



420-SOR-TT

Surveillance et optimisation des réseaux

Surveiller une machine Linux avec Nagios

Été-2024

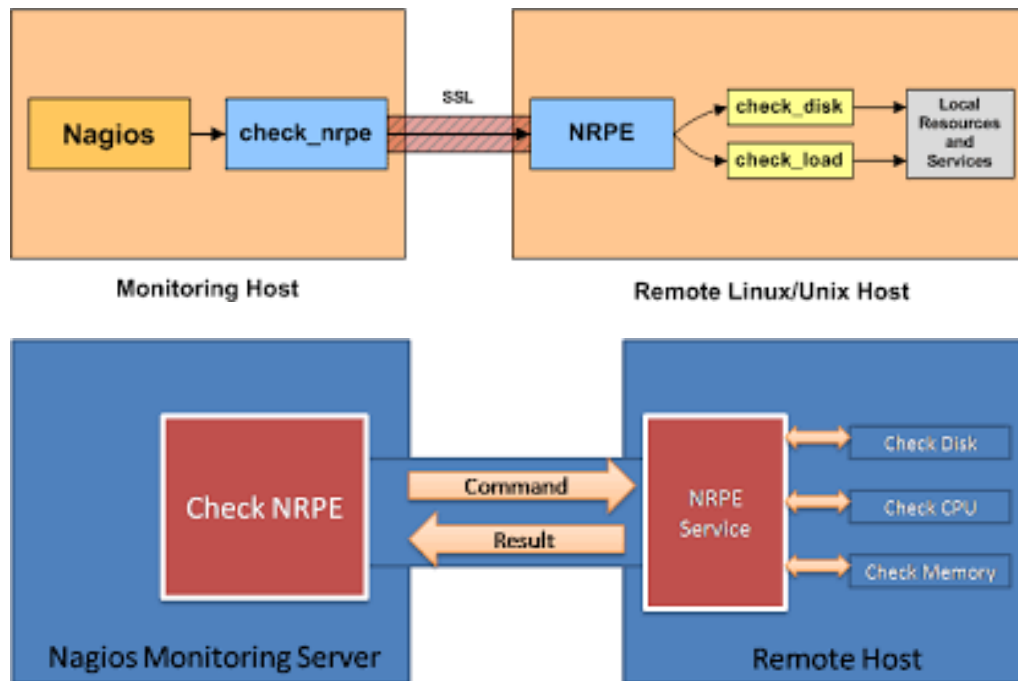
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1 Ajouter une machine Linux à Nagios

Dans ce module, on va ajouter un **hôte Alma Linux à Nagios**.

Pour surveiller un hôte Linux, on doit installer l'agent Nagios NRPE sur l'hôte Linux. NRPE est l'abréviation de **Nagios Remote Plugin Executor**. Ce plugin nous permettra de surveiller les hôtes Linux.



- L'adresse IP du nœud (hôte Linux) est 192.168.99.101
- L'adresse IP du serveur Nagios est 192.168.99.100

2 Configurer le nœud à monitorer (hôte Linux)

- 1) Faire les mises à jour de l'hôte Linux.

```
[root@localhost ~]# dnf -y update
```

- 2) Installer le paquetage lsb-release.

```
[root@localhost ~]# dnf -y install lsb-release
```

- 3) Télécharger l'agent NRPE.

```
[root@localhost ~]# curl https://assets.nagios.com/downloads/nagiosxi/agents/linux-nrpe-agent.tar.gz --output linux-nrpe-agent.tar.gz
```

% Total	% Received	% Xferd	Average Speed	Time	Time	Time	Current
			Dload Upload	Total	Spent	Left	Speed
100	3504k	100	3504k	0	0	3898k	0
--:--:--	--:--:--	--:--:--	--:--:--	--:--:--	--:--:--	--:--:--	3893k

- 4) Extraire le fichier tar.

```
[root@localhost ~]# tar xzvf linux-nrpe-agent.tar.gz
```

- 5) Se déplacer dans le répertoire de NRPE.

```
[root@localhost ~]# cd linux-nrpe-agent
```

- 6) Modifier le script get-os-info.

```
[root@localhost linux-nrpe-agent]# nano get-os-info

if which lsb_release &>/dev/null; then
    distro=`lsb_release -si`
    distro=RedHatEnterpriseServer
    version=`lsb_release -sr`
```

7) Exécuter le script fullinstall.

```
[root@localhost linux-nrpe-agent]# ./fullinstall
...

### separated by SPACES only, and then press Enter.      ###
### (Put the address(es) of your Nagios XI servers(s) here.) ###
###                                                     ###
#####                                                     #####

Allow from: 192.168.99.100
Subcomponents installed OK
RESULT=0
#####
###                                                     ###
### Nagios XI Linux Agent Installation Complete!         ###
###                                                     ###
#####

If you experience any problems, please attach the file install.log that was
just created to any support requests.

NOTICE:
Your firewall configuration was skipped
You need to manually open ports 5666 for TCP traffic
```

8) Valider le paramètre allowed_hosts :

```
[root@localhost ~]# grep allowed_hosts /usr/local/nagios/etc/nrpe.cfg
allowed_hosts=127.0.0.1,192.168.99.100
```

9) Vérifier que l'agent Nagios NRPE est activé.

```
[root@localhost linux-nrpe-agent]# systemctl status
nrpe.service
● nrpe.service - Nagios Remote Plugin Executor
   Loaded: loaded (/usr/lib/systemd/system/nrpe.service; enabled; prese>
   Active: active (running) since Tue 2024-06-11 12:50:58 EDT; 2min 10s>
     Docs: http://www.nagios.org/documentation
   Main PID: 38152 (nrpe)
    Tasks: 1 (limit: 10899)
   Memory: 1.0M
      CPU: 8ms
   CGroup: /system.slice/nrpe.service
           └─38152 /usr/local/nagios/bin/nrpe -c /usr/local/nagios/etc/>
```

10) Autoriser le port 5666 sur l'hôte Linux. Ce port est utilisé par le plugin NRPE (si le pare-feu est activé).

```
[root@localhost ~]# firewall-cmd --permanent --add-
port=5666/tcp
```

```
[root@localhost ~]# firewall-cmd --reload
```

3 Configurer Nagios pour monitorer le nœud (hôte Linux)

Après avoir installé avec succès les plugins NRPE sur l'hôte Linux distant. On doit à présent configurer le service Nagios pour monitorer l'hôte Linux.

- 1) Installer le paquetage lsb-release.

```
[root@Nagios ~]# dnf -y install lsb-release
```

- 2) Télécharger l'agent NRPE.

```
[root@Nagios ~]# curl https://assets.nagios.com/downloads/nagiosxi/agents/linux-nrpe-agent.tar.gz --output linux-nrpe-agent.tar.gz
```

% Total	% Received	% Xferd	Average Speed	Time	Time	Time	Current
			Dload Upload	Total	Spent	Left	Speed
0	0	0	0	0	---	---	0
0	0	0	0	---	---	---	0
4765k	0	---	---	---	100	3526k	100 3526k
		---	---	---			0 0 0
		---	---	---			0 0

- 3) Extraire le fichier tar.

```
[root@Nagios ~]# tar xzvf linux-nrpe-agent.tar.gz
```

- 4) Se déplacer dans le répertoire de NRPE.

```
[root@Nagios ~]# cd linux-nrpe-agent
```

- 5) Modifier le script get-os-info.

```
[root@Nagios linux-nrpe-agent]# nano get-os-info

if which lsb_release &>/dev/null; then
    distro=`lsb_release -si`
    distro=RedHatEnterpriseServer
    version=`lsb_release -sr`
```

6) Exécuter le script fullinstall.

```
[root@Nagios linux-nrpe-agent]# ./fullinstall

...
#####
###
### NRPE is currently set to allow connections only from ###
### these IP addresses: ###
###
### 127.0.0.1 ###
### ::1 ###
###
### If you would like to change this list, enter all IP ###
### addresses to allow, separated by SPACES only, ###
### and then press Enter. ###
### (Put the address(es) of your Nagios XI servers(s) here.)###
###
#####

Allow from:
Subcomponents installed OK
RESULT=0

#####
###
### Nagios XI Linux Agent Installation Complete! ###
###
#####

If you experience any problems, please attach the file install.log that was
just created to any support requests.
```

7) Valider le paramètre allowed_hosts :

```
[root@Nagios ~]# grep allowed_hosts /usr/local/nagios/etc/nrpe.cfg

allowed_hosts=127.0.0.1
```

8) Faire un test de fonctionnement du plugin NRPE avec l'hôte Linux (192.168.99.101).

```
[root@Nagios ~]# /usr/local/nagios/libexec/check_nrpe -H
192.168.99.101

NRPE v4.1.0
```

9) Faire un test de fonctionnement du plugin check_procs avec NRPE.

Exemple1

- $\text{nb_procs} \leq 250$ ▶ OK
- $250 < \text{nb_procs} \leq 300$ ▶ WARNING
- $\text{nb_procs} > 300$ ▶ CRITICAL

```
[root@Nagios ~]# /usr/local/nagios/libexec/check_nrpe -H 192.168.99.101 -c check_procs -a '250 300'
PROCS OK: 207 processes | procs=207;250;300;0;
```

Exemple2

- $\text{nb_procs} \leq 207$ ▶ OK
- $207 < \text{nb_procs} \leq 300$ ▶ WARNING
- $\text{nb_procs} > 300$ ▶ CRITICAL

```
[root@Nagios ~]# /usr/local/nagios/libexec/check_nrpe -H 192.168.99.101 -c check_procs -a '207 300'
PROCS OK: 207 processes | procs=207;207;300;0;
```

Exemple3

- $\text{nb_procs} \leq 208$ ▶ OK
- $208 < \text{nb_procs} \leq 300$ ▶ WARNING
- $\text{nb_procs} > 300$ ▶ CRITICAL

```
[root@Nagios ~]# /usr/local/nagios/libexec/check_nrpe -H 192.168.99.101 -c check_procs -a '208 300'
PROCS OK: 207 processes | procs=207;208;300;0;
```

Exemple4

- $\text{nb_procs} \leq 206$ ▶ OK
- $206 < \text{nb_procs} \leq 300$ ▶ WARNING
- $\text{nb_procs} > 300$ ▶ CRITICAL

```
[root@Nagios ~]# /usr/local/nagios/libexec/check_nrpe -H 192.168.99.101 -c check_procs -a '206 300'
PROCS WARNING: 207 processes | procs=207;206;300;0;
```


Exemple5

- $\text{nb_procs} \leq 100$ ▶ OK
- $100 < \text{nb_procs} \leq 207$ ▶ WARNING
- $\text{nb_procs} > 207$ ▶ CRITICAL

```
[root@Nagios ~]# /usr/local/nagios/libexec/check_nrpe -H  
192.168.99.101 -c check_procs -a '100 207'  
PROCS WARNING: 207 processes | procs=207;100;207;0;
```

Exemple6

- $\text{nb_procs} \leq 100$ ▶ OK
- $100 < \text{nb_procs} \leq 206$ ▶ WARNING
- $\text{nb_procs} > 206$ ▶ CRITICAL

```
[root@Nagios ~]# /usr/local/nagios/libexec/check_nrpe -H  
192.168.99.101 -c check_procs -a '100 206'  
PROCS CRITICAL: 207 processes | procs=207;100;206;0;
```

10) Faire un test de fonctionnement du plugin check_load avec NRPE.

```
[root@Nagios ~]# /usr/local/nagios/libexec/check_nrpe -H  
192.168.99.101 -c check_load -a "-w 0.40,1,1 -c 2,2,2"  
OK - load average: 0.33, 0.16, 0.05|load1=0.330;0.400;2.000;0;  
load5=0.160;1.000;2.000;0; load15=0.050;1.000;2.000;0;
```

```
[root@Nagios ~]# /usr/local/nagios/libexec/check_nrpe -H  
192.168.99.101 -c check_load -a "-w 0.15,1,1 -c 2,2,2"  
WARNING - load average: 0.17, 0.08, 0.02|load1=0.170;0.150;2.000;0;  
load5=0.080;1.000;2.000;0; load15=0.020;1.000;2.000;0;
```

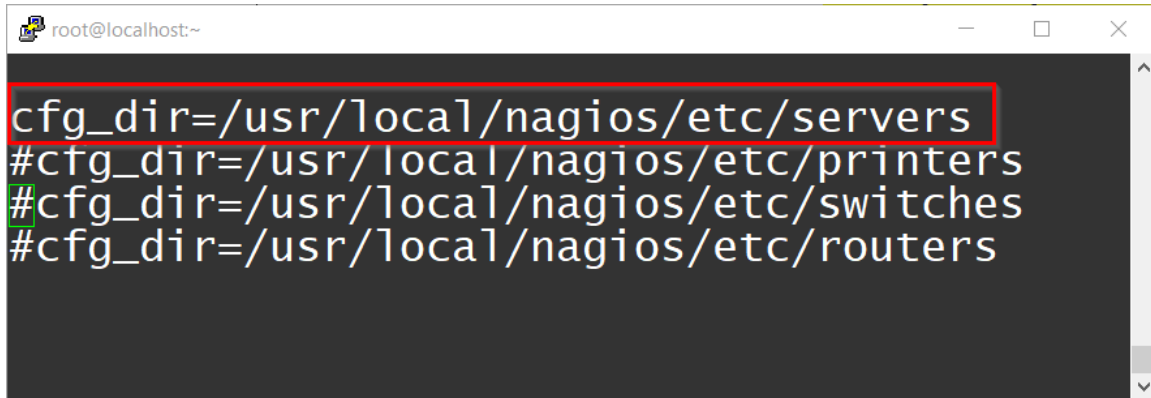
```
[root@Nagios ~]# /usr/local/nagios/libexec/check_nrpe -H  
192.168.99.101 -c check_load -a "-w 0.20,1,1 -c 0.40,2,2"  
CRITICAL - load average: 0.45, 0.24, 0.09|load1=0.450;0.200;0.400;0;  
load5=0.240;1.000;2.000;0; load15=0.090;1.000;2.000;0;
```

11) Faire un test de fonctionnement du plugin check_users avec NRPE.

```
[root@Nagios ~]# /usr/local/nagios/libexec/check_nrpe -H  
192.168.99.101 -c check_users -a "2 4"  
USERS OK - 0 users currently logged in |users=0;2;4;0
```

- 12) Éditer le fichier de configuration de Nagios `/usr/local/nagios/etc/nagios.cfg` et supprimer le caractère `#`

```
[root@Nagios ~]# nano /usr/local/nagios/etc/nagios.cfg
```



```
root@localhost:~  
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
```

- 13) Créer un répertoire pour les fichiers de configuration des hôtes.

```
[root@Nagios ~]# mkdir /usr/local/nagios/etc/servers
```

14)Créer un fichier de configuration pour l'hôte Linux.

```
[root@ Nagios ~]# nano /usr/local/nagios/etc/servers/alma-host.cfg
```

Voici un exemple de configuration pour surveiller le nombre total de processus :

- **Warning** si le nombre de processus est supérieur ou égal à 300
- **Critical** si le nombre de processus est supérieur ou égal à 600

Seuil	300	600
Alerte	Avertissement (Warning)	Critique (Critical)

```
define host{
    use          linux-server
    host_name    alma-host
    alias        Serveur Linux Alma
    address      192.168.99.101
}

define hostgroup{
    hostgroup_name linux-server
    alias          Linux Servers
    members        alma-host
}

define service{
    use local-service
    host_name          alma-host
    service_description Processus Total
    check_command       check_nrpe!check_procs!'-w 300 -c 600'
}

define command{
    command_name    check_nrpe
    command_line    $USER1$/check_nrpe -H $HOSTADDRESS$ -c $ARG1$ -
a $ARG2$
}
```

15)Vérifier la configuration de Nagios.

```
[root@Nagios ~]# /usr/local/nagios/bin/nagios -v
/usr/local/nagios/etc/nagios.cfg

Nagios Core 4.5.2
Copyright (c) 2009-present Nagios Core Development Team and Community
Contributors
Copyright (c) 1999-2009 Ethan Galstad
Last Modified: 2024-04-30
License: 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 9 services.
  Checked 2 hosts.
  Checked 2 host groups.
  Checked 0 service groups.
  Checked 1 contacts.
  Checked 1 contact groups.
  Checked 25 commands.
  Checked 5 time periods.
  Checked 0 host escalations.
  Checked 0 service escalations.
Checking for circular paths...
  Checked 2 hosts
  Checked 0 service dependencies
  Checked 0 host dependencies
  Checked 5 timeperiods
Checking global event handlers...
Checking obsessive compulsive processor commands...
Checking misc settings...

Total Warnings: 0
Total Errors: 0

Things look okay - No serious problems were detected during the pre-
flight check
```

16) Redémarrer le service Nagios.

```
[root@Nagios ~]# systemctl restart nagios
```

17) Autoriser le port 5666 sur le pare-feu du serveur Nagios. Ce port est utilisé par le plugin NRPE. (si le pare-feu est activé)

```
[root@Nagios ~]# firewall-cmd --permanent --add-port=5666/tcp
```

```
[root@Nagios ~]# firewall-cmd --reload
```

18) Vérifier le log du service Nagios.

```
[root@Nagios ~]# tail -f /usr/local/nagios/var/nagios.log

[1717640567] qh: Socket '/usr/local/nagios/var/rw/nagios.qh' successfully initialized
[1717640567] qh: core query handler registered
[1717640567] qh: echo service query handler registered
[1717640567] qh: help for the query handler registered
[1717640567] wproc: Successfully registered manager as @wproc with query handler
[1717640567] wproc: Registry request: name=Core Worker 29570;pid=29570
[1717640567] wproc: Registry request: name=Core Worker 29573;pid=29573
[1717640567] wproc: Registry request: name=Core Worker 29572;pid=29572
[1717640567] wproc: Registry request: name=Core Worker 29571;pid=29571
[1717640567] Successfully launched command file worker with pid 29574
```

19) Vérifier le log avec journalctl.

```
[root@Nagios ~]# journalctl -u nagios

Jun 11 17:57:05 localhost systemd[1]: Starting Nagios Core 4.5.2...
Jun 11 17:57:05 localhost nagios[799]: Nagios Core 4.5.2
Jun 11 17:57:05 localhost nagios[799]: Copyright (c) 2009-present Nagios Core Development Tea>
Jun 11 17:57:05 localhost nagios[799]: Copyright (c) 1999-2009 Ethan Galstad
Jun 11 17:57:05 localhost nagios[799]: Last Modified: 2024-04-30
Jun 11 17:57:05 localhost nagios[799]: License: GPL
Jun 11 17:57:05 localhost nagios[799]: Website: https://www.nagios.org
Jun 11 17:57:05 localhost nagios[799]: Reading configuration data...
Jun 11 17:57:05 localhost nagios[799]:   Read main config file okay...
Jun 11 17:57:05 localhost nagios[799]:   Read object config files okay...
Jun 11 17:57:05 localhost nagios[799]: Running pre-flight check on configuration data...
Jun 11 17:57:05 localhost nagios[799]: Checking objects...
Jun 11 17:57:05 localhost nagios[799]:   Checked 8 services.
Jun 11 17:57:05 localhost nagios[799]:   Checked 1 hosts.
Jun 11 17:57:05 localhost nagios[799]:   Checked 1 host groups.
Jun 11 17:57:05 localhost nagios[799]:   Checked 0 service groups.
Jun 11 17:57:05 localhost nagios[799]:   Checked 1 contacts.
Jun 11 17:57:05 localhost nagios[799]:   Checked 1 contact groups.
Jun 11 17:57:05 localhost nagios[799]:   Checked 24 commands.
Jun 11 17:57:05 localhost nagios[799]:   Checked 5 time periods.
Jun 11 17:57:05 localhost nagios[799]:   Checked 0 host escalations.
Jun 11 17:57:05 localhost nagios[799]:   Checked 0 service escalations.
Jun 11 17:57:05 localhost nagios[799]: Checking for circular paths...
Jun 11 17:57:05 localhost nagios[799]:   Checked 1 hosts
Jun 11 17:57:05 localhost nagios[799]:   Checked 0 service dependencies
Jun 11 17:57:05 localhost nagios[799]:   Checked 0 host dependencies
Jun 11 17:57:05 localhost nagios[799]:   Checked 5 timeperiods
```

20)Accéder à la console web de Nagios. Cliquer sur **Hosts**.

Current Network Status
Last Updated: Tue Jun 11 19:07:55 EDT 2024
Updated every 90 seconds
Nagios® Core™ 4.5.2 - www.nagios.org
Logged in as *nagiosadmin*

View Service Status Detail For All Host Groups

View Status Overview For All Host Groups

View Status Summary For All Host Groups

View Status Grid For All Host Groups

Host Status Totals

Up

Down

Unreachable

Pending

2

0

0

0

All Problems

All Types

0

2

Service Status Totals

Ok

Warning

Unknown

Critical

Pending

8

0

0

1

0

All Problems

All Types

1

9

Host Status Details For All Host Groups

Limit Results: 100

Host	Status	Last Check	Duration	Status Information
alma-host	UP	06-11-2024 19:05:40	0d 0h 2m 15s+	PING OK - Packet loss = 0%, RTA = 0.86 ms
localhost	UP	06-11-2024 19:06:04	5d 10h 45m 25s	PING OK - Packet loss = 0%, RTA = 0.42 ms

21)Affichage des services de l'hôte Linux.

Current Network Status
Last Updated: Tue Jun 11 19:09:10 EDT 2024
Updated every 90 seconds
Nagios® Core™ 4.5.2 - www.nagios.org
Logged in as *nagiosadmin*

View History For This Host

View Notifications For This Host

View Service Status Detail For All Hosts

Host Status Totals

Up

Down

Unreachable

Pending

1

0

0

0

All Problems

All Types

0

1

Service Status Totals

Ok

Warning

Unknown

Critical

Pending

1

0

0

0

0

All Problems

All Types

0

1

Service Status Details For Host 'alma-host'

Limit Results: 100

Host	Service	Status	Last Check	Duration	Attempt	Status Information
alma-host	Processus Total	OK	06-11-2024 19:06:46	0d 0h 3m 30s+	1/4	PROCS OK: 207 processes