Configure linux nis server step by step guide example and implementation

NIS, or **Network Information Systems,** is a network service that allows authentication and login information to be stored on a centrally located server. This includes the username and password database for login authentication, database of user groups, and the locations of home directories.

RHCE exam questions

One **NIS Domain** named **rhce** is configured in your lab, server is **192.168.0.254.** nis1, nis2,nis3 user are created on domain server. Make your system as a member of **rhce** domain. Make sure that when nis user login in your system home directory should get by them. Home directory is shared on server **/rhome/nis1**.

RHCE exam doesn't ask candidate to configure NIS server. It test only NIS client side configuration. As you can see in example questions. But here in this article we will configure both server and client side for testing purpose so you can get more depth knowledge of nis server

Configure NIS server

In this example we will configure a NIS server and a user nis1 will login from client side.

For this example we are using two systems one linux server one linux clients . To complete these per quest of nis server Follow this link

basic network configurations Example and Implementations ip configurations hosts files portmap xinetd services

- A linux server with ip address 192.168.0.254 and hostname Server
- A linux client with ip address 192.168.0.1 and hostname Client1
- Updated /etc/hosts file on both linux system
- Running portmap and xinetd services
- Firewall should be off on server

We suggest you to review that article before start configuration of nis server. Once you have completed the necessary steps follow this guide.

Seven rpm are required to configure nis server. **ypserv, cach, nfs, make, ypbind, portmap, xinetd** check them if not found then install

```
[root@Server ~]# rpm -qa ypserv*
ypserv-2.19-3
[root@Server ~]# rpm -qa ypbind*
ypbind-1.19-8.el5
[root@Server ~]# rpm -qa nfs*
nfs-utils-1.0.9-24.el5
nfs-utils-lib-1.0.8-7.2.z2
[root@Server ~]# rpm -qa make*
make-3.81-1.1
[root@Server ~]# rpm -qa cach*
cachefilesd-0.8-2.el5
caching-nameserver-9.3.3-10.el5
[root@Server ~]# rpm -qa portmap*
portmap-4.0-65.2.2.1
[root@Server ~]# rpm -qa xinetd*
xinetd-2.3.14-10.el5
[root@Server ~]# _
```

Now check **nfs,ypserv,yppasswdd,ypbind, portmap, xinetd** service in system service it should be on

```
#setup
Select  System service
from list
[*]portmap
[*]xinetd
[*]nfs
[*]ypserv
[*]yppasswdd
[*]ypbind
```

Now open **/etc/sysconfig/network** file

```
[root@Server ~]# vi /etc/sysconfig/network_
```

Set **hostname** and **NIS domain** name as shown here and save file

```
NETWORKING=yes
NETWORKING_IPV6=no
HOSTNAME=Server
NISDOMAIN=rhce
_
```

Now create a user named **nis1** and give his home directory on **/rhome** with full permission

```
[root@Server ~]# mkdir /rhome
[root@Server ~]# useradd -d /rhome/nis1 nis1
[root@Server ~]# passwd nis1
Changing password for user nis1.
New UNIX password:
BAD PASSWORD: it is WAY too short
Retype new UNIX password:
passwd: all authentication tokens updated successfully.
[root@Server ~]# chmod 777 /rhome
[root@Server ~]# _
```

Now open **/etc/exports** file

```
[root@Server ~]# vi /etc/exports _
```

share **/rhome/nis1** directory for network

```
/rhome/nis1                *(rw,sync)_
```

save this with **:wq** and exit

now open **/var/yp/Makefile** file

```
[root@Server ~]# vi /var/yp/Makefile _
```

and locate **line number 109** [use **ESC + : +set nu** command to show hidden lines or read our vi editor article to know more about vi command line option]

```
104          $(MAKE) -f ../Makefile all
105
106 # If you don't want some of these maps built, feel free to
107 # them out from this list.
108
109 all:  passwd group hosts rpc services netid protocols mail
```

Now remove other entry from this line excepts **passwd group hosts netid \ [as shown here]**

```
103          $(NOPUSH) || $(MAKE) -f ../Makefile y
104          $(MAKE) -f ../Makefile all
105
106 # If you don't want some of these maps built,
107 # them out from this list.
108
109 all:  passwd group hosts  netid \
```

save this with **:wq** and exit

Now restart these service

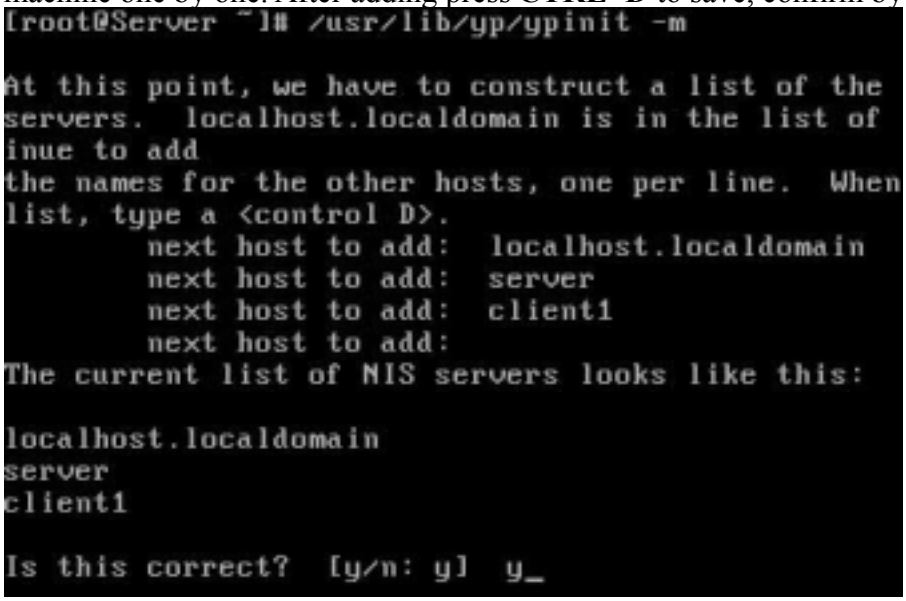
```
#service portmap restart
#service xinetd restart
#service nfs restart
#service ypserv restart
#service yppasswdd restart
```

Don't restart **ypbind** service at this time as we haven't updated our database

Now change directory to **/var/yp** and run **make** command to create database

```
[root@Server ~]# cd /var/yp
[root@Server yp]# make
gmake[1]: Entering directory `/var/yp/rhce'
Updating netid.byname...
gmake[1]: Leaving directory `/var/yp/rhce'
[root@Server yp]# _
```

now update this database by running this commands [first add **server** and then add all client machine one by one. After adding press **CTRL+D** to save, confirm by pressing **y**]



Now once again **restart** all these service this time there should be no error

```
#service portmap restart
#service xinetd restart
#service nfs restart
#service ypserv restart
#service yppasswdd restart
#service ypbind restart
```

Now set all these service to on with **chkconfig** so these could be on after restart

```
#chkconfig portmap on
#chkconfig xinetd on
#chkconfig nfs on
#chkconfig ypserv on
#chkconfig yppasswdd on
#chkconfig ypbind on
```

Client configuration

Before you start client configuration we suggest you to check proper connectivity between server and client. First try to login on NIS server from **telnet.** If you can successfully login via telnet then try to mount **/rhome/nis1** directory via **nfs server.** If you get any error in telnet or nfs then remove those error first. You can read our pervious article for configuration related help.

To know how configure nfs server read

Configure linux nfs server step by step guide example and implementation

To know how configure telnet server read

Configure linux telnet server step by step guide example and implementation

Once you successfully completed necessary test then start configuration of client sides.

Two rpm are required to configure clients **yp-tools** and **ypbind** check them for install

```
[root@Client1 ~]# rpm -qa yp-tools
yp-tools-2.9-0.1
[root@Client1 ~]# rpm -qa ypbind
ypbind-1.19-8.el5
[root@Client1 ~]# _
```

now open **/etc/sysconfig/network** file

```
[root@Client1 ~]# vi /etc/sysconfig/network_
```

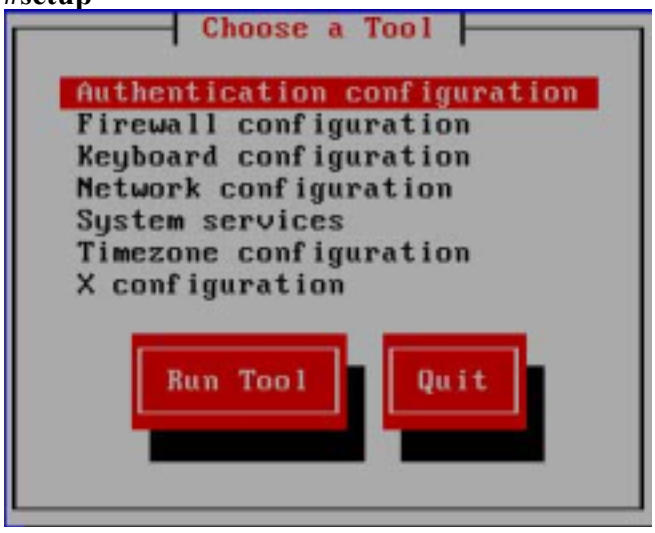
and make change as shown here

```
NETWORKING=yes
NETWORKING_IPV6=no
HOSTNAME=Client1
NISDOMAIN=rhce_
```

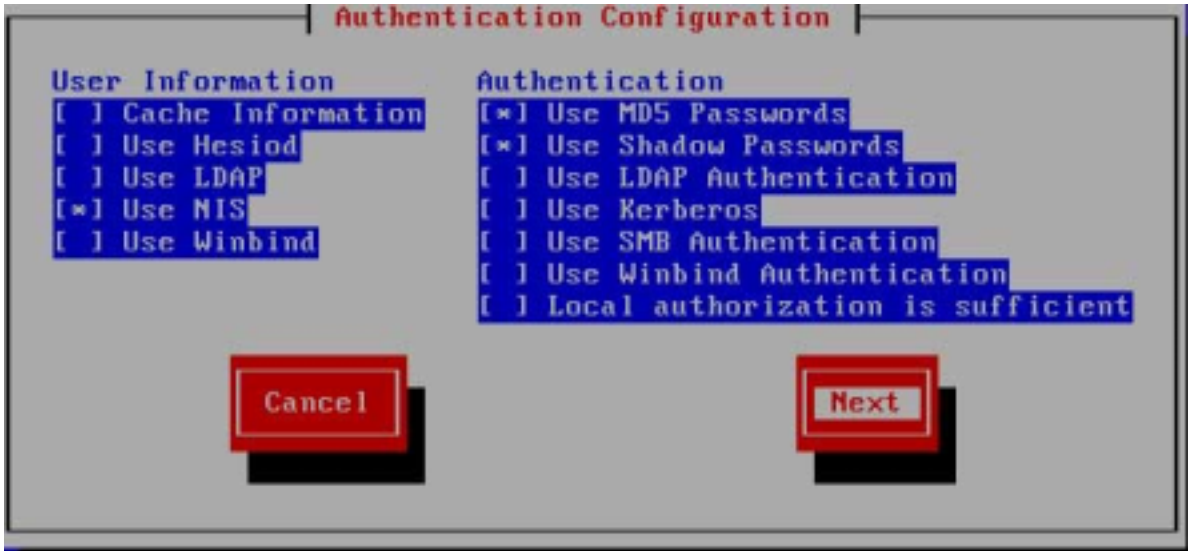
save the file with **:wq** and exit

now run **setup** command and select **authentication configuration** from list

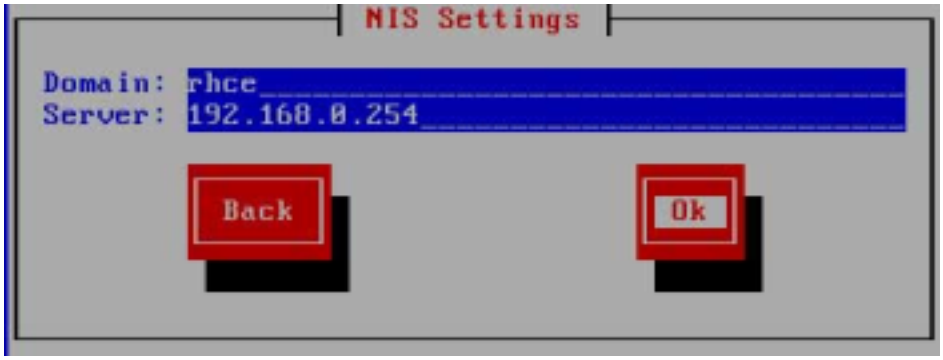
#setup



now check mark on **NIS** and enter on next



Set domain name to **rhce** and server to **192.168.0.254** and click on ok



No error should be occurred here if you see any error then check all configuration.

no open **/etc/auto.master** file

```
[root@Client1 ~]# vi /etc/auto.master _
```

in the end of file do editing of **/rhome** as shown here

```
#
# Note that if there are entries for /net or /misc (as
# above) in the included master map any keys that are the
# same will not be seen as the first read key seen takes
# precedence.
#
+auto.master
/rhome          /etc/auto.misc_
```

save the file with **:wq** and exit

now open **/etc/auto.misc** file

```
[root@Client1 ~]# vi /etc/auto.misc _
```

in the end of file **do editing** of user **nis1** as shown here

```
#e2floppy       -fstype=ext2            :/dev/fd0
#jaz            -fstype=ext2            :/dev/sdc1
#removable      -fstype=ext2            :/dev/hdd
nis1            -rw,soft,intr           192.168.0.254:/rhome/nis1_
```

save the file with **:wq** and exit

now restart **autofs** and **ypbind** service

```
[root@Client1 ~]# service autofs restart
Stopping automount:                                        [  OK  ]
Starting automount:                                        [  OK  ]
[root@Client1 ~]# service ypbind restart
Shutting down NIS services:                                [  OK  ]
Binding to the NIS domain:                                 [  OK  ]
Listening for an NIS domain server..
[root@Client1 ~]# _
```

set these service **on** via **chkconfig** commands

```
#chkconfig autofs on
#chkconfig ypbind on
```

now **restart** the system

```
 #reboot -f
```

login from **nis1** user on client system

```
Red Hat Enterprise Linux Server release 5.1 (Tikanga)
Kernel 2.6.18-53.el5 on an i686

Client1 login: nis1
Password:
FS-Cache: Loaded
FS-Cache: netfs 'nfs' registered for caching
[nis1@Client1 ~]$ pwd
/rhome/nis1
[nis1@Client1 ~]$ _
```