

# Uniform namespace using autofs with NFS Version 3

<b>Version</b>	1.1
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<b>Web</b>	<a href="http://www.tic.fdns.net/html/lab.html">http://www.tic.fdns.net/html/lab.html</a>
<b>Description</b>	Starting from a IBM's developerWorks article we demonstrate a netkit virtual power.

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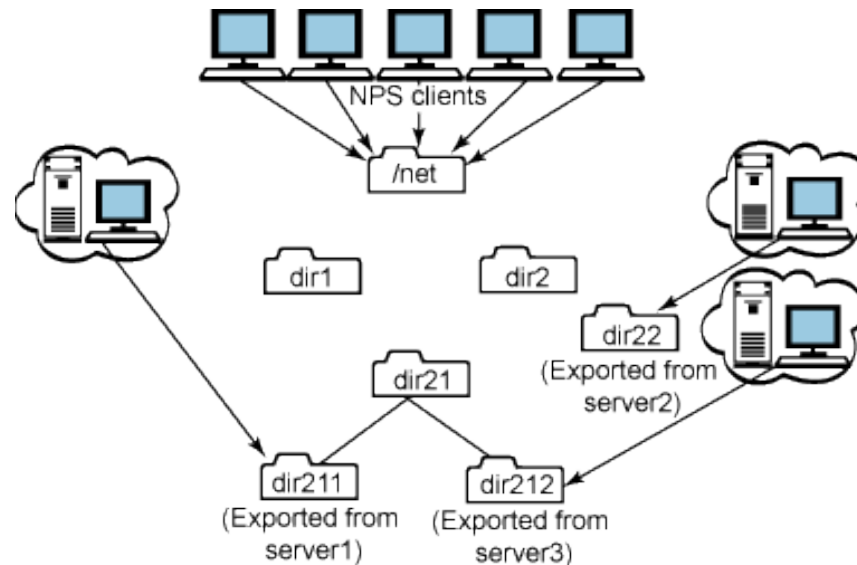
# Purpose

Starting from a IBM's developerWorks article about *“Create uniform namespace using autofs with NFS version 3 client and servers”* we show how to build a practical expertise using netkit virtual lab.

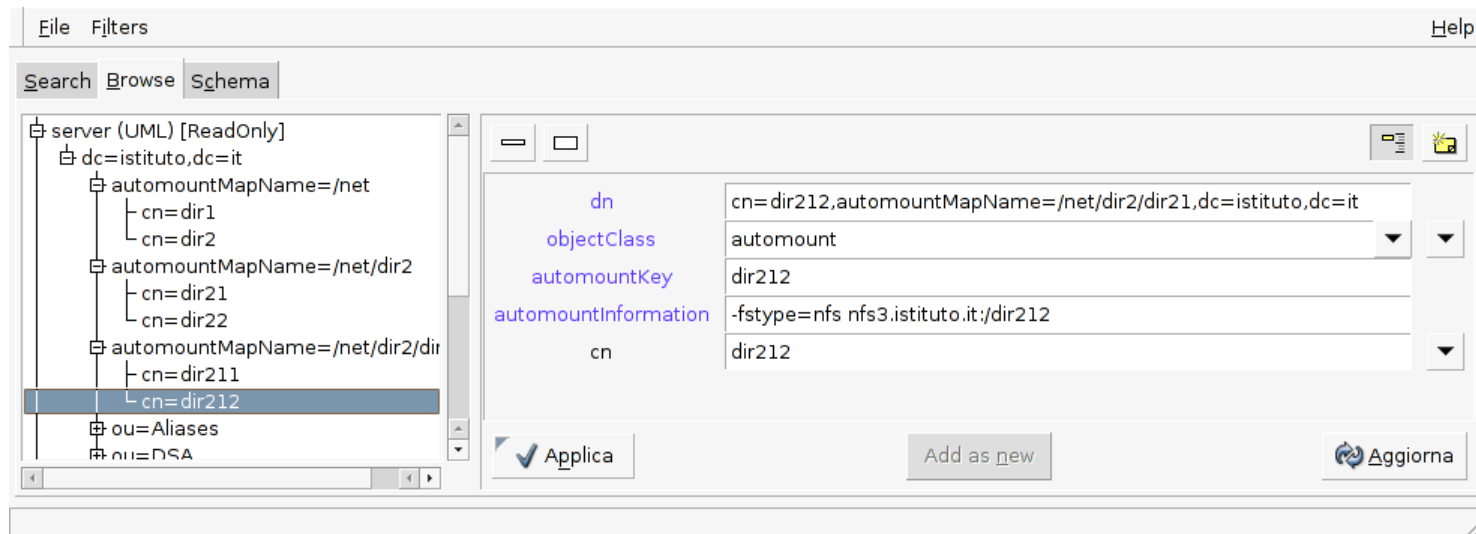
# Real applications

- In schools with LTSP servers we can configure NFS's homes using method-1
- In schools Linux clients can configure access to NFS's homes with only one file using method-5

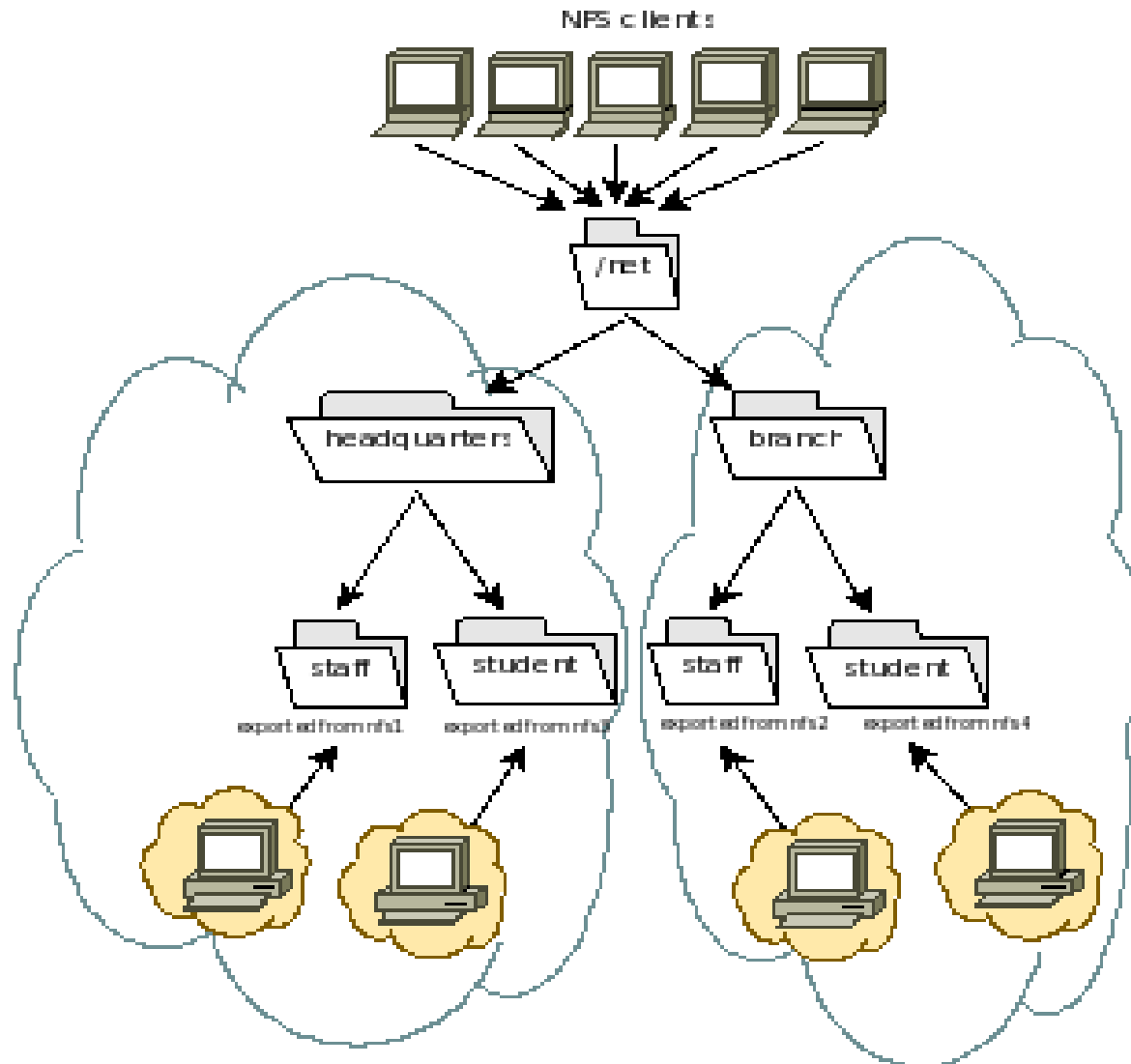
# DeveloperWorks article topology



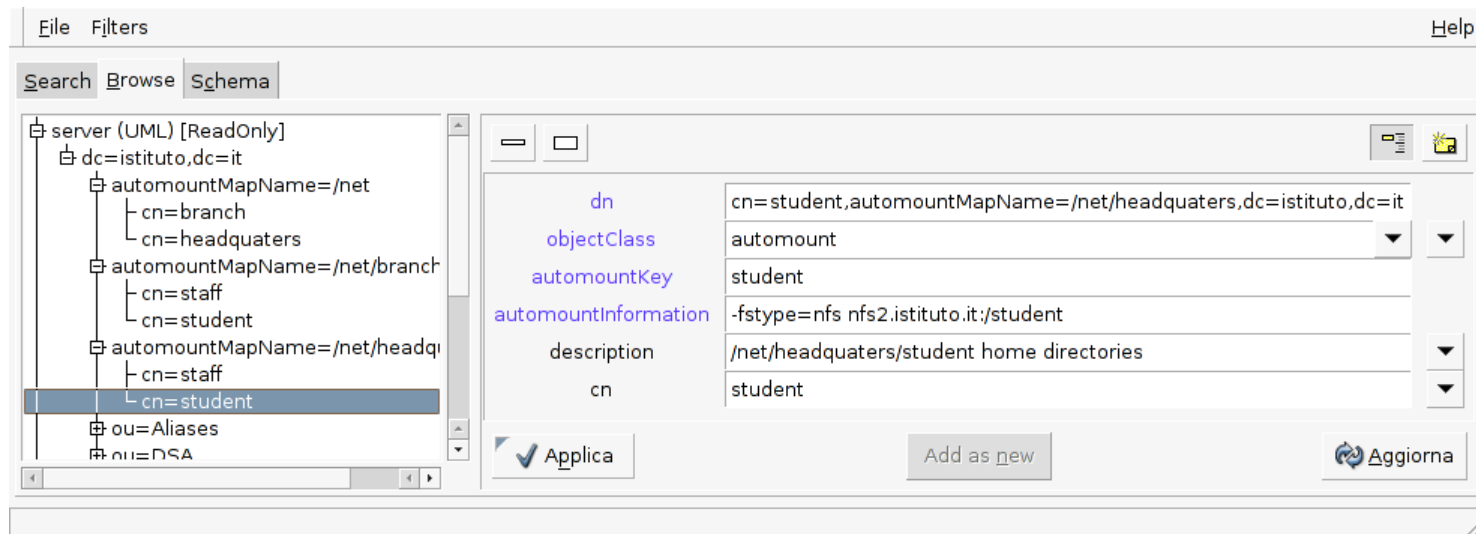
# DevelopeWorks Idap tree



# school topology

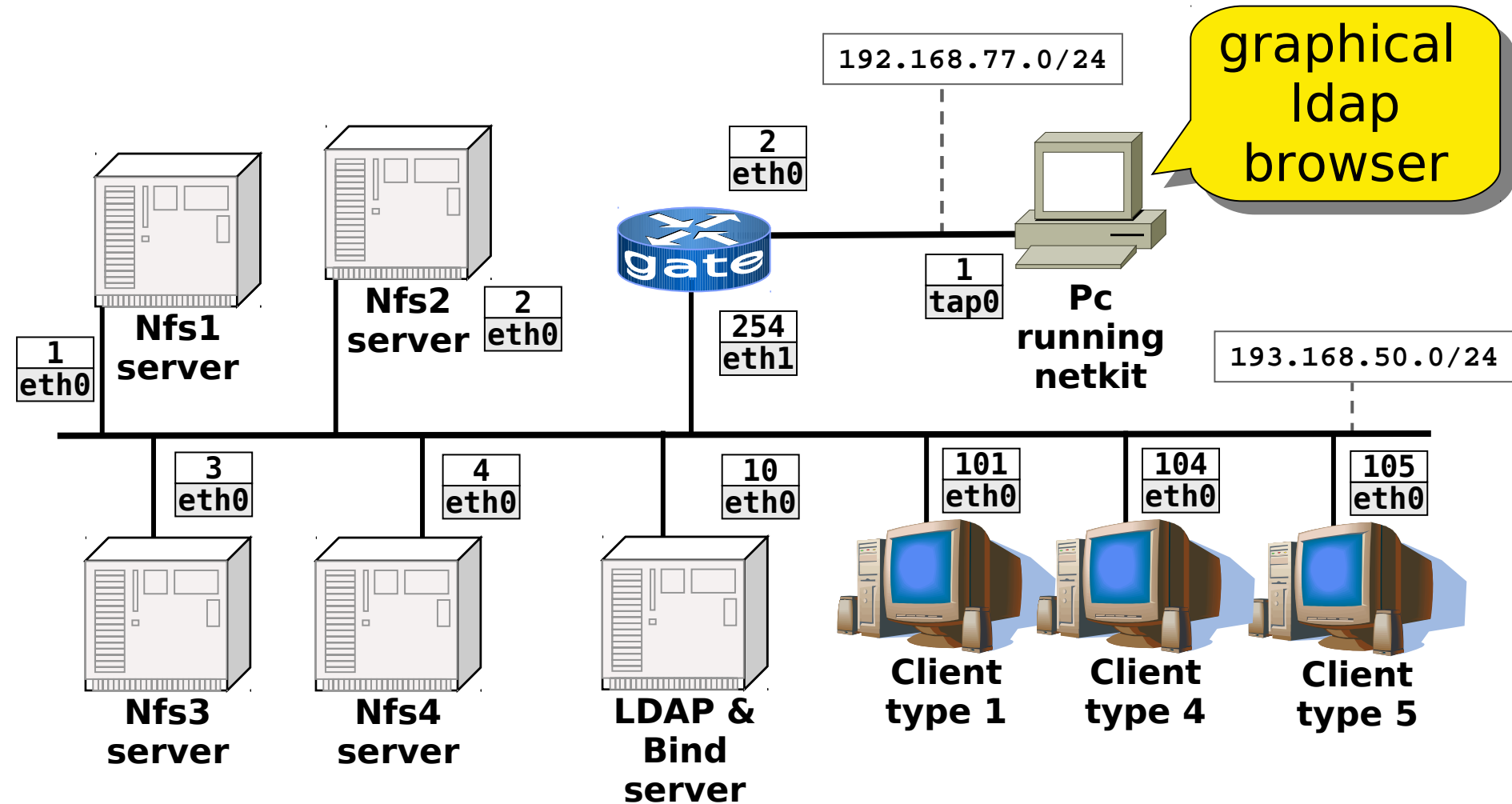


# school ldap tree





# network netkit lab topology



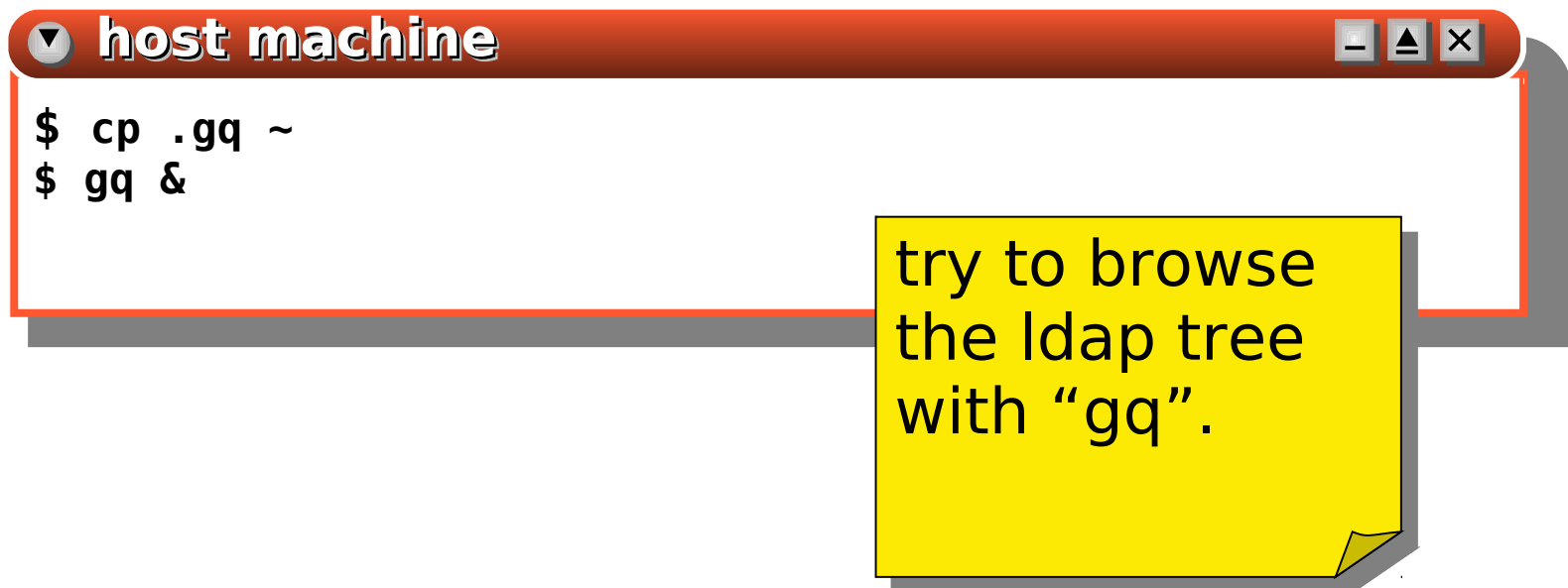
# Download experience ...

host machine

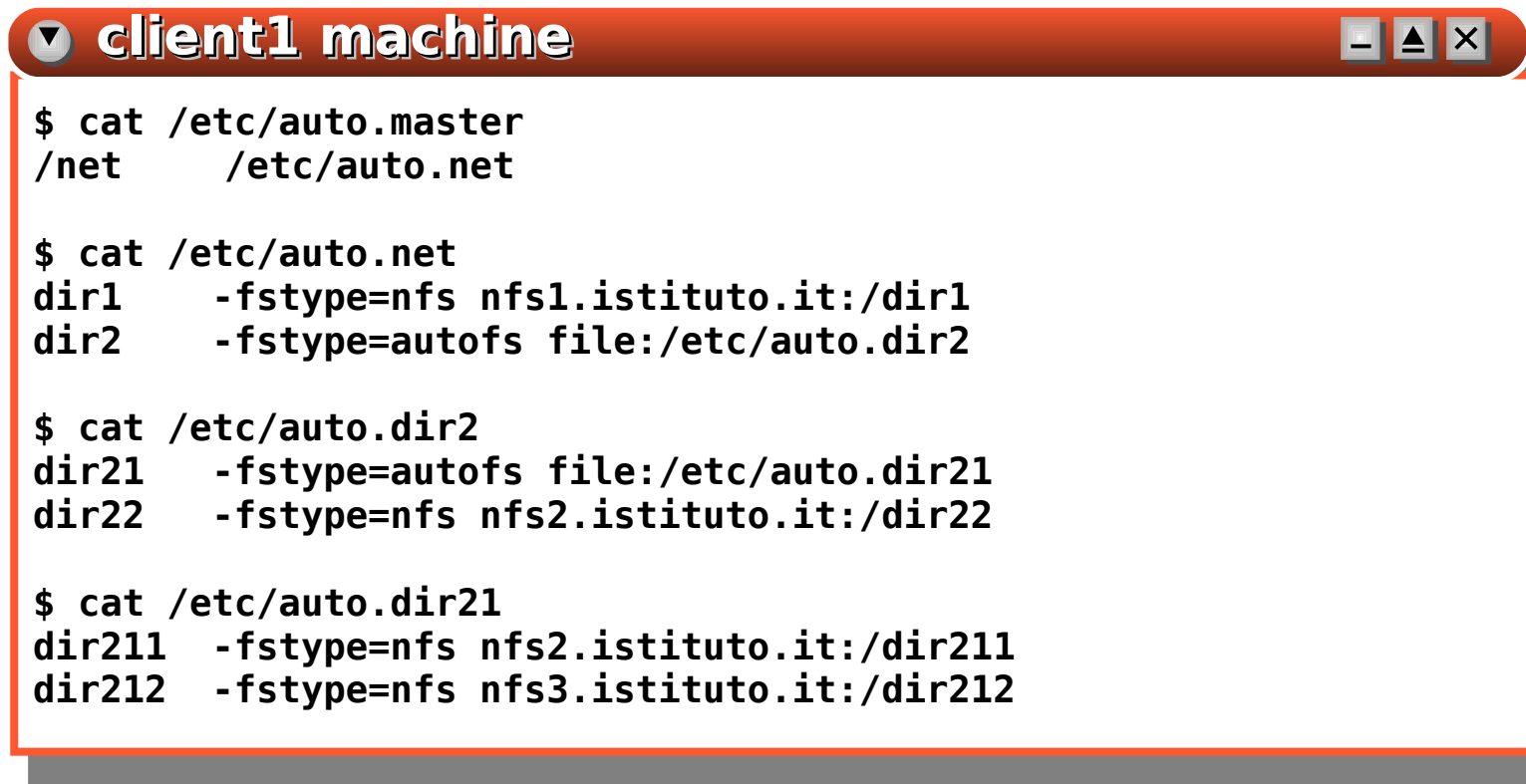
```
$ wget http://www.tic.fdns.net/tic/docs/NFS.pdf
$ wget http://www.tic.fdns.net/tic/lab/NFS.tgz
$ tar zxf NFS.tgz
$ cd NFS
$ devilspie NFS.ds & [optional for graphical effects]
$ lstart -f gate server nfs1 nfs2 nfs3 nfs4
$ lstart -f client1 client5
```

# Browsing Idap tree ...

- The lab starts with DevelopWork example



# Client 1 configuration



```
$ cat /etc/auto.master
/net      /etc/auto.net

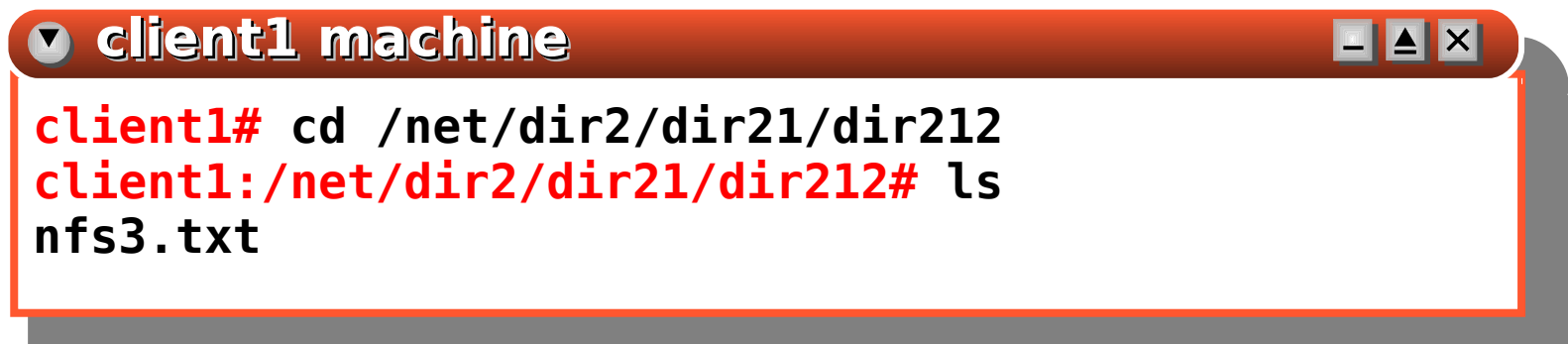
$ cat /etc/auto.net
dir1      -fstype=nfs nfs1.istituto.it:/dir1
dir2      -fstype=autofs file:/etc/auto.dir2

$ cat /etc/auto.dir2
dir21     -fstype=autofs file:/etc/auto.dir21
dir22     -fstype=nfs nfs2.istituto.it:/dir22

$ cat /etc/auto.dir21
dir211    -fstype=nfs nfs2.istituto.it:/dir211
dir212    -fstype=nfs nfs3.istituto.it:/dir212
```

# Using client with method 1

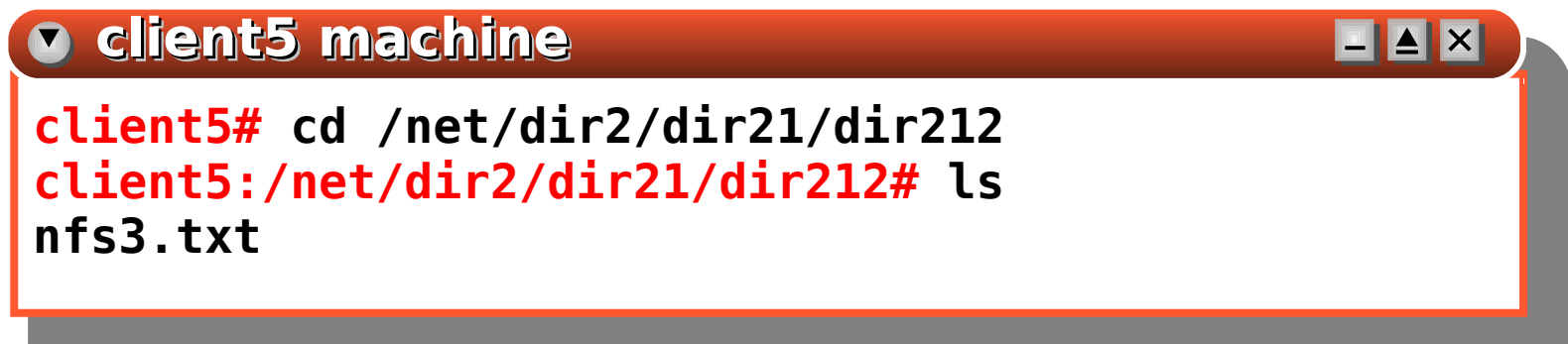
- moving into namespace ...



```
client1 machine
client1# cd /net/dir2/dir21/dir212
client1:/net/dir2/dir21/dir212# ls
nfs3.txt
```

# Using client with method 5

- Try to move into namespace ...

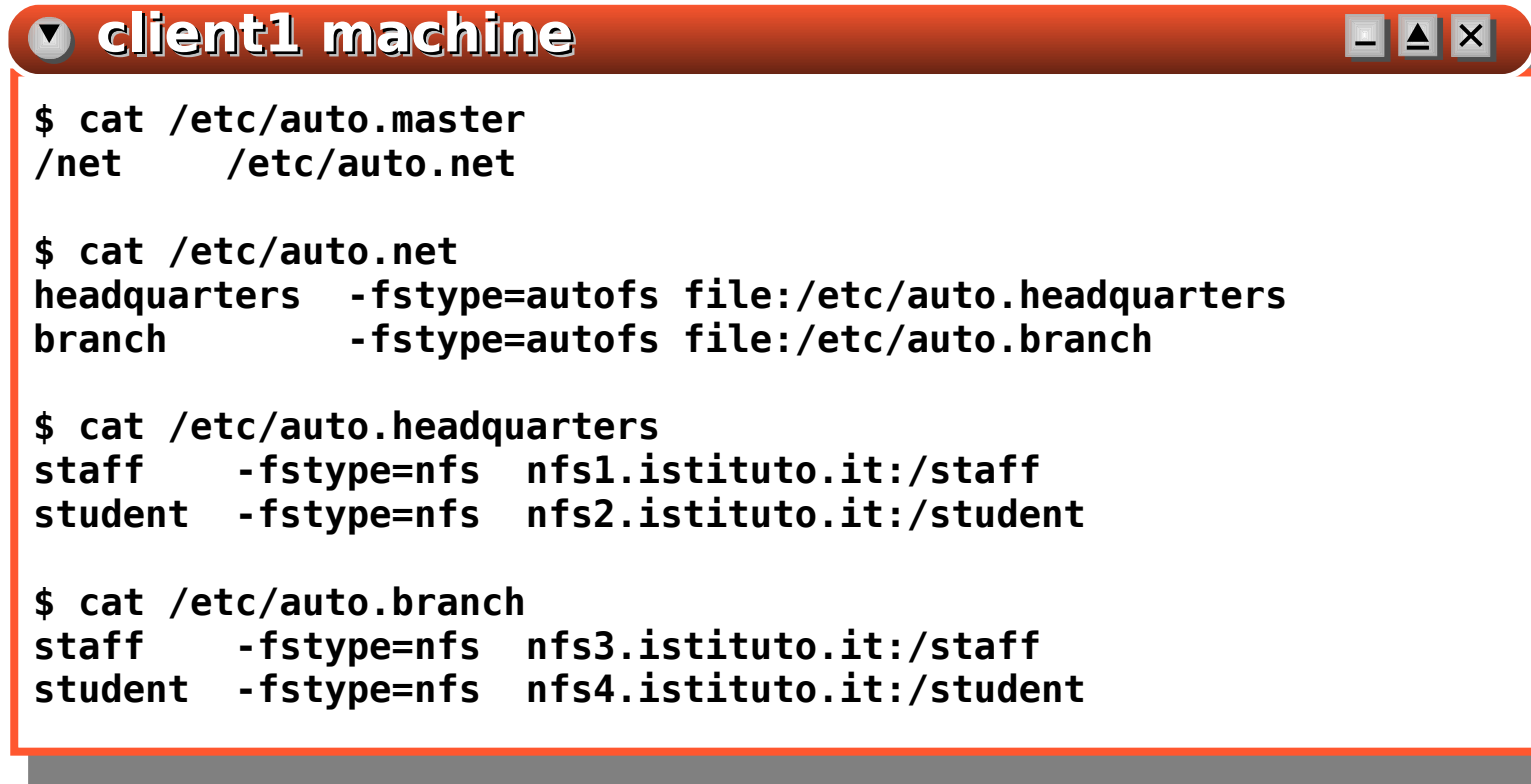


```
client5 machine
client5# cd /net/dir2/dir21/dir212
client5:/net/dir2/dir21/dir212# ls
nfs3.txt
```

# Switching to school example

- method 1 requires change to `/etc/auto.*` files in client 1 (in virtual experience is obtained copying `auto.net.school` into `auto.net` and restarting autofs).
- method 5 require change to ldap server

# method 1 client configuration



```
client1 machine
$ cat /etc/auto.master
/net      /etc/auto.net

$ cat /etc/auto.net
headquarters -fstype=autofs file:/etc/auto.headquarters
branch      -fstype=autofs file:/etc/auto.branch

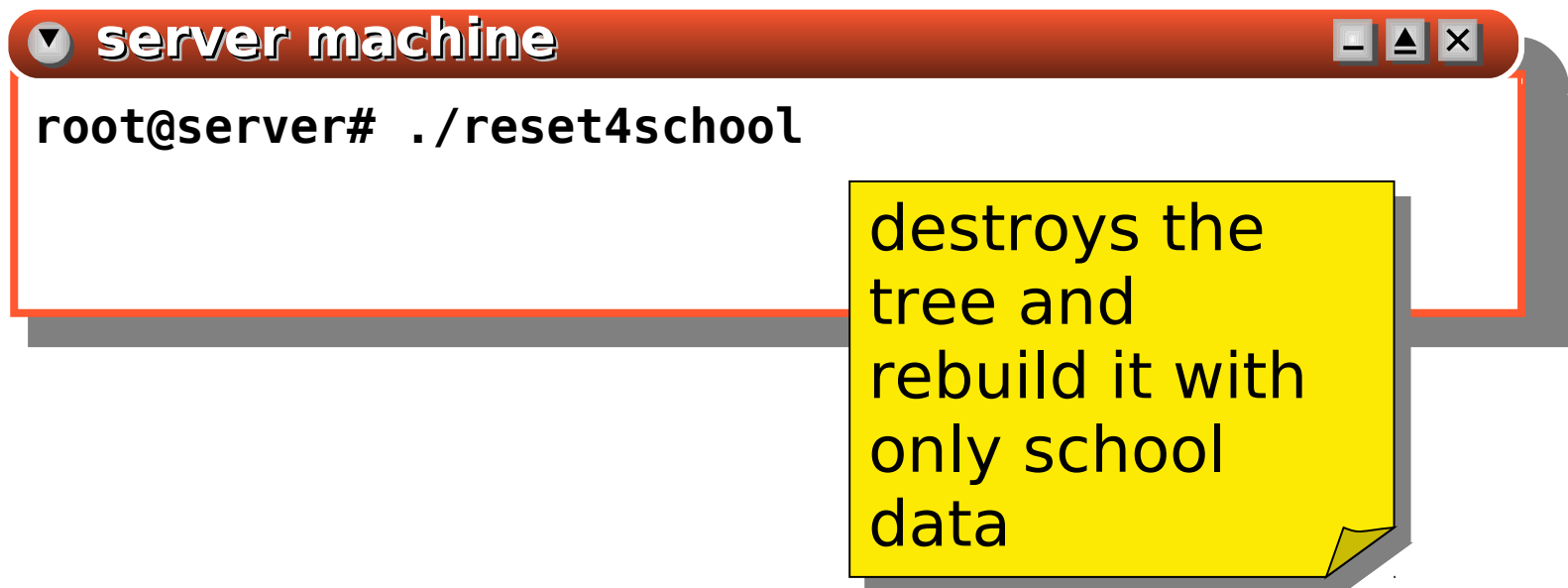
$ cat /etc/auto.headquarters
staff      -fstype=nfs  nfs1.istituto.it:/staff
student    -fstype=nfs  nfs2.istituto.it:/student

$ cat /etc/auto.branch
staff      -fstype=nfs  nfs3.istituto.it:/staff
student    -fstype=nfs  nfs4.istituto.it:/student
```



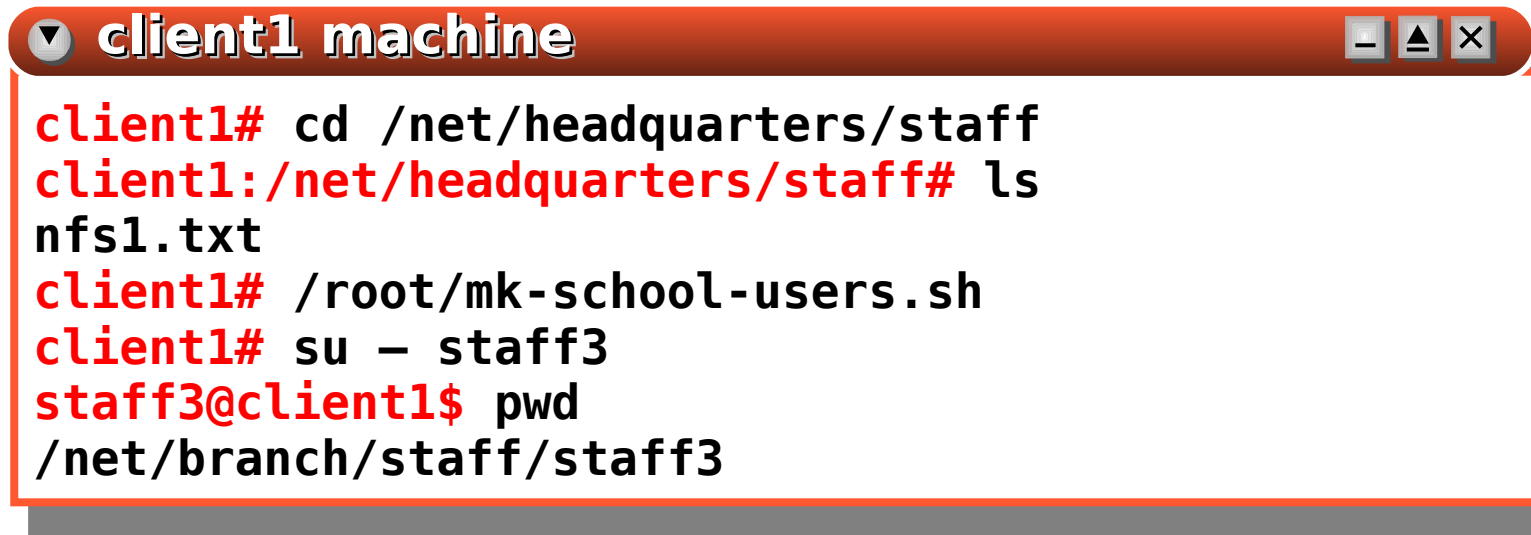
# method 5 server reconfiguration

- Build school ldap tree and browse it



# Using client with method 1

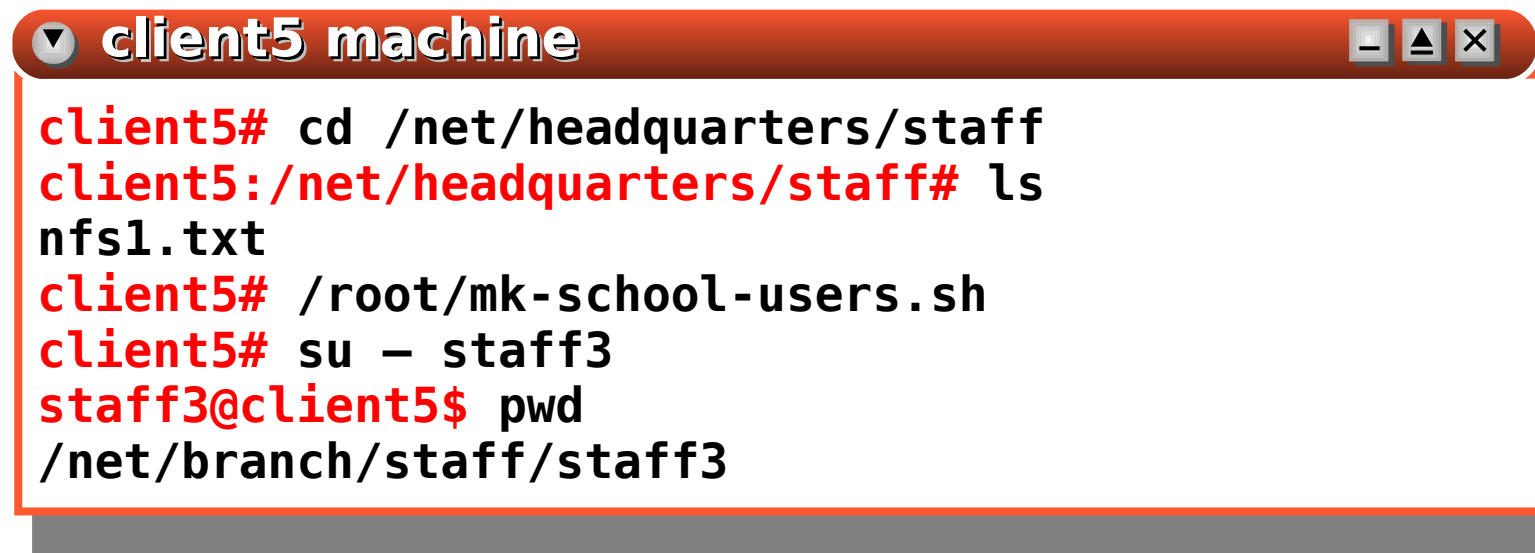
- moving into namespace ...



```
client1 machine
client1# cd /net/headquarters/staff
client1:/net/headquarters/staff# ls
nfs1.txt
client1# /root/mk-school-users.sh
client1# su - staff3
staff3@client1$ pwd
/net/branch/staff/staff3
```

# Using client with method 5

- Try to move into namespace ...



```
client5 machine
client5# cd /net/headquarters/staff
client5:/net/headquarters/staff# ls
nfs1.txt
client5# /root/mk-school-users.sh
client5# su - staff3
staff3@client5$ pwd
/net/branch/staff/staff3
```