

# Nagios XI - Using Grafana With Existing Performance Data

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## Nagios XI - Using Grafana With Existing Performance Data

This documentation explains how to install and configure **Grafana** to generate performance graphs on a Nagios XI server. Grafana uses the existing performance data files (RRD) to graphs, this allows you to extend Nagios XI to use Grafana without any custom modifications that may break Nagios XI.

For this solution to work, Grafana requires the PNP4Nagios module to be installed. Nagios XI comes bundled with version 0.4.x of PNP4Nagios which is used for the generation of the solution requires PNP4Nagios 0.6.x to be installed, however it needs to be clearly stated that this installation is completely separate and isolated from Nagios XI. Installing 0.6.x using not interfere with your Nagios XI server.

This solution works with [ RHEL 6/7 | CentOS 6/7 | Oracle Linux 6/7 | Debian 8/9 | Ubuntu 14/16/18 ] however only the 64-bit (x86\_64) implementations of these operating systems (O does not work on 32-bit (x86).

The instructions below require a terminal session to your Nagios XI server as the root user.

## Install Grafana

Please follow the Grafana installation documentation:

<http://docs.grafana.org/installation/rpm/>

Just follow the install steps, starting the service and other steps continue below in this guide.

Once installed, execute the following commands to start the service and ensure it is enabled to start on boot:

==== RHEL 6 | CentOS 6 | Oracle Linux 6 | Ubuntu 14 ====

```
chkconfig --add grafana-server
service grafana-server start
```

==== Ubuntu 14 ====

```
update-rc.d grafana-server defaults
service grafana-server start
```

==== RHEL 7 | CentOS 7 | Oracle Linux 7 | Debian 8/9 | Ubuntu 16/18 ====

```
systemctl enable grafana-server.service
systemctl start grafana-server.service
```

You need to allow port 3000 inbound traffic on the local firewall so you can reach the Grafana web interface:

==== RHEL 6 | CentOS 6 | Oracle Linux 6 ====

```
iptables -I INPUT -p tcp --destination-port 3000 -j ACCEPT
service iptables save
ip6tables -I INPUT -p tcp --destination-port 3000 -j ACCEPT
service ip6tables save
```

==== RHEL 7 | CentOS 7 | Oracle Linux 7 ====

```
firewall-cmd --zone=public --add-port=3000/tcp
firewall-cmd --zone=public --add-port=3000/tcp --permanent
```

==== Ubuntu ====

```
sudo ufw allow 3000/tcp
sudo ufw reload
```

==== Debian ====

```
iptables -I INPUT -p tcp --destination-port 3000 -j ACCEPT
```

## Install PNP Components

Execute these commands to download and install PNP4Nagios:

==== RHEL 6/7 | CentOS 6/7 | Oracle Linux 6/7 ====

```
cd /tmp
wget -O pnp4nagios.tar.gz https://github.com/linge/pnp4nagios/archive/0.6.26.tar.gz
tar xzf pnp4nagios.tar.gz
cd pnp4nagios-0.6.26
./configure --with-perfdata-dir=/usr/local/nagios/share/perfdata
```

```
make all
make install
make install-webconf
rm -f /usr/local/pnp4nagios/share/install.php
```

==== Debian | Ubuntu ====

```
cd /tmp
wget -O pnp4nagios.tar.gz https://github.com/linge/pnp4nagios/archive/0.6.26.tar.gz
tar xzf pnp4nagios.tar.gz
cd pnp4nagios-0.6.26
./configure --with-perfdata-dir=/usr/local/nagios/share/perfdata --with-httpd-conf=/etc/apache2/sites-enabled
make all
make install
make install-webconf
rm -f /usr/local/pnp4nagios/share/install.php
```

==== All ====

Execute these commands to install the PNP4Nagios components for Grafana:

```
grafana-cli plugins install sni-pnp-datasource
cd /usr/local/pnp4nagios/share/application/controllers/
wget -O api.php "https://github.com/linge/pnp-metrics-api/raw/master/application/controller/api.php"
```

You also need to restart the `grafana-server` service:

==== RHEL 6 | CentOS 6 | Oracle Linux 6 | Ubuntu 14 ====

```
service grafana-server restart
```

==== RHEL 7 | CentOS 7 | Oracle Linux 7 | Debian 8/9 | Ubuntu 16/18 ====

```
systemctl restart grafana-server.service
```

## Grant localhost Permission To PNP4Nagios Site

Grafana will be making calls to the PNP API and will require permission. The changes required differ slightly depending on your OS version. Both methods are changing the Apache `pnp4nagios.conf` file to only allow the Nagios XI server to connect.

==== RHEL 6 | CentOS 6 | Oracle Linux 6 ====

The following line is going to be added:

```
Allow from 127.0.0.1 ::1
```

These lines will be commented out:

```
Allow from all
AuthType Basic
AuthUserFile /usr/local/nagios/etc/htpasswd.users
Require valid-user
```

The following commands will make those changes:

```
sed -i '/Allow from all/a\         Allow from 127.0.0.1 ::1' /etc/httpd/conf.d/pnp4nagios.conf
sed -i 's/Allow from all/#&/' /etc/httpd/conf.d/pnp4nagios.conf
sed -i 's/AuthType Basic/#&/' /etc/httpd/conf.d/pnp4nagios.conf
sed -i 's/AuthUserFile/#&/' /etc/httpd/conf.d/pnp4nagios.conf
sed -i 's/Require valid-user/#&/' /etc/httpd/conf.d/pnp4nagios.conf
```

The Apache `httpdservice` needs to be restarted for this change to take affect:

```
service httpd restart
```

Please proceed to the [Test PNP4Nagios](#) section.

==== RHEL 7 | CentOS 7 | Oracle Linux 7 ====

The following lines are going to be added:

```
Require ip 127.0.0.1 ::1
Require all granted
```

These lines will be commented out:

```
Order allow,deny
Allow from all
AuthType Basic
AuthUserFile /usr/local/nagios/etc/htpasswd.users
```

```
Require valid-user
```

The following commands will make those changes:

```
sed -i 's/Order allow,deny/#&/' /etc/httpd/conf.d/pnp4nagios.conf
sed -i '/Allow from all/a\         Require ip 127.0.0.1 ::1' /etc/httpd/conf.d/pnp4nagios.conf
sed -i 's/Allow from all/#&/' /etc/httpd/conf.d/pnp4nagios.conf
sed -i 's/AuthType Basic/#&/' /etc/httpd/conf.d/pnp4nagios.conf
sed -i 's/AuthUserFile/#&/' /etc/httpd/conf.d/pnp4nagios.conf
sed -i '/Require valid-user/a\         Require all granted' /etc/httpd/conf.d/pnp4nagios.conf
sed -i 's/Require valid-user/#&/' /etc/httpd/conf.d/pnp4nagios.conf
```

The Apache httpd service needs to be restarted for this change to take affect:

```
systemctl restart httpd.service
```

Please proceed to the [Test PNP4Nagios](#) section.

==== Debian | Ubuntu ====

The following lines are going to be added:

```
Require ip 127.0.0.1 ::1
Require all granted
```

These lines will be commented out:

```
Order allow,deny
Allow from all
AuthType Basic
AuthUserFile /usr/local/nagios/etc/htpasswd.users
Require valid-user
```

The following commands will make those changes:

```
sed -i 's/Order allow,deny/#&/' /etc/apache2/sites-enabled/pnp4nagios.conf
sed -i '/Allow from all/a\         Require ip 127.0.0.1 ::1' /etc/apache2/sites-enabled/pnp4nagios.conf
sed -i 's/Allow from all/#&/' /etc/apache2/sites-enabled/pnp4nagios.conf
sed -i 's/AuthType Basic/#&/' /etc/apache2/sites-enabled/pnp4nagios.conf
sed -i 's/AuthUserFile/#&/' /etc/apache2/sites-enabled/pnp4nagios.conf
sed -i '/Require valid-user/a\         Require all granted' /etc/apache2/sites-enabled/pnp4nagios.conf
sed -i 's/Require valid-user/#&/' /etc/apache2/sites-enabled/pnp4nagios.conf
```

The Apache service needs to be restarted for this change to take affect:

==== Ubuntu 14 ====

```
service apache2 restart
```

==== Debian 8/9 | Ubuntu 16/18 ====

```
systemctl restart apache2.service
```

Please proceed to the [Test PNP4Nagios](#) section.

## Test PNP4Nagios

To ensure that PNP4Nagios will accept calls from the Nagios XI server execute the following command:

```
curl http://localhost/pnp4nagios
```

If it was successful then the output will be something like:

```
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML 2.0//EN">
<html><head>
<title>301 Moved Permanently</title>
</head><body>
<h1>Moved Permanently</h1>
<p>The document has moved <a href="http://localhost/pnp4nagios/">here</a>.</p>
<hr>
<address>Apache/2.2.15 (Red Hat) Server at localhost Port 80</address>
</body></html>
```

If it was successful then you can proceed to the [Grafana Configuration](#) section.

An unsuccessful attempt will result in a message similar to:

An unsuccessful attempt will result in a message similar to:

```
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML 2.0//EN">
<html><head>
<title>401 Unauthorized</title>
</head><body>
<h1>Unauthorized</h1>
<p>This server could not verify that you
are authorized to access the document
requested. Either you supplied the wrong
credentials (e.g., bad password), or your
browser doesn't understand how to supply
the credentials required.</p>
</body></html>
```

OR

```
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML 2.0//EN">
<html><head>
<title>401 Authorization Required</title>
</head><body>
<h1>Authorization Required</h1>
<p>This server could not verify that you
are authorized to access the document
requested. Either you supplied the wrong
credentials (e.g., bad password), or your
browser doesn't understand how to supply
the credentials required.</p>
<hr>
<address>Apache/2.2.15 (CentOS) Server at xi-c6x-x64 Port 80</address>
</body></html>
```

If you are not successful then you will need to review and fix your Apache configuration above before proceeding.

## Grafana Configuration

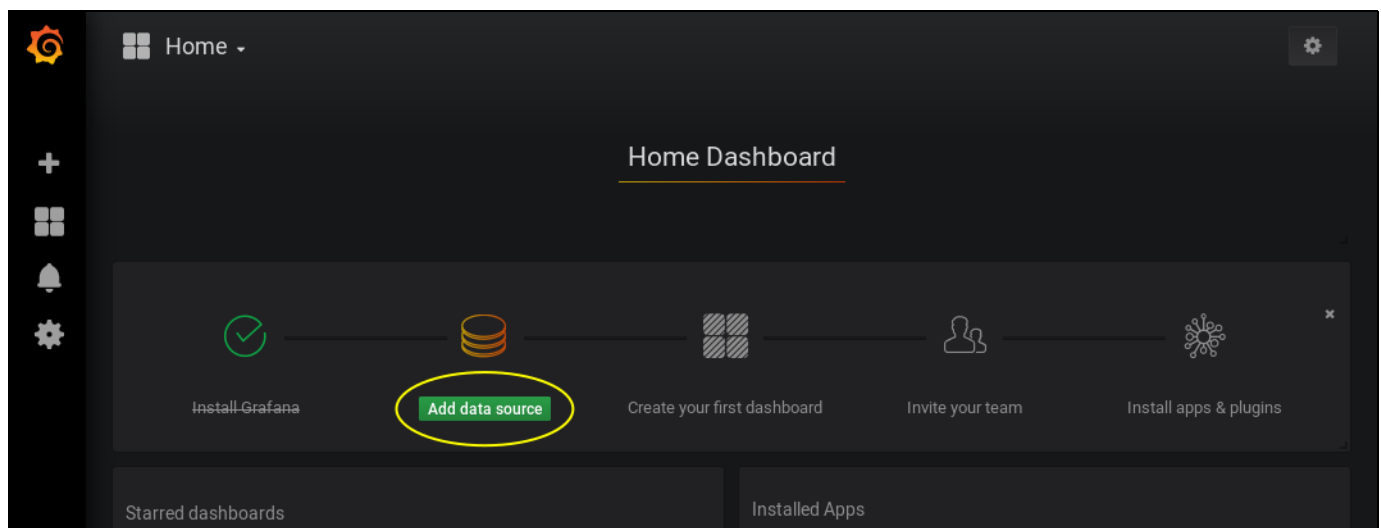
Grafana needs to be configured to use the PNP4Nagios API. Open your web browser to the following URL:

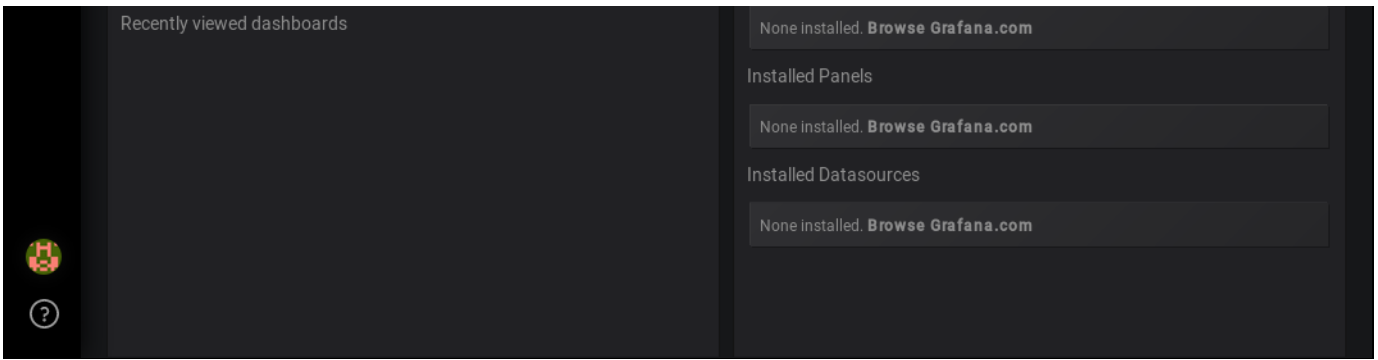
```
http://nagios_server:3000
```

Replace `nagios_server` with the DNS record or ip address of your Nagios XI server.

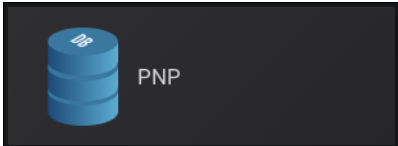
You will be prompted with a login page, the default username is `admin` and the password is `admin`.

You will be presented with the Home Dashboard and you'll see an **Add data source** icon, click it to continue.



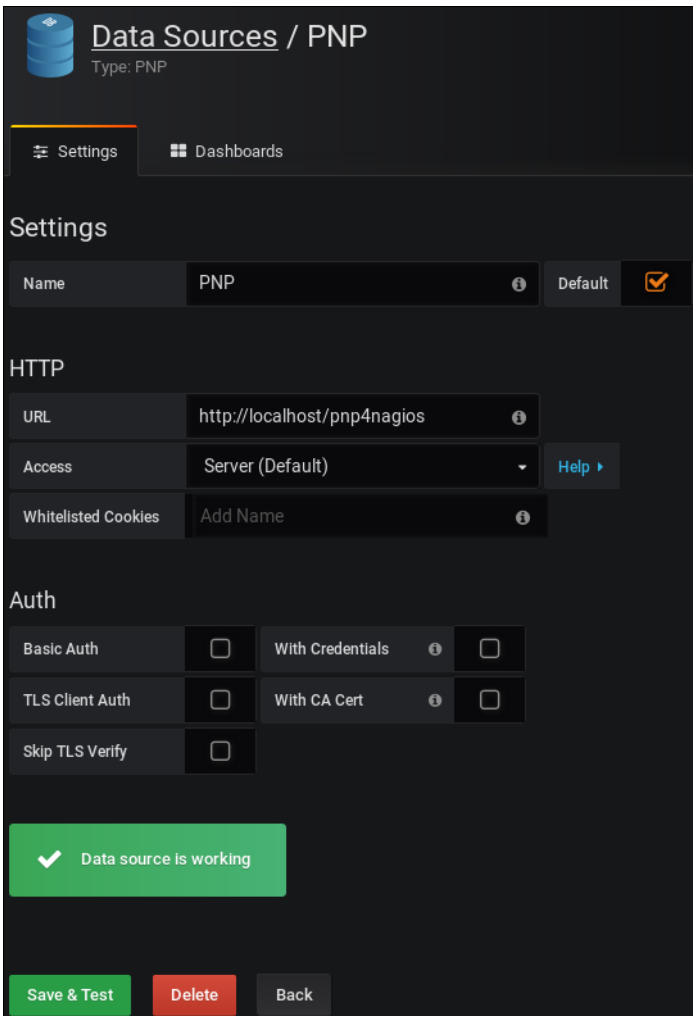


On the next screen click the PNP button:



You will need to populate the following information:

- HTTP
  - URL: `http://localhost/pnp4nagios`
  - Access: `Server` (Default)
- Auth: Leave settings as default (nothing selected)



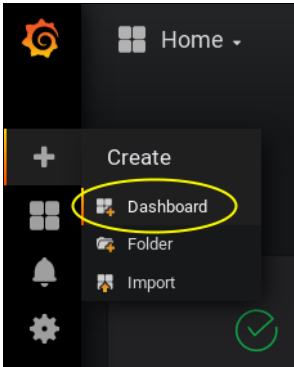
Once populated click the **Save & Test** button. When the screen refreshes, if all settings are correct you will be notified that the **Data source is working**.

The next step is to [create a dashboard & graph](#).

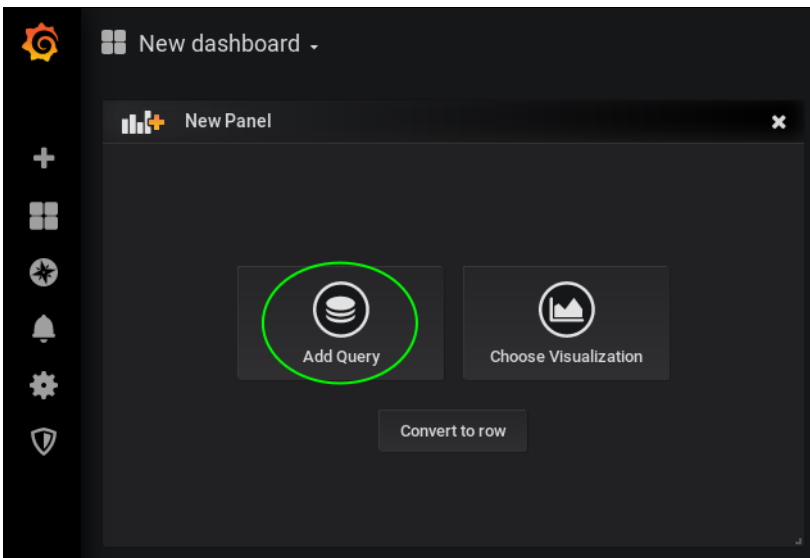
## Create Dashboard + Graph

Now that Grafana has been configured you need to create a dashboard and then add a graph to the dashboard.

On the left navigation menu hover over the + icon and select **Create > Dashboard**.



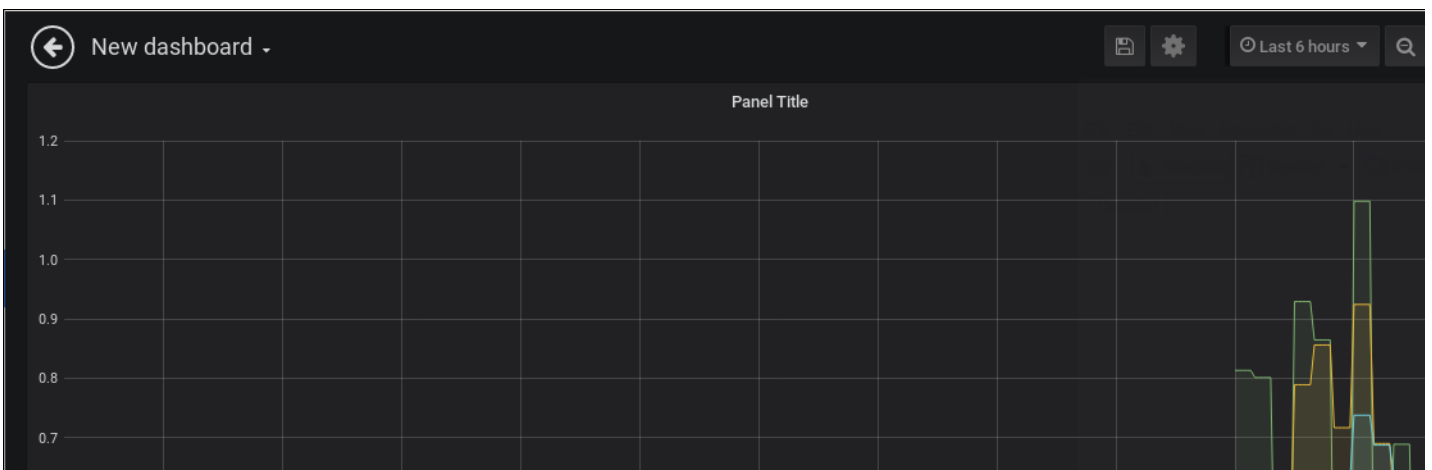
Click **Add Query**.

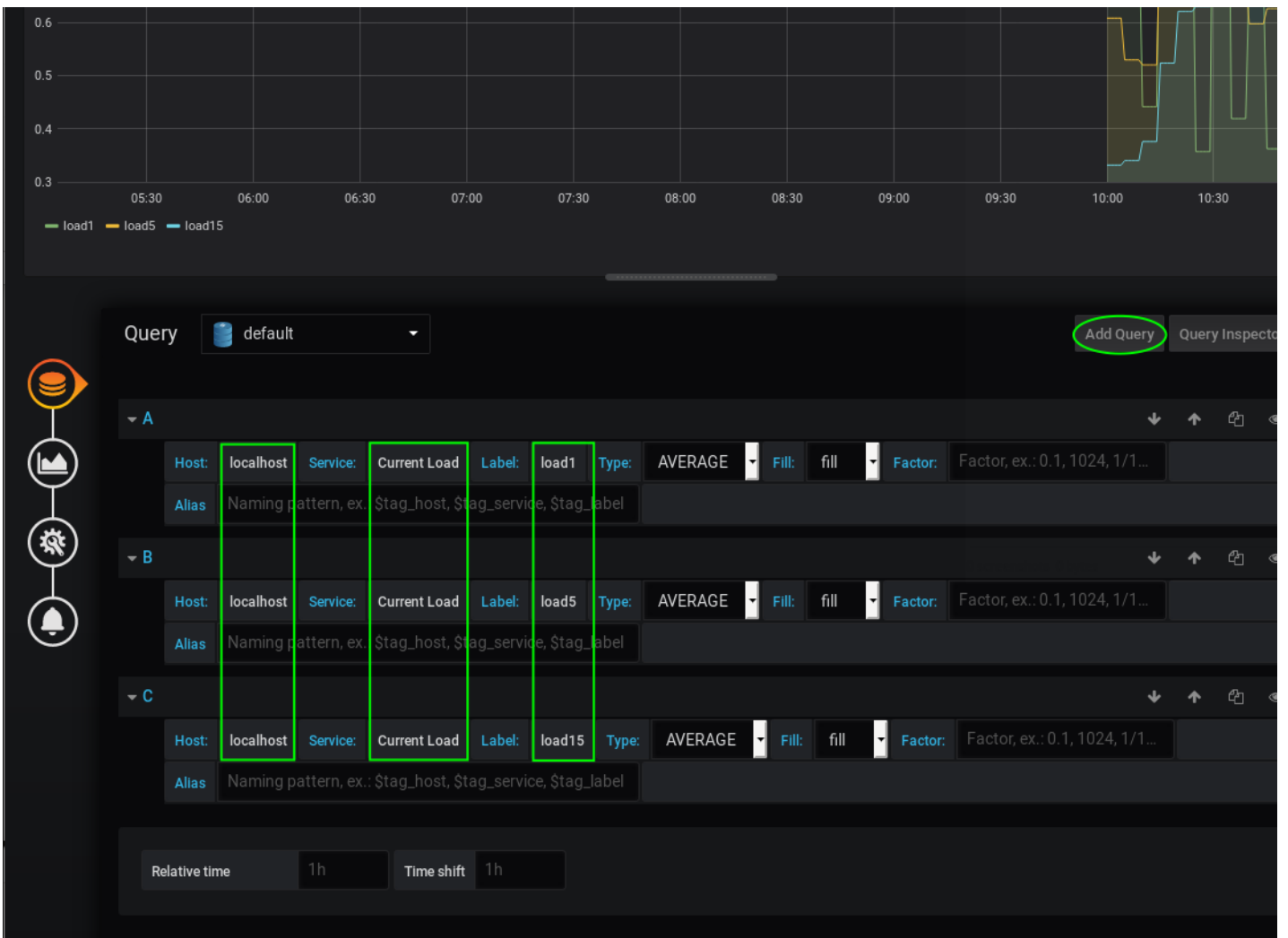


An empty graph is added to the dashboard, this opens the editor interface for the panel. At the bottom is the Query editor, the "default" query is the PNP Datasource so and hence this is automatically providing the RRD data sources.

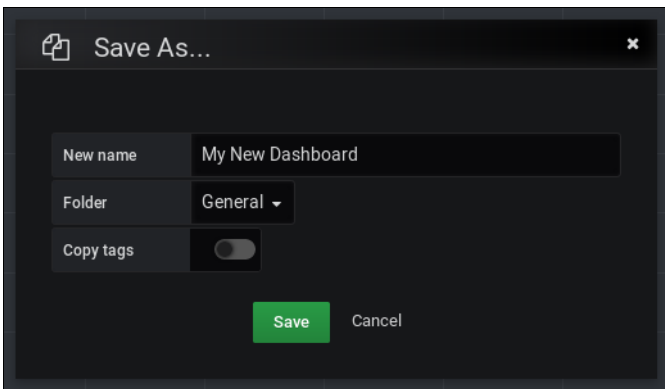
This example is going to show you how create a graph for the **localhost** object that has the **Current Load** service. This is being used because the Current Load service has three sources that need to be added to the graph.

- Next to **Host** click **select host** and select **localhost**
- Next to **Service** click **select service** and select **Current Load**
- Next to **Label** click **select performance label** and select **load1**
- You will now see this metric has been added to the graph
- Between the graph and the query, on the right hand side click the **Add Query** button
- Repeat the steps above to add the **load5** and **load15** metrics





Click the **Save** icon in the top right of the screen and provide a name when prompted.



This completes the documentation on using Grafana with Nagios XI performance data.

## Additional Reading

To get the most out of Grafana and PNP4Nagios you should check out the documentation:

[http://docs.grafana.org/guides/getting\\_started/](http://docs.grafana.org/guides/getting_started/)

<https://github.com/sni/grafana-pnp-datasource>

## Final Thoughts

For any support related questions please visit the [Nagios Support Forums](#) at:

<http://support.nagios.com/forum/>

Posted by: **tlea** - Wed, Mar 14, 2018 at 4:49 PM. This article has been viewed 9148 times.

Online URL: <https://support.nagios.com/kb/article/nagios-xi-using-grafana-with-existing-performance-data-805.html>