Projet

Outils de supervision : Nagios

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Introduction :

Nagios (anciennement appelé **Netsaint**) est une application permettant la surveillance système et réseau. Elle surveille les hôtes et services spécifiés, alertant lorsque les systèmes ont des dysfonctionnements et quand ils repassent en fonctionnement normal. C'est un logiciel libre sous licence GPL.
C'est un programme modulaire qui se décompose en trois parties :
1/Le moteur de l'application qui vient ordonnancer les tâches de supervision.
2/L'interface web, qui permet d'avoir une vue d'ensemble du système d'information et des possibles anomalies.
3/Les sondes (appelées greffons ou *plugins*), une centaine de mini programmes que l'on peut compléter en fonction des besoins de chacun pour superviser chaque service ou ressource disponible sur l'ensemble des ordinateurs ou éléments réseaux du SI.

Réseau à surveiller

Le réseau à surveiller est un petit réseau local constitué de :
-2 serveurs Linux offrant respectivement les services DHCP , DNS
-1 machine cliente Linux
-1 machine de surveillance Nagios

1ére partie :

Installation et configuration de Nagios

On va travailler avec une machine ubunto 14.04

1/Installation

Installation du paquet avec la commande ci-dessous

```
root@localhost:/etc# apt-get install wget build-essential apache2 php5 php5-gd l
ibgd-dev unzip
```

Pour installer et utiliser cet outil de monitoring, il est nécessaire d'avoir un serveur Web avec un module PHP : le logiciel Apache est alors recommandé.

2/Configuration

Ajouter des utilisateurs

La première chose à faire est d'ajouter des utilisateurs qui pourront se connecter à l'interface web de Nagios

```
root@ubuntu:/home/yosr# sudo adduser nagios2
Adding user `nagios2' ...
Adding new group `nagios2' (1001) ...
Adding new user `nagios2' (1001) with group `nagios2' ...
Creating home directory `/home/nagios2' ...
Copying files from `/etc/skel' ...
Enter new UNIX password:
```

Maintenant on va créer un groupe **nagcmd** et ajouter l'utilisateur nagios à ce groupe ,

```
root@ubuntu:/opt/nagios-4.3.1# usermod -a -G nagcmd nagios
root@ubuntu:/opt/nagios-4.3.1# usermod -a -G nagcmd www-data
```

Installation de nagios core service

Sous le répertoire **/opt** on va exécuter la commande suivante

```
root@ubuntu:/opt# wget https://assets.nagios.com/downloads/nagioscore/releases/n
agios-4.3.1.tar.gz
--2017-05-05 07:29:45--  https://assets.nagios.com/downloads/nagioscore/releases
/nagios-4.3.1.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: 11095797 (11M) [application/x-gzip]
Saving to: 'nagios-4.3.1.tar.gz'

100%[=====================================>] 11,095,797  61.2KB/s   in 2m 53s

2017-05-05 07:32:40 (62.6 KB/s) - 'nagios-4.3.1.tar.gz' saved [11095797/11095797
]

root@ubuntu:/opt#
```

Décompresser le répertoire avec la commande ci-dessous

```
root@ubuntu:/opt# tar xzf nagios-4.3.1.tar.gz
root@ubuntu:/opt# ls
nagios-4.3.1  nagios-4.3.1.tar.gz
```

Compiler avec la commande : **make**

```
root@ubuntu: /opt/nagios-4.3.1
        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:  ${prefix}/var/nagios.lock
   Check result directory:  ${prefix}/var/spool/checkresults
          Init directory:  /etc/init.d
  Apache conf.d directory:  /etc/apache2/sites-available
             Mail program:  /bin/mail
                  Host OS:  linux-gnu
          IOBroker Method:  epoll

 Web Interface Options:
 ------------------------
                HTML URL:  http://localhost/nagios/
                 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.

root@ubuntu:/opt/nagios-4.3.1#
```

La commande : **make all**

```
root@ubuntu: /opt/nagios-4.3.1
please make sure that you:

     - Look at the sample config files
     - Read the documentation on the Nagios Library at:
         https://library.nagios.com

before you post a question to one of the mailing lists.
Also make sure to include pertinent information that could
help others help you.  This might include:

     - What version of Nagios you are using
     - What version of the plugins you are using
     - Relevant snippets from your config files
     - Relevant error messages from the Nagios log file

For more information on obtaining support for Nagios, visit:

       https://support.nagios.com

************************************************************

Enjoy.

root@ubuntu:/opt/nagios-4.3.1#
```

La commande : **make Install**

```
root@ubuntu: /opt/nagios-4.3.1
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/libexec
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/var
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/var/archives
/usr/bin/install -c -m 775 -o nagios -g nagcmd -d /usr/local/nagios/var/spool/ch
eckresults
chmod g+s /usr/local/nagios/var/spool/checkresults

*** 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 /etc/init.d

  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 `/opt/nagios-4.3.1'
root@ubuntu:/opt/nagios-4.3.1#
```

La commande : **make install-init**

```
root@ubuntu:/opt/nagios-4.3.1# 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@ubuntu:/opt/nagios-4.3.1#
```

La commande : **make install-config**

```
root@ubuntu: /opt/nagios-4.3.1
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/
templates.cfg /usr/local/nagios/etc/objects/templates.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/
commands.cfg /usr/local/nagios/etc/objects/commands.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/
contacts.cfg /usr/local/nagios/etc/objects/contacts.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/
timeperiods.cfg /usr/local/nagios/etc/objects/timeperiods.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/
localhost.cfg /usr/local/nagios/etc/objects/localhost.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/
windows.cfg /usr/local/nagios/etc/objects/windows.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/
printer.cfg /usr/local/nagios/etc/objects/printer.cfg
/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@ubuntu:/opt/nagios-4.3.1#
```

La commande **: make install-commandemode**

```
root@ubuntu:/opt/nagios-4.3.1# 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@ubuntu:/opt/nagios-4.3.1#
```

Maintenant on va copier le fichier eventhandlers sous le répertoire libexec

```
root@ubuntu:/opt/nagios-4.3.1# cp -R contrib/eventhandlers/ /usr/local/nagios/li
bexec/
root@ubuntu:/opt/nagios-4.3.1#
```

Attribuer à ce fichier l'utilisateur et le groupe nagios comme propriétaire

```
root@ubuntu:/opt/nagios-4.3.1# chown -R nagios:nagios /usr/local/nagios/libexec/
eventhandlers
root@ubuntu:/opt/nagios-4.3.1#
```

Maintenant on va créer le fichier de configuration de nagios apache2.

Ajouter dedans le fichier ci-dessous

root@ubuntu: /opt/nagios-4.3.1

```
<Directory "/usr/local/nagios/sbin">
   Options ExecCGI
   AllowOverride None
   Order allow,deny
   Allow from all
   AuthName "Restricted Area"
   AuthType Basic
   AuthUserFile /usr/local/nagios/etc/htpasswd.users
   Require valid-user
</Directory>

Alias /nagios "/usr/local/nagios/share"

<Directory "/usr/local/nagios/share">
   Options None
   AllowOverride None
   Order allow,deny
   Allow from all
   AuthName "Restricted Area"
   AuthType Basic
   AuthUserFile /usr/local/nagios/etc/htpasswd.users
   Require valid-user
</Directory>
root@ubuntu:/opt/nagios-4.3.1#
```

Les droits d'accès de l'interface web se gèrent avec htpasswd qui est un utilitaire fournit avec le serveur Apache.

Pour ajouter un utilisateur, on peut utiliser la commande suivante :

```
root@ubuntu:/opt/nagios-4.3.1# htpasswd -c /usr/local/nagios/etc/htpasswd.users
nagiosadmin
New password:
Re-type new password:
Adding password for user nagiosadmin
root@ubuntu:/opt/nagios-4.3.1#
```

Une fois que les droits d'accès ont été indiqués, on peut se connecter avec notre nouvel utilisateur au travers de l'interface web.

Relancer le service apache2

```
root@ubuntu:/etc# service apache2 reload
 * Reloading web server apache2
 *
root@ubuntu:/etc# service apache2 restart
 * Restarting web server apache2                                    [ OK ]
root@ubuntu:/etc# service apache2 start
 * Starting web server apache2
 *
root@ubuntu:/etc#
```

Après l'installation de nagios core service , on va installer Nagios plugins sous le répertoire /opt

```
root@ubuntu: /opt
root@ubuntu:/opt# wget http://www.nagios-plugins.org/download/nagios-plugins-2.1
.4.tar.gz
--2017-05-05 08:13:53--  http://www.nagios-plugins.org/download/nagios-plugins-2
.1.4.tar.gz
Resolving www.nagios-plugins.org (www.nagios-plugins.org)... 72.14.186.43
Connecting to www.nagios-plugins.org (www.nagios-plugins.org)|72.14.186.43|:80..
. connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: http://nagios-plugins.org/download/nagios-plugins-2.1.4.tar.gz [follow
ing]
--2017-05-05 08:13:53--  http://nagios-plugins.org/download/nagios-plugins-2.1.4
.tar.gz
Resolving nagios-plugins.org (nagios-plugins.org)... 72.14.186.43
Reusing existing connection to www.nagios-plugins.org:80.
HTTP request sent, awaiting response... 200 OK
Length: 2721216 (2.6M) [application/x-gzip]
Saving to: 'nagios-plugins-2.1.4.tar.gz'

100%[======================================>] 2,721,216   45.7KB/s   in 44s

2017-05-05 08:14:37 (61.0 KB/s) - 'nagios-plugins-2.1.4.tar.gz' saved [2721216/2
721216]

root@ubuntu:/opt#
```

Décompresser le répertoire

```
root@ubuntu:/opt# tar xzf nagios-plugins-2.1.4.tar.gz
root@ubuntu:/opt#  cd nagios-plugins-2.1.4
root@ubuntu:/opt/nagios-plugins-2.1.4#
```

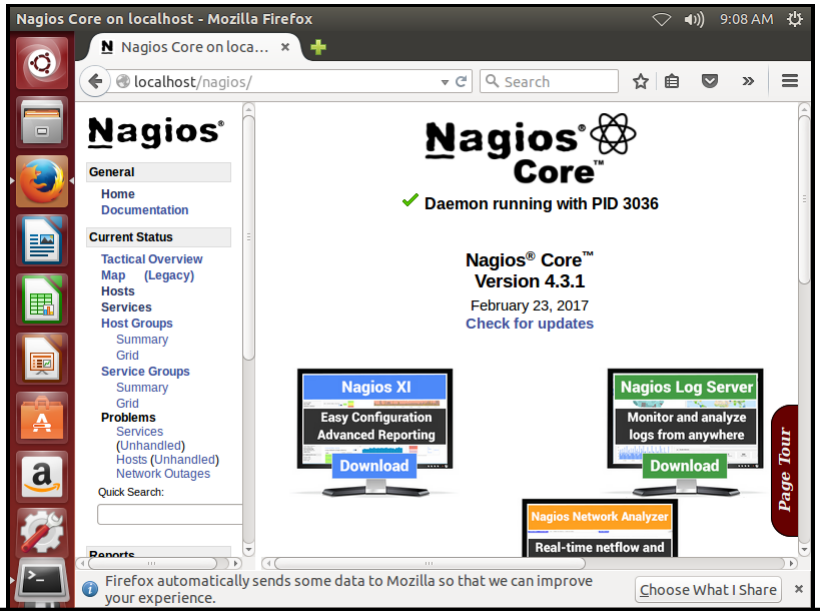
Compilation

```
root@ubuntu: /opt/nagios-plugins-2.1.4
        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.
        Checked 0 host escalations.
        Checked 0 service escalations.
Checking for circular paths...
        Checked 1 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
root@ubuntu:/opt/nagios-plugins-2.1.4#
```

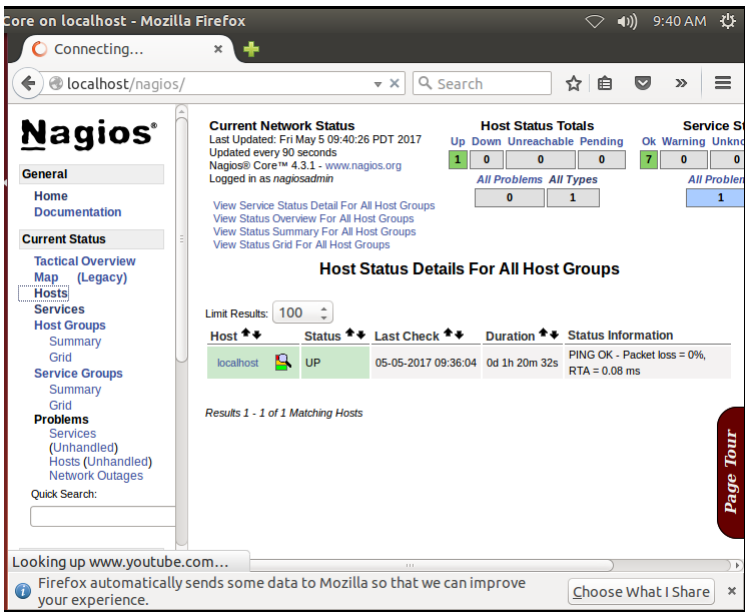
Main tenant on va redemarrer le service Nagios

```
root@localhost:/home/yosr# /etc/init.d/nagios restart
Running configuration check...
Stopping nagios:. done.
Starting nagios: done.
root@localhost:/home/yosr# /etc/init.d/nagios status
nagios (pid 3036) is running...
root@localhost:/home/yosr#
```

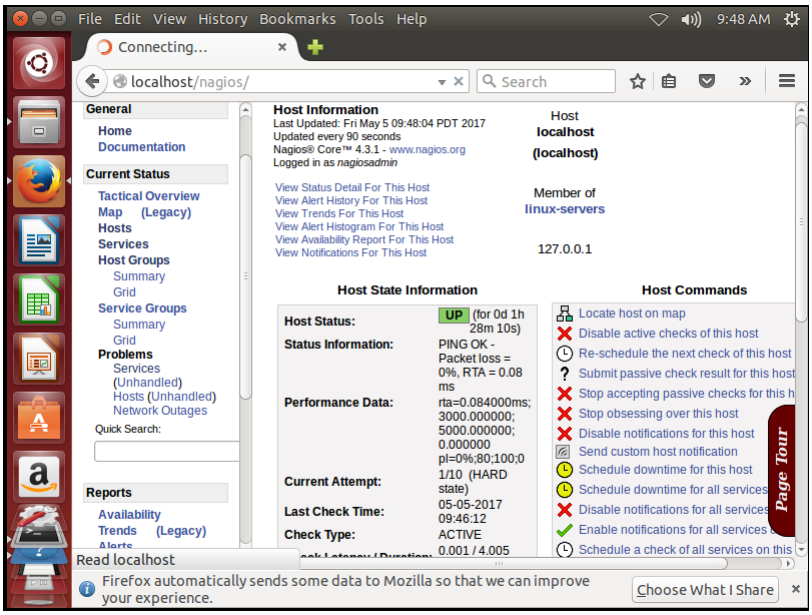
Accéder au service Nagios à l'aide de l'interface graphique en tapant dans l'url http://localhost/nagios



Section hosts



Des details sur la machine localhost



2éme partie :

Configuration de monitoring

Pour vouloir monitorer un serveur, il n'est pas nécessaire d'installer le logiciel sur chaque dispositif, en effet l'installer sur un serveur Nagios séparé est amplement suffisant. A partir de là vous pouvez simplement configurer quel système ou quel processeur doit être surveillé. Tout cela s'articule autour des quatre composants ou objets suivants :
Hôte : en tant que hôte, vous définissez les serveurs, bases de données et appareils, etc. du réseau que vous souhaitez surveiller. L'indicateur le plus important pour un hôte est l'adresse IP respective.

Services : avec ce composant vous pouvez définir quelles caractéristiques de l'hôte Nagios doit vérifier. Cela peut aussi être les services en cours d'exécution sur l'hôte (http, FTP, etc.), des attributs internes comme l'espace disque disponible mais aussi des caractéristiques physiques comme la température de votre matériel.

Commandes : avec ce volet vous contrôlez la séquence de monitorage. Vous pouvez configurer la façon dont la surveillance des hôtes et des services doit être conçu et quand Nagios doit vous avertir quand un évènement se produit.

Contacts : avec la définition des contacts, Nagios peut alors envoyer des notifications à des contacts administratifs via un email, un message texte ou encore un message vocal.

Même si Nagios n'est pas installé sur les différents hôtes, les plugins (qui vérifient les données internes) fonctionnent eux directement sur les hôtes

NRPE (Nagios Remote Plugin Executor) est un agent de supervision qui vous permet de récupérer les informations à distance. Son principe de fonctionnement est simple : il suffit d'installer le démon sur la machine distante et de l'interroger à partir du serveur Nagios.

1/Serveur DNS

Installer les plugins nrpe avec la commande ci-dessous

```
root@ubuntu:/home/insat# apt-get install nagios-nrpe-server nagios-plugins

  Creating config file /etc/nagios-plugins/config/flexlm.cfg with new version
  Creating config file /etc/nagios-plugins/config/fping.cfg with new version
  Creating config file /etc/nagios-plugins/config/games.cfg with new version
  Creating config file /etc/nagios-plugins/config/hppjd.cfg with new version
  Creating config file /etc/nagios-plugins/config/ifstatus.cfg with new version
  Creating config file /etc/nagios-plugins/config/ldap.cfg with new version
  Creating config file /etc/nagios-plugins/config/mailq.cfg with new version
  Creating config file /etc/nagios-plugins/config/mrtg.cfg with new version
  Creating config file /etc/nagios-plugins/config/mysql.cfg with new version
  Creating config file /etc/nagios-plugins/config/netware.cfg with new version
  Creating config file /etc/nagios-plugins/config/nt.cfg with new version
  Creating config file /etc/nagios-plugins/config/pgsql.cfg with new version
  Creating config file /etc/nagios-plugins/config/radius.cfg with new version
  Creating config file /etc/nagios-plugins/config/rpc-nfs.cfg with new version
  Creating config file /etc/nagios-plugins/config/snmp.cfg with new version
Paramétrage de nagios-plugins (1.5-3ubuntu1) ...
Paramétrage de perl-modules (5.18.2-2ubuntu1.1) ...
Paramétrage de perl (5.18.2-2ubuntu1.1) ...
Paramétrage de libnet-snmp-perl (6.0.1-2) ...
Traitement déclenché pour  libc-bin (2.19-0ubuntu6) ...
Traitement déclenché pour  ureadahead (0.100.0-16) ...
root@ubuntu:/home/insat# _
```

La commande qui nous donne le nom de notre filesystem est : **df –h /**

```
root@ubuntu:/home/insat# df -h /
Sys. de fichiers Taille Utilisé Dispo Uti% Monté sur
/dev/sda1          2,9G    1,2G  1,6G  42% /
root@ubuntu:/home/insat# _
```

Modifier quelques lignes du fichier de configuration de NRPE

```
root@ubuntu:/home/insat# nano /etc/nagios/nrpe.cfg
```

```
server_address=192.168.163.150
```

On met l'adresse IP de notre serveur DNS

```
allowed_hosts=192.168.163.142
```

On met l'adresse IP de notre service Nagios

```
# The following examples use hardcoded command arguments...

command[check_users]=/usr/lib/nagios/plugins/check_users -w 5 -c 10
command[check_load]=/usr/lib/nagios/plugins/check_load -w 15,10,5 -c 30,25,20
command[check_hda1]=/usr/lib/nagios/plugins/check_disk -w 20% -c 10% -p /dev/sda1
command[check_zombie_procs]=/usr/lib/nagios/plugins/check_procs -w 5 -c 10 -s Z
command[check_total_procs]=/usr/lib/nagios/plugins/check_procs -w 150 -c 200
```

On modifie la 3éme ligne avec le nom de notre filesystem

Puis on redémarre avec la commande suivante

```
root@ubuntu:/home/insat# service nagios-nrpe-server restart
 * Stopping nagios-nrpe nagios-nrpe                                    [ OK ]
 * Starting nagios-nrpe nagios-nrpe                                    [ OK ]
root@ubuntu:/home/insat#
```

Dans la machine Nagios :

Installer les plugins

```
^C
root@localhost:/home/yosr# curl -L -O http://nagios-plugins.org/download/nagios-
plugins-2.1.1.tar.gz
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100 2614k  100 2614k    0     0   135k      0  0:00:19  0:00:19 --:--:-- 29578
root@localhost:/home/yosr#
```

Décompresser le répertoire

```
root@localhost:/home/yosr# tar xvf nagios-plugins-*.tar.gz
```

```
root@localhost: /home/yosr
nagios-plugins-2.1.1/plugins-scripts/t/
nagios-plugins-2.1.1/plugins-scripts/t/check_ifoperstatus.t
nagios-plugins-2.1.1/plugins-scripts/t/check_rpc.t
nagios-plugins-2.1.1/plugins-scripts/t/check_file_age.t
nagios-plugins-2.1.1/plugins-scripts/t/check_disk_smb.t
nagios-plugins-2.1.1/plugins-scripts/t/check_ifstatus.t
nagios-plugins-2.1.1/plugins-scripts/t/utils.t
nagios-plugins-2.1.1/plugins-scripts/check_mailq.pl
nagios-plugins-2.1.1/plugins-scripts/check_wave.pl
nagios-plugins-2.1.1/plugins-scripts/check_ircd.pl
nagios-plugins-2.1.1/plugins-scripts/utils.sh.in
nagios-plugins-2.1.1/plugins-scripts/check_ifstatus.pl
nagios-plugins-2.1.1/plugins-scripts/check_sensors.sh
nagios-plugins-2.1.1/pkg/
nagios-plugins-2.1.1/pkg/fedora/
nagios-plugins-2.1.1/pkg/fedora/requires
nagios-plugins-2.1.1/pkg/solaris/
nagios-plugins-2.1.1/pkg/solaris/preinstall
nagios-plugins-2.1.1/pkg/solaris/solpkg
nagios-plugins-2.1.1/pkg/solaris/pkginfo.in
nagios-plugins-2.1.1/pkg/solaris/pkginfo
nagios-plugins-2.1.1/pkg/redhat/
nagios-plugins-2.1.1/pkg/redhat/requires
```

```
root@localhost:/home/yosr# cd nagios-plugins-*
root@localhost:/home/yosr/nagios-plugins-2.1.1#
```

```
root@localhost:/home/yosr/nagios-plugins-2.1.1# ./configure --with-nagios-user=n
agios --with-nagios-group=nagios --with-openssl
```

root@localhost: /home/yosr/nagios-plugins-2.1.1

```
config.status: creating test.pl
config.status: creating pkg/solaris/pkginfo
config.status: creating po/Makefile.in
config.status: creating config.h
config.status: executing depfiles commands
config.status: executing libtool commands
config.status: executing po-directories commands
config.status: creating po/POTFILES
config.status: creating po/Makefile
            --with-apt-get-command: /usr/bin/apt-get
              --with-ping6-command: /bin/ping6 -n -U -w %d -c %d %s
               --with-ping-command: /bin/ping -n -U -w %d -c %d %s
                       --with-ipv6: yes
                      --with-mysql: no
                   --with-openssl: no
                    --with-gnutls: no
                --enable-extra-opts: yes
                       --with-perl: /usr/bin/perl
             --enable-perl-modules: no
                      --with-cgiurl: /nagios/cgi-bin
              --with-trusted-path: /usr/local/sbin:/usr/local/bin:/sbin:/bin:/u
sr/sbin:/usr/bin
                    --enable-libtap: no
root@localhost:/home/yosr/nagios-plugins-2.1.1#
```

Compilation

La commande **make**

```
root@localhost:/home/yosr/nagios-plugins-2.1.1# make
```

root@localhost: /home/yosr/nagios-plugins-2.1.1

```
         sizeof(data), ntohs(packet.icp->icmp_id), ntohs(packet.icp->icmp_seq),
 packet.icp->icmp_cksum, host->name);
         ^
check_icmp.c: In function ‘main’:
check_icmp.c:406:8: warning: ignoring return value of ‘setuid’, declared with at
tribute warn_unused_result [-Wunused-result]
  setuid(getuid());
       ^
mv -f .deps/check_icmp.Tpo .deps/check_icmp.Po
/bin/bash ../libtool --tag=CC   --mode=link gcc -DNP_VERSION='"2.1.1"' -g -O2  -
L. -o check_icmp check_icmp.o ../plugins/netutils.o ../plugins/utils.o ../lib/li
bnagiosplug.a ../gl/libgnu.a  -lnsl -lresolv -lnsl -lresolv -lpthread -ldl
libtool: link: gcc -DNP_VERSION=\"2.1.1\" -g -O2 -o check_icmp check_icmp.o ../p
lugins/netutils.o ../plugins/utils.o  -L. ../lib/libnagiosplug.a ../gl/libgnu.a
-lnsl -lresolv -lpthread -ldl
make[2]: Leaving directory `/home/yosr/nagios-plugins-2.1.1/plugins-root'
Making all in po
make[2]: Entering directory `/home/yosr/nagios-plugins-2.1.1/po'
make[2]: Nothing to be done for `all'.
make[2]: Leaving directory `/home/yosr/nagios-plugins-2.1.1/po'
make[2]: Entering directory `/home/yosr/nagios-plugins-2.1.1'
make[2]: Leaving directory `/home/yosr/nagios-plugins-2.1.1'
make[1]: Leaving directory `/home/yosr/nagios-plugins-2.1.1'
root@localhost:/home/yosr/nagios-plugins-2.1.1#
```

La commande : **make install**

```
root@localhost:/home/yosr/nagios-plugins-2.1.1# sudo make install
```

```
root@localhost: /home/yosr/nagios-plugins-2.1.1
s.mo
installing de.gmo as /usr/local/nagios/share/locale/de/LC_MESSAGES/nagios-plugin
s.mo
if test "nagios-plugins" = "gettext-tools"; then \
          /bin/mkdir -p /usr/local/nagios/share/gettext/po; \
          for file in Makefile.in.in remove-potcdate.sin    Makevars.template; d
o \
            /usr/bin/install -c -o nagios -g nagios -m 644 ./$file \
                             /usr/local/nagios/share/gettext/po/$file; \
          done; \
          for file in Makevars; do \
            rm -f /usr/local/nagios/share/gettext/po/$file; \
          done; \
        else \
          : ; \
        fi
LibreOffice Impress irectory `/home/yosr/nagios-plugins-2.1.1/po'
make[1]: Entering directory `/home/yosr/nagios-plugins-2.1.1'
make[2]: Entering directory `/home/yosr/nagios-plugins-2.1.1'
make[2]: Nothing to be done for `install-exec-am'.
make[2]: Nothing to be done for `install-data-am'.
make[2]: Leaving directory `/home/yosr/nagios-plugins-2.1.1'
make[1]: Leaving directory `/home/yosr/nagios-plugins-2.1.1'
root@localhost:/home/yosr/nagios-plugins-2.1.1#
```

Téléchargement des plugins NRPE

```
root@localhost:/home/yosr# curl -L -O http://downloads.sourceforge.net/project/n
agios/nrpe-2.x/nrpe-2.15/nrpe-2.15.tar.gz

  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
  0   349    0     0    0     0      0      0 --:--:--  0:00:01 --:--:--     0
100  409k  100  409k    0     0  57091      0  0:00:07  0:00:07 --:--:--  107k
```

Décompression

```
root@localhost:/home/yosr# tar xvf nrpe-*.tar.gz
```

```
root@localhost: /home/yosr
nrpe-2.15/nrpe.spec.in
nrpe-2.15/package/
nrpe-2.15/package/solaris/
nrpe-2.15/package/solaris/Makefile.in
nrpe-2.15/package/solaris/pkg/
nrpe-2.15/package/solaris/pkg/i.config
nrpe-2.15/package/solaris/pkg/nrpe
nrpe-2.15/package/solaris/pkg/nrpe.xml
nrpe-2.15/package/solaris/pkg/postinstall
nrpe-2.15/package/solaris/pkg/preinstall
nrpe-2.15/package/solaris/pkg/r.config
nrpe-2.15/sample-config/
nrpe-2.15/sample-config/nrpe.cfg.in
nrpe-2.15/sample-config/nrpe.xinetd.in
nrpe-2.15/src/
nrpe-2.15/src/Makefile.in
nrpe-2.15/src/acl.c
nrpe-2.15/src/check_nrpe.c
nrpe-2.15/src/nrpe.c
nrpe-2.15/src/snprintf.c
nrpe-2.15/src/utils.c
nrpe-2.15/subst.in
nrpe-2.15/update-version
root@localhost:/home/yosr#
```

```
root@localhost:/home/yosr# cd nrpe-*
root@localhost:/home/yosr/nrpe-2.15#
```

```
root@localhost:/home/yosr/nrpe-2.15# ./configure --enable-command-args --with-na
gios-user=nagios --with-nagios-group=nagios --with-ssl=/usr/bin/openssl --with-s
sl-lib=/usr/lib/x86_64-linux-gnu
```

```
root@localhost: /home/yosr/nrpe-2.15
config.status: creating init-script.debian
config.status: creating init-script.suse
config.status: creating nrpe.spec
config.status: creating sample-config/nrpe.cfg
config.status: creating sample-config/nrpe.xinetd
config.status: creating include/config.h
config.status: include/config.h is unchanged


*** Configuration summary for nrpe 2.15 09-06-2013 ***:

 General Options:
 -------------------------
 NRPE port:    5666
 NRPE user:    nagios
 NRPE group:   nagios
 Nagios user:  nagios
 Nagios group: nagios


Review the options above for accuracy.  If they look okay,
type 'make all' to compile the NRPE daemon and client.

root@localhost:/home/yosr/nrpe-2.15#
```

```
root@localhost:/home/yosr/nrpe-2.15# make all
```

```
root@localhost: /home/yosr/nrpe-2.15
./nrpe.c:1766:8: warning: ignoring return value of ‘write’, declared with attrib
ute warn_unused_result [-Wunused-result]
   write(fd,pbuf,strlen(pbuf));
        ^
gcc -g -O2 -I/usr/include/openssl -I/usr/include -DHAVE_CONFIG_H -I ../include -
I ./../include -o check_nrpe ./check_nrpe.c ./utils.c -L/usr/lib/x86_64-linux-gn
u  -lssl -lcrypto -lnsl
./check_nrpe.c: In function ‘main’:
./check_nrpe.c:276:4: warning: format ‘%d’ expects argument of type ‘int’, but a
rgument 3 has type ‘long unsigned int’ [-Wformat=]
    printf("CHECK_NRPE: Receive underflow - only %d bytes received (%d expected)
.\n",bytes_to_recv,sizeof(receive_packet));
    ^
make[1]: Leaving directory `/home/yosr/nrpe-2.15/src'

*** Compile finished ***

If the NRPE daemon and client compiled without any errors, you
can continue with the installation or upgrade process.

Read the PDF documentation (NRPE.pdf) for information on the next
steps you should take to complete the installation or upgrade.

root@localhost:/home/yosr/nrpe-2.15#
```

La commande : **make install**

```
root@localhost:/home/yosr/nrpe-2.15# make install
cd ./src/ && make install
make[1]: Entering directory `/home/yosr/nrpe-2.15/src'
make install-plugin
make[2]: Entering directory `/home/yosr/nrpe-2.15/src'
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/libexec
/usr/bin/install -c -m 775 -o nagios -g nagios check_nrpe /usr/local/nagios/libe
xec
make[2]: Leaving directory `/home/yosr/nrpe-2.15/src'
make install-daemon
make[2]: Entering directory `/home/yosr/nrpe-2.15/src'
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/bin
/usr/bin/install -c -m 775 -o nagios -g nagios nrpe /usr/local/nagios/bin
make[2]: Leaving directory `/home/yosr/nrpe-2.15/src'
make[1]: Leaving directory `/home/yosr/nrpe-2.15/src'
```

La commande : **make install-xinetd**

```
root@localhost:/home/yosr/nrpe-2.15# make install-xinetd
/usr/bin/install -c -m 644 sample-config/nrpe.xinetd /etc/xinetd.d/nrpe
root@localhost:/home/yosr/nrpe-2.15#
```

La commande : **make install-daemon-config**

```
root@localhost:/home/yosr/nrpe-2.15# make install-daemon-config
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/etc
/usr/bin/install -c -m 644 -o nagios -g nagios sample-config/nrpe.cfg /usr/local
/nagios/etc
root@localhost:/home/yosr/nrpe-2.15#
```

```
root@localhost:/home/yosr/nrpe-2.15# nano /etc/xinetd.d/nrpe
```

Ajouter l'adresse IP de la machine nagios dans la ligne only_from

```
  GNU nano 2.2.6           File: /etc/xinetd.d/nrpe

# default: on
# description: NRPE (Nagios Remote Plugin Executor)
service nrpe
{
        flags           = REUSE
        socket_type     = stream
        port            = 5666
        wait            = no
        user            = nagios
        group           = nagios
        server          = /usr/local/nagios/bin/nrpe
        server_args     = -c /usr/local/nagios/etc/nrpe.cfg --inetd
        log_on_failure  += USERID
        disable         = no
        only_from       = 127.0.0.1 192.168.163.142
}



                        [ Read 16 lines ]
^G Get Help  ^O WriteOut  ^R Read File ^Y Prev Page ^K Cut Text  ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is  ^V Next Page ^U UnCut Text^T To Spell
```

Redémarrer xinetd

```
root@localhost:/home/yosr/nrpe-2.15# service xinetd restart
xinetd stop/waiting
xinetd start/running, process 36901
root@localhost:/home/yosr/nrpe-2.15#
```

Ouvrir le fichier ci-dessous

```
root@localhost:/home/yosr/nrpe-2.15# nano /usr/local/nagios/etc/nagios.cfg
```

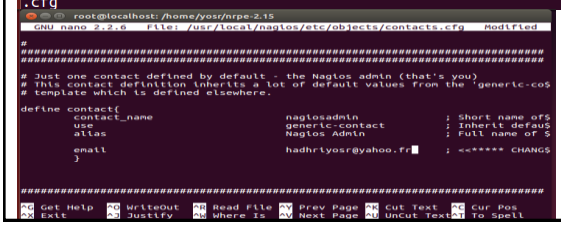
Dé commenter la 1ére ligne

```
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
```

Créer le répertoire suivant

```
root@localhost:/home/yosr/nrpe-2.15# mkdir /usr/local/nagios/etc/servers
```

```
root@localhost:/home/yosr/nrpe-2.15# nano /usr/local/nagios/etc/objects/contacts
.cfg
```



Dans le fichier /usr/local/nagios/etc/objects/commands.cfg
Ajouter la commande check_dns

```
root@localhost:/home/yosr/nrpe-2.15# nano /usr/local/nagios/etc/objects/commands
.cfg
```

```
define command{
        command_name check_nrpe
        command_line $USER1$/check_nrpe -H $HOSTADDRESS$ -c $ARG1$
}
define command{
        command_name    check_dns
        command_line    $USER1$/check_dns -H dev1.asr.com -s $HOSTADDRESS$
        }


^G Get Help  ^O WriteOut  ^R Read File ^Y Prev Page ^K Cut Text  ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is  ^V Next Page ^U UnCut Text^T To Spell
```

```
# 'check_local_load' command definition
define command{
        command_name    check_local_load
        command_line    $USER1$/check_load -w $ARG1$ -c $ARG2$
        }


# 'check_local_procs' command definition
define command{
        command_name    check_local_procs
        command_line    $USER1$/check_procs -w $ARG1$ -c $ARG2$ -s $ARG3$
        }

# 'check_local_users' command definition
define command{
        command_name    check_local_users
        command_line    $USER1$/check_users -w $ARG1$ -c $ARG2$
        }
```

```
# 'check_local_swap' command definition
define command{
        command_name    check_local_swap
        command_line    $USER1$/check_swap -w $ARG1$ -c $ARG2$
        }
```

J'ai pas compris comment je doit configurer les paramètres !!

Ajouter le fichier /usr/local/nagios/etc/servers/serviceDNS.cfg

```
root@localhost:/home/yosr/nrpe-2.15# nano /usr/local/nagios/etc/servers/serviceD
NS.cfg
```

Ajouter le service DNS en ajoutant le bloc suivant dans ce fichier

```
Terminal File  Edit  View  Search  Terminal  Help                    5:31 AM
root@localhost: /home/yosr/nrpe-2.15
 GNU nano 2.2.6  File: /usr/local/nagios/etc/servers/serviceDNS.cfg

define service {
        use                             generic-service
        host_name                       ubounto
        service_description             DNS
        check_command                   check_dns
}
```

Ajouter le fichier /usr/local/nagios/etc/servers/ubounto.cfg

```
root@localhost:/home/yosr/nrpe-2.15# nano /usr/local/nagios/etc/servers/ubounto.c
fg
```

Ajouter le host dont le nom est ubounto sur lequel on a installé le serveur DNS

```
root@localhost: /home/yosr/nrpe-2.15
 GNU nano 2.2.6     File: /usr/local/nagios/etc/servers/ubounto.cfg

define host {
        use                             linux-server
        host_name                       ubounto
        alias                           host of dns
        address                         192.168.163.150
        max_check_attempts              5
        check_period                    24x7
        notification_interval           30
        notification_period             24x7
}
```

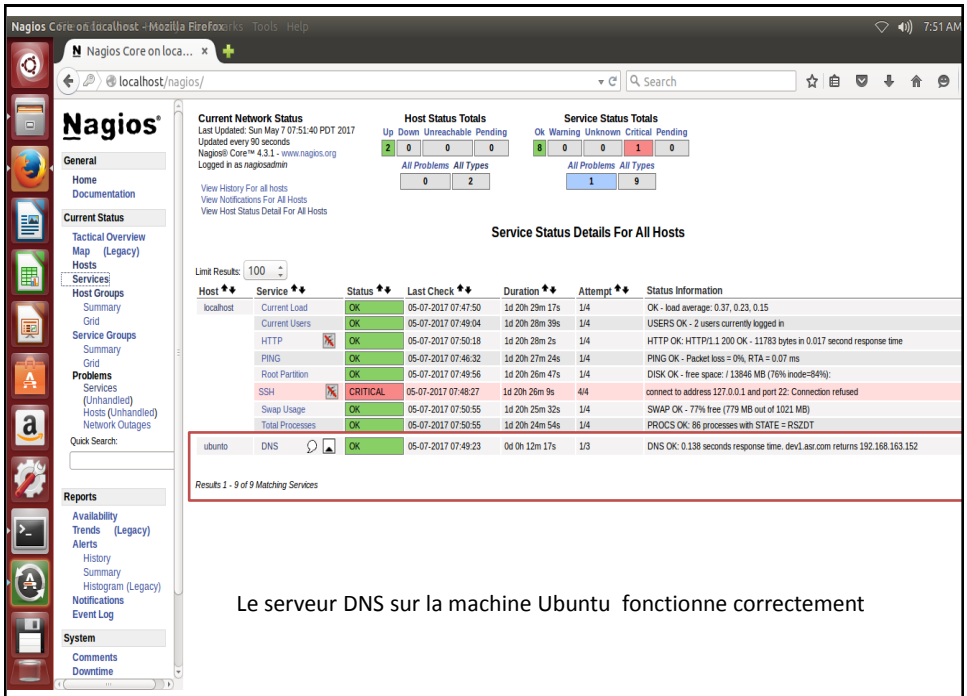
Ainsi que la surveillance du serveur DNS sur la machine Ubuntu , on veut surveiller charge Processeur , mémoire d'échange (swap) , disque dur , nombre d'utilisateurs connectés et processus en cours , donc on doit ajouter ces services dans le fichier
fichier /usr/local/nagios/etc/servers/serviceDNS.cfg

```
 GNU nano 2.2.6  File: /usr/local/nagios/etc/servers/serviceDNS.cfg  Modified

define service {
        use                             generic-service
        host_name                       ubunto
        service_description             DNS
        check_command                   check_dns
}
define service {
        use                             generic-service
        host_name                       ubunto
        service_description             disk
        check_command                   check_local_disk
}
define service {
        use                             generic-service
        host_name                       ubunto
        service_description             load
        check_command                   check_local_load
}
define service {
        use                             generic-service
        host_name                       ubunto
        service_description             users
        check_command                   check_local_users
}
define service {
        use                             generic-service
        host_name                       ubunto
        service_description             swap
        check_command                   check_local_swap
}
```

Vérification des fichiers

```
root@localhost:/home/yosr/nrpe-2.15# /usr/local/nagios/bin/nagios -v /usr/local/
nagios/etc/nagios.cfg
```

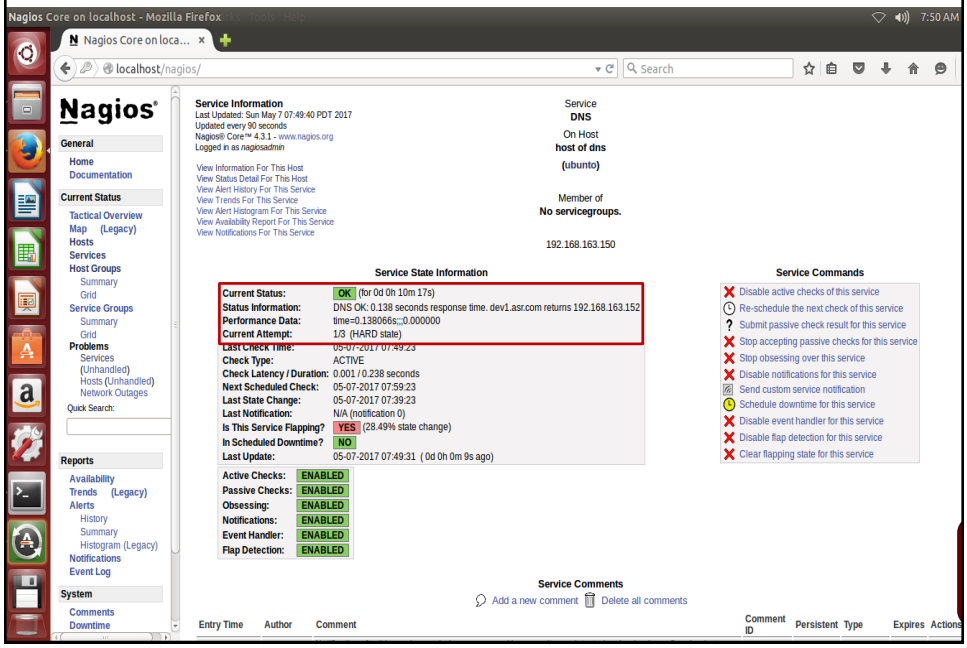
```
root@localhost: /usr/local/nagios/libexec
   Read main config file okay...
   Read object config files okay...

Running pre-flight check on configuration data...

Checking objects...
        Checked 13 services.
        Checked 2 hosts.
        Checked 1 host groups.
        Checked 0 service groups.
        Checked 1 contacts.
        Checked 1 contact groups.
        Checked 26 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
root@localhost:/usr/local/nagios/libexec#
```



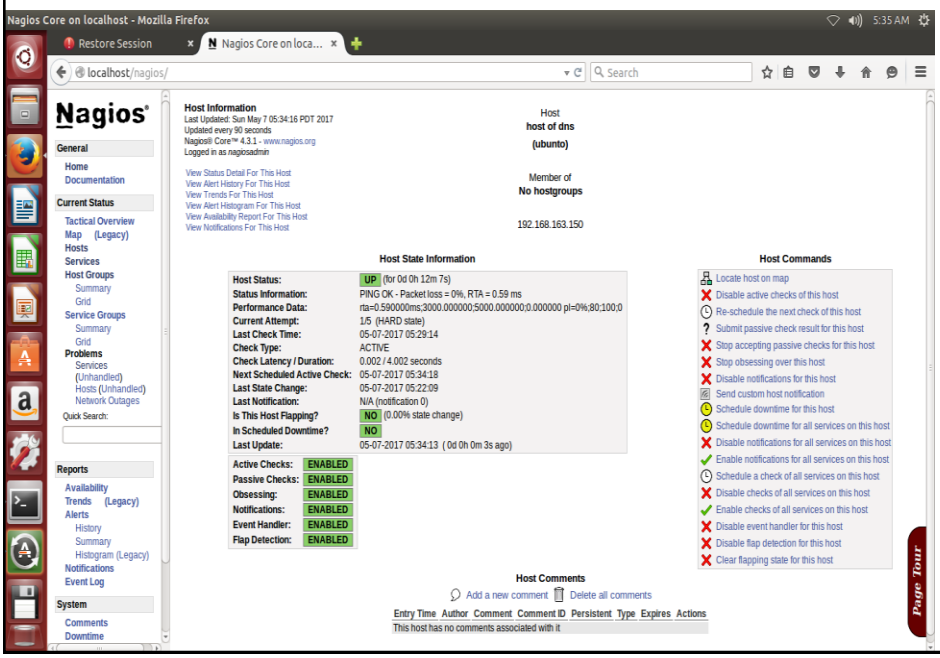
Le serveur DNS sur la machine Ubuntu fonctionne correctement

La machine Ubuntu est en marche (up)

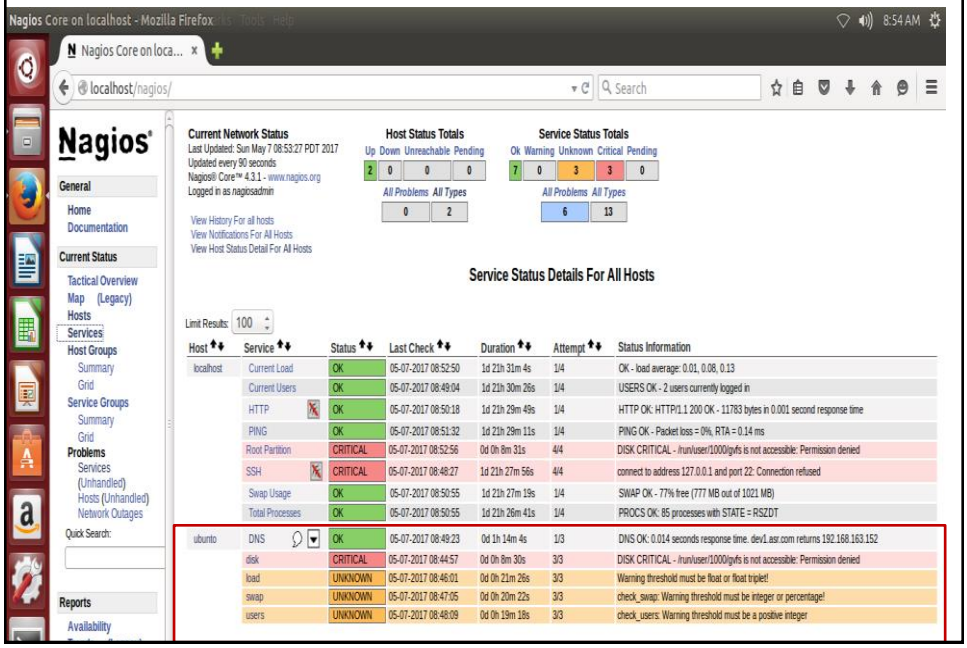
Des détails sur le serveur DNS



Des détails sur la machine Ubuntu



On surveille le serveur DNS , le disque dur , le nombre d'utilisateurs connectés , la mémoire swap , le processeur sur la machine Ubuntu



2/ Serveur DHCP

Installation des plugins NRPE

```
root@ubuntu:/home/insat# apt-get install nagios-nrpe-server nagios-plugins
  Creating config file /etc/nagios-plugins/config/flexlm.cfg with new version
  Creating config file /etc/nagios-plugins/config/fping.cfg with new version
  Creating config file /etc/nagios-plugins/config/games.cfg with new version
  Creating config file /etc/nagios-plugins/config/hppjd.cfg with new version
  Creating config file /etc/nagios-plugins/config/ifstatus.cfg with new version
  Creating config file /etc/nagios-plugins/config/ldap.cfg with new version
  Creating config file /etc/nagios-plugins/config/mailq.cfg with new version
  Creating config file /etc/nagios-plugins/config/mrtg.cfg with new version
  Creating config file /etc/nagios-plugins/config/mysql.cfg with new version
  Creating config file /etc/nagios-plugins/config/netware.cfg with new version
  Creating config file /etc/nagios-plugins/config/nt.cfg with new version
  Creating config file /etc/nagios-plugins/config/pgsql.cfg with new version
  Creating config file /etc/nagios-plugins/config/radius.cfg with new version
  Creating config file /etc/nagios-plugins/config/rpc-nfs.cfg with new version
  Creating config file /etc/nagios-plugins/config/snmp.cfg with new version
Paramétrage de nagios-plugins (1.5-3ubuntu1) ...
Paramétrage de perl-modules (5.18.2-2ubuntu1.1) ...
Paramétrage de perl (5.18.2-2ubuntu1.1) ...
Paramétrage de libnet-snmp-perl (6.0.1-2) ...
Traitement déclenché pour  libc-bin (2.19-0ubuntu6) ...
Traitement déclenché pour  ureadahead (0.100.0-16) ...
root@ubuntu:/home/insat# _
```

Modifier quelques lignes du fichier de configuration de NRPE

```
allowed_hosts=192.168.163.142
```

Adresse IP de la machine Nagios

```
server_address=192.168.163.160_
```

Adresse IP de la machine serveur DHCP

```
# The following examples use hardcoded command arguments...

command[check_users]=/usr/lib/nagios/plugins/check_users -w 5 -c 10
command[check_load]=/usr/lib/nagios/plugins/check_load -w 15,10,5 -c 30,25,20
command[check_hda1]=/usr/lib/nagios/plugins/check_disk -w 20% -c 10% -p /dev/sda1
command[check_zombie_procs]=/usr/lib/nagios/plugins/check_procs -w 5 -c 10 -s Z
command[check_total_procs]=/usr/lib/nagios/plugins/check_procs -w 150 -c 200
```

Redémarrer le service NRPE

```
root@ubuntuDHCP:/home/insat# service nagios-nrpe-server restart
 * Stopping nagios-nrpe nagios-nrpe                                    [ OK ]
 * Starting nagios-nrpe nagios-nrpe                                    [ OK ]
root@ubuntuDHCP:/home/insat#
```

Dans la machine Nagios

Dans le fichier /usr/local/nagios/etc/objects/commands.cfg

Dans le bloc de la commande check_dhcp , modifier la ligne suivante comme suit

```
# 'check_dhcp' command definition
define command{
        command_name    check_dhcp
        command_line    $USER1$/check_dhcp -s 192.168.163.160
        }
```

-s adresse IP de serveur DHCP

Ajouter le fichier /usr/local/nagios/etc/servers/ubuntoDHCP.cfg

Editer le comme suit

```
  GNU nano 2.2.6  File: /usr/local/nagios/etc/servers/ubuntoDHCP.cfg

define host {
        use                             linux-server
        host_name                       ubuntoDHCP
        alias                           My DHCP server
        address                         192.168.163.160
        max_check_attempts              5
        check_period                    24x7
        notification_interval           30
        notification_period             24x7
}
```

Ajouter le fichier /usr/local/nagios/etc/servers/serviceDHCP.cfg

Editer le comme suit

```
  GNU nano 2.2.6  File: /usr/local/nagios/etc/servers/serviceDHCP.cfg Modified

define service {
        use                             generic-service
        host_name                       ubuntoDHCP
        service_description             swap
        check_command                   check_dhcp
}
```

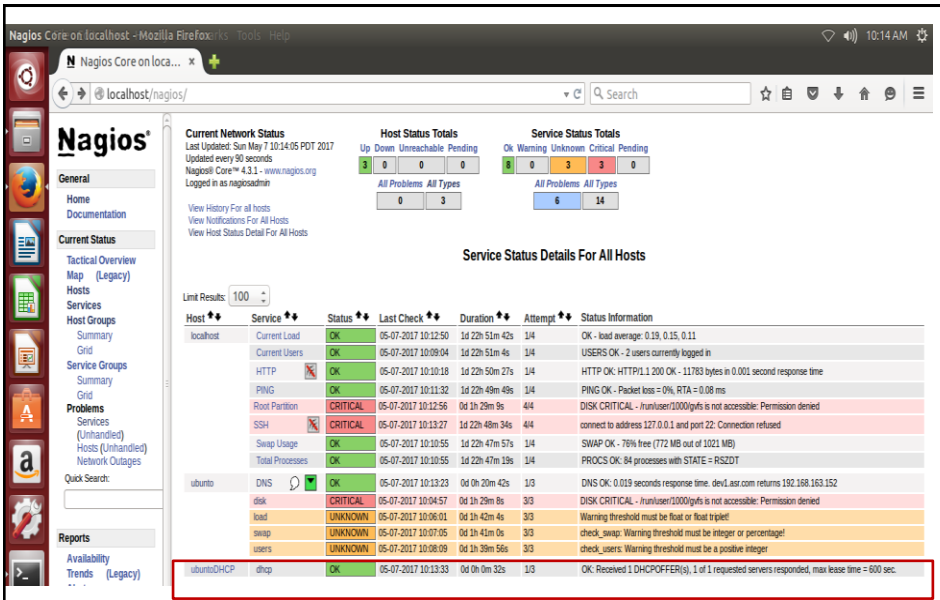
Vérification des fichiers

```
root@localhost:/home/yosr/nrpe-2.15# /usr/local/nagios/bin/nagios -v /usr/local/
nagios/etc/nagios.cfg
```

```
root@localhost: /usr/local/nagios/libexec
   Read main config file okay...
   Read object config files okay...

Running pre-flight check on configuration data...

Checking objects...
        Checked 14 services.
        Checked 3 hosts.
        Checked 1 host groups.
        Checked 0 service groups.
        Checked 1 contacts.
        Checked 1 contact groups.
        Checked 26 commands.
        Checked 5 time periods.
        Checked 0 host escalations.
        Checked 0 service escalations.
Checking for circular paths...
        Checked 3 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
root@localhost:/usr/local/nagios/libexec#
```

On peut surveiller le serveur DHCP à l'aide de la commande suivante

```
done
root@localhost:/usr/local/nagios/libexec# ./check_dhcp -s 192.168.163.160
OK: Received 1 DHCPOFFER(s), 1 of 1 requested servers responded, max lease time
= 600 sec.
```



Le serveur DHCP fonctionne correctement