

# Nagios Core - Performance Graphs Using InfluxDB + Nagflux + Grafana +

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## Nagios Core - Performance Graphs Using InfluxDB + Nagflux + Grafana + Histou

This documentation explains how to configure Nagios Core to use the programs **InfluxDB**, **Nagflux**, **Grafana** and **Histou** to generate performance graphs.

When Nagios Core receives check results from Host and Service checks, the check result can include performance data. This performance data needs to be specifically formatted as

[Nagios Plugins Development Guidelines - Performance Data](#)

Nagios Core does not have it's own performance data engine built in to process this performance data, instead it provides functionality to pass this performance data to an external |

- InfluxDB
  - Time series database that will be used to store the performance data
- Nagflux
  - Connector which stores the performance data from Nagios into InfluxDB
- Grafana
  - A web based analytics platform that allows you to visualise the performance data in InfluxDB
- Histou
  - A Grafana add on that creates graphs specifically for the Nagios performance data

### IMPORTANT

**DO NOT** follow this guide if you are using Nagios XI. Nagios XI includes it's own performance graphing capabilities and following this guide will result in breaking your Nagios XI installation.

This guide is broken up into several sections and covers different Linux distributions and operating systems (OS). If your Linux Distribution or operating system is not included in this g

**Note:** This guide is based on Nagios Core being installed using the following KB article:

[Documentation - Installing Nagios Core From Source](#)

Please select your OS:

- [Red Hat Enterprise Linux \(RHEL\)](#)
- [CentOS](#)
- [Oracle Linux](#)
- [Ubuntu](#)
- [SUSE SLES | openSUSE Leap](#)
- [Debian](#)
- [Raspbian](#)
- [Arch Linux](#)

## CentOS | RHEL | Oracle Linux

This documentation works on CentOS / RHEL / Oracle Linux version 7+. We were unable to get this solution working on versions prior to 7.x.

### Install InfluxDB

Please follow the InfluxDB installation documentation:

<https://docs.influxdata.com/influxdb/v1.4/introduction/installation/>

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

```
systemctl enable influxdb.service
systemctl start influxdb.service
```

### Install Nagflux

Execute these commands to install the Go programming language and the required prerequisite packages:

```
yum install -y golang golang-github-influxdb-influxdb-client golang-github-influxdb-influxdb-datastore git
```

Download and compile Nagflux with the following commands:

```
export GOPATH=$HOME/gorepo
mkdir $GOPATH
go get -v -u github.com/griesbacher/nagflux
go build github.com/griesbacher/nagflux
mkdir -p /opt/nagflux
cp $GOPATH/bin/nagflux /opt/nagflux/
mkdir -p /usr/local/nagios/var/spool/nagfluxperfdata
chown nagios:nagios /usr/local/nagios/var/spool/nagfluxperfdata
```

Once installed, execute the following commands to create the service and ensure it is enabled to start on boot (it will not be started at this point):

```
cp $GOPATH/src/github.com/griesbacher/nagflux/nagflux.service /usr/lib/systemd/system/  
chmod +x /usr/lib/systemd/system/nagflux.service  
systemctl daemon-reload  
systemctl enable nagflux.service
```

## Install Grafana

Please follow the Grafana installation documentation:

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

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

```
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:

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

## Install Histou

Execute these commands to install Histou:

```
cd /tmp  
wget -O histou.tar.gz https://github.com/Griesbacher/histou/archive/v0.4.3.tar.gz  
mkdir -p /var/www/html/histou  
cd /var/www/html/histou  
tar xzf /tmp/histou.tar.gz --strip-components 1  
cp histou.ini.example histou.ini  
cp histou.js /usr/share/grafana/public/dashboards/
```

Please proceed to the [Nagflux Configuration](#) section for the next step.

## Ubuntu

This documentation works on Ubuntu version 16+. We were unable to get this solution working on versions prior to 16.x.

### Prerequisites

Execute these commands to install some pre-requisite packages:

```
sudo apt-get update  
sudo apt-get install -y curl apt-transport-https
```

### Install InfluxDB

Please follow the InfluxDB installation documentation:

<https://docs.influxdata.com/influxdb/v1.4/introduction/installation/>

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

```
sudo systemctl daemon-reload  
sudo systemctl enable influxdb.service  
sudo systemctl start influxdb.service
```

### Install Nagflux

Execute these commands to install the Go programming language and the required prerequisite packages:

```
sudo apt-get install -y golang golang-github-influxdb-usage-client-dev git
```

Download and compile Nagflux with the following commands:

```
echo "export GOPATH=$HOME/gorepo" >> ~/.bashrc  
source ~/.bashrc  
mkdir $GOPATH  
go get -v -u github.com/griesbacher/nagflux  
go build github.com/griesbacher/nagflux  
sudo mkdir -p /opt/nagflux  
sudo cp $GOPATH/bin/nagflux /opt/nagflux/  
sudo mkdir -p /usr/local/nagios/var/spool/nagfluxperfdata
```

```
sudo chown nagios:nagios /usr/local/nagios/var/spool/nagfluxperfddata
```

Once installed, execute the following commands to create the service and ensure it is enabled to start on boot (it will not be started at this point):

```
sudo cp $GOPATH/src/github.com/griesbacher/nagflux/nagflux.service /lib/systemd/system/  
sudo chmod +x /lib/systemd/system/nagflux.service  
sudo systemctl daemon-reload  
sudo systemctl enable nagflux.service
```

## Install Grafana

Please follow the Grafana installation documentation:

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

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

```
sudo systemctl daemon-reload  
sudo systemctl enable grafana-server.service  
sudo 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.

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

## Install Histou

Execute these commands to install Histou:

```
cd /tmp  
wget -O histou.tar.gz https://github.com/Griesbacher/histou/archive/v0.4.3.tar.gz  
sudo mkdir -p /var/www/html/histou  
cd /var/www/html/histou  
sudo tar xzf /tmp/histou.tar.gz --strip-components 1  
sudo cp histou.ini.example histou.ini  
sudo cp histou.js /usr/share/grafana/public/dashboards/
```

Please proceed to the [Nagflux Configuration](#) section for the next step.

## SUSE SLES | openSUSE Leap

This documentation was tested on openSUSE Leap 42.2.

### Install InfluxDB

Please follow the InfluxDB installation documentation:

<https://docs.influxdata.com/influxdb/v1.4/introduction/installation/>

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

```
sudo systemctl daemon-reload  
sudo systemctl enable influxdb.service  
sudo systemctl start influxdb.service
```

### Install Nagflux

Execute these commands to install the Go programming language and the required prerequisite packages:

```
sudo zypper --non-interactive install go golang-github-influxdata-usage-client git
```

Download and compile Nagflux with the following commands:

```
echo "export GOPATH=$HOME/gorepo" >> ~/.bashrc  
source ~/.bashrc  
mkdir $GOPATH  
go get -v -u github.com/griesbacher/nagflux  
go build github.com/griesbacher/nagflux  
sudo mkdir -p /opt/nagflux  
sudo cp $GOPATH/bin/nagflux /opt/nagflux/  
sudo mkdir -p /usr/local/nagios/var/spool/nagfluxperfddata  
sudo chown nagios:nagios /usr/local/nagios/var/spool/nagfluxperfddata
```

Once installed, execute the following commands to create the service and ensure it is enabled to start on boot (it will not be started at this point):

```
sudo cp $GOPATH/src/github.com/griesbacher/nagflux/nagflux.service /usr/lib/systemd/system/  
sudo chmod +x /usr/lib/systemd/system/nagflux.service
```

```
sudo systemctl daemon-reload
sudo systemctl enable nagflux.service
```

## Install Grafana

Please follow the Grafana installation documentation:

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

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

```
sudo systemctl enable grafana-server.service
sudo 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:

===== SUSE SLES 12.x =====

```
sudo /usr/sbin/SuSEfirewall2 open EXT TCP 3000
sudo systemctl restart SuSEfirewall2
```

===== openSUSE Leap 42.x =====

The firewall service is not enabled by default on openSUSE.

## Install Histou

Execute these commands to install Histou:

```
cd /tmp
wget -O histou.tar.gz https://github.com/Griesbacher/histou/archive/v0.4.3.tar.gz
sudo mkdir -p /srv/www/htdocs/histou
cd /srv/www/htdocs/histou
sudo tar xzf /tmp/histou.tar.gz --strip-components 1
sudo cp histou.ini.example histou.ini
sudo cp histou.js /usr/share/grafana/public/dashboards/
```

Please proceed to the [Nagflux Configuration](#) section for the next step.

## Debian | Raspbian

This documentation works on Debian / Raspbian version 9+. We were unable to get this solution working on versions prior to 9.x.

All steps on Debian require to run as root. To become root simply run:

Debian:

```
su
```

Raspbian:

```
sudo -i
```

All commands from this point onwards will be as root.

### Prerequisites

Execute these commands to install some pre-requisite packages:

```
apt-get update
apt-get install -y curl apt-transport-https
```

## Install InfluxDB

Please follow the InfluxDB installation documentation:

<https://docs.influxdata.com/influxdb/v1.4/introduction/installation/>

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

```
systemctl daemon-reload
systemctl enable influxdb.service
systemctl start influxdb.service
```

## Install Nagflux

Execute these commands to install the Go programming language and the required prerequisite packages:

```
apt-get install -y golang golang-github-influxdb-user-agent-dev git
```

Download and compile Nagflux with the following commands:

```
export GOPATH=$HOME/gorepo
mkdir $GOPATH
go get -v -u github.com/griesbacher/nagflux
go build github.com/griesbacher/nagflux
mkdir -p /opt/nagflux
cp $GOPATH/bin/nagflux /opt/nagflux/
mkdir -p /usr/local/nagios/var/spool/nagfluxperfddata
chown nagios:nagios /usr/local/nagios/var/spool/nagfluxperfddata
```

Once installed, execute the following commands to create the service and ensure it is enabled to start on boot (it will not be started at this point):

```
cp $GOPATH/src/github.com/griesbacher/nagflux/nagflux.service /lib/systemd/system/
chmod +x /lib/systemd/system/nagflux.service
systemctl daemon-reload
systemctl enable nagflux.service
```

## Install Grafana

Please follow the Grafana installation documentation:

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

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

```
systemctl daemon-reload
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.

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

## Install Histou

Execute these commands to install Histou:

```
cd /tmp
wget -O histou.tar.gz https://github.com/Griesbacher/histou/archive/v0.4.3.tar.gz
mkdir -p /var/www/html/histou
cd /var/www/html/histou
tar xzf /tmp/histou.tar.gz --strip-components 1
cp histou.ini.example histou.ini
cp histou.js /usr/share/grafana/public/dashboards/
```

Please proceed to the [Nagflux Configuration](#) section for the next step.

## Arch Linux

### Install InfluxDB

Please follow these instructions to install InfluxDB from the Arch User Repository:

```
pacman --noconfirm -S go git asciidoc xmlto
su nagios
cd /tmp
wget https://aur.archlinux.org/cgit/aur.git/snapshot/influxdb.tar.gz
tar xzf influxdb.tar.gz
cd influxdb
makepkg
exit
pacman -U /tmp/influxdb/influxdb-1.4.3-1-x86_64.pkg.tar.xz
```

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

```
systemctl enable influxdb.service
systemctl start influxdb.service
```

### Install Nagflux

Download and compile Nagflux with the following commands:

```
cd /tmp
```

```
export GOPATH=$HOME/gorepo
mkdir $GOPATH
go get -v -u github.com/griesbacher/nagflux
go build github.com/griesbacher/nagflux
mkdir -p /opt/nagflux
cp $GOPATH/bin/nagflux /opt/nagflux/
mkdir -p /usr/local/nagios/var/spool/nagfluxperfdata
chown nagios:nagios /usr/local/nagios/var/spool/nagfluxperfdata
```

Once installed, execute the following commands to create the service and ensure it is enabled to start on boot (it will not be started at this point):

```
cp $GOPATH/src/github.com/griesbacher/nagflux/nagflux.service /usr/lib/systemd/system/
chmod +x /usr/lib/systemd/system/nagflux.service
systemctl daemon-reload
systemctl enable nagflux.service
```

## Install Grafana

Please follow these instructions to install Grafana:

```
pacman --noconfirm -S grafana
```

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

```
systemctl enable grafana.service
systemctl start grafana.service
```

Arch Linux does not have a firewall enabled in a fresh installation. Please refer to the Arch Linux documentation on allowing TCP port 3000 inbound.

## Install Histou

Execute these commands to install Histou:

```
cd /tmp
wget -O histou.tar.gz https://github.com/Griesbacher/histou/archive/v0.4.3.tar.gz
mkdir -p /srv/http/histou
cd /srv/http/histou
tar xzf /tmp/histou.tar.gz --strip-components 1
cp histou.ini.example histou.ini
cp histou.js /usr/share/grafana/public/dashboards/
```

Please proceed to the [Nagflux Configuration](#) section for the next step.

## Nagflux Configuration

The next step is to create the Nagflux config file `/opt/nagflux/config.gcfg`. The following is the configuration you are going to populate in the `config.gcfg` file:

```
[main]
NagiosSpoolfileFolder = "/usr/local/nagios/var/spool/nagfluxperfdata"
NagiosSpoolfileWorker = 1
InfluxWorker = 2
MaxInfluxWorker = 5
DumpFile = "nagflux.dump"
NagfluxSpoolfileFolder = "/usr/local/nagios/var/nagflux"
FieldSeparator = "&"
BufferSize = 10000
FileBufferSize = 65536
DefaultTarget = "all"

[Log]
LogFile = ""
MinSeverity = "INFO"

[InfluxDBGGlobal]
CreateDatabaseIfNotExists = true
NastyString = ""
NastyStringToReplace = ""
HostcheckAlias = "hostcheck"

[InfluxDB "nagflux"]
Enabled = true
Version = 1.0
Address = "http://127.0.0.1:8086"
Arguments = "precision=ms&u=root&p=root&db=nagflux"
StopPullingDataIfDown = true

[InfluxDB "fast"]
Enabled = false
Version = 1.0
Address = "http://127.0.0.1:8086"
Arguments = "precision=ms&u=root&p=root&db=fast"
```

Create the file by executing the following commands:

CentOS / RHEL / Oracle Linux / Debian / Raspbian / Arch Linux / Gentoo

```
cd /opt/nagflux
printf '[main]\n' > config.gcfg
printf '\tNagiosSpoolfileFolder = "/usr/local/nagios/var/spool/nagfluxperpdata"\n' >> config.gcfg
printf '\tNagiosSpoolfileWorker = 1\n' >> config.gcfg
printf '\tInfluxWorker = 2\n' >> config.gcfg
printf '\tMaxInfluxWorker = 5\n' >> config.gcfg
printf '\tDumpFile = "nagflux.dump"\n' >> config.gcfg
printf '\tNagfluxSpoolfileFolder = "/usr/local/nagios/var/nagflux"\n' >> config.gcfg
printf '\tFieldSeparator = "&"\n' >> config.gcfg
printf '\tBufferSize = 10000\n' >> config.gcfg
printf '\tFileBufferSize = 65536\n' >> config.gcfg
printf '\tDefaultTarget = "all"\n' >> config.gcfg
printf '\n' >> config.gcfg
printf '[Log]\n' >> config.gcfg
printf '\tLogFile = ""\n' >> config.gcfg
printf '\tMinSeverity = "INFO"\n' >> config.gcfg
printf '\n' >> config.gcfg
printf '[InfluxDBGlobal]\n' >> config.gcfg
printf '\tCreateDatabaseIfNotExists = true\n' >> config.gcfg
printf '\tNastyString = ""\n' >> config.gcfg
printf '\tNastyStringToReplace = ""\n' >> config.gcfg
printf '\tHostcheckAlias = "hostcheck"\n' >> config.gcfg
printf '\n' >> config.gcfg
printf '[InfluxDB "nagflux"]\n' >> config.gcfg
printf '\tEnabled = true\n' >> config.gcfg
printf '\tVersion = 1.0\n' >> config.gcfg
printf '\tAddress = "http://127.0.0.1:8086"\n' >> config.gcfg
printf '\tArguments = "precision=ms&u=root&p=root&db=nagflux"\n' >> config.gcfg
printf '\tStopPullingDataIfDown = true\n' >> config.gcfg
printf '\n' >> config.gcfg
printf '[InfluxDB "fast"]\n' >> config.gcfg
printf '\tEnabled = false\n' >> config.gcfg
printf '\tVersion = 1.0\n' >> config.gcfg
printf '\tAddress = "http://127.0.0.1:8086"\n' >> config.gcfg
printf '\tArguments = "precision=ms&u=root&p=root&db=fast"\n' >> config.gcfg
printf '\tStopPullingDataIfDown = false\n' >> config.gcfg
```

Ubuntu / SLES / openSUSE

```
cd /opt/nagflux
sudo sh -c "printf '[main]\n' > config.gcfg"
sudo sh -c "printf '\tNagiosSpoolfileFolder = \"/usr/local/nagios/var/spool/nagfluxperpdata"\n' >> config.gcfg"
sudo sh -c "printf '\tNagiosSpoolfileWorker = 1\n' >> config.gcfg"
sudo sh -c "printf '\tInfluxWorker = 2\n' >> config.gcfg"
sudo sh -c "printf '\tMaxInfluxWorker = 5\n' >> config.gcfg"
sudo sh -c "printf '\tDumpFile = \"nagflux.dump\"\n' >> config.gcfg"
sudo sh -c "printf '\tNagfluxSpoolfileFolder = \"/usr/local/nagios/var/nagflux\"\n' >> config.gcfg"
sudo sh -c "printf '\tFieldSeparator = \"&\"\n' >> config.gcfg"
sudo sh -c "printf '\tBufferSize = 10000\n' >> config.gcfg"
sudo sh -c "printf '\tFileBufferSize = 65536\n' >> config.gcfg"
sudo sh -c "printf '\tDefaultTarget = \"all\"\n' >> config.gcfg"
sudo sh -c "printf '\n' >> config.gcfg"
sudo sh -c "printf '[Log]\n' >> config.gcfg"
sudo sh -c "printf '\tLogFile = \"\"\n' >> config.gcfg"
sudo sh -c "printf '\tMinSeverity = \"INFO\"\n' >> config.gcfg"
sudo sh -c "printf '\n' >> config.gcfg"
sudo sh -c "printf '[InfluxDBGlobal]\n' >> config.gcfg"
sudo sh -c "printf '\tCreateDatabaseIfNotExists = true\n' >> config.gcfg"
sudo sh -c "printf '\tNastyString = \"\"\n' >> config.gcfg"
sudo sh -c "printf '\tNastyStringToReplace = \"\"\n' >> config.gcfg"
sudo sh -c "printf '\tHostcheckAlias = \"hostcheck\"\n' >> config.gcfg"
sudo sh -c "printf '\n' >> config.gcfg"
sudo sh -c "printf '[InfluxDB \"nagflux\"]\n' >> config.gcfg"
sudo sh -c "printf '\tEnabled = true\n' >> config.gcfg"
sudo sh -c "printf '\tVersion = 1.0\n' >> config.gcfg"
sudo sh -c "printf '\tAddress = \"http://127.0.0.1:8086\"\n' >> config.gcfg"
sudo sh -c "printf '\tArguments = \"precision=ms&u=root&p=root&db=nagflux\"\n' >> config.gcfg"
sudo sh -c "printf '\tStopPullingDataIfDown = true\n' >> config.gcfg"
sudo sh -c "printf '\n' >> config.gcfg"
sudo sh -c "printf '[InfluxDB \"fast\"]\n' >> config.gcfg"
sudo sh -c "printf '\tEnabled = false\n' >> config.gcfg"
sudo sh -c "printf '\tVersion = 1.0\n' >> config.gcfg"
sudo sh -c "printf '\tAddress = \"http://127.0.0.1:8086\"\n' >> config.gcfg"
sudo sh -c "printf '\tArguments = \"precision=ms&u=root&p=root&db=fast\"\n' >> config.gcfg"
sudo sh -c "printf '\tStopPullingDataIfDown = false\n' >> config.gcfg"
```

Now you need to start the **nagflux** service:

CentOS / RHEL / Oracle Linux / Debian / Raspbian / Arch Linux

```
systemctl start nagflux.service
```

## Ubuntu / SLES / openSUSE

```
sudo systemctl start nagflux.service
```

### Validate Nagflux to InfluxDB Configuration

When Nagflux starts for the first time it will create a **nagflux** database in InfluxDB. You can verify this was created by executing the following command:

```
curl -G "http://localhost:8086/query?pretty=true" --data-urlencode "q=show databases"
```

It should produce output like this:

```
{
  "results": [
    {
      "statement_id": 0,
      "series": [
        {
          "name": "databases",
          "columns": [
            "name"
          ],
          "values": [
            [
              "_internal"
            ],
            [
              "nagflux"
            ]
          ]
        }
      ]
    }
  ]
}
```

If the **nagflux** database appears in the list of databases then the Nagflux configuration is correct and InfluxDB is ready to receive performance data from Nagios.

Please proceed to the [Nagios Command Configuration](#) section for the next step.

## Nagios Command Configuration

The next step is to configure Nagios Core to send the performance data to InfluxDB using Nagflux.

The following configuration changes are required to the `/usr/local/nagios/etc/nagios.cfg` file:

```
process_performance_data=1

host_perfdata_file=/usr/local/nagios/var/host-perfdata
host_perfdata_file_template=DATATYPE::HOSTPERFDATA\tTIMET::$TIMET$\tHOSTNAME::$HOSTNAME$\tHOSTPERFDATA::$HOSTPERFDATA$\tHOSTCHECKCOMMAN
host_perfdata_file_mode=a
host_perfdata_file_processing_interval=15
host_perfdata_file_processing_command=process-host-perfdata-file-nagflux

service_perfdata_file=/usr/local/nagios/var/service-perfdata
service_perfdata_file_template=DATATYPE::SERVICEPERFDATA\tTIMET::$TIMET$\tHOSTNAME::$HOSTNAME$\tSERVICEDESC::$SERVICEDESC$\tSERVICEPERF
service_perfdata_file_mode=a
service_perfdata_file_processing_interval=15
service_perfdata_file_processing_command=process-service-perfdata-file-nagflux
```

In a fresh installation of [Nagios Core](#) the directive `process_performance_data` is set to 0 and the other directives are commented out.

To make the required changes above you can manually edit the file, or the following commands will make those changes for you:

### CentOS / RHEL / Oracle Linux / Debian / Raspbian / Arch Linux

```
sed -i 's/^process_performance_data=0/process_performance_data=1/g' /usr/local/nagios/etc/nagios.cfg
sed -i 's/^#host_perfdata_file=/host_perfdata_file=/g' /usr/local/nagios/etc/nagios.cfg
sed -i 's/^#host_perfdata_file_template=.*host_perfdata_file_template=DATATYPE::HOSTPERFDATA\tTIMET::$TIMET$\tHOSTNAME::$HOSTNAME$\tHOSTCHECKCOMMAN
sed -i 's/^#host_perfdata_file_mode=.*host_perfdata_file_mode=/g' /usr/local/nagios/etc/nagios.cfg
sed -i 's/^#host_perfdata_file_processing_interval=.*host_perfdata_file_processing_interval=15/g' /usr/local/nagios/etc/nagios.cfg
sed -i 's/^#host_perfdata_file_processing_command=.*host_perfdata_file_processing_command=process-host-perfdata-file-nagflux/g' /usr/l
sed -i 's/^#service_perfdata_file=/service_perfdata_file=/g' /usr/local/nagios/etc/nagios.cfg
sed -i 's/^#service_perfdata_file_template=.*service_perfdata_file_template=DATATYPE::SERVICEPERFDATA\tTIMET::$TIMET$\tHOSTNAME::$HO
sed -i 's/^#service_perfdata_file_mode=.*service_perfdata_file_mode=/g' /usr/local/nagios/etc/nagios.cfg
sed -i 's/^#service_perfdata_file_processing_interval=.*service_perfdata_file_processing_interval=15/g' /usr/local/nagios/etc/nagios.c
sed -i 's/^#service_perfdata_file_processing_command=.*service_perfdata_file_processing_command=process-service-perfdata-file-nagflux/
```

## Ubuntu / SLES / openSUSE

```
sudo sh -c "sed -i 's/^process_performance_data=0/process_performance_data=1/g' /usr/local/nagios/etc/nagios.cfg"
```



```

sudo sh -c "sed -i 's/process_performance_data=/process_performance_data=1/g' /usr/local/nagios/etc/nagios.cfg"
sudo sh -c "sed -i 's/^#host_perfddata_file=/host_perfddata_file=/g' /usr/local/nagios/etc/nagios.cfg"
sudo sh -c "sed -i 's/^#host_perfddata_file_template=.*#host_perfddata_file_template=DATATYPE::HOSTPERFDATA\\\\\\\\tTIMET::\\\$TIMET\\\$\\\\\\\\tHOST"
sudo sh -c "sed -i 's/^#host_perfddata_file_mode=/host_perfddata_file_mode=/g' /usr/local/nagios/etc/nagios.cfg"
sudo sh -c "sed -i 's/^#host_perfddata_file_processing_interval=.*#host_perfddata_file_processing_interval=15/g' /usr/local/nagios/etc/nagios.cfg"
sudo sh -c "sed -i 's/^#host_perfddata_file_processing_command=.*#host_perfddata_file_processing_command=process-host-perfddata-file-nagfl"
sudo sh -c "sed -i 's/^#service_perfddata_file=/service_perfddata_file=/g' /usr/local/nagios/etc/nagios.cfg"
sudo sh -c "sed -i 's/^#service_perfddata_file_template=.*#service_perfddata_file_template=DATATYPE::SERVICEPERFDATA\\\\\\\\tTIMET::\\\$TIMET\\\$"
sudo sh -c "sed -i 's/^#service_perfddata_file_mode=/service_perfddata_file_mode=/g' /usr/local/nagios/etc/nagios.cfg"
sudo sh -c "sed -i 's/^#service_perfddata_file_processing_interval=.*#service_perfddata_file_processing_interval=15/g' /usr/local/nagios/"
sudo sh -c "sed -i 's/^#service_perfddata_file_processing_command=.*#service_perfddata_file_processing_command=process-service-perfddata-f"

```

Two nagios commands need to be defined, it is recommended to place these in the `/usr/local/nagios/etc/objects/commands.cfg` file:

```

define command {
    command_name    process-host-perfddata-file-nagflux
    command_line    /bin/mv /usr/local/nagios/var/host-perfddata /usr/local/nagios/var/spool/nagfluxperfddata/$TIMET$.perfddata.host
}

define command {
    command_name    process-service-perfddata-file-nagflux
    command_line    /bin/mv /usr/local/nagios/var/service-perfddata /usr/local/nagios/var/spool/nagfluxperfddata/$TIMET$.perfddata.service
}

```

To make the required changes above you can manually edit the file, or the following commands will add those commands for you:

#### CentOS / RHEL / Oracle Linux / Debian / Raspbian / Arch Linux

```

echo '' >> /usr/local/nagios/etc/objects/commands.cfg
echo 'define command {' >> /usr/local/nagios/etc/objects/commands.cfg
echo '    command_name    process-host-perfddata-file-nagflux' >> /usr/local/nagios/etc/objects/commands.cfg
echo '    command_line    /bin/mv /usr/local/nagios/var/host-perfddata /usr/local/nagios/var/spool/nagfluxperfddata/$TIMET$.perfddata.host' >> /usr/local/nagios/etc/objects/commands.cfg
echo '}' >> /usr/local/nagios/etc/objects/commands.cfg
echo '' >> /usr/local/nagios/etc/objects/commands.cfg
echo 'define command {' >> /usr/local/nagios/etc/objects/commands.cfg
echo '    command_name    process-service-perfddata-file-nagflux' >> /usr/local/nagios/etc/objects/commands.cfg
echo '    command_line    /bin/mv /usr/local/nagios/var/service-perfddata /usr/local/nagios/var/spool/nagfluxperfddata/$TIMET$.perfddata.s' >> /usr/local/nagios/etc/objects/commands.cfg
echo '}' >> /usr/local/nagios/etc/objects/commands.cfg
echo '' >> /usr/local/nagios/etc/objects/commands.cfg

```

#### Ubuntu / SLES / openSUSE

```

sudo sh -c "echo '' >> /usr/local/nagios/etc/objects/commands.cfg"
sudo sh -c "echo 'define command {' >> /usr/local/nagios/etc/objects/commands.cfg"
sudo sh -c "echo '    command_name    process-host-perfddata-file-nagflux' >> /usr/local/nagios/etc/objects/commands.cfg"
sudo sh -c "echo '    command_line    /bin/mv /usr/local/nagios/var/host-perfddata /usr/local/nagios/var/spool/nagfluxperfddata/\$TIMET\$" >> /usr/local/nagios/etc/objects/commands.cfg"
sudo sh -c "echo '}' >> /usr/local/nagios/etc/objects/commands.cfg"
sudo sh -c "echo '' >> /usr/local/nagios/etc/objects/commands.cfg"
sudo sh -c "echo 'define command {' >> /usr/local/nagios/etc/objects/commands.cfg"
sudo sh -c "echo '    command_name    process-service-perfddata-file-nagflux' >> /usr/local/nagios/etc/objects/commands.cfg"
sudo sh -c "echo '    command_line    /bin/mv /usr/local/nagios/var/service-perfddata /usr/local/nagios/var/spool/nagfluxperfddata/\$TIME" >> /usr/local/nagios/etc/objects/commands.cfg"
sudo sh -c "echo '}' >> /usr/local/nagios/etc/objects/commands.cfg"
sudo sh -c "echo '' >> /usr/local/nagios/etc/objects/commands.cfg"

```

Once those changes have been performed you will need to verify the Nagios Core configuration with the following command:

#### CentOS / RHEL / Oracle Linux / Debian / Raspbian / Arch Linux

```

/usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg

```

#### Ubuntu / SLES / openSUSE

```

sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg

```

If the verification was successful then you can restart the `nagios` service:

#### CentOS / RHEL / Oracle Linux / Debian / Raspbian / Arch Linux

```

systemctl restart nagios.service

```

#### Ubuntu / SLES / openSUSE

```

sudo systemctl restart nagios.service

```

The next step is to [verify that Nagflux is working](#).

## Verify Nagflux Is Working

Execute the following query to verify that InfluxDB is being populated with Nagios performance data:

```
curl -G "http://localhost:8086/query?db=nagflux&pretty=true" --data-urlencode "q=show series"
```

It should produce output like this:

```
{
  "results": [
    {
      "statement_id": 0,
      "series": [
        {
          "columns": [
            "key"
          ],
          "values": [
            [
              "metrics,command=check-host-alive,crit-fill=none,host=localhost,performanceLabel=pl,service=hostcheck,unit="
            ],
            [
              "metrics,command=check-host-alive,crit-fill=none,host=localhost,performanceLabel=rta,service=hostcheck,unit="
            ],
            [
              "metrics,command=check_http,host=localhost,performanceLabel=size,service=HTTP,unit=B"
            ],
            [
              "metrics,command=check_http,host=localhost,performanceLabel=time,service=HTTP,unit=s"
            ],
            [
              "metrics,command=check_local_disk,crit-fill=none,host=localhost,performanceLabel=/,service=Root\\ Partition"
            ],
            [
              "metrics,command=check_local_load,crit-fill=none,host=localhost,performanceLabel=load1,service=Current\\ Lo"
            ],
            [
              "metrics,command=check_local_load,crit-fill=none,host=localhost,performanceLabel=load15,service=Current\\ L"
            ],
            [
              "metrics,command=check_local_load,crit-fill=none,host=localhost,performanceLabel=load5,service=Current\\ Lo"
            ],
            [
              "metrics,command=check_local_procs,crit-fill=none,host=localhost,performanceLabel=procs,service=Total\\ Pro"
            ],
            [
              "metrics,command=check_local_swap,crit-fill=none,host=localhost,performanceLabel=swap,service=Swap\\ Usage,"
            ],
            [
              "metrics,command=check_local_users,crit-fill=none,host=localhost,performanceLabel=users,service=Current\\ U"
            ],
            [
              "metrics,command=check_ping,crit-fill=none,host=localhost,performanceLabel=pl,service=PING,unit=%,warn-fill"
            ],
            [
              "metrics,command=check_ping,crit-fill=none,host=localhost,performanceLabel=rta,service=PING,unit=ms,warn-fi"
            ],
            [
              "metrics,command=check_ssh,host=localhost,performanceLabel=time,service=SSH,unit=s"
            ]
          ]
        }
      ]
    }
  ]
}
```

In the output above, the `metrics,command=` shows the different performance data received by Nagios. If you are seeing information like this then everything is working as expected.

The next step is to [configure Grafana](#).

## Grafana Configuration

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

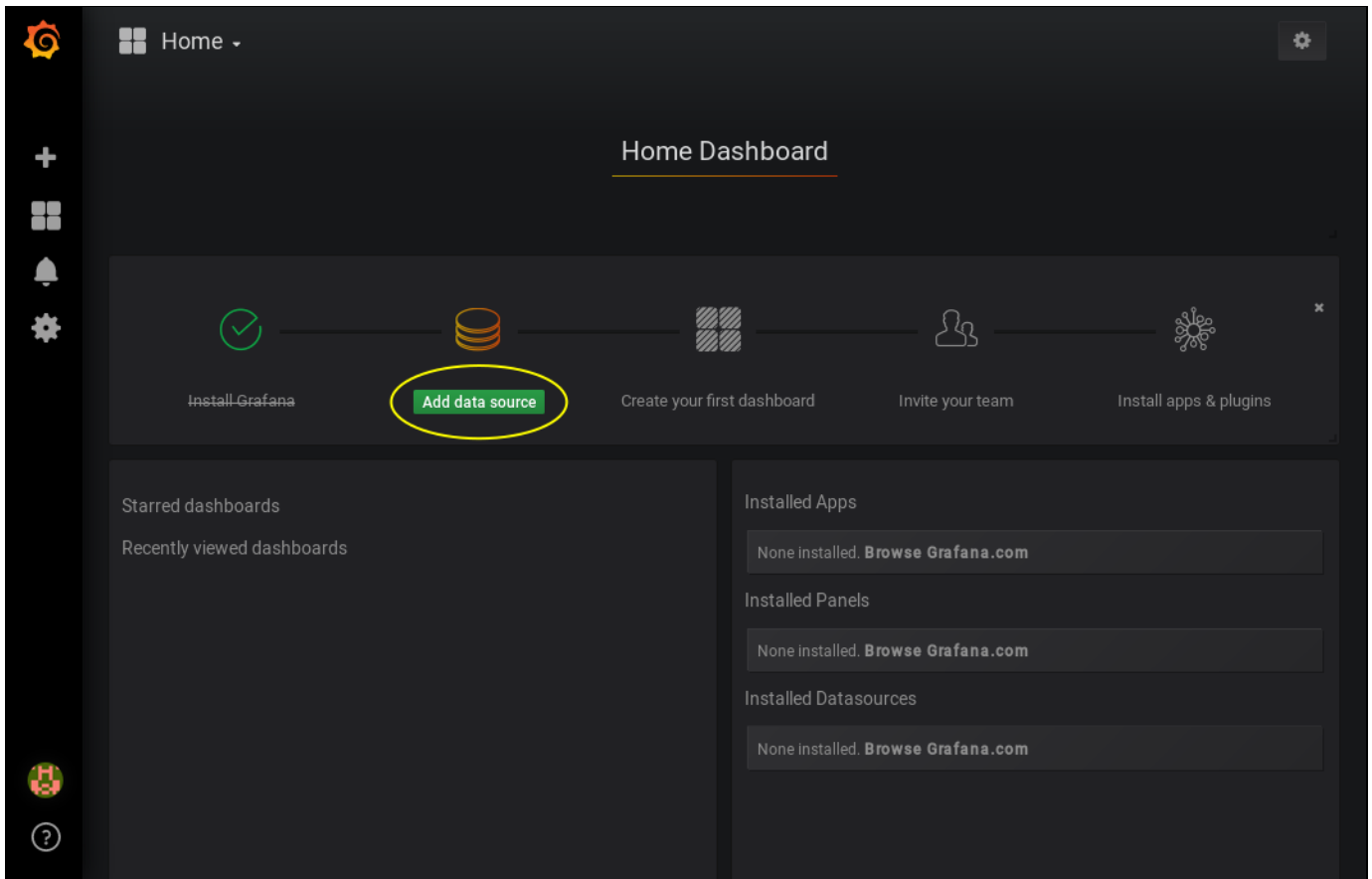
```
http://nagios_server:3000
```

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

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

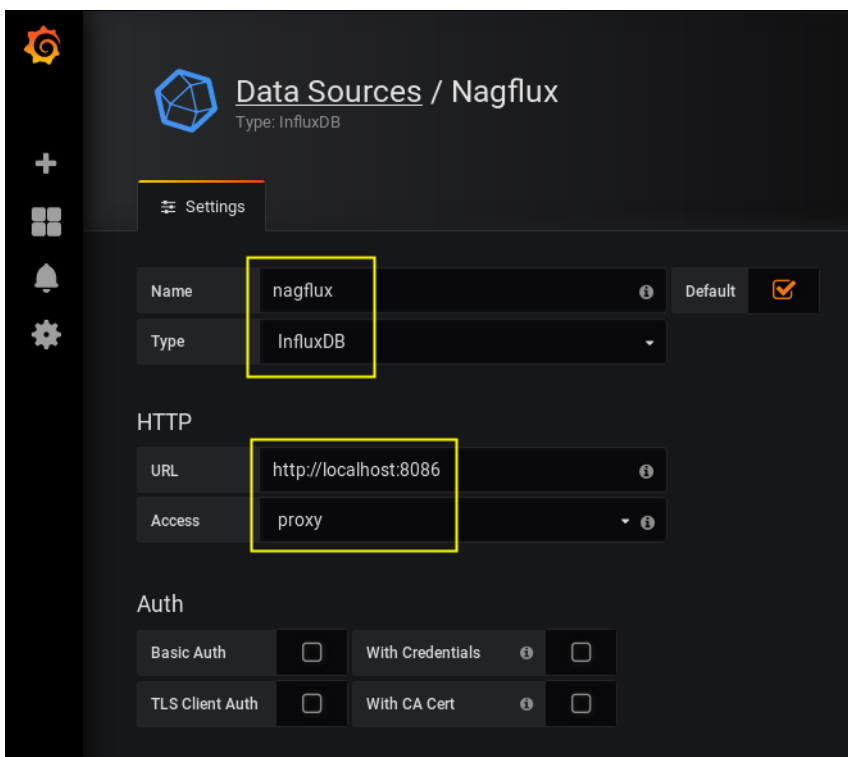
You will be presented with the Home Dashboard and you'll see an `Add data source` icon, click it to continue.

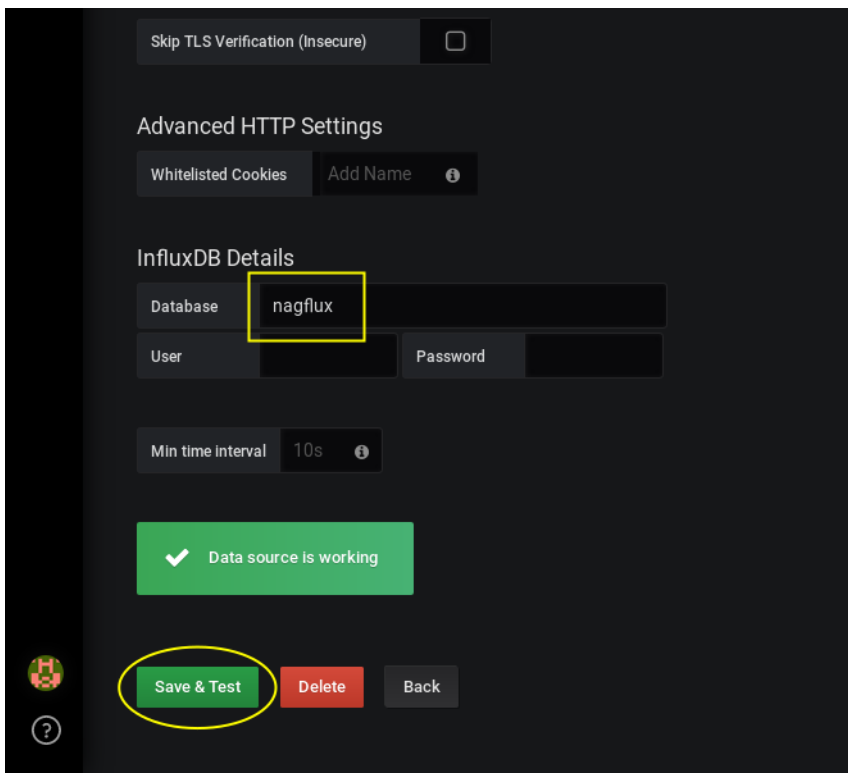
You will be presented with the Home Dashboard and you will see an **Add data source** icon, click it to continue.



You will need to populate the following information:

- Name: **nagflux**
- Type: **InfluxDB**
- HTTP
  - URL: **http://localhost:8086**
  - Access: **proxy**
- Auth: Leave settings as default
- InfluxDB Details
  - Database: **nagflux**
  - User & Password: Leave these blank





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 [configure Histou](#).

## Histou Configuration

Histou needs to be configured with the DNS record or ip address of your Nagios Core server in the `/usr/share/grafana/public/dashboards/histou.js` file

```
var url = 'http://localhost/histou/';
```

You need to replace `localhost` with the DNS record or ip address of your Nagios Core server.

### CentOS / RHEL / Oracle Linux / Debian / Raspbian / Arch Linux

If your server was called `core-008.box293.local` then this command would change it to that:

```
sed -i 's/localhost/core-008.box293.local/g' /usr/share/grafana/public/dashboards/histou.js
```

Alternatively if you wanted to use an ip address like `10.25.5.58` then this command would change it to that:

```
sed -i 's/localhost/10.25.5.58/g' /usr/share/grafana/public/dashboards/histou.js
```

### Ubuntu / SLES / openSUSE

If your server was called `core-008.box293.local` then this command would change it to that:

```
sudo sh -c "sed -i 's/localhost/core-008.box293.local/g' /usr/share/grafana/public/dashboards/histou.js"
```

Alternatively if you wanted to use an ip address like `10.25.5.58` then this command would change it to that:

```
sudo sh -c "sed -i 's/localhost/10.25.5.58/g' /usr/share/grafana/public/dashboards/histou.js"
```

The next step is to [verify Histou is working](#).

## Verify Histou Is Working

Histou returns data to Grafana so it can be visualised. The following example is going to use the Nagios **PING** service for the `localhost` (these are part of the default Nagios config)

Execute the following query to verify that data can be retrieved:

```
curl -G "http://localhost/histou/?host=localhost&service=PING"
```

This will return a LOT of data, this confirms Histou is working.

To see Histou working in Grafana you use the following URL in the format of:

`http://nagios_server:3000/dashboard/script/histou.js?host=host_object&service=service_object`

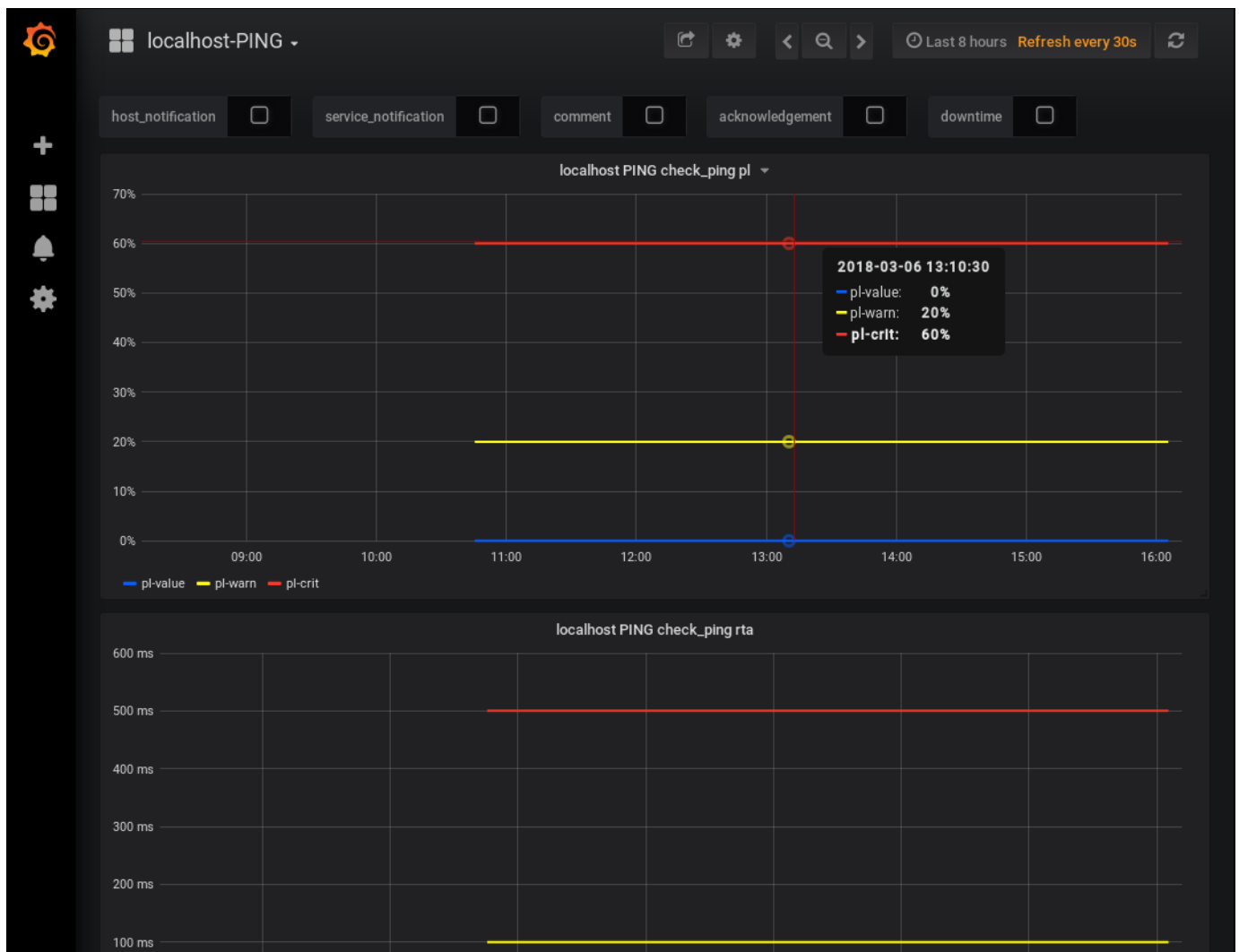
Where

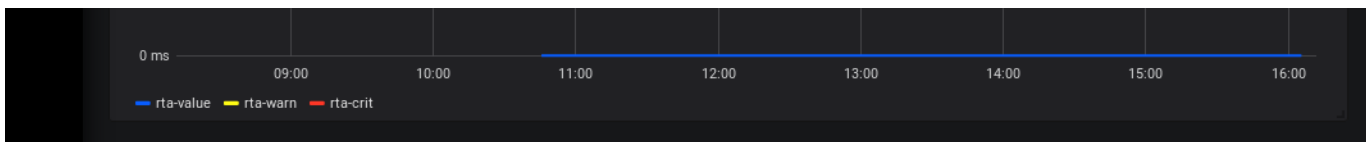
- `nagios_server` = The DNS record or IP address of the nagios server
- `3000` = The port that Grafana is listening to requests
- `host_object` = The name of the Nagios host object you want to display the graphs for
- `service_object` = The name of the Nagios service object you want to display the graphs for

For example:

`http://core-015.box293.local:3000/dashboard/script/histou.js?host=localhost&service=PING`

This will return a graph similar to:





If you see a page similar to above then you have correctly configured Histou.

The next step is to configure [Nagios Core web interface integration](#).

## Nagios Core Web Interface Integration

Grafana / Histou can also be integrated into the Nagios Core web interface, this is quite useful however it does require some changes to your Nagios object definitions.

Nagios Core uses the `action_url` directive in object definitions to provide an icon/link when viewing host or service objects in the web interface.

This means that every object in Nagios Core requires the `action_url` directive to be defined. This can be easily achieved by using a template and using that template in your object

In a fresh installation of [Nagios Core](#) the following host and service templates need to be added to `/usr/local/nagios/etc/objects/templates.cfg` file:

```
define host {
    name          host-grafana
    action_url    http://nagios_server:3000/dashboard/script/histou.js?host=$HOSTNAME$
    register     0
}

define service {
    name          service-grafana
    action_url    http://nagios_server:3000/dashboard/script/histou.js?host=$HOSTNAME$&service=$SERVICEDESC$
    register     0
}
```

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

To make the required changes above you can manually edit the file, or the following commands will add those templates for you:

### CentOS / RHEL / Oracle Linux / Debian / Raspbian / Arch Linux

```
echo '' >> /usr/local/nagios/etc/objects/templates.cfg
echo 'define host {' >> /usr/local/nagios/etc/objects/templates.cfg
echo '  name          host-grafana' >> /usr/local/nagios/etc/objects/templates.cfg
echo '  action_url    http://nagios_server:3000/dashboard/script/histou.js?host=$HOSTNAME$' >> /usr/local/nagios/etc/objects/templates.cfg
echo '  register     0' >> /usr/local/nagios/etc/objects/templates.cfg
echo '}' >> /usr/local/nagios/etc/objects/templates.cfg
echo '' >> /usr/local/nagios/etc/objects/templates.cfg
echo 'define service {' >> /usr/local/nagios/etc/objects/templates.cfg
echo '  name          service-grafana' >> /usr/local/nagios/etc/objects/templates.cfg
echo '  action_url    http://nagios_server:3000/dashboard/script/histou.js?host=$HOSTNAME$&service=$SERVICEDESC$' >> /usr/local/nagios/etc/objects/templates.cfg
echo '  register     0' >> /usr/local/nagios/etc/objects/templates.cfg
echo '}' >> /usr/local/nagios/etc/objects/templates.cfg
echo '' >> /usr/local/nagios/etc/objects/templates.cfg
```

### Ubuntu / SLES / openSUSE

```
sudo sh -c "echo '' >> /usr/local/nagios/etc/objects/templates.cfg"
sudo sh -c "echo 'define host {' >> /usr/local/nagios/etc/objects/templates.cfg"
sudo sh -c "echo '  name          host-grafana' >> /usr/local/nagios/etc/objects/templates.cfg"
sudo sh -c "echo '  action_url    http://nagios_server:3000/dashboard/script/histou.js?host=\$HOSTNAME\$' >> /usr/local/nagios/etc/objects/templates.cfg"
sudo sh -c "echo '  register     0' >> /usr/local/nagios/etc/objects/templates.cfg"
sudo sh -c "echo '}' >> /usr/local/nagios/etc/objects/templates.cfg"
sudo sh -c "echo '' >> /usr/local/nagios/etc/objects/templates.cfg"
sudo sh -c "echo 'define service {' >> /usr/local/nagios/etc/objects/templates.cfg"
sudo sh -c "echo '  name          service-grafana' >> /usr/local/nagios/etc/objects/templates.cfg"
sudo sh -c "echo '  action_url    http://nagios_server:3000/dashboard/script/histou.js?host=\$HOSTNAME\$&service=\$SERVICEDESC\$' >> /usr/local/nagios/etc/objects/templates.cfg"
sudo sh -c "echo '  register     0' >> /usr/local/nagios/etc/objects/templates.cfg"
sudo sh -c "echo '}' >> /usr/local/nagios/etc/objects/templates.cfg"
sudo sh -c "echo '' >> /usr/local/nagios/etc/objects/templates.cfg"
```

Then to use those templates you need to include them in your host and service directives. This example will update the generic-host and generic-service templates to include these templates.

```
define host{
    name          generic-host      ; The name of this host template
    use           host-grafana
}

define service{
    name          generic-service    ; The 'name' of this service template
    use           service-grafana
}
```

In the example above the remaining options in the default templates have been omitted, there is no point showing all of those entries.

To make the required changes above you can manually edit the file, or the following commands will update those templates for you:

## CentOS / RHEL / Oracle Linux / Debian / Raspbian / Arch Linux / Gentoo

```
sed -i '/name.*generic-host/a\         use         host-grafana' /usr/local/nagios/etc/objects/templates.cfg
sed -i '/name.*generic-service/a\       use         service-grafana' /usr/local/nagios/etc/objects/templates.cfg
```

## Ubuntu / SLES / openSUSE

```
sudo sh -c "sed -i '/name.*generic-host/a\         use         host-grafana' /usr/local/nagios/etc/objects/templates
sudo sh -c "sed -i '/name.*generic-service/a\       use         service-grafana' /usr/local/nagios/etc/objects/tem
```

Once those changes have been performed you will need to verify the Nagios Core configuration with the following command:

## CentOS / RHEL / Oracle Linux / Debian / Raspbian / Arch Linux

```
/usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg
```

## Ubuntu / SLES / openSUSE

```
sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg
```

If the verification was successful then you can restart the `nagios` service:

## CentOS / RHEL / Oracle Linux / Debian / Raspbian / Arch Linux

```
systemctl restart nagios.service
```

## Ubuntu / SLES / openSUSE

```
sudo systemctl restart nagios.service
```

Finally open the Nagios Core web interface and navigate to the Services page, you should now see a graph icon for all the hosts and services. Clicking on an icon will open the host o

Host	Service	Status	Last Check	Duration	Attempt	Status Information
localhost	Current Load	OK	02-27-2018 17:02:33	186d 6h 38m 26s	1/4	OK - load average: 0.00, 0.00, 0.00
	Current Users	OK	02-27-2018 17:03:11	186d 6h 38m 36s	1/4	USERS OK - 1 users currently logged in
	HTTP	OK	02-27-2018 17:07:20	0d 0h 0m 4s	1/4	HTTP OK: HTTP/1.1 200 OK - 265 bytes in 0.000 second response time
	PING	OK	02-27-2018 17:04:26	186d 6h 38m 26s	1/4	PING OK - Packet loss = 0%, RTA = 0.04 ms
	Root Partition	OK	02-27-2018 17:05:03	186d 6h 39m 57s	1/4	DISK OK - free space: / 15760 MB (90.13% inode=96%):
	SSH	OK	02-27-2018 17:05:41	186d 6h 38m 48s	1/4	SSH OK - OpenSSH_5.3 (protocol 2.0)
	Swap Usage	OK	02-27-2018 17:06:18	186d 6h 39m 42s	1/4	SWAP OK - 100% free (2147 MB out of 2147 MB)
	Total Processes	OK	02-27-2018 17:06:56	186d 6h 38m 26s	1/4	PROCS OK: 72 processes with STATE = RSZDT

This completes the steps required for integrating InfluxDB, Nagflux, Grafana and Histou with Nagios Core.

## Additional Reading

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

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

<https://github.com/Griesbacher/histou>

## Final Thoughts

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

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

Posted by: **tlea** - Sun, Mar 4, 2018 at 5:45 PM. This article has been viewed 18422 times.

Online URL: <https://support.nagios.com/kb/article/nagios-core-performance-graphs-using-influxdb-nagflux-grafana-histou-802.html>