Nagios Installation Guide

Installation Notes

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Connect to an EC2 instance (Ubuntu).

Nagios Installation:

Step 1.. To install the gcc compiler and LAMP (Apache, PHP, MySQL) for the Nagios web interface and Sendmail to send alerts from the server, run the below command.

sudo apt-get install wget build-essential apache2 php apache2-mod-php7.0 php-gd libgd-dev sendmail unzip

```
ubuntu@ip-172-31-89-214:~$ sudo su
root@ip-172-31-89-214:/home/ubuntu# sudo apt-get install wget build-essential ap
ache2 php apache2-mod-php7.0 php-gd libgd-dev sendmail unzip
Reading package lists... Done
Building dependency tree
Reading state information... Done
Note, selecting 'libapache2-mod-php7.0' for regex 'apache2-mod-php7.0'
wget is already the newest version (1.17.1-1ubuntu1.4).
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils binutils cpp cpp-5 dpkg-dev fakeroot
  g++ g++-5 gcc gcc-5 libalgorithm-diff-perl libalgorithm-diff-xs-perl
  libalgorithm-merge-perl libapr1 libaprutil1 libaprutil1-dbd-sqlite3
  libaprutil1-ldap libasan2 libatomic1 libc-dev-bin libc6-dev libcc1-0
  libcilkrts5 libdpkg-perl libexpat1-dev libfakeroot libfile-fcntllock-perl
  libfontconfig1-dev libfreetype6-dev libgcc-5-dev libgd3 libgomp1 libisl15
  libitm1 libjbig-dev libjpeg-dev libjpeg-turbo8-dev libjpeg8-dev
  liblockfile-bin liblockfile1 liblsan0 liblua5.1-0 liblzma-dev libmpc3
  libmpx0 libpng12-dev libquadmath0 libstdc++-5-dev libtiff5-dev libtiffxx5
  libtsan0 libubsan0 libvpx-dev libvpx3 libxpm-dev libxpm4 linux-libc-dev m4
  make manpages-dev php-common php7.0 php7.0-cli php7.0-common php7.0-gd
  php7.0-json php7.0-opcache php7.0-readline pkg-config procmail sendmail-base
  sendmail-bin sendmail-cf sensible-mda ssl-cert zlib1g-dev
Suggested packages:
  www-browser apache2-doc apache2-suexec-pristine | apache2-suexec-custom
  binutils-doc cpp-doc gcc-5-locales debian-keyring g++-multilib
  g++-5-multilib gcc-5-doc libstdc++6-5-dbg gcc-multilib autoconf automake
  libtool flex bison gdb gcc-doc gcc-5-multilib libgcc1-dbg libgomp1-dbg
  libitm1-dbg libatomic1-dbg libasan2-dbg liblsan0-dbg libtsan0-dbg
```

Step 2. Create a new user for Nagios and name the user "nagios" and additionally create a group named "nagcmd". Add the new user to the group:

useradd nagios

groupadd nagcmd

usermod -a -G nagcmd nagios

usermod -a -G nagios,nagcmd www-data

```
root@ip-172-31-32-34:/home/ubuntu# useradd nagios
root@ip-172-31-32-34:/home/ubuntu# groupadd nagcmd
root@ip-172-31-32-34:/home/ubuntu# usermod -a -G nagcmd nagios
root@ip-172-31-32-34:/home/ubuntu# usermod -a -G nagios,nagcmd www-data
root@ip-172-31-32-34:/home/ubuntu#
```

Step 3. Download and extract Nagios Core:

cd ~

wget https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.2.0.tar.gz

 tar -xzf nagios*.tar.gz

cd nagios-4.2.0

```
root@ip-172-31-32-34:/home/ubuntu# cd ~
root@ip-172-31-32-34:~# wget https://assets.nagios.com/downloads/nagioscore/rele
ases/nagios-4.2.0.tar.gz
--2018-09-29 08:11:25--  https://assets.nagios.com/downloads/nagioscore/releases
/nagios-4.2.0.tar.gz
Resolving assets.nagios.com (assets.nagios.com)... 72.14.181.71, 2600:3c00::f03c
:91ff:fedf:b821
Connecting to assets.nagios.com (assets.nagios.com)|72.14.181.71|:443... connect
ed.
HTTP request sent, awaiting response... 200 OK
Length: 11155104 (11M) [application/x-gzip]
Saving to: 'nagios-4.2.0.tar.gz'

nagios-4.2.0.tar.gz 100%[===================>]  10.64M  12.4MB/s    in 0.9s

2018-09-29 08:11:26 (12.4 MB/s) - 'nagios-4.2.0.tar.gz' saved [11155104/11155104
]

root@ip-172-31-32-34:~# ls
nagios-4.2.0.tar.gz  snap
root@ip-172-31-32-34:~# tar -xzf nagios-4.2.0.tar.gz
root@ip-172-31-32-34:~#
```

Step 5. Before building Nagios, you will have to configure it with the user and the group you have created earlier:

./configure --with-nagios-group=nagios --with-command-group=nagcmd

```
root@ip-172-31-32-34:~# cd nagios-4.2.0
root@ip-172-31-32-34:~/nagios-4.2.0# ./configure --with-nagios-group=nagios --w
ith-command-group=nagcmd
checking for a BSD-compatible install... /usr/bin/install -c
checking build system type... x86_64-unknown-linux-gnu
checking host system type... x86_64-unknown-linux-gnu
checking for gcc... no
checking for cc... no
checking for cl.exe... no
configure: error: in `/root/nagios-4.2.0':
configure: error: no acceptable C compiler found in $PATH
See `config.log' for more details
root@ip-172-31-32-34:~/nagios-4.2.0#
```

Installing Nagios:

make all

sudo make install

sudo make install-commandmode

sudo make install-init

sudo make install-config

sudo /usr/bin/install -c -m 644 sample-config/httpd.conf /etc/apache2/sites-available/nagios.conf

copy event handler directory to the nagios directory:

cp -R contrib/eventhandlers/ /usr/local/nagios/libexec/

chown -R nagios:nagios /usr/local/nagios/libexec/eventhandlers

```
root@ip-172-31-89-214:~/nagios-4.2.0# sudo make install-commandmode
/usr/bin/install -c -m 775 -o nagios -g nagcmd -d /usr/local/nagios/var/rw
chmod g+s /usr/local/nagios/var/rw

*** External command directory configured ***

root@ip-172-31-89-214:~/nagios-4.2.0# sudo make install-init
/usr/bin/install -c -m 755 -d -o root -g root /etc/init.d
/usr/bin/install -c -m 755 -o root -g root daemon-init /etc/init.d/nagios

*** Init script installed ***

root@ip-172-31-89-214:~/nagios-4.2.0# sudo make install-config
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/etc
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/etc/objects
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/nagios.cfg /usr/local/nagios/etc/nagios.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/cgi.cfg /usr/local/nagios/etc/cgi.cfg
/usr/bin/install -c -b -m 660 -o nagios -g nagios sample-config/resource.cfg /usr/local/nagios/etc/resource.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/templates.cfg /usr/local/nagios/etc/objects/templat
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/commands.cfg /usr/local/nagios/etc/objects/commands
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/contacts.cfg /usr/local/nagios/etc/objects/contacts
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/timeperiods.cfg /usr/local/nagios/etc/objects/timep
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/localhost.cfg /usr/local/nagios/etc/objects/localho
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/windows.cfg /usr/local/nagios/etc/objects/windows.c
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/printer.cfg /usr/local/nagios/etc/objects/printer.c
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/switch.cfg /usr/local/nagios/etc/objects/switch.cfg

*** Config files installed ***

Remember, these are *SAMPLE* config files.  You'll need to read
the documentation for more information on how to actually define
services, hosts, etc. to fit your particular needs.

root@ip-172-31-89-214:~/nagios-4.2.0# /usr/bin/install -c -m 644 sample-config/httpd.conf /etc/apache2/sites-available/nagios.conf
root@ip-172-31-89-214:~/nagios-4.2.0# cp -R contrib/eventhandlers/ /usr/local/nagios/libexec/
root@ip-172-31-89-214:~/nagios-4.2.0# chown -R nagios:nagios /usr/local/nagios/libexec/eventhandlers
root@ip-172-31-89-214:~/nagios-4.2.0#
```

Step 6. Download and extract the Nagios plugins:

cd ~

wget https://nagios-plugins.org/download/nagios-plugins-2.1.2.tar.gz

tar -xzf nagios-plugins*.tar.gz

cd nagios-plugin-2.1.2

Install the Nagios plugin's with the commands below:

./configure --with-nagios-user=nagios --with-nagios-group=nagios --with-openssl

 make

 make install

```
root@ip-172-31-89-214:~/nagios-4.2.0# cd ~
root@ip-172-31-89-214:~# wget https://nagios-plugins.org/download/nagios-plugins-2.1.2.tar.gz
--2018-09-29 08:45:03--  https://nagios-plugins.org/download/nagios-plugins-2.1.2.tar.gz
Resolving nagios-plugins.org (nagios-plugins.org)... 72.14.186.43
Connecting to nagios-plugins.org (nagios-plugins.org)|72.14.186.43|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 2695301 (2.6M) [application/x-gzip]
Saving to: 'nagios-plugins-2.1.2.tar.gz'

nagios-plugins-2.1.2.tar.gz          100%[===================================================================>]
2018-09-29 08:45:03 (8.00 MB/s) - 'nagios-plugins-2.1.2.tar.gz' saved [2695301/2695301]

root@ip-172-31-89-214:~# ls
nagios-4.2.0  nagios-4.2.0.tar.gz  nagios-plugins-2.1.2.tar.gz  snap
root@ip-172-31-89-214:~# tar -xzf nagios-plugins-2.1.2.tar.gz
root@ip-172-31-89-214:~# ls
nagios-4.2.0  nagios-4.2.0.tar.gz  nagios-plugins-2.1.2  nagios-plugins-2.1.2.tar.gz  snap
root@ip-172-31-89-214:~# cd nagios-plugins-2.1.2
root@ip-172-31-89-214:~/nagios-plugins-2.1.2# ./configure --with-nagios-user=nagios --with-nagios-group=nagios --with-openssl
checking for a BSD-compatible install... /usr/bin/install -c
checking whether build environment is sane... yes
checking for a thread-safe mkdir -p... /bin/mkdir -p
checking for gawk... gawk
checking whether make sets $(MAKE)... yes
checking whether to disable maintainer-specific portions of Makefiles... yes
checking build system type... x86_64-unknown-linux-gnu
checking host system type... x86_64-unknown-linux-gnu
checking for gcc... gcc
checking for C compiler default output file name... a.out
checking whether the C compiler works... yes
checking whether we are cross compiling... no
checking for suffix of executables...
checking for suffix of object files... o
checking whether we are using the GNU C compiler... yes
```

Step 7. Configure Nagios and Nagios contact.

Edit default nagios configuration with nano:

nano /usr/local/nagios/etc/nagios.cfg

```
fi
make[1]: Leaving directory '/root/nagios-plugins-2.1.2/po'
make[1]: Entering directory '/root/nagios-plugins-2.1.2'
make[2]: Entering directory '/root/nagios-plugins-2.1.2'
make[2]: Nothing to be done for 'install-exec-am'.
make[2]: Nothing to be done for 'install-data-am'.
make[2]: Leaving directory '/root/nagios-plugins-2.1.2'
make[1]: Leaving directory '/root/nagios-plugins-2.1.2'
root@ip-172-31-89-214:~/nagios-plugins-2.1.2# nano /usr/local/nagios/etc/nagios.cfg
```

uncomment line 51 for the host monitor configuration.

cfg_dir=/usr/local/nagios/etc/servers

Save and exit.

```
  GNU nano 2.5.3                                    File: /usr/local/nagios/etc/nagios.cfg

#cfg_file=/usr/local/nagios/etc/objects/switch.cfg

# Definitions for monitoring a network printer
#cfg_file=/usr/local/nagios/etc/objects/printer.cfg


# You can also tell Nagios to process all config files (with a .cfg
# extension) in a particular directory by using the cfg_dir
# directive as shown below:

cfg_dir=/usr/local/nagios/etc/servers
#cfg_dir=/usr/local/nagios/etc/printers
#cfg_dir=/usr/local/nagios/etc/switches
#cfg_dir=/usr/local/nagios/etc/routers



# OBJECT CACHE FILE
```

Step 8. Add a new folder named servers:

mkdir -p /usr/local/nagios/etc/servers

The Nagios contact can be configured in the contact.cfg file. To open it use:

nano /usr/local/nagios/etc/objects/contacts.cfg

```
  GNU nano 2.5.3                                    File: /usr/local/nagios/etc/objects/contacts.cfg

#
################################################################
################################################################

# Just one contact defined by default - the Nagios admin (that's you)
# This contact definition inherits a lot of default values from the 'generic-contact'
# template which is defined elsewhere.

define contact{
        contact_name            nagiosadmin             ; Short name of user
        use                     generic-contact         ; Inherit default values from generic-contact templa
        alias                   Nagios Admin            ; Full name of user

        email                   aashi.gupta@edureka.co  ; <<***** CHANGE THIS TO YOUR EMAIL ADDRESS ******
        }



################################################################
################################################################
#
# CONTACT GROUPS
#
################################################################
################################################################

# We only have one contact in this simple configuration file, so there is
# no need to create more than one contact group.
```

Then replace the default email with your own email.

Configuring Apache

sudo a2enmod rewrite

sudo a2enmod cgi

Step 9. Use the htpasswd command to configure a user nagiosadmin for the nagios web interface and type password:

sudo htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin

Step 10. Enable the Nagios Virtual host:

sudo ln -s /etc/apache2/sites-available/nagios.conf /etc/apache2/sites-enabled/

Start the Nagios and Apache

service apache2 restart service nagios start

When Nagios start you may see the following error:

And this is how to fix it:

Step 11. Create this nagios.service file:

nano /etc/systemd/system/nagios.service

[Unit]

Description=Nagios

BindTo=network.target

[Install]

WantedBy=multi-user.target

[Service]

User=nagios

Group=nagios

Type=simple

ExecStart=/usr/local/nagios/bin/nagios /usr/local/nagios/etc/nagios.cfg

Save and exit

systemctl enable /etc/systemd/system/nagios.service

systemctl start Nagios

systemctl status nagios

```
root@ip-172-31-89-214:~/nagios-plugins-2.1.2# systemctl enable /etc/systemd/system/nagios.service
Created symlink from /etc/systemd/system/multi-user.target.wants/nagios.service to /etc/systemd/system/nagios.service.
root@ip-172-31-89-214:~/nagios-plugins-2.1.2#  systemctl start nagios
root@ip-172-31-89-214:~/nagios-plugins-2.1.2# systemctl status nagios
● nagios.service - Nagios
   Loaded: loaded (/etc/systemd/system/nagios.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2018-09-29 08:59:11 UTC; 10s ago
 Main PID: 6971 (nagios)
    Tasks: 6
   Memory: 1.5M
      CPU: 10ms
   CGroup: /system.slice/nagios.service
           ├─6971 /usr/local/nagios/bin/nagios /usr/local/nagios/etc/nagios.cfg
           ├─6973 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
           ├─6974 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
           ├─6975 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
           ├─6976 /usr/local/nagios/bin/nagios --worker /usr/local/nagios/var/rw/nagios.qh
           └─6978 /usr/local/nagios/bin/nagios /usr/local/nagios/etc/nagios.cfg

Sep 29 08:59:11 ip-172-31-89-214 nagios[6971]: wproc: Registry request: name=Core Worker 6975;pid=6975
Sep 29 08:59:11 ip-172-31-89-214 nagios[6971]: wproc: Registry request: name=Core Worker 6975;pid=6975
Sep 29 08:59:11 ip-172-31-89-214 nagios[6971]: wproc: Registry request: name=Core Worker 6976;pid=6976
Sep 29 08:59:11 ip-172-31-89-214 nagios[6971]: wproc: Registry request: name=Core Worker 6976;pid=6976
Sep 29 08:59:11 ip-172-31-89-214 nagios[6971]: wproc: Registry request: name=Core Worker 6974;pid=6974
Sep 29 08:59:11 ip-172-31-89-214 nagios[6971]: wproc: Registry request: name=Core Worker 6974;pid=6974
Sep 29 08:59:11 ip-172-31-89-214 nagios[6971]: wproc: Registry request: name=Core Worker 6973;pid=6973
Sep 29 08:59:11 ip-172-31-89-214 nagios[6971]: wproc: Registry request: name=Core Worker 6973;pid=6973
Sep 29 08:59:11 ip-172-31-89-214 nagios[6971]: Successfully launched command file worker with pid 6978
Sep 29 08:59:11 ip-172-31-89-214 nagios[6971]: Successfully launched command file worker with pid 6978
```

cd /etc/init.d/

cp /etc/init.d/skeleton /etc/init.d/Nagios

```
root@ip-172-31-89-214:~/nagios-plugins-2.1.2# cd /etc/init.d/
root@ip-172-31-89-214:/etc/init.d# cp /etc/init.d/skeleton /etc/init.d/Nagios
root@ip-172-31-89-214:/etc/init.d# nano /etc/init.d/Nagios
```

Step 12. Edit the Nagios file:

nano /etc/init.d/Nagios

and add the following code:

```
 GNU nano 2.5.3                                    File: /etc/init.d/Nagios

#!/bin/sh
# kFreeBSD do not accept scripts as interpreters, using #!/bin/sh and sourcing.
if [ true != "$INIT_D_SCRIPT_SOURCED" ] ; then
    set "$0" "$@"; INIT_D_SCRIPT_SOURCED=true . /lib/init/init-d-script
fi
### BEGIN INIT INFO
# Provides:          skeleton
# Required-Start:    $remote_fs $syslog
# Required-Stop:     $remote_fs $syslog
# Default-Start:     2 3 4 5
# Default-Stop:      0 1 6
# Short-Description: Example initscript
# Description:       This file should be used to construct scripts to be
#                    placed in /etc/init.d.  This example start a
#                    single forking daemon capable of writing a pid
#                    file.  To get other behavoirs, implemend
#                    do_start(), do_stop() or other functions to
#                    override the defaults in /lib/init/init-d-script.
### END INIT INFO

# Author: Foo Bar <foobar@baz.org>
#
# Please remove the "Author" lines above and replace them
# with your own name if you copy and modify this script.

DESC="Nagios" N
AME=nagios
DAEMON=/usr/local/nagios/bin/nagios
DAEMON_ARGS="-d /usr/local/nagios/etc/nagios.cfg"
```

DESC="Nagios" N

AME=nagios

DAEMON=/usr/local/nagios/bin/nagios

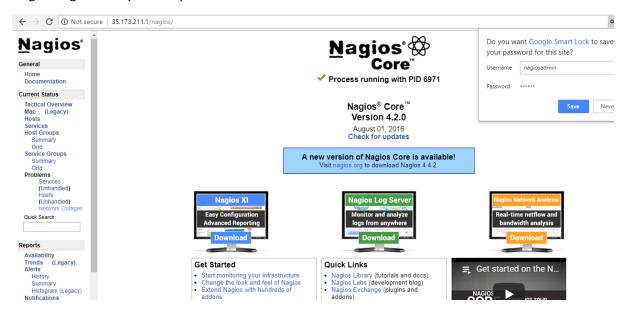DAEMON_ARGS="-d /usr/local/nagios/etc/nagios.cfg"

Save it and start your Nagios:

```
root@ip-172-31-89-214:/etc/init.d# systemctl start nagios
root@ip-172-31-89-214:/etc/init.d# systemctl status nagios
● nagios.service - Nagios
   Loaded: loaded (/etc/systemd/system/nagios.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2018-09-29 08:59:11 UTC; 5min ago
 Main PID: 6971 (nagios)
    Tasks: 6
   Memory: 1.6M
```

Testing the Nagios Server:

Step 13. Please open your browser and access the Nagios server ip,

http://<public_ip_of_instance>/nagios

Nagios Login with apache htpasswd.

Step 14. Please make sure you have enable the following security ports in your AWS instance.

Type	Protocol	Port Range	Source	
SSH	TCP	22	Anywhere	0.0.0.0/0, ::/0
HTTP	TCP	80	Anywhere	0.0.0.0/0, ::/0
All TCP	TCP	0 - 65535	Anywhere	0.0.0.0/0, ::/0
All UDP	UDP	0 - 65535	Anywhere	0.0.0.0/0, ::/0
HTTPS	TCP	443	Anywhere	0.0.0.0/0, ::/0

Add Rule