

Compte rendu : Network Information Service (NIS)

1. Objectifs de NIS

- Simplifier la gestion centralisée des utilisateurs et des configurations réseau.
- Garantir un accès cohérent à l'information sur toutes les machines d'un même domaine.
- Réduire les risques d'incohérences de configuration entre machines dans les réseaux de taille moyenne.

2. Architecture de NIS

L'architecture repose sur :

- Un serveur maître (NIS server).
- Un ou plusieurs clients NIS.
- (Optionnellement) Un serveur esclave (NIS slave).
- Des maps NIS, qui sont des bases de données générées à partir de fichiers système.

3. Fonctionnement

- Les fichiers `/etc/passwd`, `/etc/group` sont transformés en maps NIS.
- Ces maps sont créées avec la commande `ypinit`.
- Les clients envoient leurs requêtes au serveur via le service `ypbind`.
- Le fichier `/etc/nsswitch.conf` définit l'ordre des sources d'information.

Services impliqués : `ypserv`, `ypbind`, `rpcbind`.

4. Avantages et limites

Avantages :

- Centralisation des données.
- Réduction de la redondance.
- Mise en place relativement simple.

Limites :

- Sécurité faible (mots de passe non chiffrés).
- Technologie obsolète (remplacée par LDAP).
- Sensibilité aux attaques réseau.

5. Simulation sous VMware

Configuration :

- 3 machines Ubuntu Server : nis-server, client1, client2.
- Réseau en mode NAT ou interne avec IP fixe.
- Objectif : démontrer qu'un utilisateur créé sur le serveur peut se connecter depuis un client.

6. Installation du serveur NIS

- Commandes :

`sudo apt update`

```
serveurdns@nisServer:~$ sudo apt update
[sudo] password for serveurdns:
Ign:1 http://tn.archive.ubuntu.com/ubuntu noble InRelease
Ign:2 http://security.ubuntu.com/ubuntu noble-security InRelease
Ign:3 http://tn.archive.ubuntu.com/ubuntu noble-updates InRelease
Ign:4 http://tn.archive.ubuntu.com/ubuntu noble-backports InRelease
Ign:2 http://security.ubuntu.com/ubuntu noble-security InRelease
Ign:1 http://tn.archive.ubuntu.com/ubuntu noble InRelease
Ign:3 http://tn.archive.ubuntu.com/ubuntu noble-updates InRelease
Ign:4 http://tn.archive.ubuntu.com/ubuntu noble-backports InRelease
Ign:2 http://security.ubuntu.com/ubuntu noble-security InRelease
Ign:1 http://tn.archive.ubuntu.com/ubuntu noble InRelease
Ign:3 http://tn.archive.ubuntu.com/ubuntu noble-updates InRelease
Ign:4 http://tn.archive.ubuntu.com/ubuntu noble-backports InRelease
Ign:2 http://security.ubuntu.com/ubuntu noble-security InRelease
Ign:1 http://tn.archive.ubuntu.com/ubuntu noble InRelease
Ign:3 http://tn.archive.ubuntu.com/ubuntu noble-updates InRelease
Ign:4 http://tn.archive.ubuntu.com/ubuntu noble-backports InRelease
Ign:2 http://security.ubuntu.com/ubuntu noble-security InRelease
```

`sudo apt install nis ypserv rpcbind`

```
serveurdns@nisServer:~$ sudo apt install nis ypserv rpcbind
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
nis is already the newest version (4.5).
ypserv is already the newest version (4.2-2build2).
rpcbind is already the newest version (1.2.6-7ubuntu2).
0 upgraded, 0 newly installed, 0 to remove and 142 not upgraded.
```

`sudo hostnamectl set-hostname nisServer`

```
serveurdns@nisServer:~$ sudo hostnamectl set-hostname nisServer
```

`sudo ypdomainname example.com`

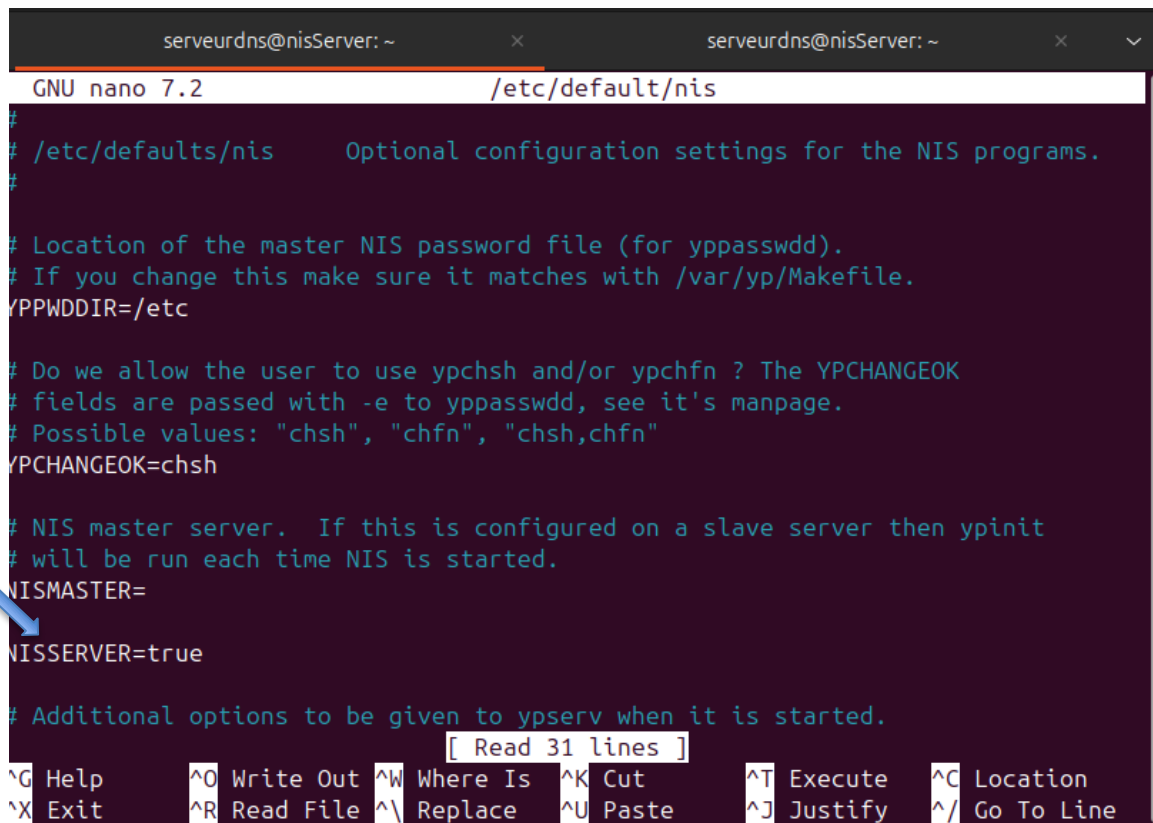
```
serveurdns@nisServer:~$ sudo ypdomainname isima.local
```

```
echo "isima.local" | sudo tee /etc/defaultdomain
```

```
serveurdns@nisServer:~$ echo "isima.local" | sudo tee /etc/defaultdomain
isima.local
```

Modifier /etc/default/nis -> NISSERVER=true

```
serveurdns@nisServer:~$ sudo nano /etc/default/nis
```



```
serveurdns@nisServer: ~
GNU nano 7.2 /etc/default/nis
#
# /etc/default/nis Optional configuration settings for the NIS programs.
#
# Location of the master NIS password file (for yppasswdd).
# If you change this make sure it matches with /var/yp/Makefile.
YPPWDDIR=/etc
# Do we allow the user to use ypchsh and/or ypchfn ? The YPCHANGEOK
# fields are passed with -e to yppasswdd, see it's manpage.
# Possible values: "chsh", "chfn", "chsh,chfn"
YPCHANGEOK=chsh
# NIS master server. If this is configured on a slave server then ypinit
# will be run each time NIS is started.
NISMASTER=
NISSERVER=true
# Additional options to be given to ypserv when it is started.
[ Read 31 lines ]
^G Help      ^O Write Out ^W Where Is  ^K Cut       ^T Execute  ^C Location
^X Exit      ^R Read File ^\ Replace   ^U Paste     ^J Justify  ^_ Go To Line
```

```
sudo /usr/lib/yp/ypinit -m
```

```
serveurdns@nisServer:~$ sudo /usr/lib/yp/ypinit -m

At this point, we have to construct a list of the hosts which will run NIS
servers.  nisServer is in the list of NIS server hosts. Please continue to add
the names for the other hosts, one per line. When you are done with the
list, type a <control D>.
    next host to add:  nisServer
    next host to add:  
```

Remarque : Cliquer "CTRL + D" et confirmé en cliquant sur "Entrer"

sudo systemctl start rpcbind && sudo systemctl enable rpcbind

```
serveurdns@nisServer:~$ sudo systemctl enable rpcbind && sudo systemctl enable rpcbind
Synchronizing state of rpcbind.service with SysV service script with /usr/lib/systemd/s
ystemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable rpcbind
Synchronizing state of rpcbind.service with SysV service script with /usr/lib/systemd/s
ystemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable rpcbind
```

sudo systemctl start ypserv && sudo systemctl enable ypserv

```
serveurdns@nisServer:~$ sudo systemctl enable ypserv && sudo systemctl enable ypserv
Synchronizing state of ypserv.service with SysV service script with /usr/lib/systemd/sy
stemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable ypserv
Synchronizing state of ypserv.service with SysV service script with /usr/lib/systemd/sy
stemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable ypserv
```

7. Installation du client

Commandes :

sudo apt install nis rpcbind

```
serveurdns@client:~$ sudo apt install nis rpcbind
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
nis is already the newest version (4.5).
rpcbind is already the newest version (1.2.6-7ubuntu2).
0 upgraded, 0 newly installed, 0 to remove and 142 not upgraded.
```

sudo hostnamectl set-hostname client1

```
serveurdns@client:~$ sudo hostnamectl set-hostname client1
serveurdns@client:~$
```

sudo ypdomainname isima.local

```
serveurdns@client:~$ sudo ypdomainname isima.local
serveurdns@client:~$
```

echo "isima.local" | sudo tee /etc/defaultdomain

```
serveurdns@client:~$ echo "isima.local" | sudo tee /etc/defaultdomain
isima.local
```

Modifier /etc/yp.conf -> domain isima.local server 192.168.1.128

sudo nano /etc/yp.conf et ajouter cette ligne :

```
# ... be resolved and ypbind won't ever b

# ypserv ypserv.network.com
domain isima.local server 192.168.1.128
```

Modifier /etc/nsswitch.conf -> compat nis pour passwd, group, shadow : sudo nano /etc/nsswitch.conf

```
passwd:      files systemd sss compat nis
group:       files systemd sss compat nis
shadow:      files systemd sss compat nis
gshadow:     files systemd

hosts:       files mdns4_minimal [NOTFOUND=return] dns
networks:    files

protocols:   db files
services:    db files sss
ethers:      db files
rpc:         db files

netgroup:    nis sss
```

sudo systemctl restart rpcbind && sudo systemctl enable rpcbind

```
serveurdns@client:~$ sudo systemctl restart rpcbind && sudo systemctl enable rpcbind
Synchronizing state of rpcbind.service with SysV service script with /usr/lib/systemd/s
ystemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable rpcbind
serveurdns@client:~$
```

sudo systemctl start ypbind && sudo systemctl enable ypbind

```
serveurdns@client:~$ sudo systemctl restart ypbind && sudo systemctl enable ypbind
Synchronizing state of ypbind.service with SysV service script with /usr/lib/systemd/sy
stemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable ypbind
serveurdns@client:~$
```

8. Test de fonctionnement

Sur le serveur NIS :

sudo adduser nisuser -m -s /bin/bash

```
serveurdns@nisServer:~$ sudo useradd nisuser -m -s /bin/bash
[sudo] password for serveurdns:
```

sudo passwd nisuser

```
serveurdns@nisServer:~$ sudo passwd nisuser
New password:
BAD PASSWORD: The password contains the user name in some form
Retype new password:
Sorry, passwords do not match.
New password:
Retype new password:
passwd: password updated successfully
```

sudo make -C /var/yp

```
serveurdns@nisServer:~$ sudo make -C /var/yp
[sudo] password for serveurdns:
make: Entering directory '/var/yp'
gmake[1]: Entering directory '/var/yp/isima.local'
gmake[1]: Nothing to be done for 'all'.
gmake[1]: Leaving directory '/var/yp/isima.local'
make: Leaving directory '/var/yp'
```

Sur le client :

```
serveurdns@client:~$ su - nisuser
Password:
su: warning: cannot change directory to /home/nisuser: No such file or directory
nisuser@client:/home/serveurdns$ exit
logout
```