)
apache2    21525 www-data  6u   IPv6  30549      0t0    TCP *:443 (LISTEN)
apache2    21526 www-data  4u   IPv6  30545      0t0    TCP *:80 (LISTEN)
apache2    21526 www-data  6u   IPv6  30549      0t0    TCP *:443 (LISTEN)
statsite   21609    root    5u   IPv4  30575      0t0    TCP *:8125 (LISTEN)
```

vagrant@vagrant:~\$ cd /opt/graphite/

vagrant@vagrant:/opt/graphite\$ ls

```
bin  conf  examples  lib  storage  webapp
can be changed with the following commands:
vagrant@vagrant:/opt/graphite$ cd storage/
vagrant@vagrant:/opt/graphite/storage$ ls
carbon-cache-1.pid  graphite.db  index  lists  log  rrd  whisper
vagrant@vagrant:/opt/graphite/storage$
```

2. vagrant@vagrant: /opt/graphite/storage/whisper (ssh)

```
vagrant@vagrant: /opt/graphit...
--> default: * Starting web server apache2
--> default: *
--> default: + service statsite start
--> default: statsite start/running, process 21609
blackmacbook:synthesize dave$ vagrant ssh
Welcome to Ubuntu 14.04.3 LTS (GNU/Linux 3.19.0-25-generic x86_64)

 * Documentation: https://help.ubuntu.com/
vagrant@vagrant:~$ sudo lsof -i -P | grep LISTEN
rpcbind    629      root    8u   IPv4  10431    0t0    TCP *:111 (LISTEN)
rpcbind    629      root   11u   IPv6  10434    0t0    TCP *:111 (LISTEN)
rpc.statd  669    statd    9u   IPv4  11425    0t0    TCP *:39489 (LISTEN)
rpc.statd  669    statd   11u   IPv6  11431    0t0    TCP *:51618 (LISTEN)
sshd      824      root    3u   IPv4  10708    0t0    TCP *:22 (LISTEN)
sshd      824      root    4u   IPv6  10710    0t0    TCP *:22 (LISTEN)
carbon-ca 21466   carbon   9u   IPv4  30382    0t0    TCP *:2003 (LISTEN)
carbon-ca 21466   carbon   10u   IPv4  30383    0t0    TCP *:2004 (LISTEN)
carbon-ca 21466   carbon   11u   IPv4  30384    0t0    TCP *:7002 (LISTEN)
memcached 21480 memcache 26u   IPv4  30758    0t0    TCP localhost:11211 (LISTEN)
apache2   21521      root    4u   IPv6  30545    0t0    TCP *:80 (LISTEN)
apache2   21521      root    6u   IPv6  30549    0t0    TCP *:443 (LISTEN)
apache2   21525 www-data  4u   IPv6  30545    0t0    TCP *:80 (LISTEN)
apache2   21525 www-data  6u   IPv6  30549    0t0    TCP *:443 (LISTEN)
apache2   21526 www-data  4u   IPv6  30545    0t0    TCP *:80 (LISTEN)
apache2   21526 www-data  6u   IPv6  30549    0t0    TCP *:443 (LISTEN)
statsite  21609      root    5u   IPv4  30575    0t0    TCP *:8125 (LISTEN)
vagrant@vagrant:~$ cd /opt/graphite/
vagrant@vagrant:/opt/graphite$ ls
bin conf examples lib storage webapp
vagrant@vagrant:/opt/graphite$ cd storage/
vagrant@vagrant:/opt/graphite/storage$ ls
carbon-cache-1.pid graphite.db index lists log rrd whisper
vagrant@vagrant:/opt/graphite/storage$ cd whisper/
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd
vagrant@vagrant:/opt/graphite/storage/whisper$ cd /opt/graphite/webapp/graphite
vagrant@vagrant:/opt/graphite/storage/whisper$ changepassword admin
```

2. vagrant@vagrant: /opt/graphite/storage/whisper/collectd/graphite (ssh)

vagrant@vagrant: /opt/graphit...

```
* Documentation: https://help.ubuntu.com/
vagrant@vagrant:~$ sudo lsof -i -P | grep LISTEN
rpcbind    629      root    8u  IPv4  10431      0t0  TCP *:111 (LISTEN)
rpcbind    629      root   11u  IPv6  10434      0t0  TCP *:111 (LISTEN)
rpc.statd  669      statd    9u  IPv4  11425      0t0  TCP *:39489 (LISTEN)
rpc.statd  669      statd   11u  IPv6  11431      0t0  TCP *:51618 (LISTEN)
sshd      824      root    3u  IPv4  10708      0t0  TCP *:22 (LISTEN)
sshd      824      root    4u  IPv6  10710      0t0  TCP *:22 (LISTEN)
carbon-ca 21466    carbon    9u  IPv4  30382      0t0  TCP *:2003 (LISTEN)
carbon-ca 21466    carbon   10u  IPv4  30383      0t0  TCP *:2004 (LISTEN)
carbon-ca 21466    carbon   11u  IPv4  30384      0t0  TCP *:7002 (LISTEN)
memcached 21480 memcache   26u  IPv4  30758      0t0  TCP localhost:11211 (LISTEN)
apache2   21521      root    4u  IPv6  30545      0t0  TCP *:80 (LISTEN)
apache2   21521      root    6u  IPv6  30549      0t0  TCP *:443 (LISTEN)
apache2   21525 www-data   4u  IPv6  30545      0t0  TCP *:80 (LISTEN)
apache2   21525 www-data   6u  IPv6  30549      0t0  TCP *:443 (LISTEN)
apache2   21526 www-data   4u  IPv6  30545      0t0  TCP *:80 (LISTEN)
apache2   21526 www-data   6u  IPv6  30549      0t0  TCP *:443 (LISTEN)
statsite  21609      root    5u  IPv4  30575      0t0  TCP *:8125 (LISTEN)
```

vagrant@vagrant:~\$ cd /opt/graphite/

vagrant@vagrant:/opt/graphite\$ ls

```
bin  conf  examples  lib  storage  webapp
```

vagrant@vagrant:/opt/graphite\$ cd storage/

vagrant@vagrant:/opt/graphite/storage\$ ls

```
carbon-cache-1.pid  graphite.db  index  lists  log  rrd  whisper
```

vagrant@vagrant:/opt/graphite/storage\$ cd whisper/

vagrant@vagrant:/opt/graphite/storage/whisper\$ ls

```
carbon  collectd
```

vagrant@vagrant:/opt/graphite/storage/whisper\$ cd collectd/

vagrant@vagrant:/opt/graphite/storage/whisper/collectd\$ ls

```
graphite
```

vagrant@vagrant:/opt/graphite/storage/whisper/collectd\$ cd graphite/

vagrant@vagrant:/opt/graphite/storage/whisper/collectd/graphite\$ ls

apache-graphite-web	cpu-1	disk-dm-1	disk-sda1	disk-sda5	filecount-whisper	interface-lo	memcached	processes	tail-graphite_web
cpu-0		disk-dm-0	disk-sda	disk-sda2	entropy	interface-eth0	load	memory	swap

vagrant@vagrant:/opt/graphite/storage/whisper/collectd/graphite\$ cd

vagrant@vagrant: /opt/graphit...

```
memcached 21480 memcache 26u IPv4 30758 0t0 TCP localhost:11211 (LISTEN)
apache2 21521 root 4u IPv6 30545 0t0 TCP *:80 (LISTEN)
apache2 21521 root 6u IPv6 30549 0t0 TCP *:443 (LISTEN)
apache2 21525 www-data 4u IPv6 30545 0t0 TCP *:80 (LISTEN)
apache2 21525 www-data 6u IPv6 30549 0t0 TCP *:443 (LISTEN)
apache2 21526 www-data 4u IPv6 30545 0t0 TCP *:80 (LISTEN)
apache2 21526 www-data 6u IPv6 30549 0t0 TCP *:443 (LISTEN)
statsite 21609 root 5u IPv4 30575 0t0 TCP *:8125 (LISTEN)

vagrant@vagrant:~$ cd /opt/graphite/
vagrant@vagrant:/opt/graphite$ ls
bin conf examples lib storage webapp

vagrant@vagrant:/opt/graphite$ cd storage/
vagrant@vagrant:/opt/graphite/storage$ ls
carbon-cache-1.pid graphite.db index lists log rrd whisper

vagrant@vagrant:/opt/graphite/storage$ cd whisper/
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd

vagrant@vagrant:/opt/graphite/storage/collectd$ ls
graphite

vagrant@vagrant:/opt/graphite/storage/collectd$ cd graphite/
vagrant@vagrant:/opt/graphite/storage/collectd/graphite$ ls
apache-graphite-web cpu-1 disk-dm-1 disk-sda1 disk-sda5 filecount-whisper interface-lo memcached processes tail-graphite_web
cpu-0 disk-dm-0 disk-sda disk-sda2 entropy interface-eth0 load memory swap

vagrant@vagrant:/opt/graphite/storage/collectd/graphite$ cd cpu-0
vagrant@vagrant:/opt/graphite/storage/collectd/graphite/cpu-0$ ls -l
total 54976
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-idle.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-interrupt.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-nice.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-softirq.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-steal.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-system.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-user.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-wait.wsp
```

2. vagrant@vagrant: /opt/graphite/conf (ssh)

```
vagrant@vagrant: /opt/graphit...
vagrant@vagrant:/opt/graphite/storage/whisper/collectd/graphite$ ls
apache-graphite-web  cpu-1      disk-dm-1  disk-sda1  disk-sda5  filecount-whisper  interface-lo  memcached  processes  tail-graphite_web
cpu-0                  disk-dm-0  disk-sda   disk-sda2  entropy    interface-eth0  load        memory     swap
vagrant@vagrant:/opt/graphite/storage/whisper/collectd/graphite$ cd cpu-0
vagrant@vagrant:/opt/graphite/storage/whisper/collectd/graphite/cpu-0$ ls -l
total 54976
Synthesizes configures the following host ports to forward to the private vagrant box:
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-idle.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-interrupt.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-nice.wsp guest: 443, host: 8443
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-softirq.wsp guest: 8125, host: 8125
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-steal.wsp guest: 2003, host: 22003
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-system.wsp guest: 2004, host: 22004
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-user.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-wait.wsp
vagrant@vagrant:/opt/graphite/storage/whisper/collectd/graphite/cpu-0$ cd /opt/graphite/conf/
vagrant@vagrant:/opt/graphite/conf$ ls
carbon.conf  examples  graphite.wsgi  graphTemplates.conf  storage-aggregation.conf  storage-schemas.conf
vagrant@vagrant:/opt/graphite/conf$ cat storage-schemas.conf
# Schema definitions for Whisper files. Entries are scanned in order,
# and first match wins. This file is scanned for changes every 60 seconds.
#
# [name]          Administration
# pattern = regex
# retentions = timePerPoint:timeToStore, timePerPoint:timeToStore, ...
# There is a superuser (Django) account that grants access to the administrative features in the backend Django
# Carbon's internal metrics. This entry should match what is specified in
# CARBON_METRIC_PREFIX and CARBON_METRIC_INTERVAL settings
#
# [collectd]
# pattern = ^collectd\.
#           > username admin
#           > password graphite_no_synthetize
#           > retentions 10s:1w, 60s:1y
# These credentials can be changed with the following commands:
#
# [default]
# pattern = .*
# retentions = 60s:1y
#           > cd /root/graphite/webapp/graphite
#           > manage.py changepassword admin
vagrant@vagrant:/opt/graphite/conf$
```

2. vagrant@vagrant: /opt/graphite/storage/log (ssh)

```
vagrant@vagrant: /opt/graphit...
vagrant@vagrant:/opt/graphite/storage/whisper/collectd/graphite$ cd cpu-0
vagrant@vagrant:/opt/graphite/storage/whisper/collectd/graphite/cpu-0$ ls -l
total 54976
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-idle.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-interrupt.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-nice.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-softirq.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-steal.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-system.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-user.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-wait.wsp
vagrant@vagrant:/opt/graphite/storage/whisper/collectd/graphite/cpu-0$ cd /opt/graphite/conf/
vagrant@vagrant:/opt/graphite/conf$ ls
carbon.conf examples graphite.wsgi graphTemplates.conf storage-aggregation.conf storage-schemas.conf
vagrant@vagrant:/opt/graphite/conf$ cat storage-schemas.conf
# Schema definitions for Whisper files. Entries are scanned in order,
# and first match wins. This file is scanned for changes every 60 seconds.
#
# [name]
# pattern = regex
# retentions = timePerPoint:timeToStore, timePerPoint:timeToStore, ...
#
# Carbon's internal metrics. This entry should match what is specified in
# CARBON_METRIC_PREFIX and CARBON_METRIC_INTERVAL settings
#
[collectd]
pattern = ^collectd$.
retentions = 10s:1w, 60s:1y username admin

[default]
pattern = .*
retentions = 60s:1y These credentials can be changed with the following commands:
vagrant@vagrant:/opt/graphite/conf$ cd ../storage/log/
vagrant@vagrant:/opt/graphite/storage/log$ ls
apache2 carbon-cache webapp
vagrant@vagrant:/opt/graphite/storage/log$ curl -s http://127.0.0.1:8080/graphite
vagrant@vagrant:/opt/graphite/storage/log$ curl -s http://127.0.0.1:8080/graphite
```

2. vagrant@vagrant: /opt/graphite/storage/log/carbon-cache/carbon-cache-1 (ssh)

```
vagrant@vagrant: /opt/graphit...
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-softirq.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-steal.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-system.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-user.wsp
-rw-r--r-- 1 carbon carbon 7033000 Sep 11 21:07 cpu-wait.wsp
vagrant@vagrant:/opt/graphite/storage/whisper/collectd/graphite/cpu-0$ cd /opt/graphite/conf/
vagrant@vagrant:/opt/graphite/conf$ ls
carbon.conf examples graphite.wsgi graphTemplates.conf storage-aggregation.conf storage-schemas.conf
vagrant@vagrant:/opt/graphite/conf$ cat storage-schemas.conf
# Schema definitions for Whisper files. Entries are scanned in order,
# and first match wins. This file is scanned for changes every 60 seconds.
#
# [name]
# pattern = regex
# retentions = timePerPoint:timeToStore, timePerPoint:timeToStore, ...
#
# Carbon's internal metrics. This entry should match what is specified in
# CARBON_METRIC_PREFIX and CARBON_METRIC_INTERVAL settings

[collectd]
pattern = ^collectd\.
retentions = 10s:1w, 60s:1y

[default]
pattern = .*
retentions = 60s:1y
vagrant@vagrant:/opt/graphite/conf$ cd ../storage/log/
vagrant@vagrant:/opt/graphite/storage/log$ ls
apache2 carbon-cache webapp
vagrant@vagrant:/opt/graphite/storage/log$ cd carbon-cache/
vagrant@vagrant:/opt/graphite/storage/log/carbon-cache$ ls
carbon-cache-1
vagrant@vagrant:/opt/graphite/storage/log/carbon-cache$ cd carbon-cache-1/
vagrant@vagrant:/opt/graphite/storage/log/carbon-cache/carbon-cache-1$ ls
console.log creates.log listener.log
vagrant@vagrant:/opt/graphite/storage/log/carbon-cache/carbon-cache-1$
```

2. vagrant@vagrant: /opt/graphite/storage/log/carbon-cache/carbon-cache-1 (ssh)

vagrant@vagrant: /opt/graphit...

```
average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.cpuUsage matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.cpuUsage matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/cpuUsage.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.creates matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.creates matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/creates.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.cache.overflow matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.cache.overflow matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/cache/overflow.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.cache.queries matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.cache.queries matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/cache/queries.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.whitelistRejects matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.whitelistRejects matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/whitelistRejects.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.avgUpdateTime matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.avgUpdateTime matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/avgUpdateTime.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.memUsage matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.memUsage matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/memUsage.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.errors matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.errors matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/errors.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.updateOperations matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.updateOperations matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/updateOperations.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
vagrant@vagrant:/opt/graphite/storage/log/carbon-cache/carbon-cache-1$
```

2. vagrant@vagrant: /opt/graphite/storage/log/carbon-cache/carbon-cache-1 (ssh)

vagrant@vagrant: /opt/graphit...

```
average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.cpuUsage matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.cpuUsage matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/cpuUsage.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.creates matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.creates matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/creates.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.cache.overflow matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.cache.overflow matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/cache/overflow.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.cache.queries matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.cache.queries matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/cache/queries.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.whitelistRejects matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.whitelistRejects matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/whitelistRejects.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.avgUpdateTime matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.avgUpdateTime matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/avgUpdateTime.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.memUsage matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.memUsage matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/memUsage.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.errors matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.errors matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/errors.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.updateOperations matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.updateOperations matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/updateOperations.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
vagrant@vagrant:/opt/graphite/storage/log/carbon-cache/carbon-cache-1$
```

2. vagrant@vagrant: /opt/graphite/storage/log/carbon-cache/carbon-cache-1 (ssh)

vagrant@vagrant: /opt/graphit...

```
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.cache.queries matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/cache/queries.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.whitelistRejects matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.whitelistRejects matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/whitelistRejects.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.avgUpdateTime matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.avgUpdateTime matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/avgUpdateTime.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.memUsage matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.memUsage matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/memUsage.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.errors matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.errors matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/errors.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.updateOperations matched schema default
11/09/2016 21:05:46 :: new metric carbon.agents.vagrant-1.updateOperations matched aggregation schema default_average
11/09/2016 21:05:46 :: creating database file /opt/graphite/storage/whisper/carbon/agents/vagrant-1/updateOperations.wsp (archive=[(60, 525600)] xff=0.5 agg=average)
vagrant@vagrant:/opt/graphite/storage/log/carbon-cache/carbon-cache-1$ cat console.log
11/09/2016 21:04:46 :: Enabling Whisper falllocate support
11/09/2016 21:04:46 :: Using max write strategy for cache
11/09/2016 21:04:46 :: twistd 16.4.0 (/usr/bin/python 2.7.6) starting up.
11/09/2016 21:04:46 :: reactor class: twisted.internet.epollreactor.EPollReactor.
11/09/2016 21:04:46 :: ServerFactory starting on 2003
11/09/2016 21:04:46 :: Starting factory <twisted.internet.protocol.ServerFactory instance at 0x7f587a64c170>
11/09/2016 21:04:46 :: ServerFactory starting on 2004
11/09/2016 21:04:46 :: Starting factory <twisted.internet.protocol.ServerFactory instance at 0x7f587a648b00>
11/09/2016 21:04:46 :: ServerFactory starting on 7002
11/09/2016 21:04:46 :: Starting factory <twisted.internet.protocol.ServerFactory instance at 0x7f587a648a28>
11/09/2016 21:04:46 :: set uid/gid 998/998
11/09/2016 21:04:46 :: Installing SIG_IGN for SIGHUP
vagrant@vagrant:/opt/graphite/storage/log/carbon-cache/carbon-cache-1$
```

2. vagrant@vagrant: /opt/graphite/storage/log/carbon-cache/carbon-cache-1 (ssh)

vagrant@vagrant: /opt/graphit...

```
11/09/2016 21:06:47 :: MetricLineReceiver connection with 127.0.0.1:39059 closed cleanly
11/09/2016 21:06:57 :: MetricLineReceiver connection with 127.0.0.1:39062 established
11/09/2016 21:06:57 :: MetricLineReceiver connection with 127.0.0.1:39062 closed cleanly
11/09/2016 21:07:07 :: MetricLineReceiver connection with 127.0.0.1:39065 established
11/09/2016 21:07:07 :: MetricLineReceiver connection with 127.0.0.1:39065 closed cleanly
11/09/2016 21:07:17 :: MetricLineReceiver connection with 127.0.0.1:39068 established
11/09/2016 21:07:17 :: MetricLineReceiver connection with 127.0.0.1:39068 closed cleanly
11/09/2016 21:07:27 :: MetricLineReceiver connection with 127.0.0.1:39071 established
11/09/2016 21:07:27 :: MetricLineReceiver connection with 127.0.0.1:39071 closed cleanly
11/09/2016 21:07:37 :: MetricLineReceiver connection with 127.0.0.1:39074 established
11/09/2016 21:07:37 :: MetricLineReceiver connection with 127.0.0.1:39074 closed cleanly
11/09/2016 21:07:47 :: MetricLineReceiver connection with 127.0.0.1:39077 established
11/09/2016 21:07:47 :: MetricLineReceiver connection with 127.0.0.1:39077 closed cleanly
11/09/2016 21:07:57 :: MetricLineReceiver connection with 127.0.0.1:39080 established
11/09/2016 21:07:57 :: MetricLineReceiver connection with 127.0.0.1:39080 closed cleanly
11/09/2016 21:08:07 :: MetricLineReceiver connection with 127.0.0.1:39083 established
11/09/2016 21:08:07 :: MetricLineReceiver connection with 127.0.0.1:39083 closed cleanly
11/09/2016 21:08:17 :: MetricLineReceiver connection with 127.0.0.1:39086 established
11/09/2016 21:08:17 :: MetricLineReceiver connection with 127.0.0.1:39086 closed cleanly
11/09/2016 21:08:27 :: MetricLineReceiver connection with 127.0.0.1:39089 established
11/09/2016 21:08:27 :: MetricLineReceiver connection with 127.0.0.1:39089 closed cleanly
11/09/2016 21:08:37 :: MetricLineReceiver connection with 127.0.0.1:39092 established
11/09/2016 21:08:37 :: MetricLineReceiver connection with 127.0.0.1:39092 closed cleanly
11/09/2016 21:08:47 :: MetricLineReceiver connection with 127.0.0.1:39095 established
11/09/2016 21:08:47 :: MetricLineReceiver connection with 127.0.0.1:39095 closed cleanly
11/09/2016 21:08:57 :: MetricLineReceiver connection with 127.0.0.1:39098 established
11/09/2016 21:08:57 :: MetricLineReceiver connection with 127.0.0.1:39098 closed cleanly
11/09/2016 21:09:07 :: MetricLineReceiver connection with 127.0.0.1:39101 established
11/09/2016 21:09:07 :: MetricLineReceiver connection with 127.0.0.1:39101 closed cleanly
11/09/2016 21:09:17 :: MetricLineReceiver connection with 127.0.0.1:39104 established
11/09/2016 21:09:17 :: MetricLineReceiver connection with 127.0.0.1:39104 closed cleanly
11/09/2016 21:09:27 :: MetricLineReceiver connection with 127.0.0.1:39107 established
11/09/2016 21:09:27 :: MetricLineReceiver connection with 127.0.0.1:39107 closed cleanly
11/09/2016 21:09:37 :: MetricLineReceiver connection with 127.0.0.1:39110 established
11/09/2016 21:09:37 :: MetricLineReceiver connection with 127.0.0.1:39110 closed cleanly
```

vagrant@vagrant:/opt/graphite/storage/log/carbon-cache/carbon-cache-1\$

GitHub - obfuscuity/synthesize × https://localhost:8443/ is not safe × New Tab × The Render URL API — GraphiQL ×

Dave

GitHub, Inc. [US] https://github.com/obfuscuity/synthesize

Vagrant

Synthesize configures the following host ports to forward to the private vagrant box:

```
config.vm.network :forwarded_port, guest: 443, host: 8443
config.vm.network :forwarded_port, guest: 8125, host: 8125
config.vm.network :forwarded_port, guest: 2003, host: 22003
config.vm.network :forwarded_port, guest: 2004, host: 22004
```

```
$ cd synthesize
$ vagrant plugin install vagrant-vbguest
$ vagrant up
```

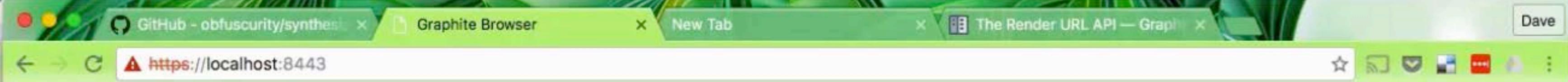
Administration

There is a superuser (Django) account that grants access to the administrative features in the backend Django database. The default credentials are:

- username admin
- password graphite_me_synthesize

These credentials can be changed with the following commands:

```
$ cd /opt/graphite/webapp/graphite
$ sudo python manage.py changepassword admin
```



Graphite

Login Documentation Dashboard events

Graphite Composer

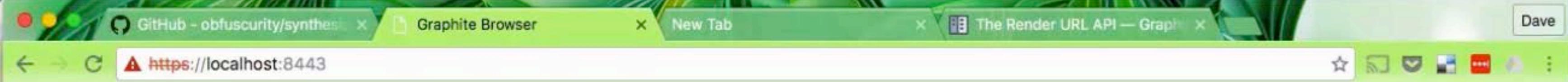
Now showing the past 24 hours

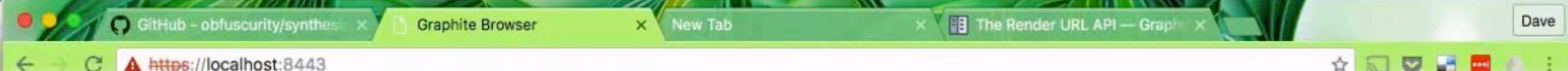
No Data

Metrics

User Graphs

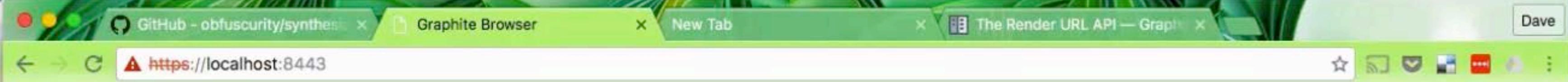
raph Data Auto-Refresh





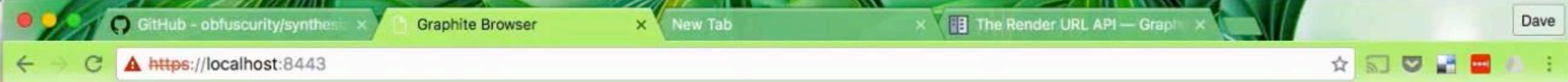
Graphite

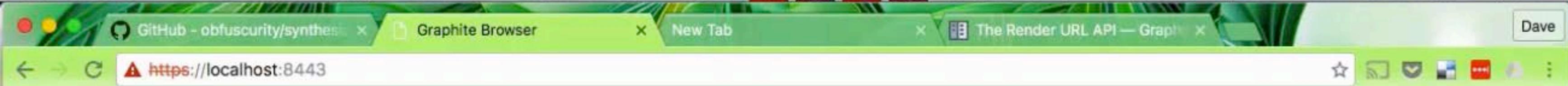
[Login](#) [Documentation](#) [Dashboard](#) [events](#)



Graphite

[Login](#) [Documentation](#) [Dashboard](#) [events](#)





[⚠ https://localhost:8443](https://localhost:8443)

Graphite

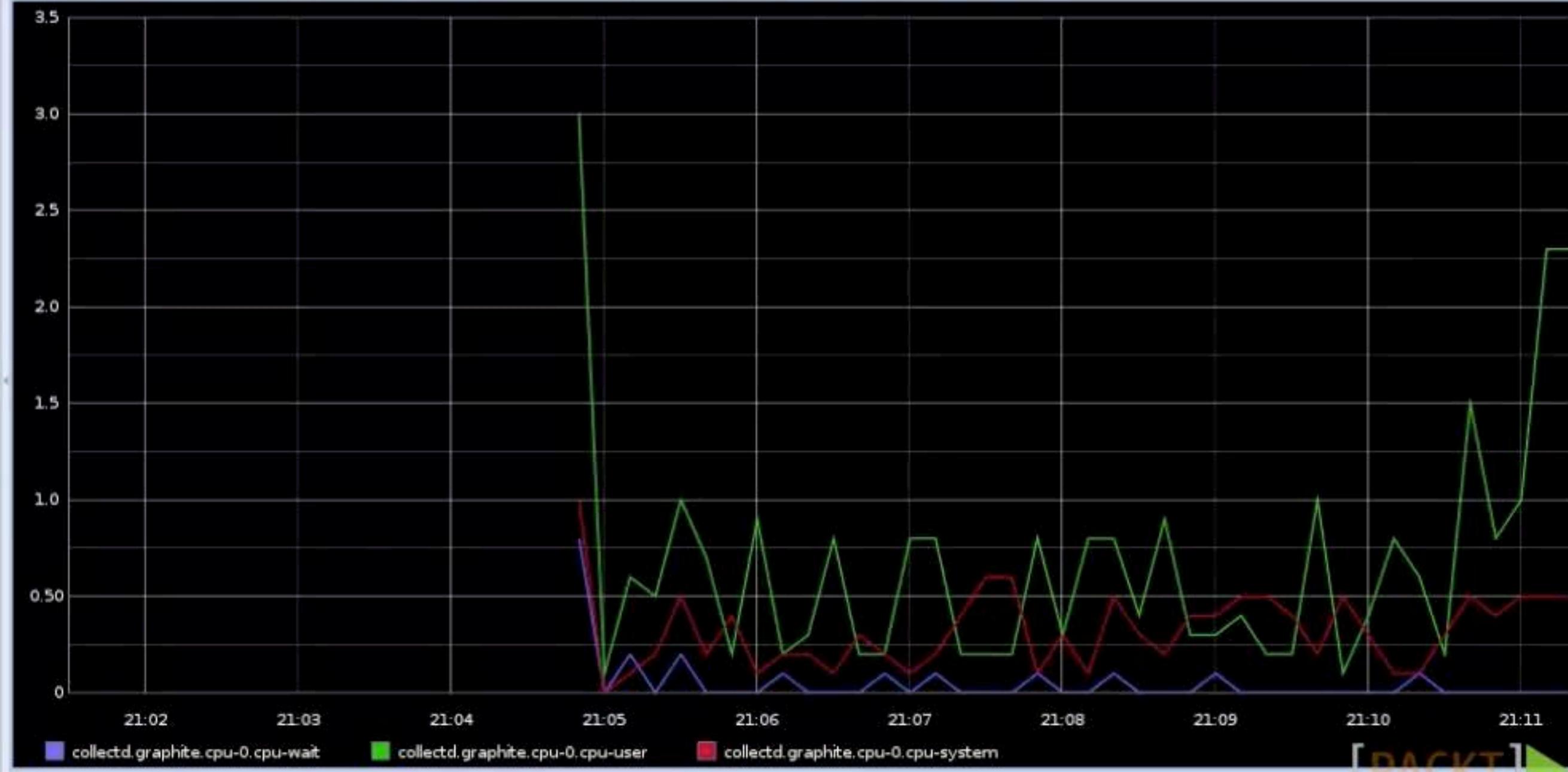
[Login](#) [Documentation](#) [Dashboard](#) [events](#)[Tree](#) [Search](#) [Auto-Completer](#)

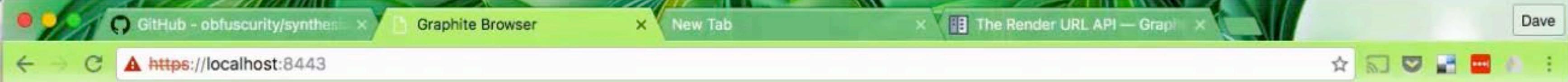
- Metrics
 - carbon
 - collectd
 - graphite
 - apache-graphite-web
 - cpu-0
 - cpu-idle
 - cpu-interrupt
 - cpu-nice
 - cpu-softirq
 - cpu-steal
 - cpu-system
 - cpu-user
 - cpu-wait
 - cpu-1
 - disk-dm-0
 - disk-dm-1
 - disk-sda
 - disk-sda1
 - disk-sda2
 - disk-sda5
 - entropy
 - filecount-whisper
 - interface-eth0
 - interface-io
 - load
 - memcached
 - memory
 - processes

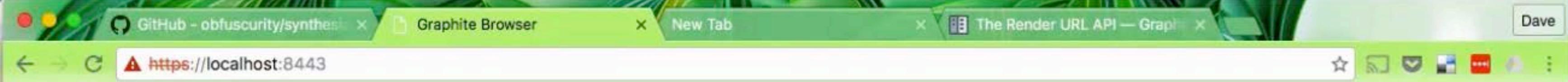
Graphite Composer



Now showing the past 10 minutes

[Graph Options](#)[Graph Data](#)[Auto-Refresh](#)





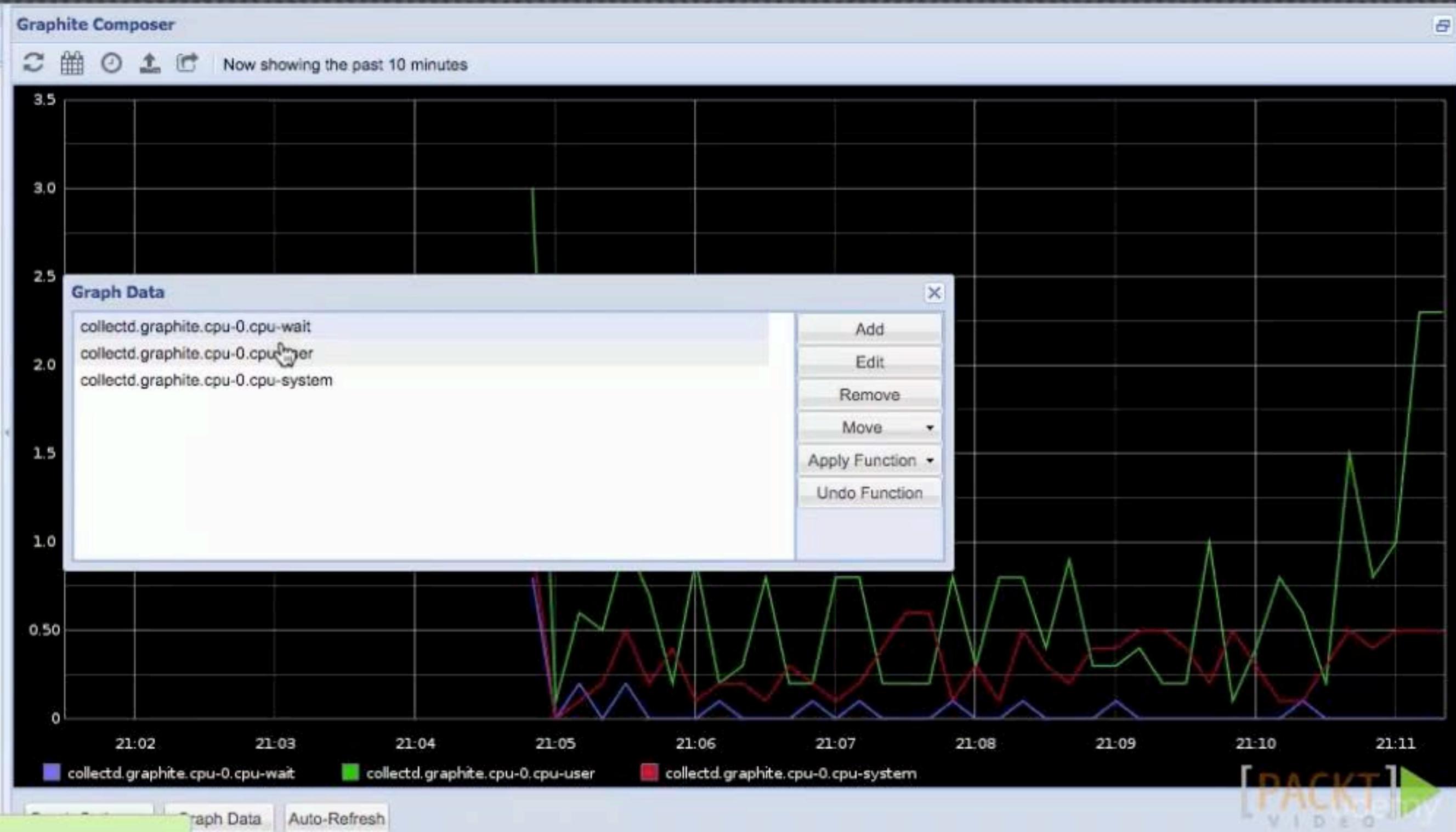
Graphite

Login Documentation Dashboard events

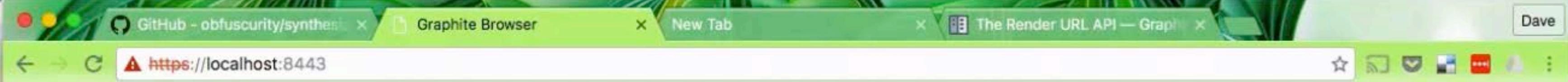
Tree Search Auto-Completer

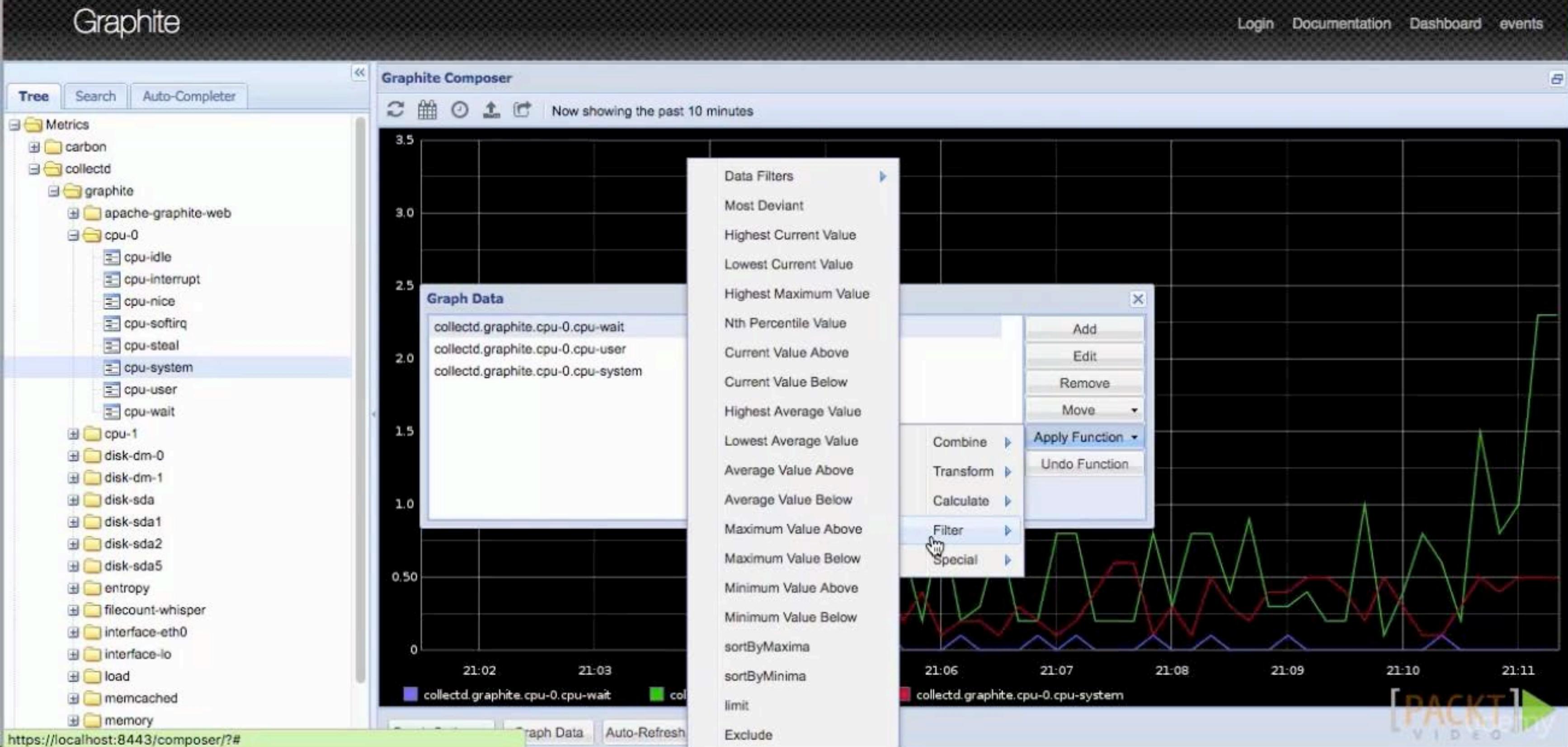
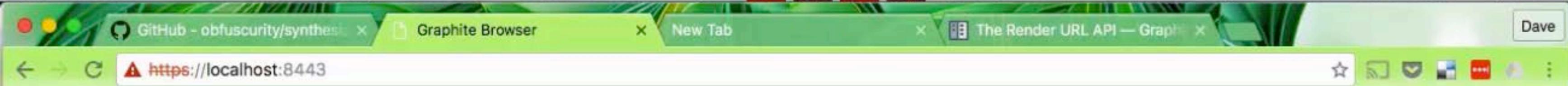
Metrics

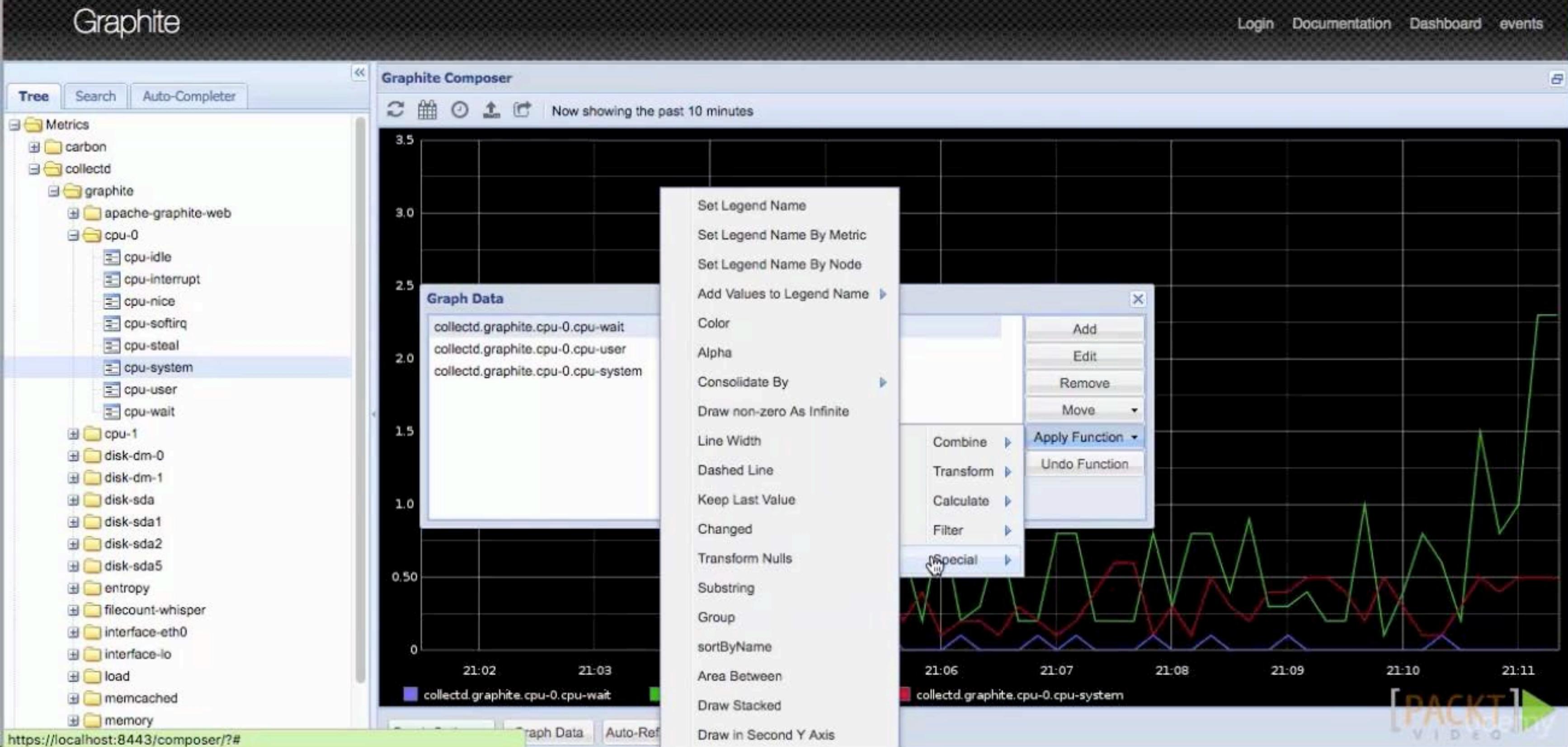
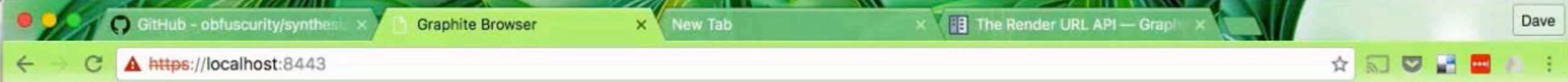
- carbon
- collectd
- graphite
 - apache-graphite-web
 - cpu-0
 - cpu-idle
 - cpu-interrupt
 - cpu-nice
 - cpu-softirq
 - cpu-steal
 - cpu-system
 - cpu-user
 - cpu-wait
 - cpu-1
 - disk-dm-0
 - disk-dm-1
 - disk-sda
 - disk-sda1
 - disk-sda2
 - disk-sda5
 - entropy
 - filecount-whisper
 - interface-eth0
 - interface-io
 - load
 - memcached
 - memory

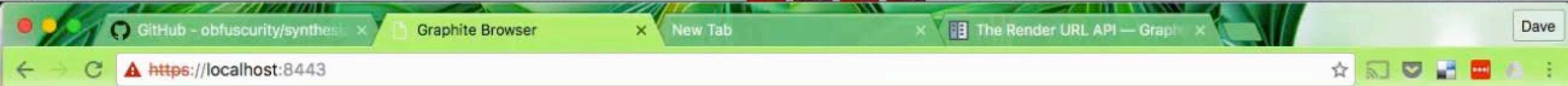


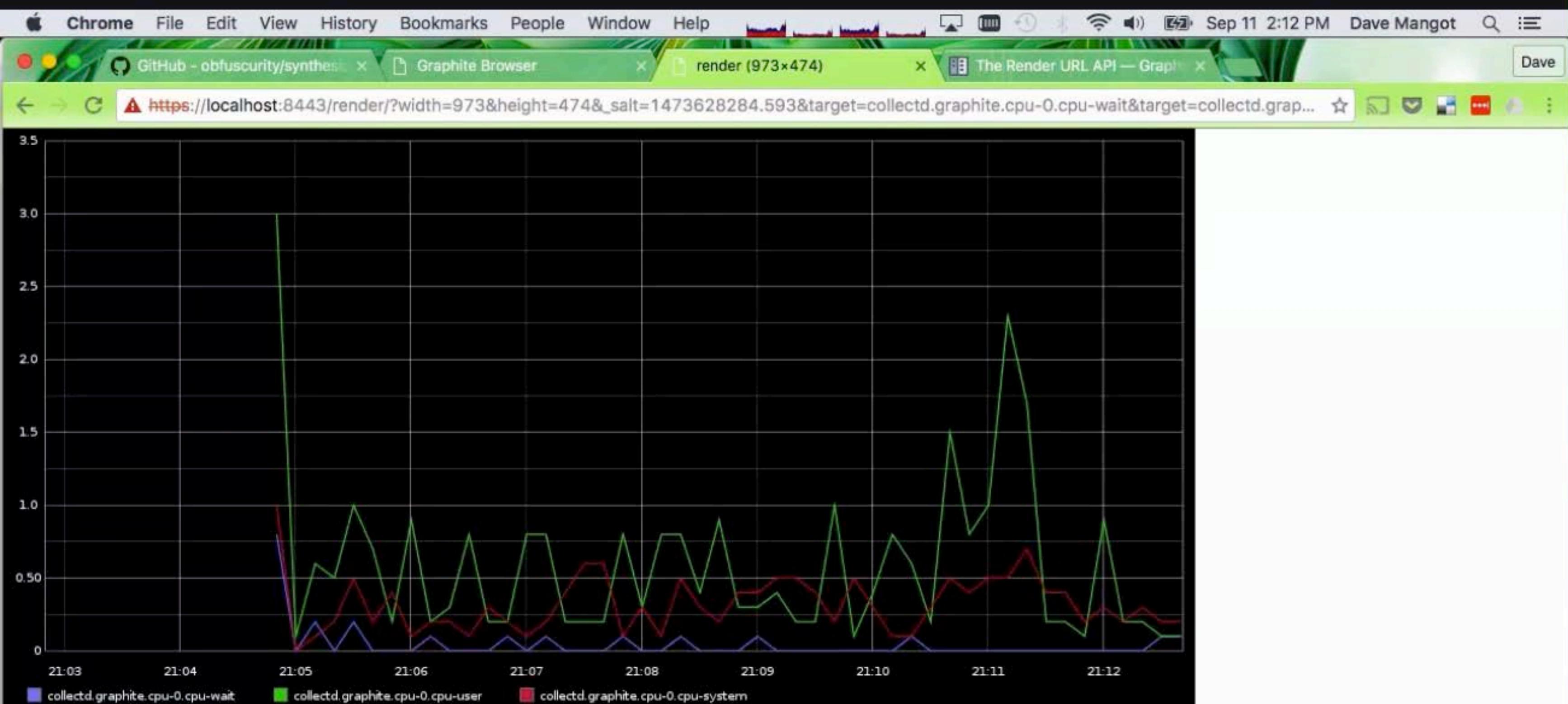












The Render URL API

The graphite webapp provides a `/render` endpoint for generating graphs and retrieving raw data. This endpoint accepts various arguments via query string parameters. These parameters are separated by an ampersand (`&`) and are supplied in the format:

&name=value

To verify that the api is running and able to generate images, open

`http://GRAPHITE_HOST:GRAPHITE_PORT/render` in a browser. The api should return a simple 330x250 image with the text "No Data".

Once the api is running and you've begun [feeding data into carbon](#), use the parameters below to customize your graphs and pull out raw data. For example:

```
# single server load on large graph  
http://graphite/render?target=server.web1.load&height=800&width=600  
  
# average load across web machines over last 12 hours  
http://graphite/render?target=averageSeries(server.web*.load)&from=-12hours
```

Next Video

Getting Your Data into Graphite

Dave Mangot

Video 6.3

Getting Your Data into Graphite



In this Video, we are going to take a look at...

- Bash examples
- Python example
- Where do I go from here

Examples

- <https://github.com/dmangot/Mastering-DevOps.git>
- <https://github.com/obfuscurity/synthesize>
- http://graphite.readthedocs.io/en/latest/render_api.html

Examples



vagrant@vagrant: /opt/graphit... bash
vagrant@vagrant:/opt/graphite/storage/whisper\$ ls
carbon collectd
vagrant@vagrant:/opt/graphite/storage/whisper\$

Examples



vagrant@vagrant: /opt/graphit... bash
blackmacbook:Video3 dave\$ ls
1poc.sh 2bashexample.sh 3pythonexample.sh
blackmacbook:Video3 dave\$

2. bash



1poc.sh — /Users/dave/Google Drive/Mangot.Mastering.DevOps/Mastering-DevOps

```
1poc.sh 2bashexample.sh 3pythonexample.sh
1 echo mastering.devops.section.6 3 `date +%s` | nc -w 3 localhost 22003
2
```

Mastering-DevOps

- > git
- > Section4
- > Section5
- Section6
- Video3
 - 1poc.sh
 - 2bashexample.sh
 - 3pythonexample.sh
- Video4
- Video5
- Icon
- Section7
- .DS_Store
- .gitignore
- LICENSE
- README.md

Section6/Video3/1poc.sh 2:1

[PACKT]



2. bash

vagrant@vagrant: /opt/graphit... bash

blackmacbook:Video3 dave\$ ls

1poc.sh 2bashexample.sh 3pythonexample.sh

blackmacbook:Video3 dave\$ echo mastering.devops.section.6 3 `date +%s` | nc -w 3 localhost 22003

blackmacbook:Video3 dave\$



vagrant@vagrant: /opt/graphit... bash
vagrant@vagrant:/opt/graphite/storage/whisper\$ ls
carbon collectd
vagrant@vagrant:/opt/graphite/storage/whisper\$ ls
carbon collectd mastering
vagrant@vagrant:/opt/graphite/storage/whisper\$



2. vagrant@vagrant: /opt/graphite/storage/whisper (ssh)

vagrant@vagrant: /opt/graphit... bash

vagrant@vagrant:/opt/graphite/storage/whisper\$ ls

carbon collectd

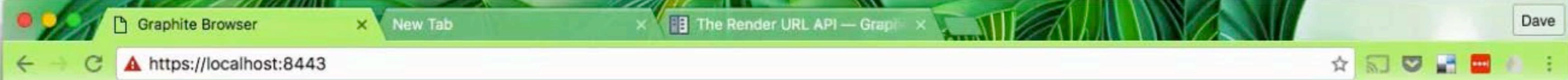
vagrant@vagrant:/opt/graphite/storage/whisper\$ ls

carbon collectd mastering

vagrant@vagrant:/opt/graphite/storage/whisper\$ ls mastering/devops/section/6.wsp

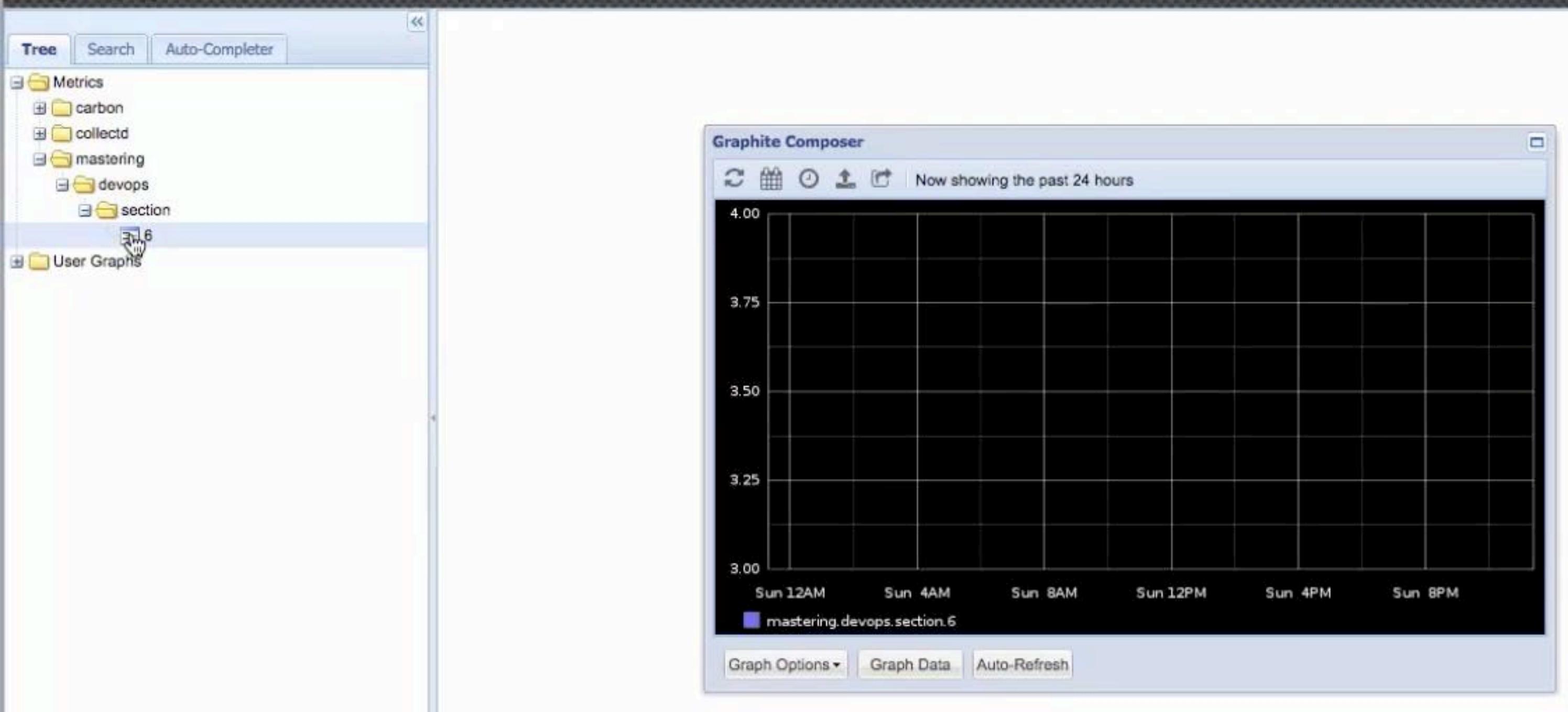
mastering/devops/section/6.wsp

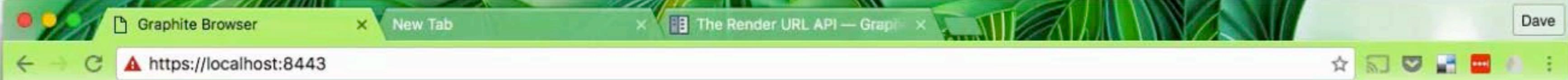
vagrant@vagrant:/opt/graphite/storage/whisper\$



Graphite

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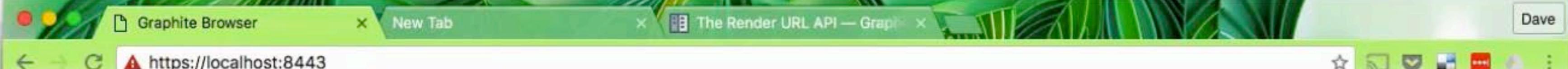




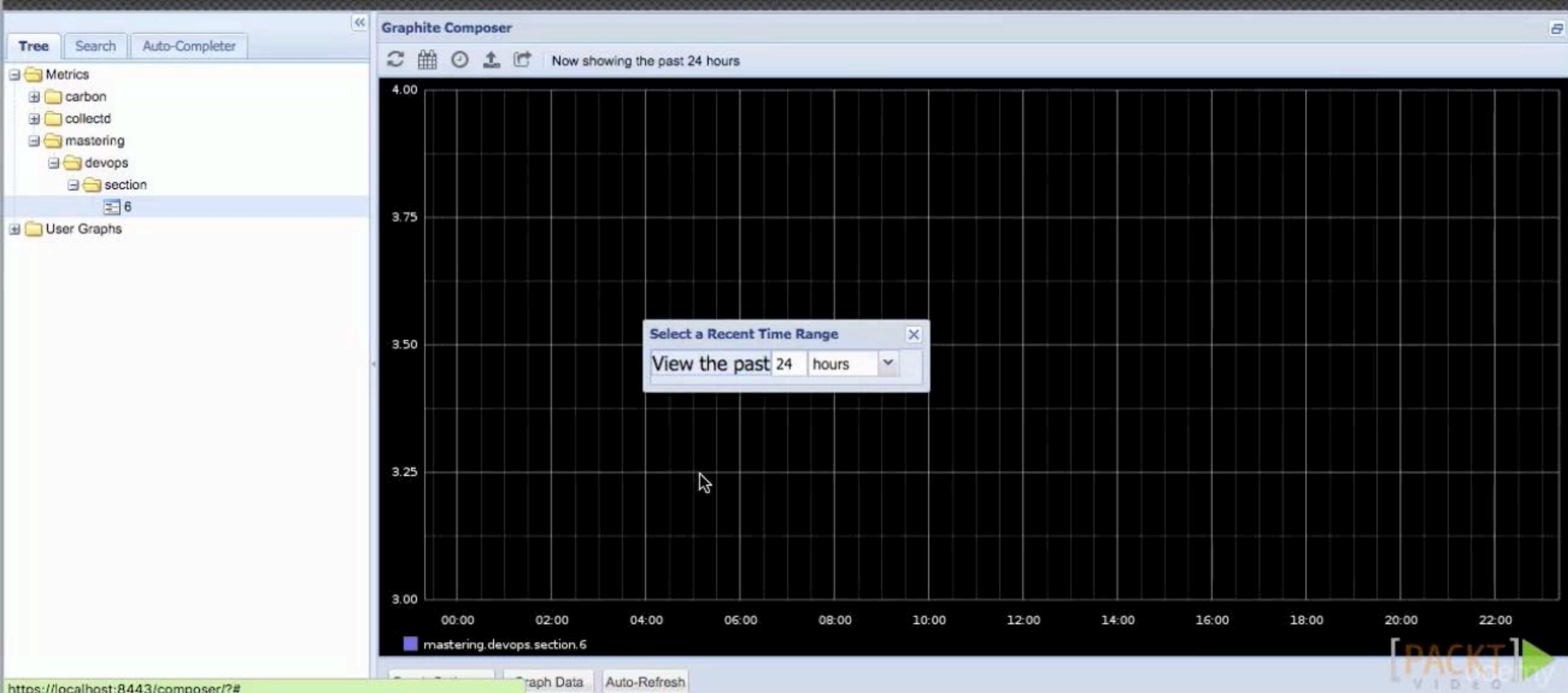
Graphite

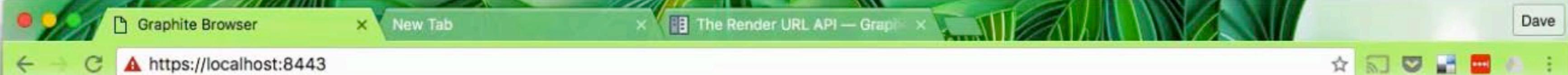
Login Documentation Dashboard events



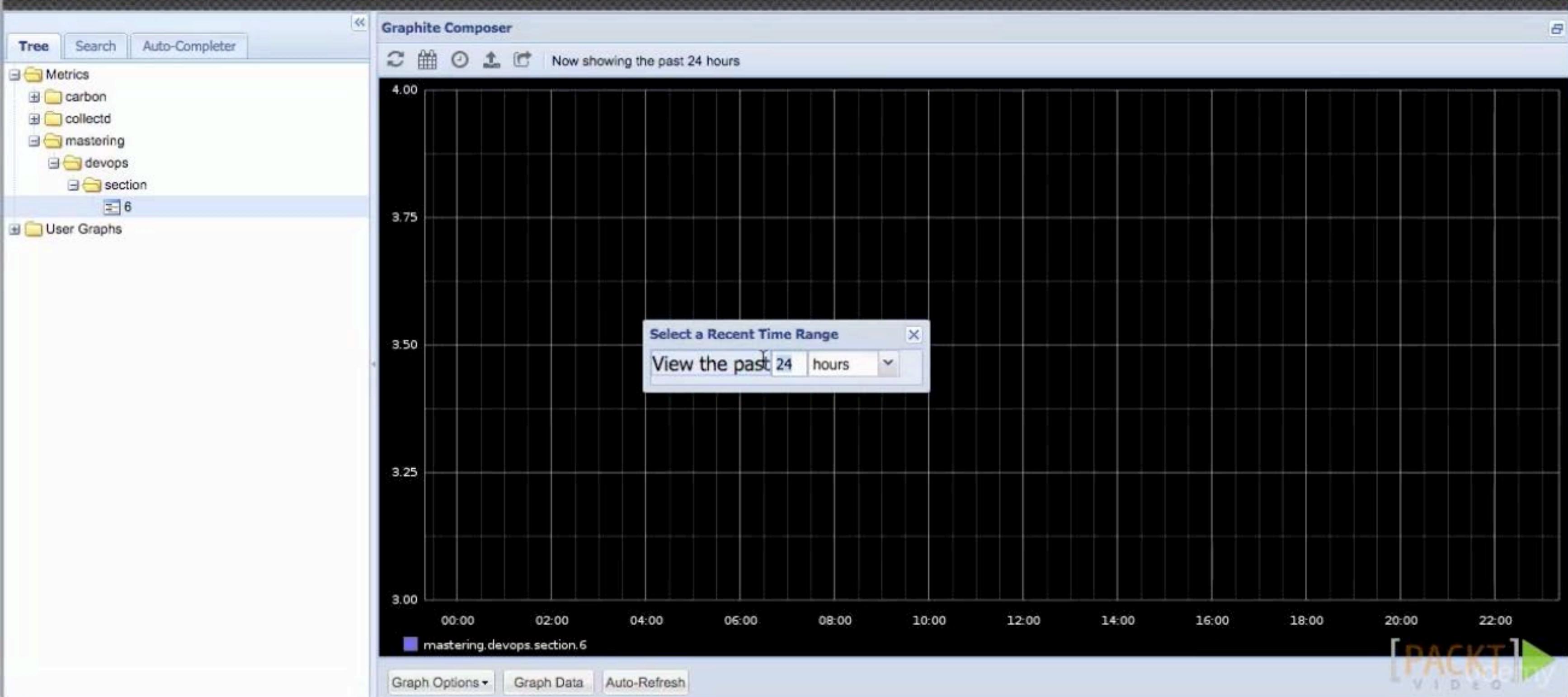


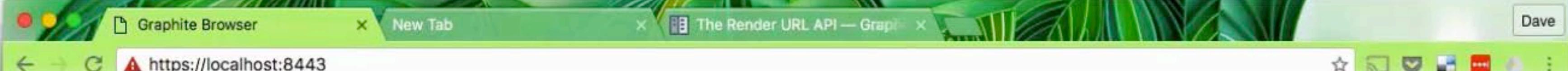
Graphite

[Login](#) [Documentation](#) [Dashboard](#) [events](#)



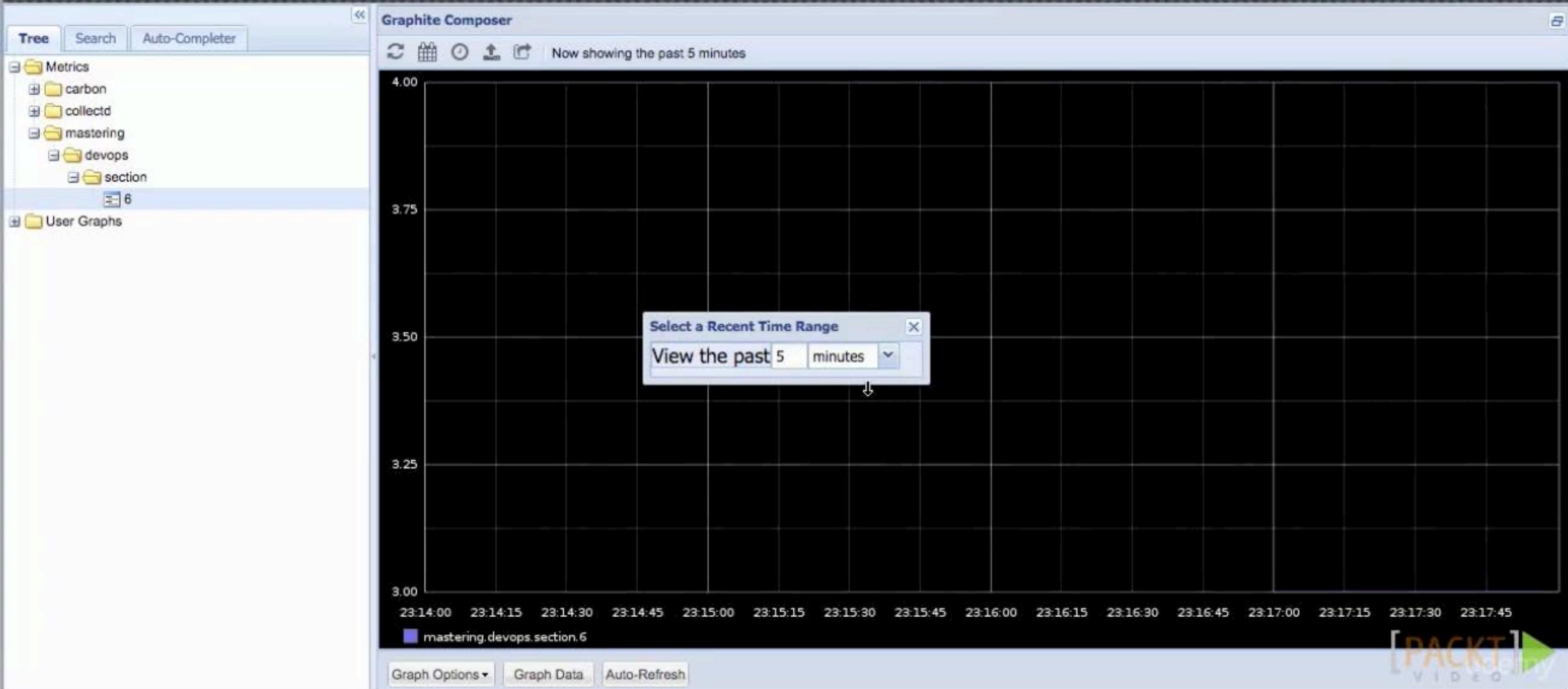
Graphite

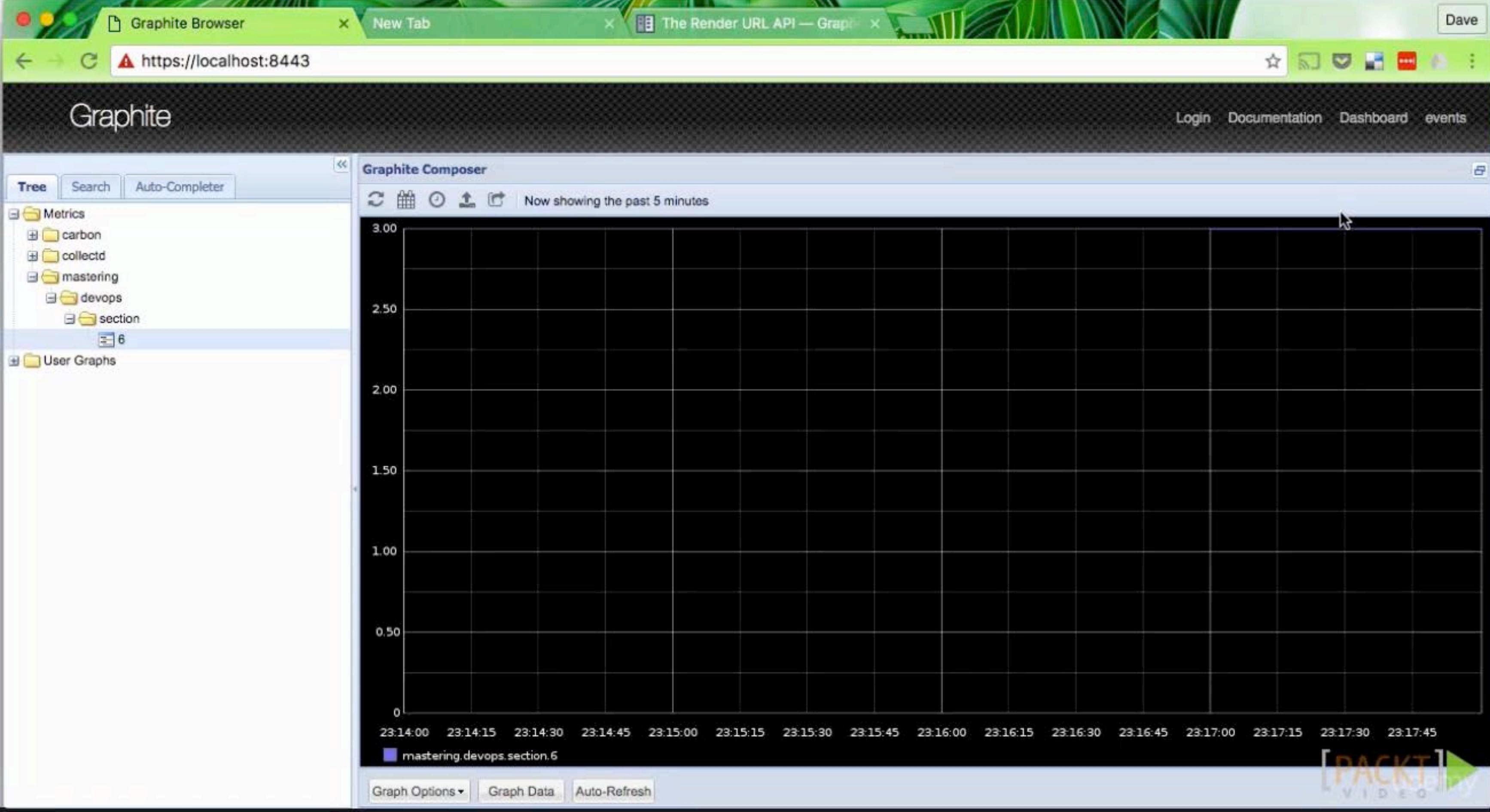
[Login](#) [Documentation](#) [Dashboard](#) [events](#)



Graphite

Login Documentation Dashboard events





2bashexample.sh — /Users/dave/Google Drive/Mangot.Mastering.DevOps/Mastering-DevOps

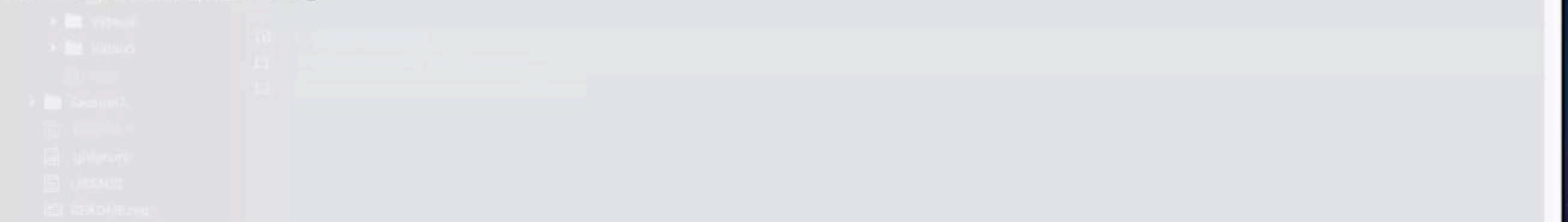
1poc.sh 2bashexample.sh 3pythonexample.sh

```
1 while [ 1 ]
2   do
3     number=$RANDOM
4     let "number %= 500"
5     echo callcenter.volume.numcalls $number `date +%s` | nc -w 3 localhost 22003
6     sleep 5
7   done
8
9
10 # [callcenter]
11 # pattern = ^callcenter[.
12 # retentions = 5s:1w, 60s:ly
13 }
```

Section6/Video3/2bashexample.sh 9:1

[PACKT]

vagrant@vagrant: /opt/graphit... bash
vagrant@vagrant:/opt/graphite/storage/whisper\$ ls
carbon collectd
vagrant@vagrant:/opt/graphite/storage/whisper\$ ls
carbon collectd mastering
vagrant@vagrant:/opt/graphite/storage/whisper\$ ls mastering/devops/section/6.wsp
mastering/devops/section/6.wsp
vagrant@vagrant:/opt/graphite/storage/whisper\$ ls
carbon collectd mastering
vagrant@vagrant:/opt/graphite/storage/whisper\$ cd ../../
vagrant@vagrant:/opt/graphite\$



vagrant@vagrant: /opt/gra... bash
vagrant@vagrant:/opt/graphite/storage/whisper\$ ls
carbon collectd
vagrant@vagrant:/opt/graphite/storage/whisper\$ ls
carbon collectd mastering
vagrant@vagrant:/opt/graphite/storage/whisper\$ ls mastering/devops/section/6.wsp
mastering/devops/section/6.wsp
vagrant@vagrant:/opt/graphite/storage/whisper\$ ls
carbon collectd mastering
vagrant@vagrant:/opt/graphite/storage/whisper\$ cd ../../
vagrant@vagrant:/opt/graphite\$ cd conf/
vagrant@vagrant:/opt/graphite/conf\$ sudo vi storage-■

2. vagrant@vagrant: /opt/graphite/conf (ssh)

```
vagrant@vagrant: /opt/graphit... bash

# Schema definitions for Whisper files. Entries are scanned in order,
# and first match wins. This file is scanned for changes every 60 seconds.
#
# [name]
# pattern = regex
# retentions = timePerPoint:timeToStore, timePerPoint:timeToStore, ...
# Carbon's internal metrics. This entry should match what is specified in
# CARBON_METRIC_PREFIX and CARBON_METRIC_INTERVAL settings

[collectd]
pattern = ^collectd\.
retentions = 10s:1w, 60s:1y

[callcenter]
# pattern = ^callcenter\.
# retentions = 5s:1w, 60s:1y
[default]
pattern = .*
retentions = 60s:1y
```

vagrant@vagrant: /opt/graphite/conf (ssh)

```
# Schema definitions for Whisper files. Entries are scanned in order,
# and first match wins. This file is scanned for changes every 60 seconds.
#
# [name]
# pattern = regex
# retentions = timePerPoint:timeToStore, timePerPoint:timeToStore, ...
#
# Carbon's internal metrics. This entry should match what is specified in
# CARBON_METRIC_PREFIX and CARBON_METRIC_INTERVAL settings

[collectd]
pattern = ^collectd\.
retentions = 10s:1w, 60s:1y

[callcenter]
pattern = ^callcenter\.
retentions = 5s:1w, 60s:1y

[default]
pattern = .*
retentions = 60s:1y
```

2. vagrant@vagrant: /opt/graphite/conf (ssh)

```
vagrant@vagrant: /opt/graphit... bash
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd mastering
vagrant@vagrant:/opt/graphite/storage/whisper$ ls mastering/devops/section/6.wsp
mastering/devops/section/6.wsp
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd mastering
vagrant@vagrant:/opt/graphite/storage/whisper$ cd ../..
vagrant@vagrant:/opt/graphite$ cd conf/
vagrant@vagrant:/opt/graphite/conf$ sudo vi storage-schemas.conf
vagrant@vagrant:/opt/graphite/conf$ █
```

2. vagrant@vagrant: /opt/graphite/conf (ssh)

```
vagrant@vagrant: /opt/graphit... bash
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd mastering
vagrant@vagrant:/opt/graphite/storage/whisper$ ls mastering/devops/section/6.wsp
mastering/devops/section/6.wsp
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd mastering
vagrant@vagrant:/opt/graphite/storage/whisper$ cd ../..
vagrant@vagrant:/opt/graphite$ cd conf/
vagrant@vagrant:/opt/graphite/conf$ sudo vi storage-schemas.conf
vagrant@vagrant:/opt/graphite/conf$ sudo service carbon-cache stop
Stopping carbon-cache-1: stopped
vagrant@vagrant:/opt/graphite/conf$
```

2. vagrant@vagrant: /opt/graphite/conf (ssh)

```
vagrant@vagrant: /opt/graphit... bash
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd mastering
vagrant@vagrant:/opt/graphite/storage/whisper$ ls mastering/devops/section/6.wsp
mastering/devops/section/6.wsp
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd mastering
vagrant@vagrant:/opt/graphite/storage/whisper$ cd ../..
vagrant@vagrant:/opt/graphite$ cd conf/
vagrant@vagrant:/opt/graphite/conf$ sudo vi storage-schemas.conf
vagrant@vagrant:/opt/graphite/conf$ sudo service carbon-cache stop
Stopping carbon-cache-1: stopped
vagrant@vagrant:/opt/graphite/conf$ sudo service carbon-cache stop^C
vagrant@vagrant:/opt/graphite/conf$ ps -ef | grep carbon
vagrant 24747 21643 0 23:21 pts/1 00:00:00 grep --color=auto carbon
vagrant@vagrant:/opt/graphite/conf$ sudo service carbon-cache stop
```

2. vagrant@vagrant: /opt/graphite/conf (ssh)

```
vagrant@vagrant: /opt/graphit... bash
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd mastering
vagrant@vagrant:/opt/graphite/storage/whisper$ ls mastering/devops/section/6.wsp
mastering/devops/section/6.wsp
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd mastering
vagrant@vagrant:/opt/graphite/storage/whisper$ cd ../..
vagrant@vagrant:/opt/graphite$ cd conf/
vagrant@vagrant:/opt/graphite/conf$ sudo vi storage-schemas.conf
vagrant@vagrant:/opt/graphite/conf$ sudo service carbon-cache stop
Stopping carbon-cache-1: stopped
vagrant@vagrant:/opt/graphite/conf$ sudo service carbon-cache stop^C
vagrant@vagrant:/opt/graphite/conf$ ps -ef | grep carbon
vagrant 24747 21643 0 23:21 pts/1 00:00:00 grep --color=auto carbon
vagrant@vagrant:/opt/graphite/conf$ sudo service carbon-cache start
Starting carbon-cache-1: succeeded
carbon-cache-1 (pid: 24762): running
vagrant@vagrant:/opt/graphite/conf$
```

2. vagrant@vagrant: /opt/graphite/conf (ssh)

```
vagrant@vagrant: /opt/graphit... bash
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd mastering
vagrant@vagrant:/opt/graphite/storage/whisper$ ls mastering/devops/section/6.wsp
mastering/devops/section/6.wsp
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd mastering
vagrant@vagrant:/opt/graphite/storage/whisper$ cd ../..
vagrant@vagrant:/opt/graphite$ cd conf/
vagrant@vagrant:/opt/graphite/conf$ sudo vi storage-schemas.conf
vagrant@vagrant:/opt/graphite/conf$ sudo service carbon-cache stop
Stopping carbon-cache-1: stopped
vagrant@vagrant:/opt/graphite/conf$ sudo service carbon-cache stop^C
vagrant@vagrant:/opt/graphite/conf$ ps -ef | grep carbon
vagrant 24747 21643 0 23:21 pts/1 00:00:00 grep --color=auto carbon
vagrant@vagrant:/opt/graphite/conf$ sudo service carbon-cache start
Starting carbon-cache-1: succeeded
carbon-cache-1 (pid: 24762): running
vagrant@vagrant:/opt/graphite/conf$ ps -ef | grep carbon
carbon 24762 1 0 23:21 ? 00:00:00 /usr/bin/python /opt/graphite/bin/carbon-cache.py start --instance=1
vagrant 24770 21643 0 23:21 pts/1 00:00:00 grep --color=auto carbon
vagrant@vagrant:/opt/graphite/conf$ █
```

2. bash

vagrant@vagrant: /opt/graphit... bash

blackmacbook:Video3 dave\$ ls

1poc.sh 2bashexample.sh 3pythonexample.sh

blackmacbook:Video3 dave\$ echo mastering.devops.section.6 3 `date +%s` | nc -w 3 localhost 22003

blackmacbook:Video3 dave\$

2. bash

vagrant@vagrant: /opt/graphit... bash

blackmacbook:Video3 dave\$ ls

1poc.sh 2bashexample.sh 3pythonexample.sh

blackmacbook:Video3 dave\$ echo mastering.devops.section.6 3 `date +%s` | nc -w 3 localhost 22003

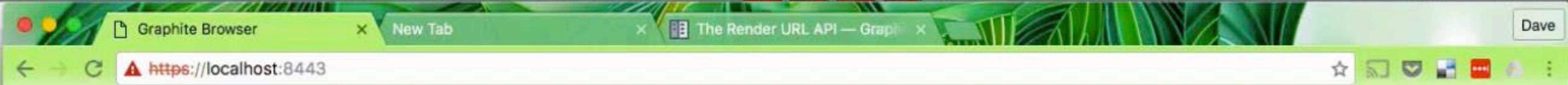
blackmacbook:Video3 dave\$./2bashexample.sh

```
[1] 11:59PM ~ % ls
1poc.sh          2bashexample.sh      3pythonexample.sh
blackmacbook:Video3 dave$ echo mastering.devops.section.6 3 `date +%s` | nc -w 3 localhost 22003
[1]+  Done                  ./2bashexample.sh < /dev/null
blackmacbook:Video3 dave$
```



2. vagrant@vagrant: /opt/graphite/storage/whisper (ssh)

```
vagrant@vagrant: /opt/graphit... bash
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd mastering
vagrant@vagrant:/opt/graphite/storage/whisper$ ls mastering/devops/section/6.wsp
mastering/devops/section/6.wsp
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd mastering
vagrant@vagrant:/opt/graphite/storage/whisper$ cd ../..
vagrant@vagrant:/opt/graphite$ cd conf/
vagrant@vagrant:/opt/graphite/conf$ sudo vi storage-schemas.conf
vagrant@vagrant:/opt/graphite/conf$ sudo service carbon-cache stop
Stopping carbon-cache-1: stopped
vagrant@vagrant:/opt/graphite/conf$ sudo service carbon-cache stop^C
vagrant@vagrant:/opt/graphite/conf$ ps -ef | grep carbon
vagrant 24747 21643 0 23:21 pts/1 00:00:00 grep --color=auto carbon
vagrant@vagrant:/opt/graphite/conf$ sudo service carbon-cache start
Starting carbon-cache-1: succeeded
carbon-cache-1 (pid: 24762): running
vagrant@vagrant:/opt/graphite/conf$ ps -ef | grep carbon
carbon 24762 1 0 23:21 ? 00:00:00 /usr/bin/python /opt/graphite/bin/carbon-cache.py start --instance=1
vagrant 24770 21643 0 23:21 pts/1 00:00:00 grep --color=auto carbon
vagrant@vagrant:/opt/graphite/conf$ cd ../storage/whisper/
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
carbon collectd mastering
vagrant@vagrant:/opt/graphite/storage/whisper$ ls
callcenter carbon collectd mastering
vagrant@vagrant:/opt/graphite/storage/whisper$ ls callcenter/volume/numcalls.wsp
```



Graphite

Login Documentation Dashboard events

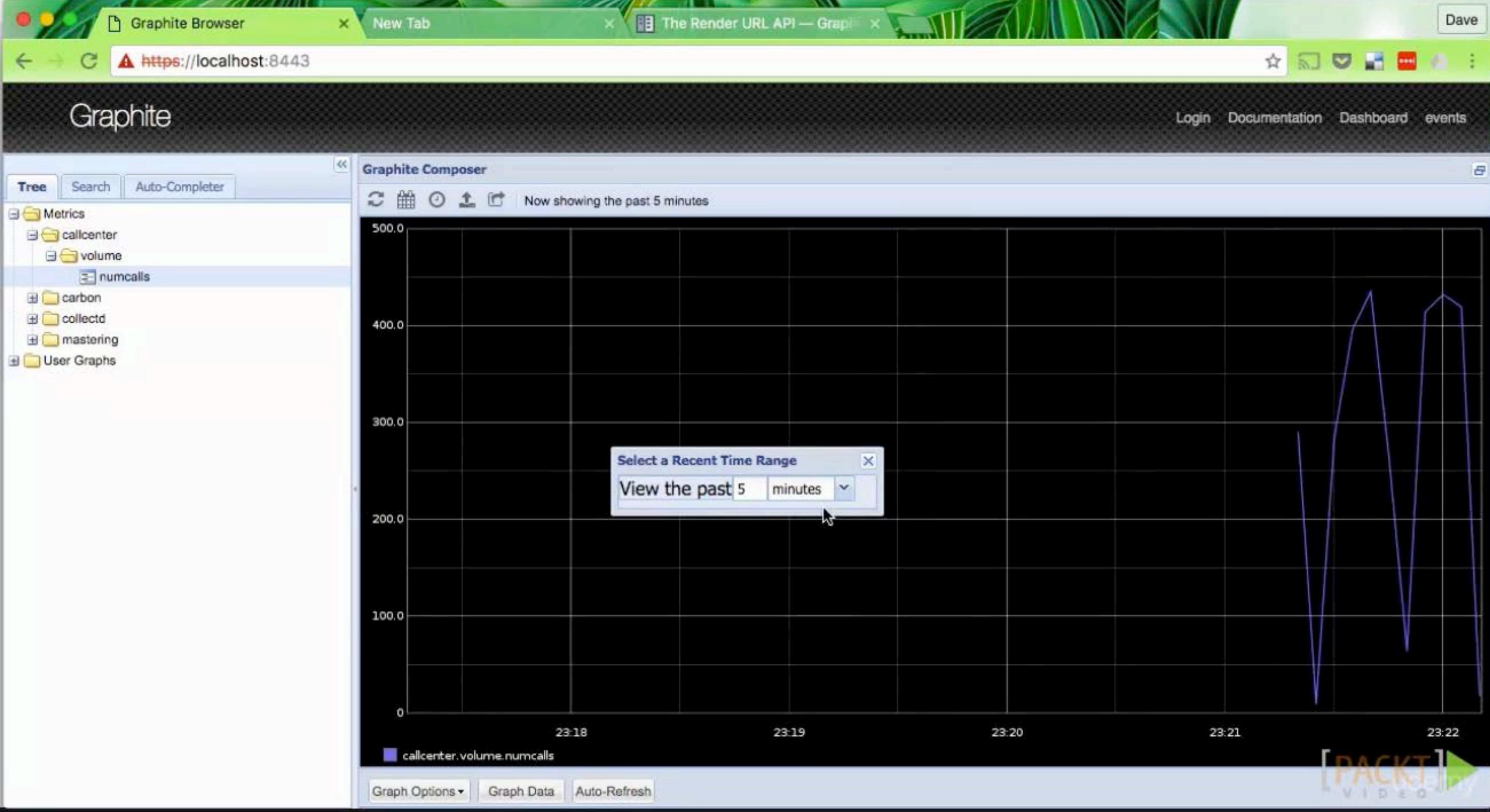




Graphite

Login Documentation Dashboard events







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Using The Composer

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target

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from / until

These are optional parameters that specify the relative or absolute time period to graph. `from` specifies the beginning, `until` specifies the end. If `from` is omitted, it defaults to 24 hours ago. If `until` is omitted, it defaults to the current time (now).

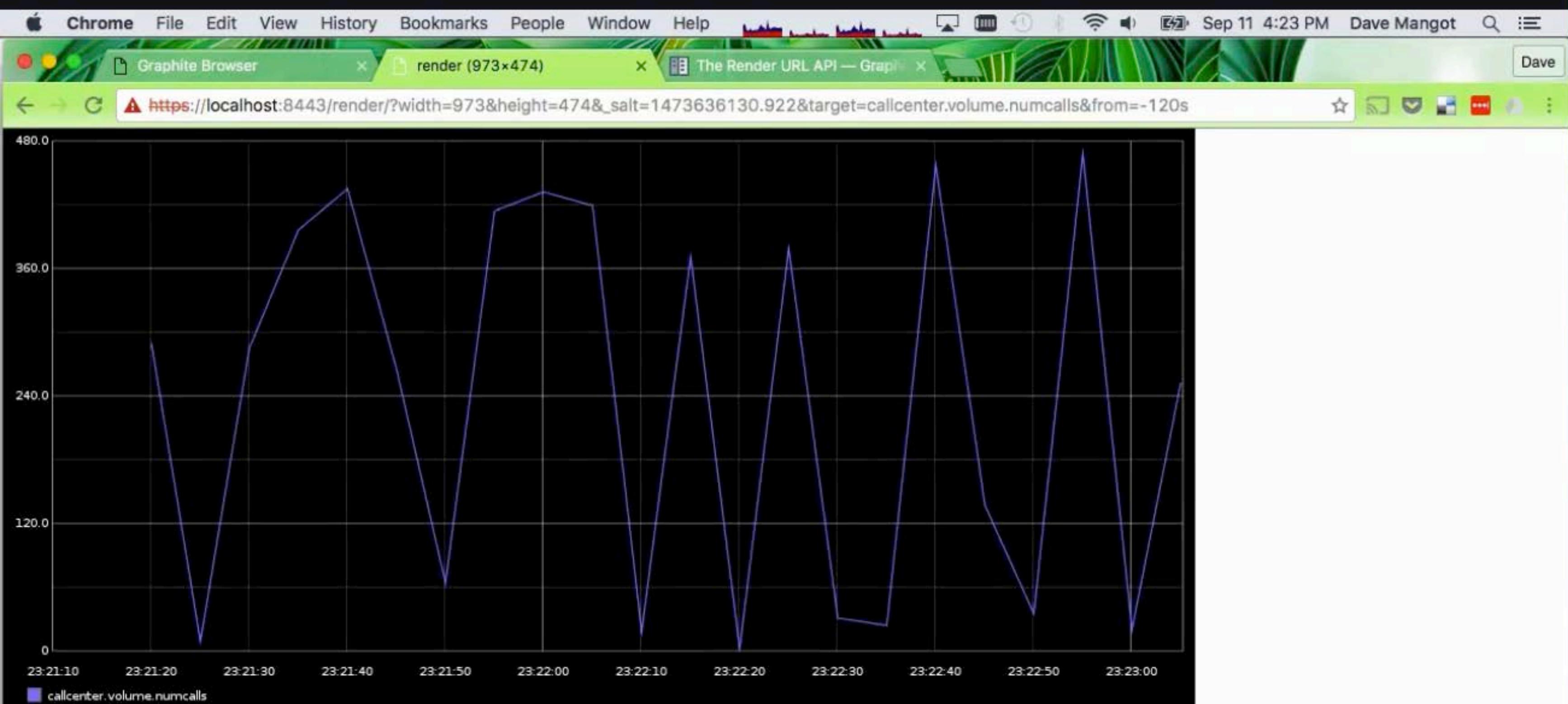
There are multiple formats for these functions:

```
&from=-RELATIVE_TIME  
&from=ABSOLUTE_TIME
```

RELATIVE_TIME is a length of time since the current time. It is always preceded by a minus sign (-) and followed by a unit of time. Valid units of time:

Abbreviation	Unit
s	Seconds
min	Minutes
h	Hours
d	Days
w	Weeks
mon	30 Days (month)
y	365 Days (year)





Mastering-DevOps
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Section6
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3pythonexample.sh
Video4
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Icon
Section7
DS_Store
.gitignore
LICENSE
README.md

```
1 #!/usr/bin/env python
2
3 import socket
4 import time
5 from random import randint
6
7 # mark start time
8 timestamp = int(time.time())
9 # some things happen here
10 time.sleep(randint(0,5))
11 # mark end time
12 timecomplete = int(time.time())
13
14 # subtract start from finish
15 elapsedtime = timecomplete - timestamp
16 # format message
17 message = 'callcenter.devops.python.elapsed {} {}'.format(elapsedtime, timecomplete)
18
19 # fire away!
20 sock = socket.socket()
21 sock.connect(('127.0.0.1', 22003))
22 sock.sendall(message)
23 sock.close()
24
```

2. bash

```
vagrant@vagrant: /opt/graphit... bash  
blackmacbook:Video3 dave$ ls  
1poc.sh          2bashexample.sh      3pythonexample.sh  
blackmacbook:Video3 dave$ echo mastering.devops.section.6 3 `date +%s` | nc -w 3 localhost 22003  
blackmacbook:Video3 dave$ ./2bashexample.sh  
^Cblackmacbook:Video3 dave$ ./
```

```
from random import randint  
  
time_start = int(time.time())  
  
time.sleep(randint(0,5))  
  
time_complete = int(time.time())  
  
elapsed_time = timecomplete - timestart  
  
message = "cat /etc/devops/python/elapsed %f (%s) format elapsed time (%s)" % (elapsed_time, timecomplete)  
  
sock = socket.socket()  
sock.connect(("127.0.0.1", 22003))  
sock.sendall(message)  
sock.close()
```



2. Python

vagrant@vagrant: /opt/graphit... Python

```
blackmacbook:Video3 dave$ ls  
1poc.sh          2bashexample.sh      3pythonexample.sh  
blackmacbook:Video3 dave$ echo mastering.devops.section.6 3 `date +%s` | nc -w 3 localhost 22003  
blackmacbook:Video3 dave$ ./2bashexample.sh  
^Cblackmacbook:Video3 dave$ ./3pythonexample.sh
```

from random import randint

time.sleep(randint(0,5))

timecomplete = str(datetime.now())

elapsedtime = timecomplete - timestamp

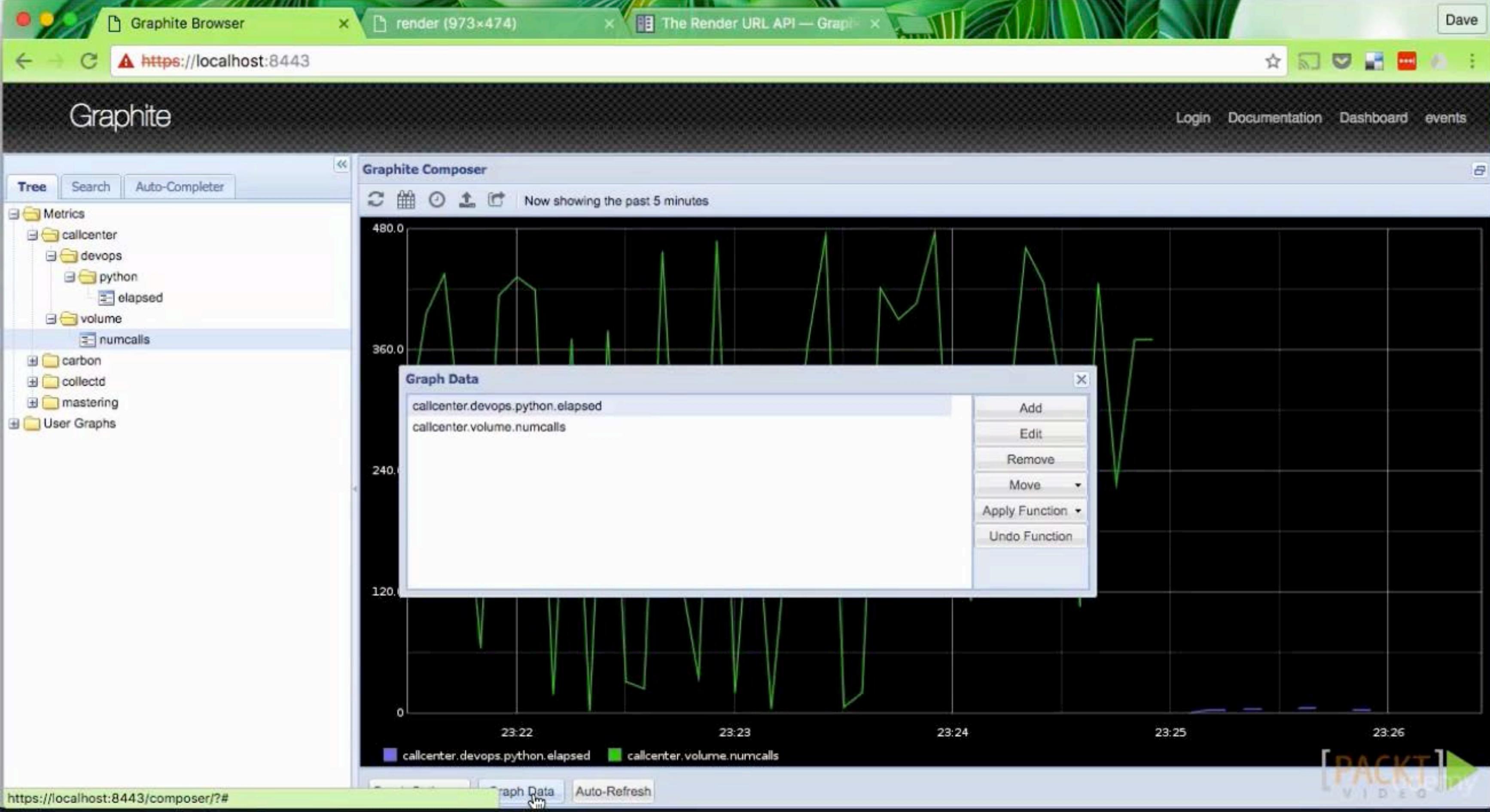
message = "saltcenter.decrypt.pytion elapsed: {} (Kb/s) format elapsed) until timecomplete".format(elapsedtime)

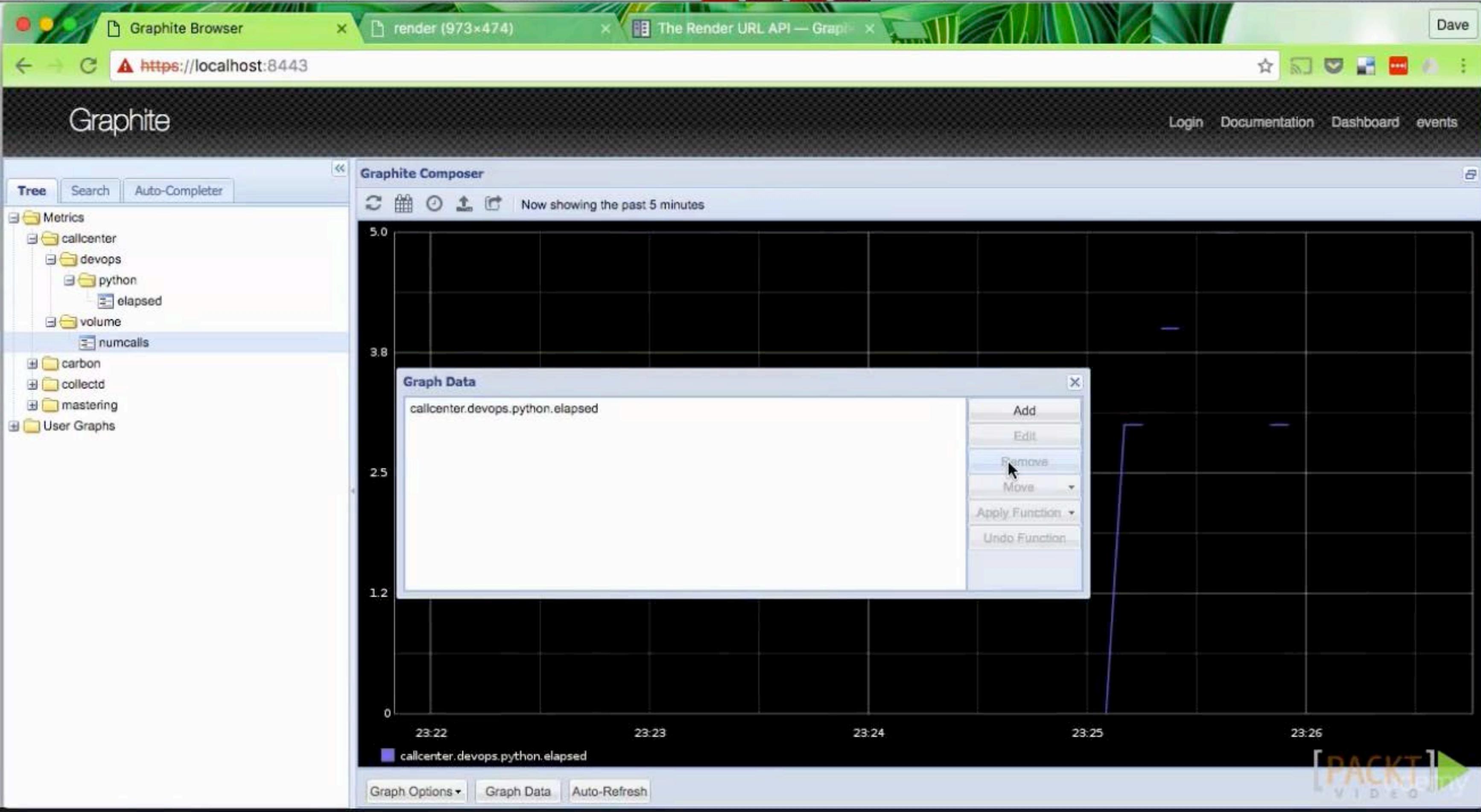
sock = socket.socket()

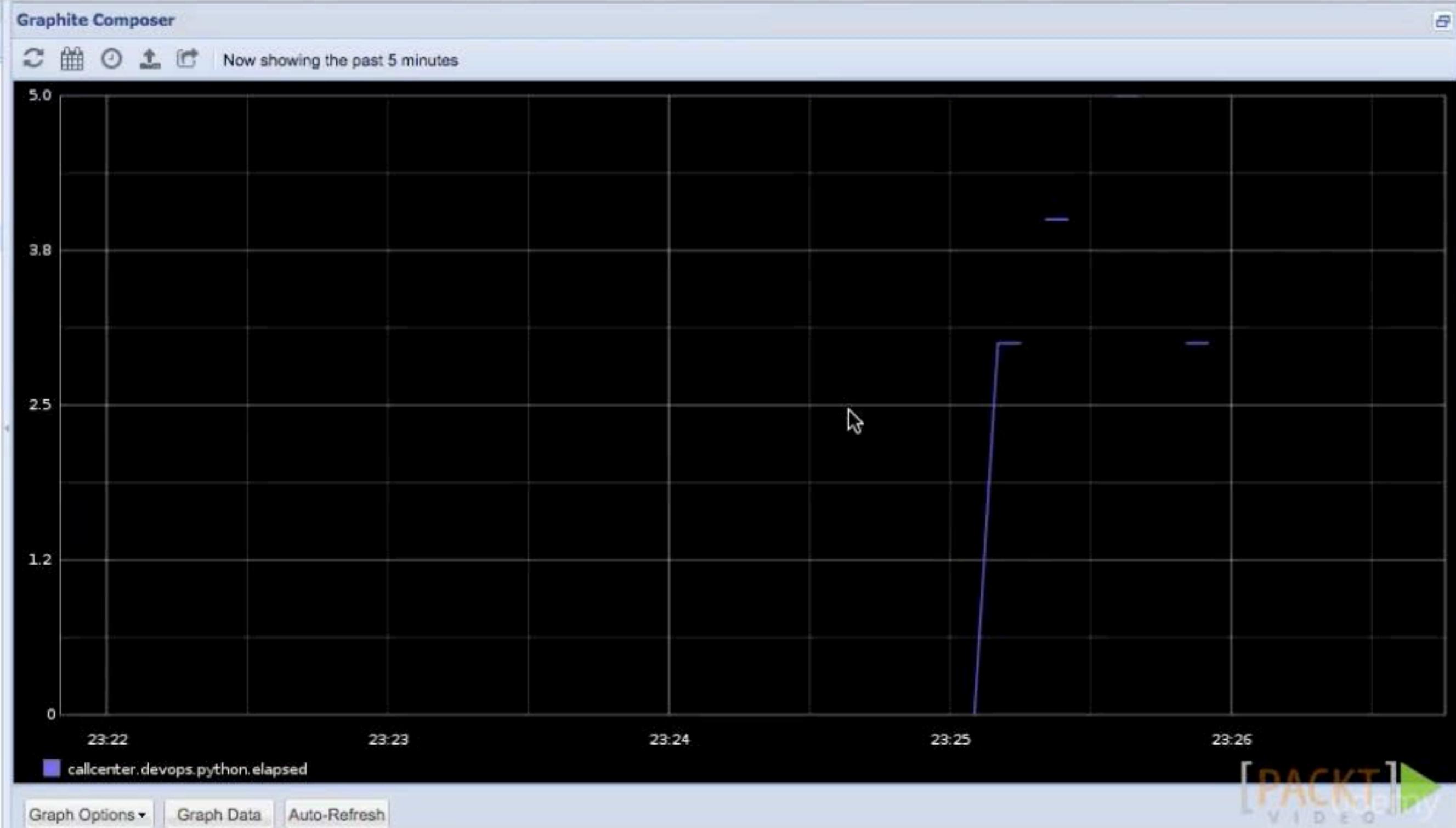
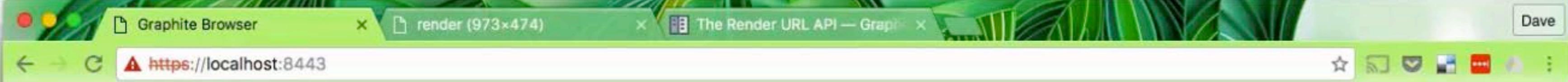
sock.connect(("127.0.0.1", 22003))

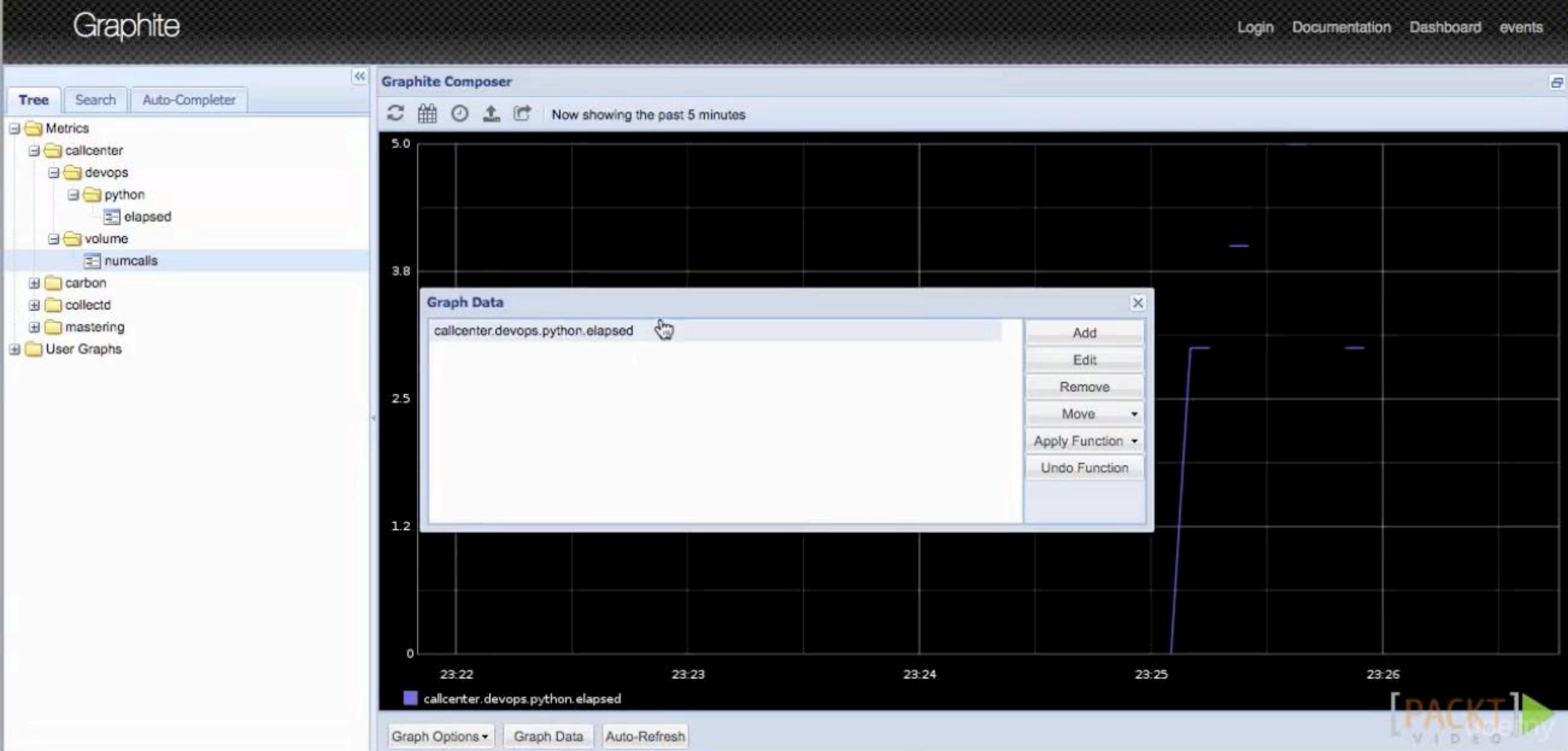
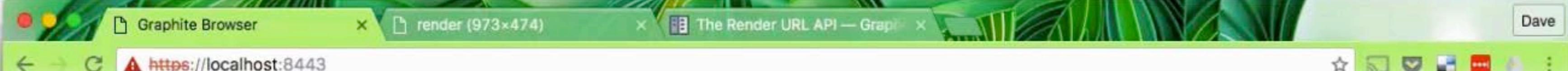
sock.sendall(message)

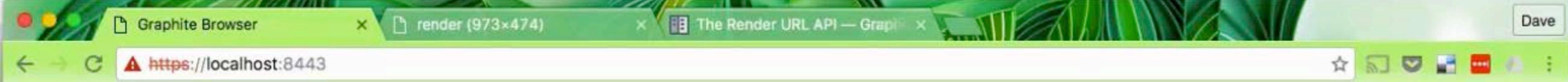
sock.close()



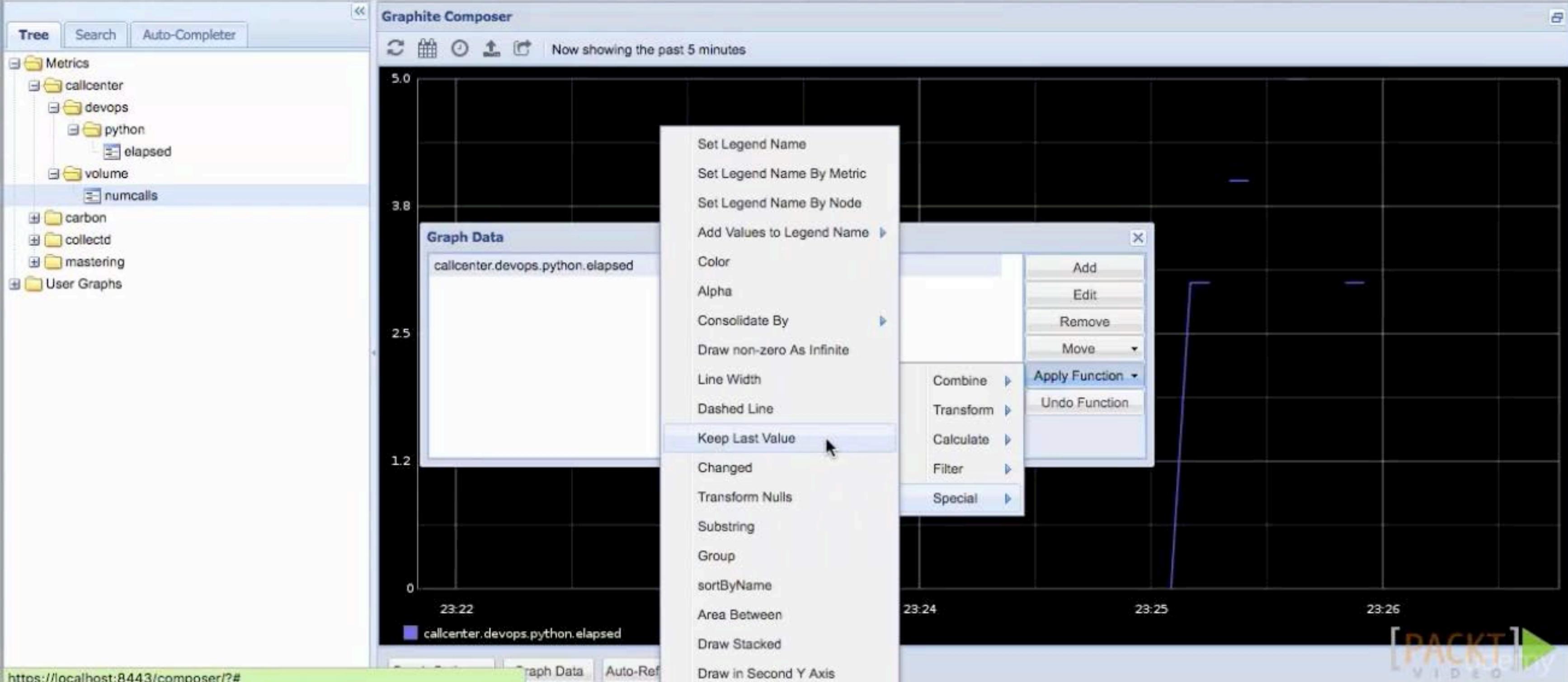


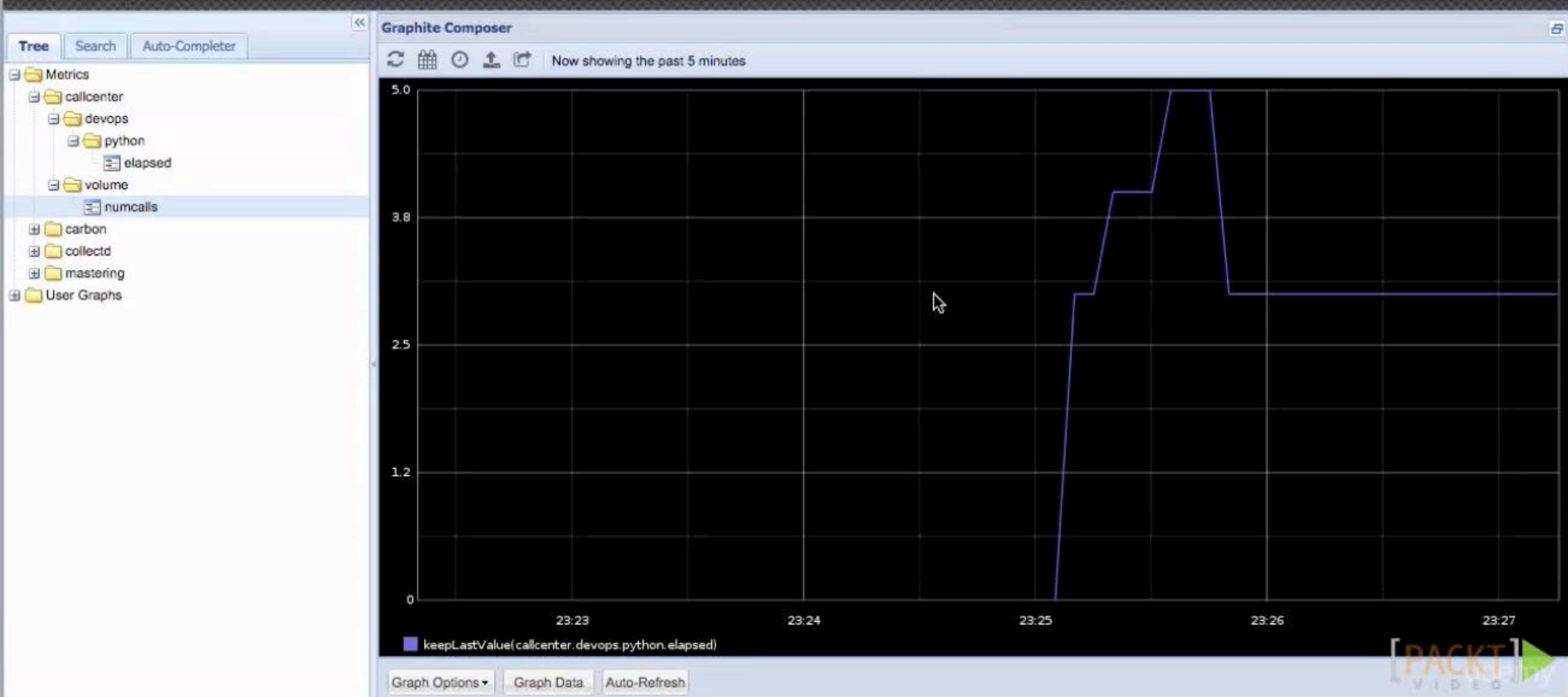
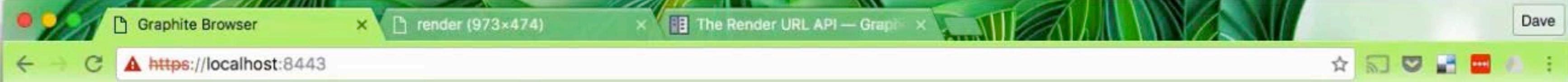






Graphite

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Next Video

Monitoring Agent Examples

Mastering DevOps

Dave Mangot

Video 6.4

Monitoring Agent Examples



Graphite



<https://github.com/obfuscury/synthesize>

Examples



puppet

Diamond - <https://github.com/python-diamond/Diamond>
<https://github.com/dmangot/Mastering-DevOps>

2. vagrant@vagrant: /etc/collectd (ssh)

vagrant@vagrant: /etc/collect... bash

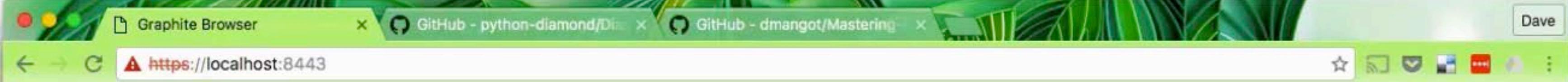
```
vagrant@vagrant:/etc/collectd$ ls
collectd.conf  collectd.conf.d  collection.conf
vagrant@vagrant:/etc/collectd$
```

Examples



puppet

Diamond - <https://github.com/python-diamond/Diamond>
<https://github.com/dmangot/Mastering-DevOps>

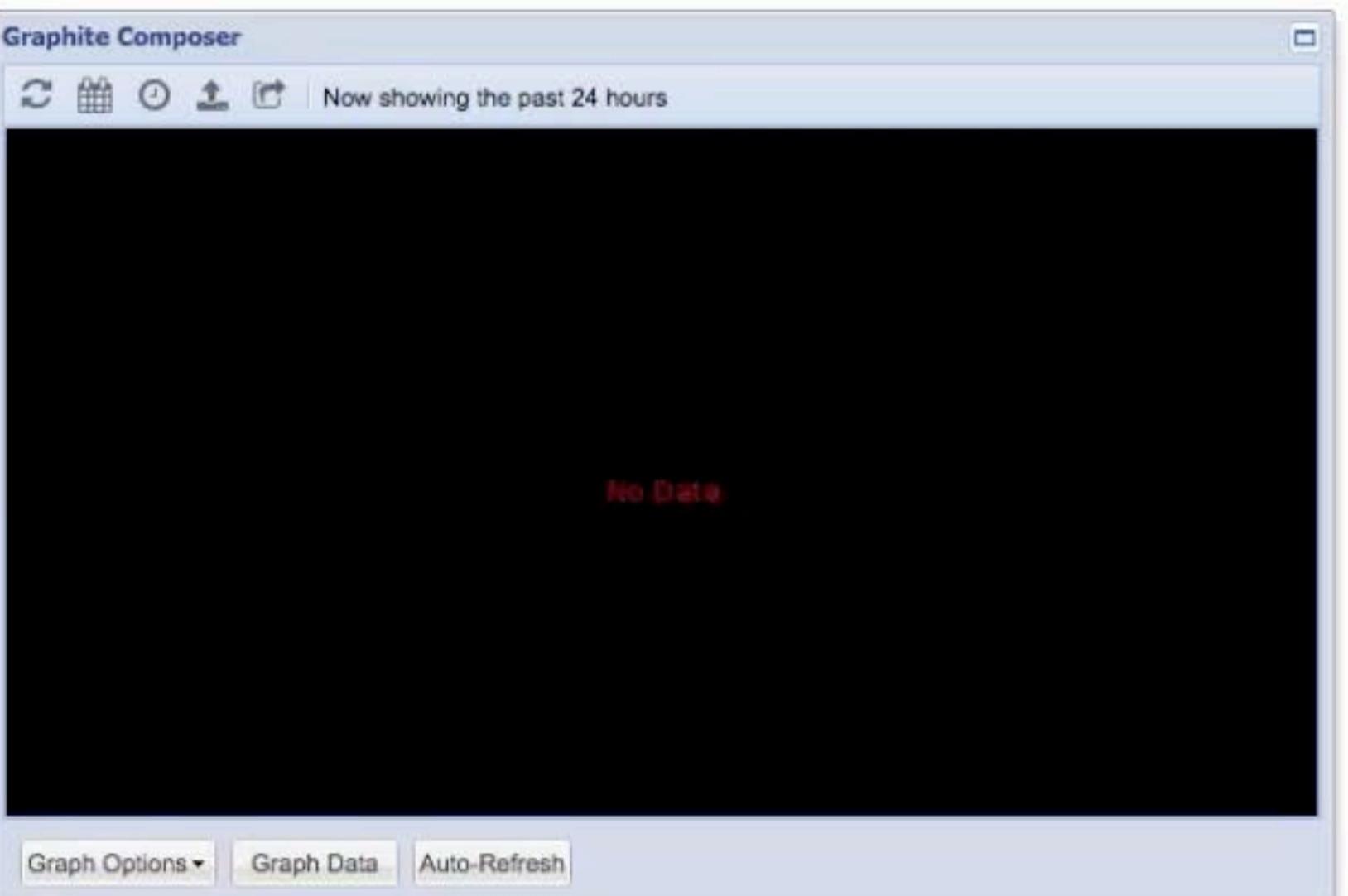


Graphite

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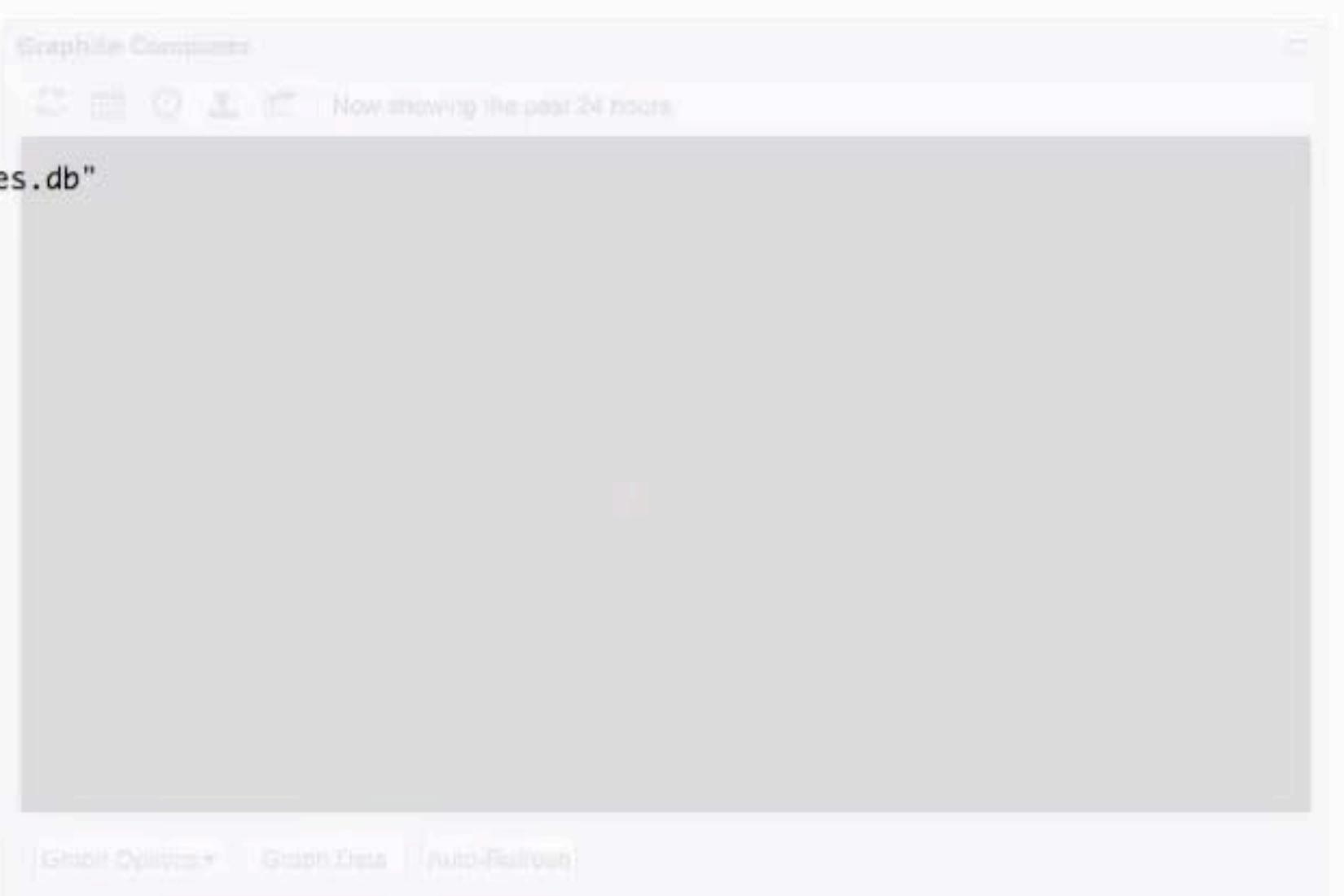
Tree Search Auto-Completer

- Metrics
 - + calcenter
 - + carbon
 - + collectd
 - graphite
 - + apache-graphite-web
 - + cpu-0
 - + cpu-1
 - + disk-dm-0
 - + disk-dm-1
 - + disk-sda
 - + disk-sda1
 - + disk-sda2
 - + disk-sda5
 - + entropy
 - + filecount-whisper
 - + interface-eth0
 - + interface-io
 - + load
 - + memcached
 - + memory
 - + processes
 - + swap
 - + tall-graphite_web
 - + mastering
 - + User Graphs

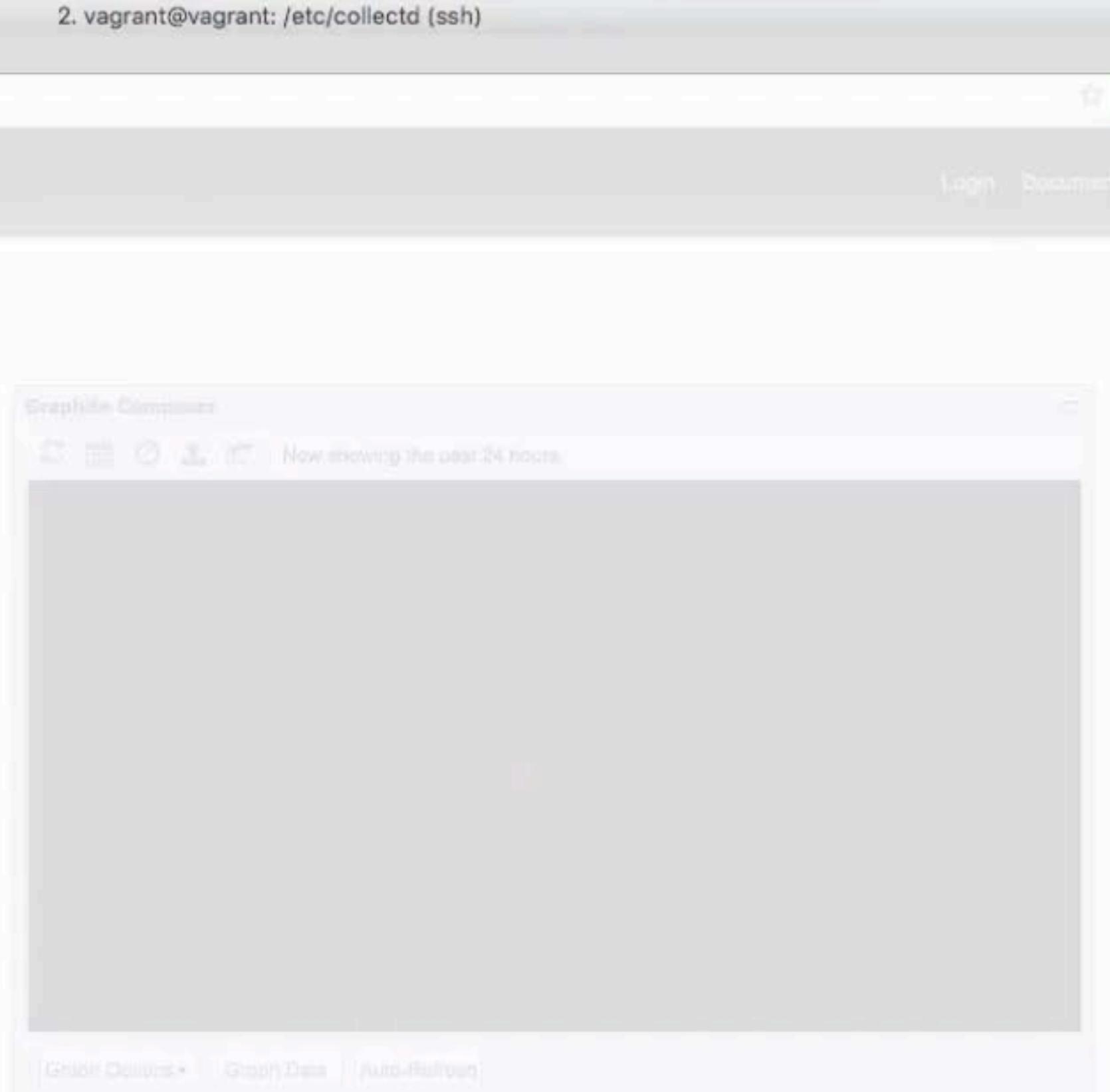


```
vagrant@vagrant: /etc/collectd... bash
# Config file for collectd(1).
#
# Some plugins need additional configuration and are disabled by default.
# Please read collectd.conf(5) for details.
#
# You should also read /usr/share/doc/collectd-core/README.Debian.plugins
# before enabling any more plugins.

#Hostname "localhost"
Hostname "graphite"
FQDNLookup true
#BaseDir "/var/lib/collectd"
#PluginDir "/usr/lib/collectd"
#TypesDB "/usr/share/collectd/types.db" "/etc/collectd/my_types.db"
Interval 10
#Interval 60
#Timeout 2
#ReadThreads 5
#LoadPlugin logfile
LoadPlugin syslog
<Plugin logfile>
#    LogLevel "info"
#    File STDOUT
#    Timestamp true
#    PrintSeverity false
</Plugin>
<Plugin syslog>
    LogLevel info
</Plugin>
#LoadPlugin amqp
LoadPlugin apache
collectd.conf
```



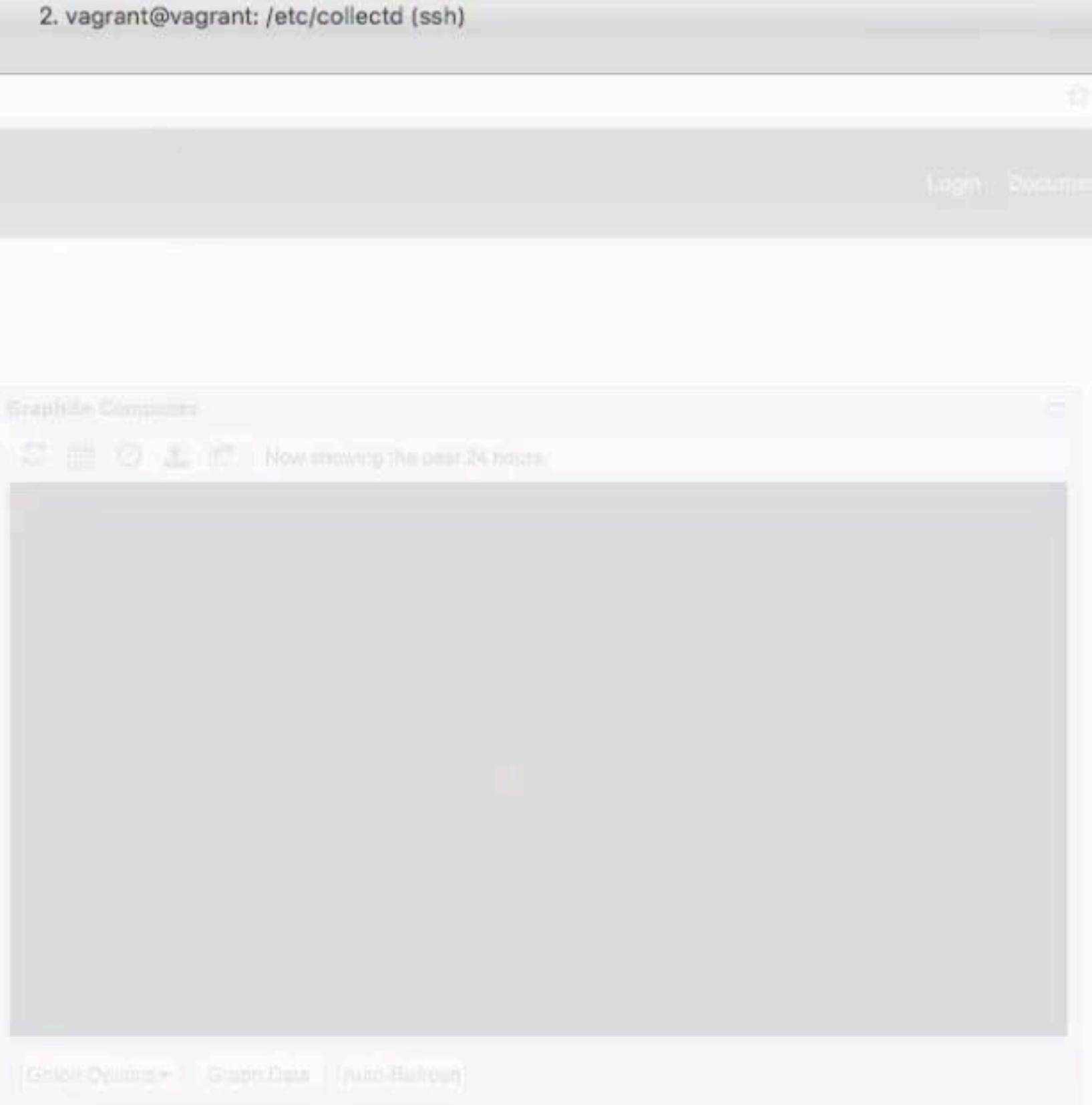
```
vagrant@vagrant: /etc/collectd... bash
LoadPlugin write_graphite
#LoadPlugin write_http
#LoadPlugin write_mongodb
#<Graphite>
#<Plugin amqp>
#     <Publish "name">
#       Host "localhost"
#       Port "5672"
#       VHost "/"
#       User "guest"
#       Password "guest"
#       Exchange "amq.fanout"
#       RoutingKey "collectd"
#       Persistent false
#       StoreRates false
#     </Publish>
#</Plugin>
#<Plugin memcached>
<Plugin apache>
    <Instance "graphite-web">
        URL "https://127.0.0.1/server-status?auto"
        VerifyPeer false
        VerifyHost false
    </Instance>
    <Instance "foo">
        URL "http://localhost/server-status?auto"
        User "www-user"
        Password "secret"
        VerifyPeer false
        VerifyHost false
        CACert "/etc/ssl/ca.crt"
        Server "apache"
    </Instance>
    <Instance "openmrs">
        memcached_openmrs
    <Instance "bar">
        memory
```



```
vagrant@vagrant: /etc/collectd$ bash  
<Plugin write_graphite> @localhost:2003  
  <Carbon>  
    Host "localhost"  
    Port "2003"  
    Prefix "collectd."  
    Protocol "tcp"  
    Postfix "collectd"  
    # Tree Search & Disk-Data StoreRates false  
    # Disk-Data AlwaysAppendDS false  
    # Disk-Data EscapeCharacter "_"  
  </Carbon>  
</Plugin> Disk-Data  
  & Entropy  
  
#<Plugin write_http>  
#  <URL "http://example.com/collectd-post">  
#    & Interface User "collectd"  
#      & Load Password "secret"  
#      & VerifyPeer true  
#        & VerifyHost true  
#        & CAcert "/etc/ssl/ca.crt"  
#        & Format "Command"  
#        & StoreRates false  
#    </URL> memcached_command_get  
#</Plugin> memcached_command_set  
  & memcached_command_touch  
  
#<Plugin write_mongodb> seconds-current  
#  <Node "example"> current  
#    & Host "localhost"  
#    & Port "27017"  
#    & Timeout 1000  
#    & StoreRates false  
#  <Node> memcached_op_mongo  
#</Plugin> memcached_op_mongo  
  & memcached_op_misses  
  
Include "/etc/collectd/collectd.conf.d/*.conf"
```



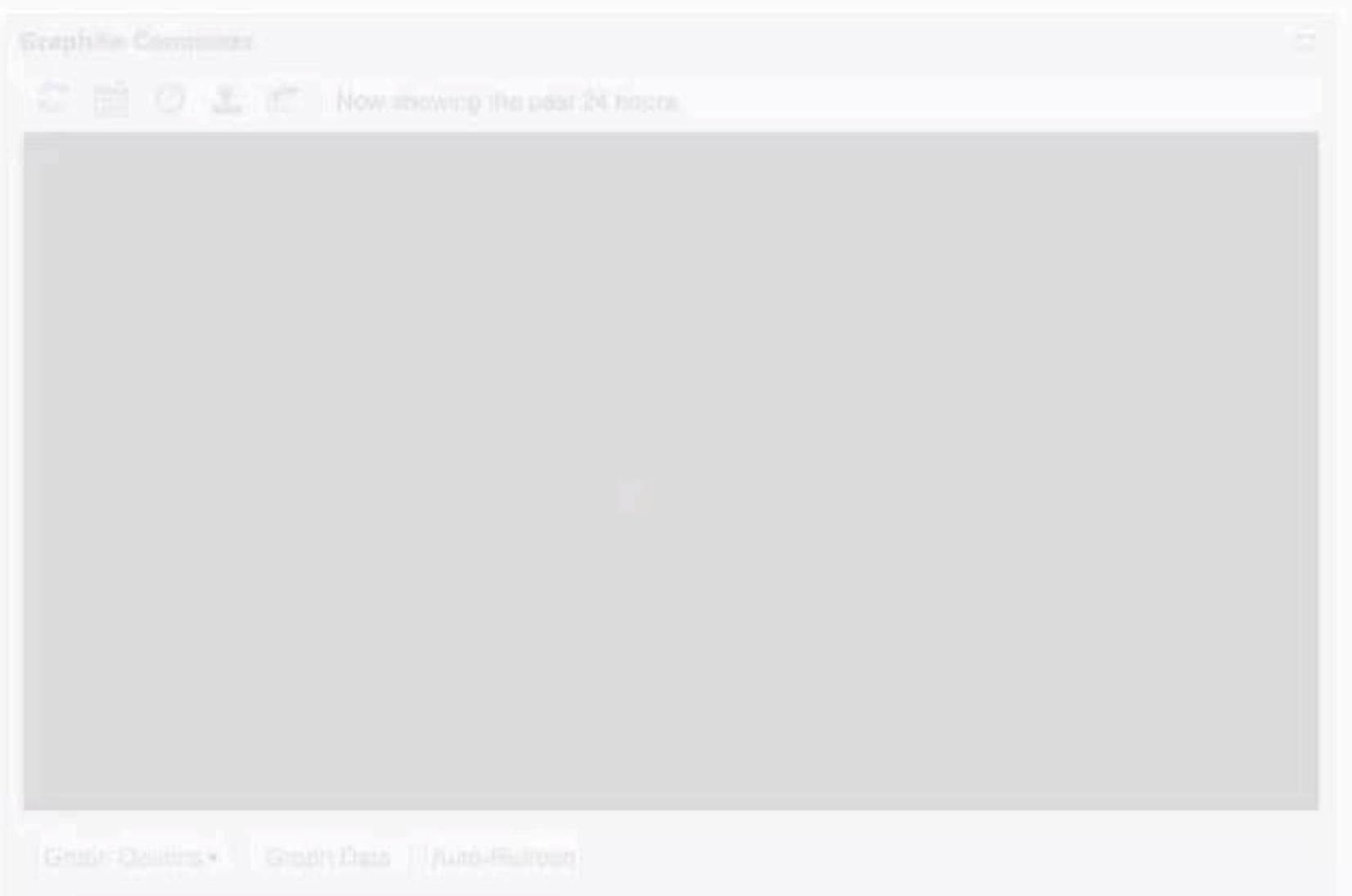
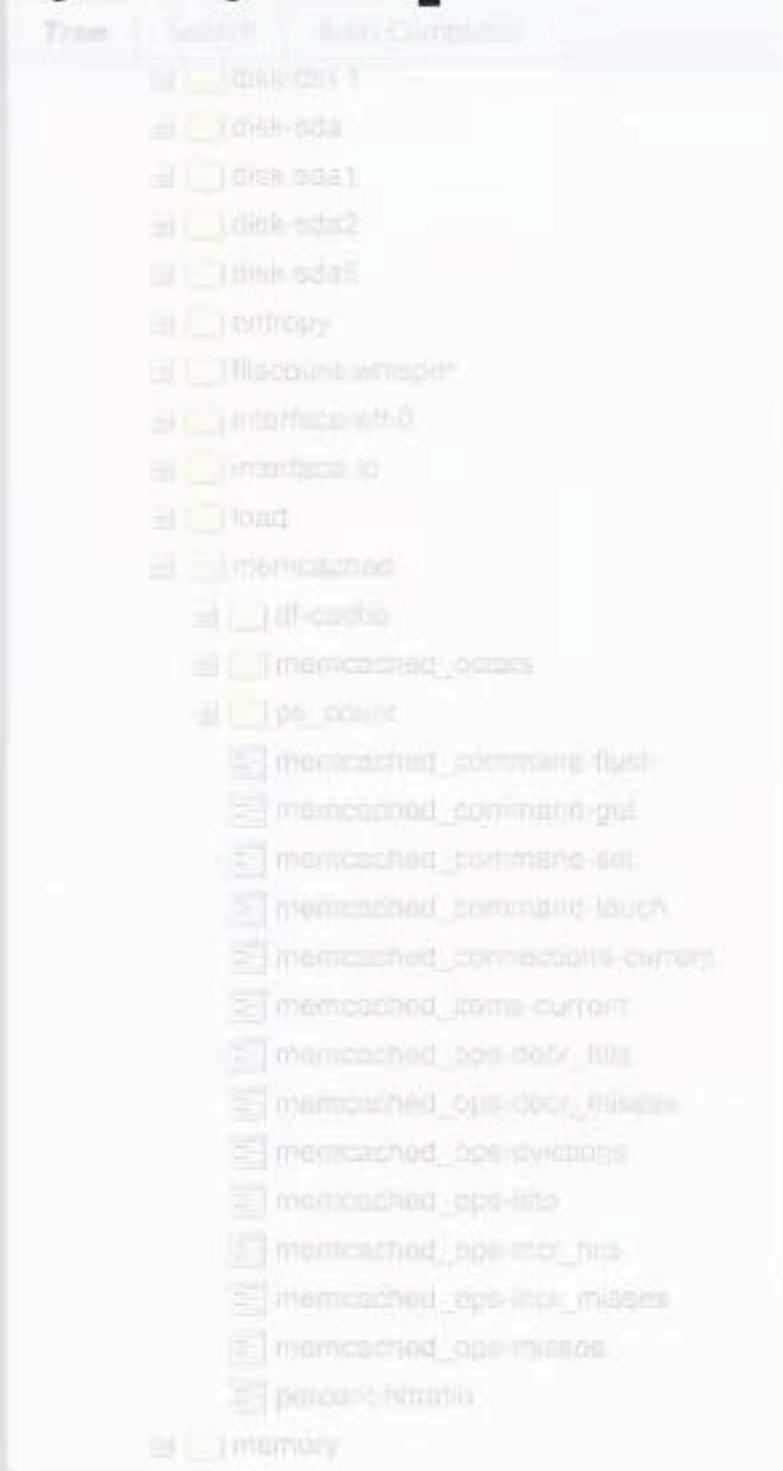
```
vagrant@vagrant: /etc/collectd... bash  
<Plugin memcached> localhost 4243  
#     Socket "/var/run/memcached.sock"  
# or:  
#     Host "127.0.0.1"  
#     Port "11211"  
</Plugin>  
  
#<Plugin mysql>  
#     <Database db_name>  
#         Host "database.server"  
#         Port "3306"  
#         User "db_user"  
#         Password "secret"  
#         Database "db_name"  
#         MasterStats true  
#     </Database>  
#  
#     <Database db_name2>  
#         Host "localhost"  
#         Socket "/var/run/mysql/mysqld.sock"  
#         SlaveStats true  
#         SlaveNotifications true  
#     </Database>  
#</Plugin>  
#memcached_command_get  
#memcached_command_set  
#memcached_command_touch  
  
#<Plugin netlink>  
#     Interface "All" current  
#     VerboseInterface "All"  
#     QDisc "eth0" "pfifo_fast-1:0"  
#     Class "ppp0" "htb-1:10"  
#     Filter "ppp0" "u32-1:0"  
#     IgnoreSelected false  
#</Plugin>  
#memcached_op_incr_misses  
#memcached_op_misses  
  
#<Plugin network>  
#     memory
```



2. vagrant@vagrant: ~ (ssh)

vagrant@vagrant: ~ (ssh) bash

```
vagrant@vagrant:/etc/collectd$ ls
collectd.conf  collectd.conf.d  collection.conf
vagrant@vagrant:/etc/collectd$ less collectd.conf
vagrant@vagrant:/etc/collectd$ less collectd.conf
vagrant@vagrant:/etc/collectd$ cd
vagrant@vagrant:~$
```



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```
1 package {
2     "diamond":
3         ensure => installed,
4         provider => pip;
5     }
6     file {
7         "/var/log/diamond":
8             ensure => directory,
9     }
10    file {
11        "/var/log/diamond/diamond.log":
12            ensure => present,
13    }
14 }
```

Diamond

[chat](#) [on gitter](#) [build](#) [passing](#)

Diamond is a python daemon that collects system metrics and publishes them to Graphite (and others). It is capable of collecting cpu, memory, network, i/o, load and disk metrics. Additionally, it features an API for implementing custom collectors for gathering metrics from almost any source.

Getting Started

Steps to getting started:

- Read the [documentation](#)
- Install via `pip install diamond`. The releases on GitHub are not recommended for use. Use `pypi-install diamond` on Debian/Ubuntu systems with `python-stdeb` installed to build packages.
- Copy the `diamond.conf.example` file to `diamond.conf`.
- Optional: Run `diamond-setup` to help set collectors in `diamond.conf`.
- Modify `diamond.conf` for your needs.
- Run diamond with one of: `diamond` or `initctl start diamond` or `/etc/init.d/diamond restart`.

Success Stories

- Diamond has successfully been deployed to a cluster of 1000 machines pushing 3 million points per minute.
- Diamond is deployed on Fabric's infrastructure, polling hundreds of metric sources and pushing millions of points

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video4 (ssh)

```
vagrant@vagrant:~/Mastering... bash
vagrant@vagrant:/etc/collectd$ ls
collectd.conf  collectd.conf.d  collection.conf
vagrant@vagrant:/etc/collectd$ less collectd.conf
vagrant@vagrant:/etc/collectd$ less collectd.conf
vagrant@vagrant:/etc/collectd$ cd
vagrant@vagrant:~$ git clone https://github.com/dmangot/Mastering-DevOps.git
Cloning into 'Mastering-DevOps'...
remote: Counting objects: 150, done.
remote: Compressing objects: 100% (32/32), done.
remote: Total 150 (delta 10), reused 0 (delta 0), pack-reused 113
Receiving objects: 100% (150/150), 31.86 KiB | 0 bytes/s, done.
Resolving deltas: 100% (32/32), done.
Checking connectivity... done.
vagrant@vagrant:~$ cd Mastering-DevOps/Section6
vagrant@vagrant:~/Mastering-DevOps/Section6$ cd Video4
vagrant@vagrant:~/Mastering-DevOps/Section6/Video4$ ls
diamond.conf  diamond.pp
vagrant@vagrant:~/Mastering-DevOps/Section6/Video4$ which puppet
/usr/bin/puppet
vagrant@vagrant:~/Mastering-DevOps/Section6/Video4$
```

Success Stories

- Diamond has successfully been deployed to a cluster of 1000 machines pushing 3 million points per minute.
- Diamond is deployed on Fabric's infrastructure, polling hundreds of metric sources and pushing millions of points

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video4 (ssh)

```
vagrant@vagrant:~/Mastering... bash
vagrant@vagrant:/etc/collectd$ ls
collectd.conf  collectd.conf.d  collection.conf
vagrant@vagrant:/etc/collectd$ less collectd.conf
vagrant@vagrant:/etc/collectd$ less collectd.conf
vagrant@vagrant:/etc/collectd$ cd
vagrant@vagrant:~$ git clone https://github.com/dmangot/Mastering-DevOps.git
Cloning into 'Mastering-DevOps'...
remote: Counting objects: 150, done.
remote: Compressing objects: 100% (32/32), done.
remote: Total 150 (delta 10), reused 0 (delta 0), pack-reused 113
Receiving objects: 100% (150/150), 31.86 KiB | 0 bytes/s, done.
Resolving deltas: 100% (32/32), done.
Checking connectivity... done.
vagrant@vagrant:~$ cd Mastering-DevOps/Section6
vagrant@vagrant:~/Mastering-DevOps/Section6$ cd Video4
vagrant@vagrant:~/Mastering-DevOps/Section6/Video4$ ls
diamond.conf  diamond.pp
vagrant@vagrant:~/Mastering-DevOps/Section6/Video4$ which puppet
/usr/bin/puppet
vagrant@vagrant:~/Mastering-DevOps/Section6/Video4$ sudo puppet apply ./diamond.pp
  * Read the documentation
  * Install via pip. Install diamond . The releases on GitHub are not recommended for use. Use pypi-install
    diamond on Debian/Ubuntu systems with python-stdeb installed to build packages.
  * Copy the diamond.conf.example file to diamond.conf .
  * Optional: Run diamond-setup to help set collectors in diamond.conf .
  * Modify diamond.conf for your needs.
  * Run diamond with one of: diamond or initctl start diamond or /etc/init.d/diamond restart .
```

Success Stories

- Diamond has successfully been deployed to a cluster of 1000 machines pushing 3 million points per minute.
- Diamond is deployed on Fabric's infrastructure, polling hundreds of metric sources and pushing millions of points

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video4 (ssh)

vagrant@vagrant: ~/Mastering... bash

```
Checking connectivity... done.
vagrant@vagrant:~$ cd Mastering-DevOps/Section6
vagrant@vagrant:~/Mastering-DevOps/Section6$ cd Video4
vagrant@vagrant:~/Mastering-DevOps/Section6/Video4$ ls
diamond.conf  diamond.pp
vagrant@vagrant:~/Mastering-DevOps/Section6/Video4$ which puppet
/usr/bin/puppet
vagrant@vagrant:~/Mastering-DevOps/Section6/Video4$ sudo puppet apply ./diamond.pp
Warning: Setting templatedir is deprecated. See http://links.puppetlabs.com/env-settings-deprecations
(at /usr/lib/ruby/vendor_ruby/puppet/settings.rb:1139:in `issue_deprecation_warning') onally, it features an API for implementing
Notice: Compiled catalog for vagrant.vm in environment production in 0.29 seconds
Notice: /Stage[main]/Main/Package[diamond]/ensure: created
Notice: /Stage[main]/Main/File[/var/log/diamond]/ensure: created
Notice: /Stage[main]/Main/File[/var/log/diamond/diamond.log]/ensure: created
Notice: Finished catalog run in 5.19 seconds
vagrant@vagrant:~/Mastering-DevOps/Section6/Video4$ sudo diamond -h
Usage: diamond [options]
```

Options:

```
-h, --help          show this help message and exit
-c CONFIGFILE, --configfile=CONFIGFILE
                   config file on Debian/Ubuntu systems with python-setuptools installed to build packages.
-f, --foreground   run in foreground
-l, --log-stdout    log to stdout
-p PIDFILE, --pidfile=PIDFILE
                   Run diamond-setup to help set collectors in diamond.conf .
                   pid file
-r COLLECTOR, --run=COLLECTOR
                   Try diamond.conf for your needs.
-v, --version       display the version and exit
--skip-pidfile     Skip creating PID file
-u USER, --user=USER Change to specified unprivileged user
-g GROUP, --group=GROUP
                   Change to specified unprivileged group
--skip-change-user Skip changing to an unprivileged user
--skip-fork         Skip forking (damonizing) process
vagrant@vagrant:~/Mastering-DevOps/Section6/Video4$
```

diamond.conf — /Users/dave/Google Drive/Mangot.Mastering.DevOps/Mastering-DevOps

```
Mastering-DevOps
  diamond.pp  diamond.conf
1 ######
2 # Diamond Configuration File
3 #####
4
5 #####
6 ### Options for the server
7 [server]
8
9 # Handlers for published metrics.
10 handlers = diamond.handler.graphite.GraphiteHandler, diamond.handler.archive.ArchiveHandler
11
12 # User diamond will run as
13 # Leave empty to use the current user
14 user =
15
16 # Group diamond will run as
17 # Leave empty to use the current group
18 group =
19
20 # Pid file
21 pid_file = /var/run/diamond.pid
22
23 # Directory to load collector modules from
24 collectors_path = /usr/local/share/diamond/collectors/
25
26 # Directory to load collector configs from
27 collectors_config_path = /etc/diamond/collectors/
28
29 # Number of seconds between each collector load
```

Mastering-DevOps

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- Section4
- Section5
- Section6
- Video3
- Video4
- diamond.conf
- diamond.pp

Video5

icon

Section7

.DS_Store

.gitignore

LICENSE

README.md

```
160 # uname_rev = uname -r in reverse (com.example.www)
161
162 # hostname_short = `hostname -s`
163 # hostname = `hostname`
164 # hostname_rev = `hostname` in reverse (com.example.www)
165
166 # shell = Run the string set in hostname as a shell command and use its
167 # output (with spaces trimmed off from both ends) as the hostname.
168
169 # hostname_method = smart
170
171 # Path Prefix and Suffix
172 # you can use one or both to craft the path where you want to put metrics
173 # such as: %(path_prefix)s.$(hostname)s.$(path_suffix)s.$(metric)s
174 # path_prefix = servers
175 # path_prefix = diamond
176 # path_suffix = diamond
177
178 # Path Prefix for Virtual Machines
179 # If the host supports virtual machines, collectors may report per
180 # VM metrics. Following OpenStack nomenclature, the prefix for
181 # reporting per VM metrics is "instances", and metric foo for VM
182 # bar will be reported as: instances.bar.foo...
183 # instance_prefix = instances
184
185 # Default Poll Interval (seconds)
186 # interval = 300
187
188 #####
```

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video4 (ssh)

```
vagrant@vagrant:~/Mastering... bash  
vagrant@vagrant:~$ cd Mastering-DevOps/Section6  
vagrant@vagrant:~/Mastering-DevOps/Section6$ cd Video4  
vagrant@vagrant:~/Mastering-DevOps/Section6/Video4$ ls  
diamond.conf diamond.pp  
vagrant@vagrant:~/Mastering-DevOps/Section6/Video4$ which puppet  
/usr/bin/puppet  
vagrant@vagrant:~/Mastering-DevOps/Section6/Video4$ sudo puppet apply ./diamond.pp  
Warning: Setting templatedir is deprecated. See http://links.puppetlabs.com/env-settings-deprecations  
(at /usr/lib/ruby/vendor_ruby/puppet/settings.rb:1139:in `issue_deprecation_warning')  
Notice: Compiled catalog for vagrant.vm in environment production in 0.29 seconds  
Notice: /Stage/main/Main/Package[diamond]/ensure: created  
Notice: /Stage/main/Main/File[/var/log/diamond]/ensure: created  
Notice: /Stage/main/Main/File[/var/log/diamond/diamond.log]/ensure: created  
Notice: Finished catalog run in 5.19 seconds  
vagrant@vagrant:~/Mastering-DevOps/Section6/Video4$ sudo diamond -h  
Usage: diamond [options]  
  
Options:  
-h, --help          show this help message and exit  
-c CONFIGFILE, --configfile=CONFIGFILE  
                   config file (suffix = .conf)  
-f, --foreground    run in foreground  
-l, --log-stdout    log to stdout (prefix for Virtual Machines)  
-p PIDFILE, --pidfile=PIDFILE  
                   pid file  
-r COLLECTOR, --run=COLLECTOR  
                   run a given collector once and exit (To the host supports virtual machines, collectors may report per instance. Following OpenStack nomenclature, the prefix for VM instances is "instance-", and we recommend you follow this convention.)  
-v, --version       display the version and exit  
--skip-pidfile     Skip creating PID file  
-u USER, --user=USER Change to specified unprivileged user  
-g GROUP, --group=GROUP  
                   Change to specified unprivileged group  
--skip-change-user Skip changing to an unprivileged user  
--skip-fork        Skip forking (damonizing) process  
vagrant@vagrant:~/Mastering-DevOps/Section6/Video4$ sudo diamond -c ./diamond.conf  
vagrant@vagrant:~/Mastering-DevOps/Section6/Video4$ ps -ef
```

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video4 (ssh)

vagrant@vagrant: ~/Mastering... bash

```
Notice: Compiled catalog for vagrant.vm in environment production in 0.29 seconds
```

```
Notice: /Stage[main]/Main/Package[diamond]/ensure: created
```

```
Notice: /Stage[main]/Main/File[/var/log/diamond]/ensure: created
```

```
Notice: /Stage[main]/Main/File[/var/log/diamond/diamond.log]/ensure: created
```

```
Notice: Finished catalog run in 5.19 seconds
```

vagrant@vagrant:~/Mastering-DevOps/Section6/Video4\$ sudo diamond -h

Usage: diamond [options]

Options:

```
-h, --help show this help message and exit
```

```
-c CONFIGFILE, --configfile=CONFIGFILE config file
```

```
-f, --foreground run in foreground
```

```
-l, --log-stdout log to stdout
```

```
-p PIDFILE, --pidfile=PIDFILE pid file
```

```
-r COLLECTOR, --run=COLLECTOR run a given collector once and exit
```

```
-v, --version display the version and exit
```

```
--skip-pidfile Skip creating PID file
```

```
-u USER, --user=USER Change to specified unprivileged user
```

```
-g GROUP, --group=GROUP Change to specified unprivileged group
```

```
--skip-change-user Skip changing to an unprivileged user
```

```
--skip-fork Skip forking (damonizing) process
```

vagrant@vagrant:~/Mastering-DevOps/Section6/Video4\$ sudo diamond -c ./diamond.conf

vagrant@vagrant:~/Mastering-DevOps/Section6/Video4\$ ps -ef | grep diamond

```
root 26636 1 7 00:42 ? 00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf
```

```
root 26637 26636 0 00:42 ? 00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf
```

```
root 26645 26636 0 00:42 ? 00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf
```

```
root 26648 26636 0 00:42 ? 00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf
```

```
root 26651 26636 0 00:42 ? 00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf
```

```
root 26654 26636 0 00:42 ? 00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf
```

```
root 26656 26636 0 00:42 ? 00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf
```

```
vagrant 26660 21643 0 00:42 pts/1 00:00:00 grep --color=auto diamond
```

vagrant@vagrant:~/Mastering-DevOps/Section6/Video4\$

2. vagrant@vagrant: /opt/graphite/storage/whisper (ssh)

vagrant@vagrant: /opt/graphit... bash

Notice: /Stage[main]/Main/File[/var/log/diamond/diamond.log]/ensure: created

Notice: Finished catalog run in 5.19 seconds

vagrant@vagrant:~/Mastering-DevOps/Section6/Video4\$ sudo diamond -h

Usage: diamond [options]

Options:

-h, --help	show this help message and exit
-c CONFIGFILE, --configfile=CONFIGFILE	config file
-f, --foreground	run in foreground
-l, --log-stdout	log to stdout
-p PIDFILE, --pidfile=PIDFILE	pid file
-r COLLECTOR, --run=COLLECTOR	run a given collector once and exit
-v, --version	display the version and exit
--skip-pidfile	Skip creating PID file
-u USER, --user=USER	Change to specified unprivileged user
-g GROUP, --group=GROUP	Change to specified unprivileged group
--skip-change-user	Skip changing to an unprivileged user
--skip-fork	Skip forking (damonizing) process

vagrant@vagrant:~/Mastering-DevOps/Section6/Video4\$ sudo diamond -c ./diamond.conf

vagrant@vagrant:~/Mastering-DevOps/Section6/Video4\$ ps -ef | grep diamond

root	26636	1	7	00:42 ?	00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf
root	26637	26636	0	00:42 ?	00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf
root	26645	26636	0	00:42 ?	00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf
root	26648	26636	0	00:42 ?	00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf
root	26651	26636	0	00:42 ?	00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf
root	26654	26636	0	00:42 ?	00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf
root	26656	26636	0	00:42 ?	00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf

vagrant 26660 21643 0 00:42 pts/1 00:00:00 grep --color=auto diamond

vagrant@vagrant:~/Mastering-DevOps/Section6/Video4\$ cd /opt/graphite/storage/whisper/

vagrant@vagrant:/opt/graphite/storage/whisper\$ ls

callcenter carbon collectd diamond mastering

vagrant@vagrant:/opt/graphite/storage/whisper\$

2. vagrant@vagrant: /opt/graphite/storage/whisper (ssh)

vagrant@vagrant: /opt/graphit... bash

vagrant@vagrant:~/Mastering-DevOps/Section6/Video4\$ sudo diamond -h

Usage: diamond [options]

Options:

-h, --help	show this help message and exit
-c CONFIGFILE, --configfile=CONFIGFILE	config file
-f, --foreground	run in foreground
-l, --log-stdout	log to stdout
-p PIDFILE, --pidfile=PIDFILE	= Run the string set on hostname as a shell command and use its output (with spaces trimmed off from both ends) as the hostname
-r COLLECTOR, --run=COLLECTOR	pid file
	run a given collector once and exit
-v, --version	display the version and exit
--skip-pidfile	Skip creating PID file
-u USER, --user=USER	Change to specified unprivileged user
-g GROUP, --group=GROUP	Change to specified unprivileged group
--skip-change-user	Skip changing to an unprivileged user
--skip-fork	Skip forking (damonizing) process

vagrant@vagrant:~/Mastering-DevOps/Section6/Video4\$ sudo diamond -c ./diamond.conf

vagrant@vagrant:~/Mastering-DevOps/Section6/Video4\$ ps -ef | grep diamond

root	26636	1	7	00:42 ?	00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf
root	26637	26636	0	00:42 ?	00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf
root	26645	26636	0	00:42 ?	00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf
root	26648	26636	0	00:42 ?	00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf
root	26651	26636	0	00:42 ?	00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf
root	26654	26636	0	00:42 ?	00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf
root	26656	26636	0	00:42 ?	00:00:00 /usr/bin/python /usr/local/bin/diamond -c ./diamond.conf
vagrant	26660	21643	0	00:42 pts/1	00:00:00 grep --color=auto diamond

vagrant@vagrant:~/Mastering-DevOps/Section6/Video4\$ cd /opt/graphite/storage/whisper/

vagrant@vagrant:/opt/graphite/storage/whisper\$ ls

callcenter carbon collectd diamond mastering

vagrant@vagrant:/opt/graphite/storage/whisper\$ ls diamond/

vagrant

vagrant@vagrant:/opt/graphite/storage/whisper\$



Graphite Browser GitHub - python-diamond/D GitHub - dmangot/Mastering

https://localhost:8443

Graphite

Login Documentation Dashboard events

Tree Search Auto-Completer

Metrics

- + calcenter
- + carbon
- + collectd
- + diamond
 - + vagrant
 - + cpu
 - + diskspace
 - + loadavg
 - + vmstat
- + mastering
- + User Graphs

Graphite Composer

Now showing the past 24 hours

No Data

Graph Options ▾ Graph Data Auto-Refresh

The screenshot shows the Graphite web interface. On the left, there's a navigation sidebar with tabs for 'Tree', 'Search', and 'Auto-Completer'. Below these are sections for 'Metrics' and 'User Graphs', each containing a list of metric names. The 'Metrics' section includes sub-folders like 'calcenter', 'carbon', 'collectd', 'diamond' (which contains 'vagrant' with sub-metrics 'cpu', 'diskspace', 'loadavg', and 'vmstat'), 'mastering', and 'User Graphs'. On the right, a large panel is titled 'Graphite Composer' and displays a message 'Now showing the past 24 hours'. Below this, a dark area says 'No Data'. At the bottom of the composer panel are buttons for 'Graph Options ▾', 'Graph Data', and 'Auto-Refresh'. The top of the browser window shows the URL 'https://localhost:8443' and the title 'Graphite Browser'.

Next Video

Actionable Data

Dave Mangot

Video 6.5

Actionable Data



In this Video, we are going to take a look at...

- What is actionable data
- Installing Seyren
- Setting an alert on a metric
- Triggering a notification

What Is Actionable Data?



Configuration Changes

- Vagrantfile:
 - config.vm.network :forwarded_port, guest: 80, host: 8000
 - config.vm.network :forwarded_port, guest: 8080, host: 8080
- <https://github.com/obfuscury/synthesize>
- <https://github.com/dmangot/Mastering-DevOps>

Monitoring and Alerting



<https://github.com/scobel/seyren>

<https://docs.mongodb.com/v3.0/tutorial/install-mongodb-on-ubuntu/#install-mongodb>

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video5 (ssh)

vagrant@vagrant: ~/Mastering... bash

```
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ ls  
apache.sh graphite.conf seyren.sh Vagrantfile  
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$
```



<https://github.com/scobal/seyren>

<https://docs.mongodb.com/v3.0/tutorial/install-mongodb-on-ubuntu/#install-mongodb>

iTerm Shell Edit View Profiles Toolkit Window Help 11.8KB/s
7.8KB/s Sep 11 6:37 PM Dave Mangot

vagrant@vagrant: ~/Mastering... bash

```
# -*- mode: ruby -*-
# vi: set ft=ruby :

# Vagrantfile API/syntax version. Don't touch unless you know what you're doing!
VAGRANTFILE_API_VERSION = "2"

Vagrant.configure(VAGRANTFILE_API_VERSION) do |config|
  config.vm.box = "mayflower/trusty64-puppet3"
  config.vm.network :forwarded_port, guest: 80, host: 8000
  config.vm.network :forwarded_port, guest: 443, host: 8443
  config.vm.network :forwarded_port, guest: 8125, host: 8125, protocol: 'tcp'
  config.vm.network :forwarded_port, guest: 8125, host: 8125, protocol: 'udp'
  config.vm.network :forwarded_port, guest: 2003, host: 22003
  config.vm.network :forwarded_port, guest: 2004, host: 22004
  config.vm.network :forwarded_port, guest: 8080, host: 8080
  graphite_version = ENV['GRAPHITE_RELEASE'].nil? ? '0.9.15' : ENV['GRAPHITE_RELEASE']
  config.vm.provision "shell", inline: "cd /vagrant; GRAPHITE_RELEASE=#{graphite_version} ./install"
end
```

Vagrantfile (END)



<https://github.com/scobal/seyren>

<https://docs.mongodb.com/v3.0/tutorial/install-mongodb-on-ubuntu/#install-mongodb>

vagrant@vagrant: ~/Mastering... bash
blackmacbook:synthesize dave\$ ls
LICENSE README.md Vagrantfile app.yml install templates uninstall upgrade
blackmacbook:synthesize dave\$



<https://github.com/scobal/seyren>

<https://docs.mongodb.com/v3.0/tutorial/install-mongodb-on-ubuntu/#install-mongodb>

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video5 (ssh)

vagrant@vagrant: ~/Mastering... bash

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$ ls

apache.sh graphite.conf **seyren.sh** Vagrantfile

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$ less Vagrantfile

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$ ls /vagrant

app.yml **install** LICENSE README.md **templates** **uninstall** **upgrade** Vagrantfile

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$ █



<https://github.com/scobal/seyren>

<https://docs.mongodb.com/v3.0/tutorial/install-mongodb-on-ubuntu/#install-mongodb>

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video5 (ssh)

```
vagrant@vagrant:~/Mastering... bash  
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ ls  
apache.sh graphite.conf seyren.sh Vagrantfile  
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ less Vagrantfile  
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ ls /vagrant  
app.yml install LICENSE README.md templates uninstall upgrade Vagrantfile  
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ cp Vagrantfile /vagrant/Vagrantfile  
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ exit  
logout  
Connection to 127.0.0.1 closed.  
blackmacbook:synthesize dave$
```



<https://github.com/scobal/seyren>

<https://docs.mongodb.com/v3.0/tutorial/install-mongodb-on-ubuntu/#install-mongodb>

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video5 (vagrant)

```
vagrant@vagrant:~/Mastering... bash  
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ ls  
apache.sh graphite.conf seyren.sh Vagrantfile  
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ less Vagrantfile  
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ ls /vagrant  
app.yml install LICENSE README.md templates uninstall upgrade Vagrantfile  
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ cp Vagrantfile /vagrant/Vagrantfile  
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ exit  
logout  
Connection to 127.0.0.1 closed.  
blackmacbook:synthesize dave$ vagrant reload
```



<https://github.com/scobal/seyren>

<https://docs.mongodb.com/v3.0/tutorial/install-mongodb-on-ubuntu/#install-mongodb>

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video5 (bash)

```
vagrant@vagrant: ~/Mastering... bash
app.yml install LICENSE README.md templates uninstall upgrade Vagrantfile
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ cp Vagrantfile /vagrant/Vagrantfile
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ exit
logout
Connection to 127.0.0.1 closed.
blackmacbook:synthesize dave$ vagrant reload
--> default: Attempting graceful shutdown of VM...
--> default: Checking if box 'mayflower/trusty64-puppet3' is up to date...
--> default: Clearing any previously set forwarded ports...
--> default: Clearing any previously set network interfaces...
--> default: Preparing network interfaces based on configuration...
  default: Adapter 1: nat
--> default: Forwarding ports...
  default: 80 (guest) => 8000 (host) (adapter 1)
  default: 443 (guest) => 8443 (host) (adapter 1)
  default: 8125 (guest) => 8125 (host) (adapter 1)
  default: 8125 (guest) => 8125 (host) (adapter 1)
  default: 2003 (guest) => 22003 (host) (adapter 1)
  default: 2004 (guest) => 22004 (host) (adapter 1)
  default: 8080 (guest) => 8080 (host) (adapter 1)
  default: 22 (guest) => 2222 (host) (adapter 1)
--> default: Booting VM...
--> default: Waiting for machine to boot. This may take a few minutes...
  default: SSH address: 127.0.0.1:2222
  default: SSH username: vagrant
  default: SSH auth method: private key
  default: Warning: Remote connection disconnect. Retrying...
  default: Warning: Remote connection disconnect. Retrying...
--> default: Machine booted and ready!
[default] GuestAdditions 5.0.20 running -- OK.
--> default: Checking for guest additions in VM...
--> default: Mounting shared folders...
  default: /vagrant => /Users/dave/work/synthesize/synthesize
--> default: Machine already provisioned. Run `vagrant provision` or use the `--provision` flag to force provisioning. Provisioners marked to run always will still run.
blackmacbook:synthesize dave$ vagr
```



vagrant@vagrant: ~ (vagrant) bash

```
==> default: Clearing any previously set forwarded ports...
==> default: Clearing any previously set network interfaces...
==> default: Preparing network interfaces based on configuration...
  default: Adapter 1: nat
==> default: Forwarding ports...
  default: 80 (guest) => 8000 (host) (adapter 1)
  default: 443 (guest) => 8443 (host) (adapter 1)
  default: 8125 (guest) => 8125 (host) (adapter 1)
  default: 8125 (guest) => 8125 (host) (adapter 1)
  default: 2003 (guest) => 22003 (host) (adapter 1)
  default: 2004 (guest) => 22004 (host) (adapter 1)
  default: 8080 (guest) => 8080 (host) (adapter 1)
  default: 22 (guest) => 2222 (host) (adapter 1)
==> default: Booting VM...
==> default: Waiting for machine to boot. This may take a few minutes...
  default: SSH address: 127.0.0.1:2222
  default: SSH username: vagrant
  default: SSH auth method: private key
  default: Warning: Remote connection disconnect. Retrying...
  default: Warning: Remote connection disconnect. Retrying...
==> default: Machine booted and ready!
[default] GuestAdditions 5.0.20 running --- OK.
==> default: Checking for guest additions in VM...
==> default: Mounting shared folders...
  default: /vagrant => /Users/dave/work/synthesize/synthesize
==> default: Machine already provisioned. Run `vagrant provision` or use the `--provision` flag to force provisioning. Provisioners marked to run always will still run.
blackmacbook:synthesize dave$ vagrant ssh
Welcome to Ubuntu 14.04.3 LTS (GNU/Linux 3.19.0-25-generic x86_64)

 * Documentation: https://help.ubuntu.com/
New release '16.04.1 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

Last login: Mon Sep 12 01:33:07 2016 from 10.0.2.2
vagrant@vagrant:~$ cd Mastering-DevOps/Section
```

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video5 (vagrant)

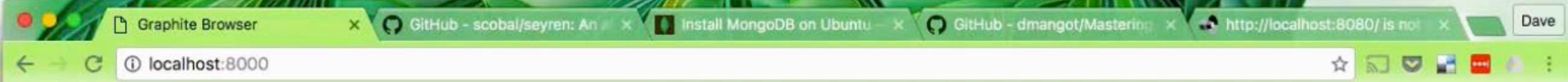
```
vagrant@vagrant: ~/Mastering... bash

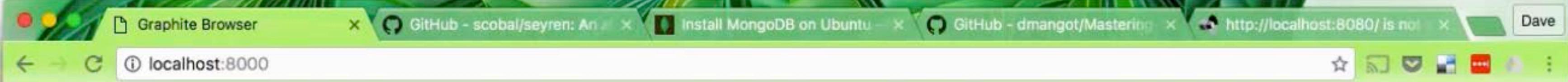
default: 2003 (guest) => 22003 (host) (adapter 1)
default: 2004 (guest) => 22004 (host) (adapter 1)
default: 8080 (guest) => 8080 (host) (adapter 1)
default: 22 (guest) => 2222 (host) (adapter 1)
==> default: Booting VM...
==> default: Waiting for machine to boot. This may take a few minutes...

default: SSH address: 127.0.0.1:2222
default: SSH username: vagrant
default: SSH auth method: private key
default: Warning: Remote connection disconnect. Retrying...
default: Warning: Remote connection disconnect. Retrying...
==> default: Machine booted and ready!
[default] GuestAdditions 5.0.20 running --- OK.
==> default: Checking for guest additions in VM...
==> default: Mounting shared folders...
    default: /vagrant => /Users/dave/work/synthesize/synthesize
==> default: Machine already provisioned. Run `vagrant provision` or use the `--provision` flag to force provisioning. Provisioners marked to run always will still run.
blackmacbook:synthesize dave$ vagrant ssh
Welcome to Ubuntu 14.04.3 LTS (GNU/Linux 3.19.0-25-generic x86_64)
```

```
* Documentation: https://help.ubuntu.com/
New release '16.04.1 LTS' available.
Run 'do-release-upgrade' to upgrade to it.
```

```
Last login: Mon Sep 12 01:33:07 2016 from 10.0.2.2
vagrant@vagrant:~$ cd Mastering-DevOps/Section6/Video5
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ ls
apache.sh graphite.conf seyren.sh Vagrantfile
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ ls -l
total 16
-rw-rw-r-- 1 vagrant vagrant 74 Sep 12 00:39 apache.sh
-rw-rw-r-- 1 vagrant vagrant 2275 Sep 12 00:39 graphite.conf
-rwxrwxr-x 1 vagrant vagrant 73 Sep 12 00:39 seyren.sh
-rw-rw-r-- 1 vagrant vagrant 909 Sep 12 00:39 Vagrantfile
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$
```





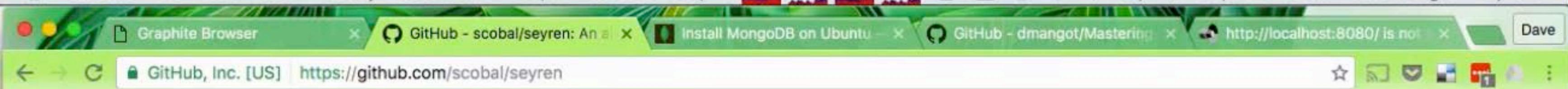
Graphite

Login Documentation Dashboard events

Tree Search Auto-Completer

- Metrics
 - + calcenter
 - + carbon
 - + collectd
 - graphite
 - + apache-graphite-web
 - + cpu-0
 - cpu-idle
 - cpuinterrupt
 - cpunice
 - cpusoftirq
 - cpusteal
 - cpusystem
 - cpuser
 - cpusleep
 - + cpu-1
 - + disk-dm-0
 - + disk-dm-1
 - + disk-sda
 - + disk-sda1
 - + disk-sda2
 - + disk-sda5
 - + entropy
 - + filecount-whisper
 - + interface-eth0
 - + interface-io
 - + load
 - + memcached





Prerequisites

- An instance of Graphite
- MongoDB ([Install instructions](#))

Run

```
wget https://github.com/scobal/seyren/releases/download/1.3.0/seyren-1.3.0.jar
export GRAPHITE_URL=http://graphite.foohost.com:80
java -jar seyren-1.3.0.jar
open http://localhost:8080
```

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MONGODB MANUAL 3.0+

Introduction

Installation

- Install on Linux
 - Install on Red Hat
 - Install on SUSE
 - Install on Amazon Linux
 - Install on Ubuntu**
 - Install on Debian
 - Install MongoDB From Tarball
- + Install MongoDB Enterprise
 - Verify Integrity of MongoDB Packages

MongoDB CRUD Operations

Data Models

Was this page helpful? Yes No

Install MongoDB

1 Import the public key used by the package management system.

The Ubuntu package management tools (i.e. `dpkg` and `apt`) ensure package consistency and authenticity by requiring that distributors sign packages with GPG keys. Issue the following command to import the [MongoDB public GPG Key](#):

```
sudo apt-key adv --keyserver hkp://keyserver.ubuntu.com:80 --recv 7F0CEB10
```

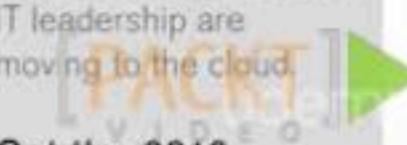
2 Create a list file for MongoDB.

Create the `/etc/apt/sources.list.d/mongodb-org-3.0.list` list file using the command appropriate for your version of Ubuntu:



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Find out why
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IT leadership are
moving to the cloud.



Get the 2016

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video5 (vagrant)

vagrant@vagrant: ~/Mastering... bash

```
==> default: Checking for guest additions in VM...
==> default: Mounting shared folders...
    default: /vagrant => /Users/dave/work/synthesize/synthesize
==> default: Machine already provisioned. Run `vagrant provision` or use the `--provision` flag to force provisioning. Provisioners marked to run always will still run.
```

blackmacbook:synthesize dave\$ vagrant ssh

Welcome to Ubuntu 14.04.3 LTS (GNU/Linux 3.19.0-25-generic x86_64)

```
* Documentation: https://help.ubuntu.com/
```

```
New release '16.04.1 LTS' available.
```

```
Run 'do-release-upgrade' to upgrade to it.
```

```
Last login: Mon Sep 12 01:33:07 2016 from 10.0.2.2
```

vagrant@vagrant:~\$ cd Mastering-DevOps/Section6/Video5

```
the public key used by the package management system.
```

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$ ls

```
apache.sh graphite.conf seyren.sh Vagrantfile
```

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$ ls -l

```
total 16
```

```
-rw-rw-r-- 1 vagrant vagrant 74 Sep 12 00:39 apache.sh
```

```
-rw-rw-r-- 1 vagrant vagrant 2275 Sep 12 00:39 graphite.conf
```

```
-rwxrwxr-x 1 vagrant vagrant 73 Sep 12 00:39 seyren.sh
```

```
-rw-rw-r-- 1 vagrant vagrant 909 Sep 12 00:39 Vagrantfile
```

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$ cat apache.sh

```
sudo cp graphite.conf /etc/apache2/sites-available
```

```
sudo apachectl restart
```

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$ chmod +x apache.sh

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$./apache.sh

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$ sudo apt-key adv --keyserver hkp://keyserver.ubuntu.com:80 --recv 7F0CEB10

```
Executing: gpg --ignore-time-conflict --no-options --no-default-keyring --homedir /tmp/tmp.8DYWl5Nepo --no-auto-check-trustdb --trust-model always --keyring /etc/apt/trusted.gpg --primary-keyring /etc/apt/trusted.gpg --keyring /etc/apt/trusted.gpg.d/puppetlabs-keyring.gpg --keyring /etc/apt/trusted.gpg.d/puppetlabs-nightly-keyring.gpg --keyserver hkp://keyserver.ubuntu.com:80 --recv 7F0CEB10
```

```
gpg: requesting key 7F0CEB10 from hkp server keyserver.ubuntu.com
```

```
gpg: key 7F0CEB10: public key "Richard Kreuter <richard@10gen.com>" imported. 1 keyid: 7F0CEB10
```

```
gpg: Total number processed: 1
```

```
gpg:          imported: 1 (RSA: 1)
```

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$

Graphite Browser GitHub - scobal/seyren: An... Install MongoDB on Ubuntu - GitHub - dmangot/Mastering http://localhost:8080/ is no... Dave

https://docs.mongodb.com/v3.0/tutorial/install-mongodb-on-ubuntu/#install-mongodb

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MONGODB MANUAL 3.0▼

Was this page helpful? Yes No

Create the `/etc/apt/sources.list.d/mongodb-org-3.0.list` list file using the command appropriate for your version of Ubuntu:

Ubuntu 12.04

```
echo "deb http://repo.mongodb.org/apt/ubuntu precise/mongodb-org/3.0 multiverse"
```

Ubuntu 14.04

```
echo "deb http://repo.mongodb.org/apt/ubuntu trusty/mongodb-org/3.0 multiverse"
```

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Get the 2016

③ Reload local package database.

Issue the following command to reload the local package database:

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video5 (vagrant)

vagrant@vagrant: ~/Mastering... bash

```
==> default: Machine already provisioned. Run `vagrant provision` or use the `--provision`  
==> default: flag to force provisioning. Provisioners marked to run always will still run.
```

blackmacbook:synthesize dave\$ vagrant ssh

Welcome to Ubuntu 14.04.3 LTS (GNU/Linux 3.19.0-25-generic x86_64)

```
* Documentation: https://help.ubuntu.com/
```

```
New release '16.04.1 LTS' available.
```

```
Run 'do-release-upgrade' to upgrade to it.
```

```
Last login: Mon Sep 12 01:33:07 2016 from 10.0.2.2
```

vagrant@vagrant:~\$ cd Mastering-DevOps/Section6/Video5

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$ ls

apache.sh graphite.conf seyren.sh Vagrantfile

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$ ls -l

```
total 16
```

```
-rw-rw-r-- 1 vagrant vagrant 74 Sep 12 00:39 apache.sh  
-rw-rw-r-- 1 vagrant vagrant 2275 Sep 12 00:39 graphite.conf  
-rwxrwxr-x 1 vagrant vagrant 73 Sep 12 00:39 seyren.sh  
-rw-rw-r-- 1 vagrant vagrant 909 Sep 12 00:39 Vagrantfile
```

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$ cat apache.sh

sudo cp graphite.conf /etc/apache2/sites-available

sudo apachectl restart

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$ chmod +x apache.sh

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$./apache.sh

```
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ sudo apt-key adv --keyserver hkp://keyserver.ubuntu.com:80 --recv 7F0CEB10  
Executing: gpg --ignore-time-conflict --no-options --no-default-keyring --homedir /tmp/tmp.8DYWL5Nepo --no-auto-check-trustdb --trust-model always --keyring /etc/apt/trusted.gpg --primary-keyring /etc/apt/trusted.gpg --keyring /etc/apt/trusted.gpg.d/puppetlabs-keyring.gpg --keyring /etc/apt/trusted.gpg.d/puppetlabs-nightly-keyring.gpg --keyserver hkp://keyserver.ubuntu.com:80 --recv 7F0CEB10
```

```
gpg: requesting key 7F0CEB10 from hkp server keyserver.ubuntu.com
```

```
gpg: key 7F0CEB10: public key "Richard Kreuter <richard@10gen.com>" imported
```

```
gpg: Total number processed: 1
```

```
gpg:           imported: 1 (RSA: 1)
```

```
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ echo "deb http://repo.mongodb.org/apt/ubuntu trusty/mongodb-org/3.0 multiverse" | sudo tee /etc/apt/sources.list.d/mongodb-org-3.0.list
```

```
deb http://repo.mongodb.org/apt/ubuntu trusty/mongodb-org/3.0 multiverse
```

```
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$
```

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video5 (vagrant)

vagrant@vagrant: ~/Mastering... bash

```
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ ./apache.sh
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ sudo apt-key adv --keyserver hkp://keyserver.ubuntu.com:80 --recv 7F0CEB10
Executing: gpg --ignore-time-conflict --no-options --no-default-keyring --homedir /tmp/tmp.8DYWL5Nepo --no-auto-check-trustdb --trust-model always --keyring /etc/apt/trusted.gpg --primary-keyring /etc/apt/trusted.gpg --keyring /etc/apt/trusted.gpg.d/puppetlabs-keyring.gpg --keyring /etc/apt/trusted.gpg.d/puppetlabs-nightly-keyring.gpg --keyserver hkp://keyserver.ubuntu.com:80 --recv 7F0CEB10
gpg: requesting key 7F0CEB10 from hkp server keyserver.ubuntu.com
gpg: key 7F0CEB10: public key "Richard Kreuter <richard@10gen.com>" imported
gpg: Total number processed: 1
gpg:           imported: 1 (RSA: 1)
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ echo "deb http://repo.mongodb.org/apt/ubuntu trusty/mongodb-org/3.0 multiverse" | sudo tee /etc/apt/sources.list.d/mongodb-org-3.0.list
deb http://repo.mongodb.org/apt/ubuntu trusty/mongodb-org/3.0 multiverse
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ sudo apt-get update
Ign http://ubuntu.mirror.lrz.de trusty InRelease
Ign http://repo.mongodb.org trusty/mongodb-org/3.0 InRelease
Ign http://apt.puppetlabs.com trusty InRelease
Get:1 http://ubuntu.mirror.lrz.de trusty-updates InRelease [65.9 kB]
Get:2 http://apt.puppetlabs.com trusty Release.gpg [841 B]
Get:3 http://repo.mongodb.org trusty/mongodb-org/3.0 Release.gpg [455 B]
Get:4 http://apt.puppetlabs.com trusty Release [54.2 kB]
Get:5 http://repo.mongodb.org trusty/mongodb-org/3.0 Release [3,090 B]
Get:6 http://repo.mongodb.org trusty/mongodb-org/3.0/multiverse amd64 Packages [9,678 B]
Err http://apt.puppetlabs.com trusty Release
      Connection timed out after 10 seconds on: http://apt.puppetlabs.com/ (80). Retrying.

Get:7 http://repo.mongodb.org trusty/mongodb-org/3.0/multiverse i386 Packages [29 B]
Hit http://ubuntu.mirror.lrz.de trusty-backports InRelease
Ign http://repo.mongodb.org trusty/mongodb-org/3.0/multiverse Translation-en_US
Ign http://repo.mongodb.org trusty/mongodb-org/3.0/multiverse Translation-en
Hit http://ubuntu.mirror.lrz.de trusty-security InRelease
Hit http://ubuntu.mirror.lrz.de trusty Release.gpg
Get:8 http://ubuntu.mirror.lrz.de trusty-updates/main Sources [380 kB]
Get:9 http://ubuntu.mirror.lrz.de trusty-updates/restricted Sources [5,360 B]
Get:10 http://ubuntu.mirror.lrz.de trusty-updates/universe Sources [164 kB]
Get:11 http://ubuntu.mirror.lrz.de trusty-updates/multiverse Sources [7,137 B]
Get:12 http://ubuntu.mirror.lrz.de trusty-updates/main amd64 Packages [890 kB]
74% [12 Packages 478 kB/890 kB 54%]
```

Graphite Browser GitHub - scobal/seyren: An... Install MongoDB on Ubuntu GitHub - dmangot/Mastering http://localhost:8080/ is no... Dave

https://docs.mongodb.com/v3.0/tutorial/install-mongodb-on-ubuntu/#install-mongodb

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Was this page helpful? Yes No

You can install either the latest stable version of MongoDB or a specific version of MongoDB.

Install the latest stable version of MongoDB.

Issue the following command:

```
sudo apt-get install -y mongodb-org
```

Install a specific release of MongoDB.

To install a specific release, you must specify each component package individually along with the version number, as in the following example:

```
sudo apt-get install -y mongodb-org=3.0.12 mongodb-org-server=3.0.12 mongodb-org-
```

Go beyond the trends.

Find out why developers, DBAs, and IT leadership are moving to the cloud.

Get the 2016

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video5 (vagrant)

vagrant@vagrant: ~/Mastering... bash

```
Hit http://ubuntu.mirror.lrz.de trusty/restricted amd64 Packages
Hit http://ubuntu.mirror.lrz.de trusty/universe amd64 Packages
Hit http://ubuntu.mirror.lrz.de trusty/multiverse amd64 Packages
Hit http://ubuntu.mirror.lrz.de trusty/main i386 Packages
Hit http://ubuntu.mirror.lrz.de trusty/restricted i386 Packages
Hit http://ubuntu.mirror.lrz.de trusty/universe i386 Packages
Hit http://ubuntu.mirror.lrz.de trusty/multiverse i386 Packages
Hit http://ubuntu.mirror.lrz.de trusty/main Translation-en
Hit http://ubuntu.mirror.lrz.de trusty/multiverse Translation-en
Hit http://ubuntu.mirror.lrz.de trusty/restricted Translation-en
Hit http://ubuntu.mirror.lrz.de trusty/universe Translation-en
Ign http://ubuntu.mirror.lrz.de trusty/main Translation-en_US
Ign http://ubuntu.mirror.lrz.de trusty/multiverse Translation-en_US
Ign http://ubuntu.mirror.lrz.de trusty/restricted Translation-en_US
Ign http://ubuntu.mirror.lrz.de trusty/universe Translation-en_US
Fetched 3,241 kB in 29s (108 kB/s)
```

Reading package lists... Done

W: An error occurred during the signature verification. The repository is not updated and the previous index files will be used. GPG error: http://apt.puppetlabs.com trusty Release: The following signatures were invalid: KEYEXPIRED 1468001658

W: Failed to fetch http://apt.puppetlabs.com/dists/trusty/Release

W: Some index files failed to download. They have been ignored, or old ones used instead.

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$ sudo apt-get install -y mongodb-org

Reading package lists... Done

Building dependency tree

Reading state information... Done

The following extra packages will be installed:

 mongodb-org-mongos mongodb-org-server mongodb-org-shell mongodb-org-tools

The following NEW packages will be installed:

 mongodb-org mongodb-org-mongos mongodb-org-server mongodb-org-shell

 mongodb-org-tools

0 upgraded, 5 newly installed, 0 to remove and 102 not upgraded.

Need to get 40.5 MB of archives.

After this operation, 176 MB of additional disk space will be used.

0% [Working]

Graphite Browser GitHub - scobal/seyren: An ... Install MongoDB on Ubuntu ... GitHub - dmangot/Mastering ... http://localhost:8080/ is no ... Dave

GitHub, Inc. [US] https://github.com/scobal/seyren

- MongoDB (Install instructions)

Run

```
wget https://github.com/scobal/seyren/releases/download/1.3.0/seyren-1.3.0.jar
export GRAPHITE_URL=http://graphite.foohost.com:80
java -jar seyren-1.3.0.jar
open http://localhost:8080
```

To run seyren on another port:

```
export SEYREN_URL="http://localhost:8081/seyren"
java -jar seyren-1.3.0.jar -httpPort=8081
```

Config

The following options can be supplied as system properties or environment variables.

Base

- MONGO_URL - The Mongo connection string. Default: `mongodb://localhost:27017/seyren`
- SEYREN_URL - The location of your Seyren instance. Default: `http://localhost:8080/seyren`
- SEYREN_LOG_PATH - The path of `seyren.log`. Default: ``. If a value is set, it must end with a '/'.
- SEYREN_LOG_FILE_LEVEL - The level of messages logged to the file appender (must correspond to a Logback log level. So one of `trace`, `debug`, `info`, `warn` or `error`). Default: `info`.
- SEYREN_THREADS - The number of pooled check threads to start. Default: 8

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video5 (vagrant)

```
vagrant@vagrant: ~/Mastering... bash
Selecting previously unselected package mongodb-org-mongos.
Preparing to unpack .../mongodb-org-mongos_3.0.12_amd64.deb ...
Unpacking mongodb-org-mongos (3.0.12) ...
Selecting previously unselected package mongodb-org-tools.
Preparing to unpack .../mongodb-org-tools_3.0.12_amd64.deb ...
Unpacking mongodb-org-tools (3.0.12) ...
Selecting previously unselected package mongodb-org.
Preparing to unpack .../mongodb-org_3.0.12_amd64.deb ...
Unpacking mongodb-org (3.0.12) ...
Processing triggers for man-db (2.6.7.1-1ubuntu1) ...
Processing triggers for ureadahead (0.100.0-16) ...
ureadahead will be reprofiled on next reboot
Setting up mongodb-org-shell (3.0.12) ...
Setting up mongodb-org-server (3.0.12) ...
Adding system user `mongodb' (UID 108) ...
Adding new user `mongodb' (UID 108) with group `nogroup' ...
Not creating home directory `/home/mongodb'.
Adding group `mongodb' (GID 116) ...
Done.
Adding user `mongodb' to group `mongodb' ...
Adding user mongodb to group mongodb
Done.
mongod start/running, process 2081
Setting up mongodb-org-mongos (3.0.12) ...
Setting up mongodb-org-tools (3.0.12) ...
Processing triggers for ureadahead (0.100.0-16) ...
Setting up mongodb-org (3.0.12) ...
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ ps -ef | grep mongo
mongod 2081 1 2 01:43 ? 00:00:00 /usr/bin/mongod --config /etc/mongod.conf
vagrant 2100 1317 0 01:43 pts/0 00:00:00 grep --color=auto mongo
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ telnet localhost 27017
Trying ::1...
Trying 127.0.0.1...
Connected to localhost.
Escape character is '^]'.
```

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video5 (vagrant)

```
vagrant@vagrant:~/Mastering... bash

Unpacking mongodb-org (3.0.12) ...
Processing triggers for man-db (2.6.7.1-1ubuntu1) ...
Processing triggers for ureadahead (0.100.0-16) ...
ureadahead will be reprofiled on next reboot
Setting up mongodb-org-shell (3.0.12) ...
Setting up mongodb-org-server (3.0.12) ...
Adding system user `mongodb' (UID 108) ...
Adding new user `mongodb' (UID 108) with group `nogroup' ...
Not creating home directory `/home/mongodb'.
Adding group `mongodb' (GID 116) ...
Done.
Adding user `mongodb' to group `mongodb' ...
Adding user mongodb to group mongodb
Done.
mongod start/running, process 2081
Setting up mongodb-org-mongos (3.0.12) ...
Setting up mongodb-org-tools (3.0.12) ...
Processing triggers for ureadahead (0.100.0-16) ...
Setting up mongodb-org (3.0.12) ...
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ ps -ef | grep mongo
mongodb 2081 1 2 01:43 ? 00:00:00 /usr/bin/mongod --config /etc/mongod.conf
vagrant 2100 1317 0 01:43 pts/0 00:00:00 grep --color=auto mongo
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ telnet localhost 27017
Trying ::1...
Trying 127.0.0.1...
Connected to localhost. The following options can be supplied as system properties or environment variables.
Escape character is '^]'.
^]quit
telnet> quit
Connection closed.
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ wget https://github.com/scobel/seyren/releases/download/1.3.0/seyren-1.3.0.jar
--2016-09-12 01:44:21-- https://github.com/scobel/seyren/releases/download/1.3.0/seyren-1.3.0.jar
Resolving github.com (github.com)... 192.30.253.113
Connecting to github.com (github.com)|192.30.253.113|:443... connected.
HTTP request sent, awaiting response... [REDACTED]
```

Graphite Browser GitHub - scobal/seyren: An ... Install MongoDB on Ubuntu ... GitHub - dmangot/Mastering ... http://localhost:8080/ is no... Dave

GitHub, Inc. [US] https://github.com/scobal/seyren

- An instance of Graphite
- MongoDB (Install instructions)

Run

```
wget https://github.com/scobal/seyren/releases/download/1.3.0/seyren-1.3.0.jar
export GRAPHITE_URL=http://graphite.foohost.com:80
java -jar seyren-1.3.0.jar
open http://localhost:8080
```

To run seyren on another port:

```
export SEYREN_URL="http://localhost:8081/seyren"
java -jar seyren-1.3.0.jar -httpPort=8081
```

Config

The following options can be supplied as system properties or environment variables.

Base

- MONGO_URL - The Mongo connection string. Default: mongodb://localhost:27017/seyren
- SEYREN_URL - The location of your Seyren instance. Default: http://localhost:8080/seyren
- SEYREN_LOG_PATH - The path of seyren.log. Default: ``. If a value is set, it must end with a '/'.
• SEYREN_LOG_FILE_LEVEL - The level of messages logged to the file appender (must correspond to a Logback log level, so one of trace, debug, info, warn or error). Default: info.

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video5 (vagrant)

vagrant@vagrant: ~/Mastering... bash

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$ telnet localhost 27017

Trying ::1...
Trying 127.0.0.1...
Connected to localhost.
Escape character is '^]'.
^]quit

Run

telnet> quit

Connection closed.

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$ wget https://github.com/scobal/seyren/releases/download/1.3.0/seyren-1.3.0.jar

--2016-09-12 01:44:21-- https://github.com/scobal/seyren/releases/download/1.3.0/seyren-1.3.0.jar

Resolving github.com (github.com)... 192.30.253.113

Connecting to github.com (github.com)|192.30.253.113|:443... connected.

HTTP request sent, awaiting response... 302 Found

Location: https://github-cloud.s3.amazonaws.com/releases/4167742/7e9fe676-e2f2-11e4-8f51-0bbb2754d54a.jar?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAISTNZFOVBIJMK3TQ%2F20160912%2Fs-east-1%2Fs3%2Faws4_request&X-Amz-Date=20160912T014422Z&X-Amz-Expires=300&X-Amz-Signature=1f09785ac0fbe34fe68d86a22ccbf0c57ae08b05f28c206dba7a43a5f75e2003&X-Amz-SignedHeaders=host&actor_id=0&response-content-disposition=attachment%3B%20filename%3Dseyren-1.3.0.jar&response-content-type=application%2Foctet-stream [following]

--2016-09-12 01:44:22-- https://github-cloud.s3.amazonaws.com/releases/4167742/7e9fe676-e2f2-11e4-8f51-0bbb2754d54a.jar?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAISTNZFOVBIJMK3TQ%2F20160912%2Fs-east-1%2Fs3%2Faws4_request&X-Amz-Date=20160912T014422Z&X-Amz-Expires=300&X-Amz-Signature=1f09785ac0fbe34fe68d86a22ccbf0c57ae08b05f28c206dba7a43a5f75e2003&X-Amz-SignedHeaders=host&actor_id=0&response-content-disposition=attachment%3B%20filename%3Dseyren-1.3.0.jar&response-content-type=application%2Foctet-stream

Resolving github-cloud.s3.amazonaws.com (github-cloud.s3.amazonaws.com)... 54.231.72.251

Connecting to github-cloud.s3.amazonaws.com (github-cloud.s3.amazonaws.com)|54.231.72.251|:443... connected.

HTTP request sent, awaiting response... 200 OK

Length: 37565991 (36M) [application/octet-stream] be supplied as system properties or environment variables.

Saving to: 'seyren-1.3.0.jar'

100%[=====>] 37,565,991 2.19MB/s in 45s

2016-09-12 01:45:08 (819 KB/s) - 'seyren-1.3.0.jar' saved [37565991/37565991]

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$ cat seyren.sh

export SEYREN_LOG_PATH=.

java -jar seyren-1.3.0.jar > seyren.out 2>&1 &

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video5 (vagrant)

vagrant@vagrant: ~/Mastering... bash

Connection closed.

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$ wget https://github.com/scobal/seyren/releases/download/1.3.0/seyren-1.3.0.jar

--2016-09-12 01:44:21-- https://github.com/scobal/seyren/releases/download/1.3.0/seyren-1.3.0.jar

Resolving github.com (github.com)... 192.30.253.113

Connecting to github.com (github.com)|192.30.253.113|:443... connected.

HTTP request sent, awaiting response... 302 Found

Location: https://github-cloud.s3.amazonaws.com/releases/4167742/7e9fe676-e2f2-11e4-8f51-0bbb2754d54a.jar?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAISTNZFOVBIJMK3TQ%2F20160912%2Fs-east-1%2Fs3%2Faws4_request&X-Amz-Date=20160912T014422Z&X-Amz-Expires=300&X-Amz-Signature=1f09785ac0fbe34fe68d86a22ccbf0c57ae08b05f28c206dba7a43a5f75e2003&X-Amz-SignedHeaders=host&actor_id=0&response-content-disposition=attachment%3B%20filename%3Dseyren-1.3.0.jar&response-content-type=application%2Foctet-stream [following]

--2016-09-12 01:44:22-- https://github-cloud.s3.amazonaws.com/releases/4167742/7e9fe676-e2f2-11e4-8f51-0bbb2754d54a.jar?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAISTNZFOVBIJMK3TQ%2F20160912%2Fs-east-1%2Fs3%2Faws4_request&X-Amz-Date=20160912T014422Z&X-Amz-Expires=300&X-Amz-Signature=1f09785ac0fbe34fe68d86a22ccbf0c57ae08b05f28c206dba7a43a5f75e2003&X-Amz-SignedHeaders=host&actor_id=0&response-content-disposition=attachment%3B%20filename%3Dseyren-1.3.0.jar&response-content-type=application%2Foctet-stream

Resolving github-cloud.s3.amazonaws.com (github-cloud.s3.amazonaws.com)... 54.231.72.251

Connecting to github-cloud.s3.amazonaws.com (github-cloud.s3.amazonaws.com)|54.231.72.251|:443... connected.

HTTP request sent, awaiting response... 200 OK

Length: 37565991 (36M) [application/octet-stream]

Saving to: 'seyren-1.3.0.jar'

java -jar seyren-1.3.0.jar --httpPort=8081

100%[=====] 37,565,991 2.19MB/s in 45s

2016-09-12 01:45:08 (819 KB/s) - 'seyren-1.3.0.jar' saved [37565991/37565991]

Config

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$ cat seyren.sh

export SEYREN_LOG_PATH=. /the following options can be supplied as system properties or environment variables.

java -jar seyren-1.3.0.jar > seyren.out 2>&1 &

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$./seyren.sh

vagrant@vagrant:~/Mastering-DevOps/Section6/Video5\$ tail -f seyren.out

Sep 12, 2016 1:45:50 AM org.apache.coyote.AbstractProtocol init

INFO: Initializing ProtocolHandler ["http-bio-8080"]

Sep 12, 2016 1:45:50 AM org.apache.catalina.core.StandardService startInternal

INFO: Starting service Tomcat

Sep 12, 2016 1:45:50 AM org.apache.catalina.core.StandardEngine startInternal

INFO: Starting Servlet Engine: Apache Tomcat/7.0.37

Graphite Browser GitHub - scobal/seyren: An ... Install MongoDB on Ubuntu ... GitHub - dmangot/Mastering ... Seyren Dave

localhost:8080/#/checks

SEYREN Checks

Checks

We've got no checks. Why not create one?

Create check

Description:

Target: **collectd.graphite.cpu-0.cpu-idle**

From:

Until:

Warn level: ?

Error level:

Enabled

Allow no data


Metrics found: 1

Graphite Browser GitHub - scobal/seyren: An ... Install MongoDB on Ubuntu - GitHub - dmangot/Mastering Seyren Dave

localhost:8080/#/checks

SEYREN Checks

Checks

We've got no checks. Why not create one?

Create check

Description:

Target: **collectd.graphite.cpu-0.cpu-idle**

From:

Until:

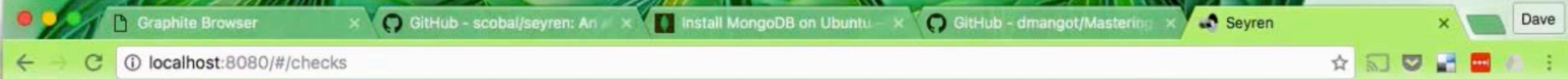
Warn level: ?

Error level:

Enabled

Allow no data


Metrics found: 1



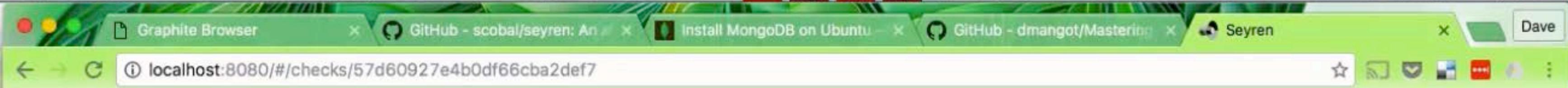
Checks

[Create check](#)

Filter...

Name	State	Warn	Error	Enabled
CPU	OK	90	95	<input checked="" type="checkbox"/>

Seyren, an alerting dashboard for Graphite



Details [edit]

Name: CPU

Description:

State: OK

Target: collectd.graphite.cpu-0.cpu-idle

From:

Until:

Warn: 90

Error: 95

Enabled:

Allow no data:

Last check:

Subscriptions

This check has no subscriptions

[Add subscription](#)

Graphite Browser GitHub - scobal/seyren: An... Install MongoDB on Ubuntu... GitHub - dmangot/Mastering... Seyren Dave

localhost:8080/#/checks/57d60927e4b0df66cba2def7

SEYREN Checks

Details [edit]

Name: CPU

Description:

State: OK

Target: collectd.graphite.cpu-0.cpu-idle

From:

Until:

Warn: 90

Error: 95

Enabled:

Allow no data:

Last check:

Alerts (0 of 0)

Delete alerts ▾

Subscriptions

This check has no subscriptions

Add subscription

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video5 (vagrant)

vagrant@vagrant: ~/Mastering... bash

```
7ae08b05f28c206dba7a43a5f75e2003&X-Amz-SignedHeaders=host&actor_id=0&response-content-disposition=attachment%3B%20filename%3Dseyren-1.3.0.jar&response-content-type=application%2Foctet-stream [following]
--2016-09-12 01:44:22-- https://github-cloud.s3.amazonaws.com/releases/4167742/7e9fe676-e2f2-11e4-8f51-0bbb2754d54a.jar?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAISTNZFOVBIJMK3TQ%2F20160912%2Fs-east-1%2Fs3%2Faws4_request&X-Amz-Date=20160912T014422Z&X-Amz-Expires=300&X-Amz-Signature=1f09785ac0fbe34fe68d86a22ccbf0c57ae08b05f28c206dba7a43a5f75e2003&X-Amz-SignedHeaders=host&actor_id=0&response-content-disposition=attachment%3B%20filename%3Dseyren-1.3.0.jar&response-content-type=application%2Foctet-stream
Resolving github-cloud.s3.amazonaws.com (github-cloud.s3.amazonaws.com)... 54.231.72.251
Connecting to github-cloud.s3.amazonaws.com (github-cloud.s3.amazonaws.com)|54.231.72.251|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 37565991 (36M) [application/octet-stream] This check has no subscriptions
Saving to: 'seyren-1.3.0.jar'

Description:
100%[=====] 37,565,991 2.19MB/s in 45s
```

State:

2016-09-12 01:45:08 (819 KB/s) - 'seyren-1.3.0.jar' saved [37565991/37565991]

Target: collectd graphite.cpu-0.cpu.usd

```
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ cat seyren.sh
export SEYREN_LOG_PATH=.
java -jar seyren-1.3.0.jar > seyren.out 2>&1 &
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ ./seyren.sh
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ tail -f seyren.out
Sep 12, 2016 1:45:50 AM org.apache.coyote.AbstractProtocol init
INFO: Initializing ProtocolHandler ["http-bio-8080"]
Sep 12, 2016 1:45:50 AM org.apache.catalina.core.StandardService startInternal
INFO: Starting service Tomcat
Sep 12, 2016 1:45:50 AM org.apache.catalina.core.StandardEngine startInternal
INFO: Starting Servlet Engine: Apache Tomcat/7.0.37
Sep 12, 2016 1:46:00 AM org.apache.catalina.core.ApplicationContext log
INFO: No Spring WebApplicationInitializer types detected on classpath
Sep 12, 2016 1:46:01 AM org.apache.catalina.core.ApplicationContext log
INFO: Initializing Spring root WebApplicationContext
Sep 12, 2016 1:46:05 AM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["http-bio-8080"]
^C
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ nc -l 9999
```



Details [edit]

Name: CPU

Description:

State: ERROR

Target: collectd.graphite.cpu-0.cpu-idle

From:

Until:

Warn: 90

Error: 95

Enabled:

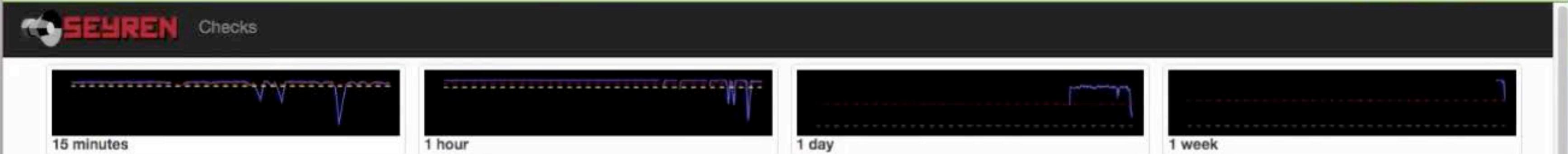
Allow no data:

Last check: 2016-09-11 18:48:05

Subscriptions

This check has no subscriptions

[Add subscription](#)



Details [edit]

Name: CPU

Description:

State: ERROR

Target: collectd.graphite.cpu-0.cpu-idle

From:

Until:

Warn: 90

Error: 95

Enabled:

Allow no data:

Last check: 2016-09-11 18:48:05

Subscriptions

Target	Type	Notify on	Days	Time	On?			
http://...	HTTP	Warn Error OK	Su Mo Tu We Th Fr Sa	0000 to 2359	<input checked="" type="checkbox"/>	Delete	Edit	Test

2. vagrant@vagrant: ~/Mastering-DevOps/Section6/Video5 (vagrant)

vagrant@vagrant: ~/Mastering... bash

```
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ cat seyren.sh
export SEYREN_LOG_PATH=.
java -jar seyren-1.3.0.jar > seyren.out 2>&1 &
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ ./seyren.sh
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ tail -f seyren.out
Sep 12, 2016 1:45:50 AM org.apache.coyote.AbstractProtocol init
INFO: Initializing ProtocolHandler ["http-bio-8080"]
Sep 12, 2016 1:45:50 AM org.apache.catalina.core.StandardService startInternal
INFO: Starting service Tomcat
Sep 12, 2016 1:45:50 AM org.apache.catalina.core.StandardEngine startInternal
INFO: Starting Servlet Engine: Apache Tomcat/7.0.37
Sep 12, 2016 1:46:00 AM org.apache.catalina.core.ApplicationContext log
INFO: No Spring WebApplicationInitializer types detected on classpath
Sep 12, 2016 1:46:01 AM org.apache.catalina.core.ApplicationContext log
INFO: Initializing Spring root WebApplicationContext
Sep 12, 2016 1:46:05 AM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["http-bio-8080"]
^C
vagrant@vagrant:~/Mastering-DevOps/Section6/Video5$ nc -l 9999
POST / HTTP/1.1
Content-Length: 1389
Content-Type: application/json; charset=UTF-8
Host: 127.0.0.1:9999
Connection: Keep-Alive
User-Agent: Apache-HttpClient/4.3.6 (java 1.5)
Accept-Encoding: gzip,deflate
```

```
{"preview": "<br /><img src=http://localhost:80/render/?target=collectd.graphite.cpu-0.cpu-idle&from=01:48_20160912&until=00:48_20160912&target=alias(dashed(color(constantLine(90),%22yellow%22)),%22warn%20level%22)&target=alias(dashed(color(constantLine(95),%22red%22)),%22error%20level%22)&width=500&height=225></img>", "subscription": {"id": "57d6096ee4b0df66cba2def9", "target": "http://127.0.0.1:9999/", "type": "HTTP", "su": true, "mo": true, "tu": true, "we": true, "th": true, "fr": true, "sa": true, "ignoreWarn": false, "ignoreError": false, "ignoreOk": false, "fromTime": "0000", "toTime": "2359", "enabled": true}, "check": {"id": "57d60927e4b0df66cba2def7", "name": "CPU", "description": null, "target": "collectd.graphite.cpu-0.cpu-idle", "from": null, "until": null, "warn": "90", "error": "95", "enabled": true, "live": false, "allowNoData": true, "state": "ERROR", "lastCheck": 1473644885411, "subscriptions": [{"id": "57d6096ee4b0df66cba2def9", "target": "http://127.0.0.1:9999/", "type": "HTTP", "su": true, "mo": true, "tu": true, "we": true, "th": true, "fr": true, "sa": true, "ignoreWarn": false, "ignoreError": false, "ignoreOk": false, "fromTime": "0000", "toTime": "2359", "enabled": true}], "alerts": [{"id": null, "checkId": null, "value": 0.0, "target": "collectd.graphite.cpu-0.cpu-idle", "warn": 90, "error": 95, "fromType": "OK", "type": "ERROR", "timestamp": 1473644929925, "targetHash": "77e777M2d7ax\u001c"}], "seyrenUrl": "http://localhost:8080/seyren"}
```

Subscriptions

Target	Type	Notify on	Days	Time	On?
http://...	HTTP			0000 10 2359	Open

Summary

- Measurement concepts
- A tour of graphite
- Got your data into graphite
- Monitored agent examples
- Actionable data

Next Section

Sharing