# **How to Install Nagios in CentOS-8**

Nagios is an **open\_source** software for continuous Monitoring of System,network and infrastructure. It runs plugins stored on a server which is connected with a host or another server on your network or the internet.

In case of nay failure, Nagios alert about the issue so that the technical team can perform recovery process immediately.

## **STEP:-(1.)** Install Required dependencies

First of all, I need to install **Apache, PHP** and some libraries like **gcc, glibc, glibc-common** and **GD libraries** and its development libraries before installing **Nagios** with the source. And to do so, I can use **yum package** installer.

```
[root@Nagios_Master ~]# yum install -y httpd httpd-tools php gcc glibc glibc-common gd gd-devel make net-snmp
Last metadata expiration check: 2:41:36 ago on Thursday 20 January 2022 11:27:13 AM IST.
Package glibc-2.28-164.el8.x86_64 is already installed.
Package glibc-common-2.28-164.el8.x86_64 is already installed. -
Package gd-2.2.5-7.el8.x86 64 is already installed.
Dependencies resolved.
 Package
                                                      Architecture
                                                                                    Version
Installing:
                                                      x86 64
                                                                                    8.5.0-4.el8 5
 gd-devel
                                                      x86 64
                                                                                    2.2.5-7.el8
                                                                                    2.4.37-43.module el8.5.0+1022+b541f3b1
 httpd
                                                      x86 64
 httpd-tools
                                                      x86 64
                                                                                    2.4.37-43.module el8.5.0+1022+b541f3b1
                                                      x86 64
                                                                                    1:4.2.1-10.el8
 net-snmp
                                                      x86 64
                                                                                    1:5.8-22.el8
                                                      x86 64
                                                                                    7.2.24-1.module el8.2.0+313+b04d0a66
 Installing dependencies:
                                                      x86 64
                                                                                    1.6.3-12.el8
 apr
 apr-util
                                                      x86 64
                                                                                    1.6.1-6.el8
 bzip2-devel
                                                      x86 64
                                                                                    1.0.6-26.el8
 centos-logos-httpd
                                                      noarch
                                                                                    85.8-2.el8
```

# STEP:-(2.) Create Nagios User and Group

Here i create new nagios user with help of **useradd** command and also **nagcmd** group account and set a password, Here **nagcmd group** is used to allow external commands to be presented through the web interface.

After that, add both **nagios user** and **apache user** to the nagcmd group using usermod command.

```
[root@Nagios_Master ~]# useradd nagios
[root@Nagios_Master ~]# groupadd nagcmd
[root@Nagios_Master ~]#
[root@Nagios_Master ~]#
[root@Nagios_Master ~]# usermod -G nagcmd nagios
[root@Nagios_Master ~]#
[root@Nagios_Master ~]#
[root@Nagios_Master ~]# usermod -G nagcmd apache
[root@Nagios_Master ~]#
```

## STEP:-(3.) Download Nagios Core and also Nagios Plugin

Here i download Nagios core 4.4.5 and Nagios Plugin package with help of **wget Command**. Before download Nagios i create a new directory for Nagios installtion run following command.

[root@Nagios\_Master ~]# mkdir /root/nagios

[root@Nagios\_Master ~]# cd /root/nagios

[root@Nagios\_Master nagios]# wget https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.4.5.tar.gz

In the same way, i am also download Nagios plugin run following commands given below-

[root@Nagios\_Master nagios]# wget https://nagios-plugins.org/download/nagios-plugins-2.2.1.tar.gz

## STEP:-(4.) Extract Nagios Core and also Nagios plugins

Here, I need to both Extract downloded Packages with **tar command** run following command given below.

[root@Nagios\_Master nagios]# tar -xvf nagios-4.4.5.tar.gz (xvf meaning - x = extract, V =verbose and F = forecefully)

```
[root@Nagios_Master nagios]# tar -xvf nagios-4.4.5.tar.gz
nagios-4.4.5/
nagios-4.4.5/.gitignore
nagios-4.4.5/.travis.yml
nagios-4.4.5/CONTRIBUTING.md
nagios-4.4.5/Changelog
nagios-4.4.5/INSTALLING
nagios-4.4.5/LEGAL
nagios-4.4.5/Makefile.in
```

In the same way another file...

```
[root@Nagios_Master nagios]# tar -xvf nagios-plugins-2.2.1.tar.gz
nagios-plugins-2.2.1/
nagios-plugins-2.2.1/perlmods/
nagios-plugins-2.2.1/perlmods/Config-Tiny-2.14.tar.gz
nagios-plugins-2.2.1/perlmods/parent-0.226.tar.gz
nagios-plugins-2.2.1/perlmods/Test-Simple-0.98.tar.gz
nagios-plugins-2.2.1/perlmods/Makefile.in
nagios-plugins-2.2.1/perlmods/version-0.9903.tar.gz
nagios-plugins-2.2.1/perlmods/Makefile.am
nagios-plugins-2.2.1/perlmods/Module-Runtime-0.013.tar.gz
nagios-plugins-2.2.1/perlmods/Module-Metadata-1.000014.tar.gz
```

When you extract both file then you can also check two directory is create under nagios directory run **ls -l** command below.

### STEP:-(5) Configure for Nagios Core

Now, first i will configure **Nagios core** and to do so i need to go on nagios directory and run configure file.

```
[root@Nagios Master nagios]# cd nagios-4.4.5/
[root@Nagios Master nagios-4.4.5]#
[root@Nagios Master nagios-4.4.5]# ./configure --with-command-group=nagcmd
checking for a BSD-compatible install... /usr/bin/install -c
checking build system type... x86 64-pc-linux-gnu
checking host system type... x86 64-pc-linux-gnu
checking for gcc... gcc
checking whether the C compiler works... yes
checking for C compiler default output file name... a.out
checking for suffix of executables...
checking whether we are cross compiling... no
checking for suffix of object files... o
checking whether we are using the GNU C compiler... yes
checking whether gcc accepts -g... yes
checking for gcc option to accept ISO C89... none needed
checking whether make sets $(MAKE)... yes
checking whether ln -s works... yes
```

#### [root@Nagios\_Master nagios-4.4.5]# ./configure --with-command-group=nagcmd

When you follow above command to configure and also if everything goes fine then you will have output sample output as you cann see given below-

#### **Sample Config Output**

```
Creating sample config files in sample-config/ ...
*** Configuration summary for nagios 4.4.5 2019-08-20 ***:
General Options:
       Nagios executable: nagios
       Nagios user/group: nagios, nagios
      Command user/group: nagios,nagcmd
            Event Broker: yes
       Install ${prefix}: /usr/local/nagios
   Install ${includedir}: /usr/local/nagios/include/nagios
               Lock file: /run/nagios.lock
  Check result directory: /usr/local/nagios/var/spool/checkresults
          Init directory: /lib/systemd/system
 Apache conf.d directory: /etc/httpd/conf.d
            Mail program:
                           /bin/mail
                 Host OS: linux-gnu
         IOBroker Method: epoll
Web Interface Options:
                           http://localhost/nagios/
                HTML URL:
                 CGI URL:
                           http://localhost/nagios/cgi-bin/
Traceroute (used by WAP):
Review the options above for accuracy. If they look okay,
type 'make all' to compile the main program and CGIs.
```

After that, all configuring, I need to **compile and install** all the binaries with **make all** and **make** install command, it will install all the necessary **libraries** in your Virtual Machine. [root@Nagios\_Master nagios-4.4.5]# **make all** 

After that you have output as you can see given below-

```
*** Compile finished ***

If the main program and CGIs compiled without any errors, you can continue with testing or installing Nagios as follows (type 'make' without any arguments for a list of all possible options):

make test
- This runs the test suite

make install
- This installs the main program, CGIs, and HTML files

make install-init
- This installs the init script in /lib/systemd/system

make install-daemoninit
- This will initialize the init script in /lib/systemd/system

make install-groups-users
- This adds the users and groups if they do not exist

make install-commandmode
- This installs and configures permissions on the directory for holding the external command file

make install-config
```

#### [root@Nagios\_Master nagios-4.4.5]# make install

#### Sample Output:-

```
*** Main program, CGIs and HTML files installed ***
You can continue with installing Nagios as follows (type 'make'
without any arguments for a list of all possible options):

make install-init
   - This installs the init script in /lib/systemd/system

make install-commandmode
   - This installs and configures permissions on the
        directory for holding the external command file

make install-config
   - This installs sample config files in /usr/local/nagios/etc

make[1]: Leaving directory '/root/nagios/nagios-4.4.5'
```

The following command will install the init scripts for Nagios.

```
[root@Nagios_Master nagios-4.4.5]# make install-init
/usr/bin/install -c -m 755 -d -o root -g root /lib/systemd/system
/usr/bin/install -c -m 755 -o root -g root /lib/systemd/system
/usr/bin/install -c -m 755 -o root -g root startup/default-service /lib/systemd/system/nagios.service
[root@Nagios_Master nagios-4.4.5]#
[root@Nagios_Master nagios-4.4.5]# 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 ***
```

Another command to make Nagios work from home command line run command given below-

```
[root@Nagios_Master nagios-4.4.5]# 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@Nagios Master nagios-4.4.5]#
```

Next step,i install sample Nagios files, so that i run the following command.

[root@Nagios\_Master nagios-4.4.5]# make install-config

```
root@Nagios_Master nagios-4.4.5]# make install-config

rusr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/etc

rusr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/etc/objects

rusr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/nagios.cfg /usr/local/nagios/etc/cgi.cfg

rusr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/resource.cfg /usr/local/nagios/etc/resource.cfg

rusr/bin/install -c -b -m 660 -o nagios -g nagios sample-config/resource.cfg /usr/local/nagios/etc/objects/templates.cfg

rusr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/commands.cfg /usr/local/nagios/etc/objects/commands.cfg

rusr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/contacts.cfg /usr/local/nagios/etc/objects/commands.cfg

rusr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/contacts.cfg /usr/local/nagios/etc/objects/contacts.cfg

rusr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/timeperiods.cfg /usr/local/nagios/etc/objects/localhost.cfg

rusr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/localhost.cfg /usr/local/nagios/etc/objects/localhost.cfg

rusr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/rusr/local/nagios/etc/objects/rusr/local/nagios/etc/objects/rusr/local/nagios/etc/objects/rusr/local/nagios/etc/objects/rusr/local/nagios/etc/objects/rusr/local/nagios/etc/objects/rusr/local/nagios/etc/objects/rusr/local/rusr/local/nagios/etc/objects/rusr/local/rusr/local/nagios/etc/objects/rusr/local/rusr/local/rusr/local/nagios/etc/objects/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/local/rusr/lo
```

### STEP:-(6.) Customising Nagios Configuration

Open the "contacts.cfg" file with **Vim** of editor and set the **email address** associated with the **nagiosadmin** contact definition to receiving email alerts and updated.

[root@Nagios\_Master nagios-4.4.5]# vim /usr/local/nagios/etc/objects/contacts.cfg

```
ONTACTS.CFG - SAMPLE CONTACT/CONTACTGROUP DEFINITIONS
 NOTES: This config file provides you with some example contact and contact
     You don't need to keep these definitions in a separate file from your
     easier to understand.
.
                                                    User Name
CONTACTS
define contact {
                nagiosadmin
  contact name
                generic-contact
                             ; Full name of user
***** CHANGE THIS TO YOUR EMAIL ADDRESS *****
                nagios@localhost
 email
ocal/nagios/etc/objects/contacts.cfg" 51L, 1797C
```

## STEP:-(7.)Install and Configure Web Interface for Nagios.

Now done with all configuration in the backed,i will configure Web Interface For Nagios with the following command.

The below command will Configure Web interface for Nagios and a web admin user will be created "nagiosadmin".

[root@Nagios\_Master nagios-4.4.5]# make install-webconf

In this step, we will be creating a password for **"nagiosadmin"**. After executing this command, and also set password here.

```
[root@Nagios_Master nagios-4.4.5]# htpasswd -s -c /usr/local/nagios/etc/htpasswd.users nagiosadmin
New password:
Re-type new password:
Adding password for user nagiosadmin
```

After that Restart Apache to make any chnages and take effect...

[root@Nagios\_Master nagios-4.4.5]# systemctl start httpd.service

### STEP:-(8.) Compile and Install Nagios Plugin

We have downloaded Nagios plugins in /**root/nagios**, Go there and configure and install it as directed below.

- (A.) [root@Nagios\_Master nagios-4.4.5]# cd /root/nagios
- (B.) [root@Nagios\_Master nagios]# cd nagios-plugins-2.2.1/
- (C.) [root@Nagios\_Master nagios-plugins-2.2.1]# ./configure --with-nagios-user=nagios -with-nagios-group=nagios

```
[root@Nagios_Master nagios-4.4.5]# cd /root/nagios
[root@Nagios_Master nagios]#
[root@Nagios_Master nagios]# cd nagios-plugins-2.2.1/
[root@Nagios_Master nagios-plugins-2.2.1]# ./configure --with-nagios-user=nagios --with-nagios-group=nagios checking for a BSD-compatible install... /usr/bin/install -c
checking whether build environment is sane... yes
checking for a thread-safe mkdir -p... /usr/bin/mkdir -p
checking for gawk... gawk...
```

- (D) [root@Nagios\_Master nagios-plugins-2.2.1]# make
- (E) [root@Nagios\_Master nagios-plugins-2.2.1]# make install

```
[root@Nagios_Master nagios-plugins-2.2.1]# make
make all-recursive
make[1]: Entering directory '/root/nagios/nagios-plugins-2.2.1'
Making all in gl
make[2]: Entering directory '/root/nagios/nagios-plugins-2.2.1/gl'
rm -f alloca.h-t alloca.h && \
{ echo '/* DO NOT EDIT! GENERATED AUTOMATICALLY! */'; \
    cat ./alloca.in.h; \
```

## STEP:-(9.) Verify Nagios Configuration Files

Now we are all done with Nagios configuration and it is time to verify it and to do so please insert following command. If everything goes smooth it will show up similar to below output.

```
Nagios Core 4.4.5
Copyright (c) 2009-present Nagios Core Development Team and Community Contributors
Copyright (c) 1999-2009 Ethan Galstad
ast Modified: 2019-08-20
icense: GPL
Website: https://www.nagios.org
Reading configuration data...
  Read main config file okay...
  Read object config files okay...
Running pre-flight check on configuration data...
Checking objects...
       Checked 8 services.
       Checked 1 hosts.
       Checked 1 host groups.
       Checked 0 service groups.
       Checked 1 contacts.
       Checked 1 contact groups.
       Checked 24 commands.
       Checked 5 time periods.
```

## Add Nagios Services to System Startup

To make **Nagios** work across reboots, we need to enable **nagios** and **httpd** with systemctl command.

Also **restart Nagios** to make the new settings take effect.

# **Login to the Nagios Web interface**

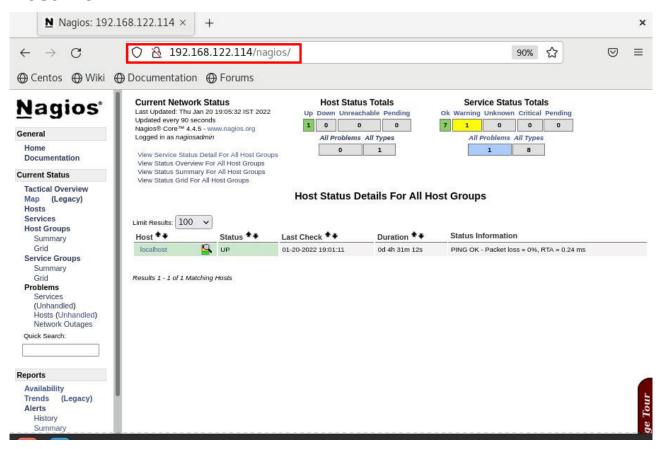
Our Nagios is ready to work. Let's go our browser hit server IP address in my caes my ip address is **192.168.122.114/nagios/** and Provide the **Username** that is **"nagiosadmin"** and **Password.** 

We can see given below-

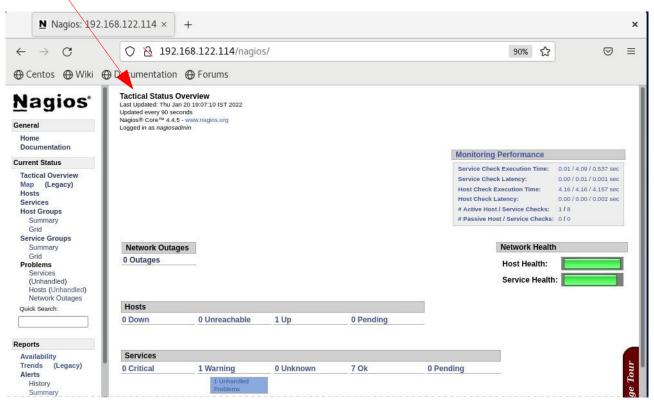
#### **Dashboard**



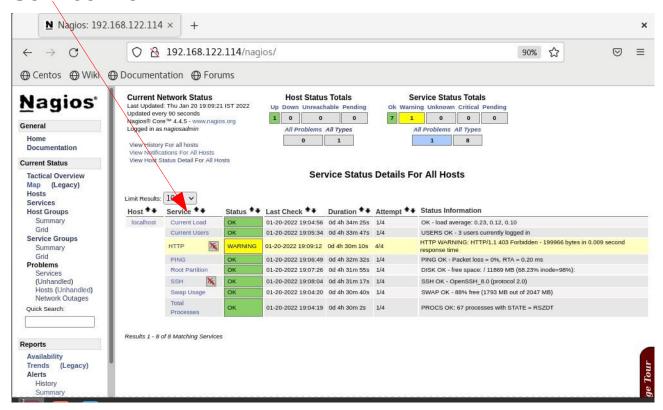
#### **Host View**



# **Nagios Overview**



# **Service View**



## **Process View**

