

# Презентация по лабораторной работе №14

## Настройка файловых служб Samba

---

Галацан Николай

Российский университет дружбы народов, Москва, Россия

- Галацан Николай
- 1032225763
- уч. группа: НПИбд-01-22
- Факультет физико-математических и естественных наук
- Российский университет дружбы народов

Приобретение навыков настройки доступа групп пользователей к общим ресурсам по протоколу SMB.

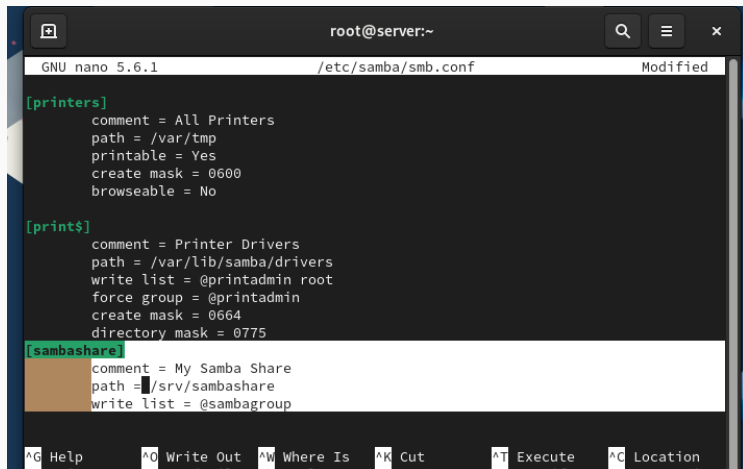
## Настройка сервера Samba

---

```
dnf -y install samba samba-client cifs-utils
```

```
groupadd -g 1010 sambagroup  
usermod -aG sambagroup user
```

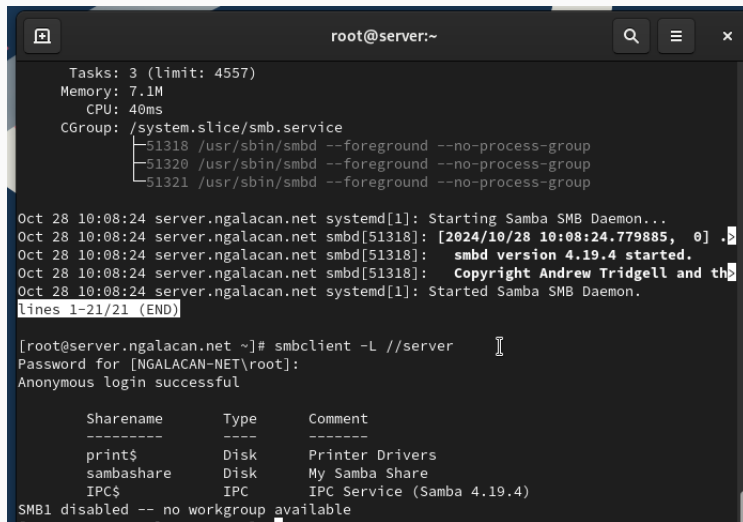
```
mkdir -p /srv/smbshare
```



```
root@server:~  
GNU nano 5.6.1 /etc/samba/smb.conf Modified  
[printers]  
comment = All Printers  
path = /var/tmp  
printable = Yes  
create mask = 0600  
browseable = No  
  
[print$]  
comment = Printer Drivers  
path = /var/lib/samba/drivers  
write list = @printadmin root  
force group = @printadmin  
create mask = 0664  
directory mask = 0775  
  
[smbashare]  
comment = My Samba Share  
path = /srv/smbashare  
write list = @smbagroup
```

Рис. 1: Редактирование файла конфигурации /etc/samba/smb.conf





```
root@server:~
Tasks: 3 (limit: 4557)
Memory: 7.1M
CPU: 40ms
CGroup: /system.slice/smb.service
├─51318 /usr/sbin/smbd --foreground --no-process-group
├─51320 /usr/sbin/smbd --foreground --no-process-group
└─51321 /usr/sbin/smbd --foreground --no-process-group

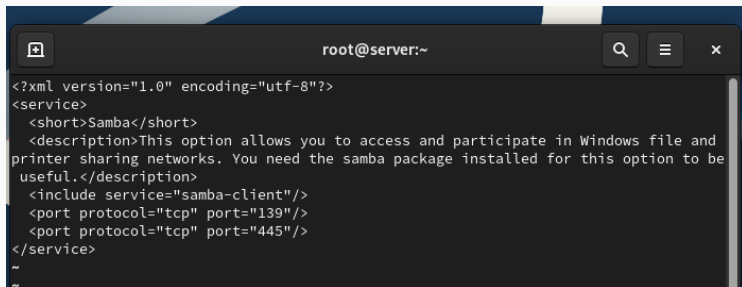
Oct 28 10:08:24 server.ngalacan.net systemd[1]: Starting Samba SMB Daemon...
Oct 28 10:08:24 server.ngalacan.net smbd[51318]: [2024/10/28 10:08:24.779885, 0] .>
Oct 28 10:08:24 server.ngalacan.net smbd[51318]:   smbd version 4.19.4 started.
Oct 28 10:08:24 server.ngalacan.net smbd[51318]:   Copyright Andrew Tridgell and th>
Oct 28 10:08:24 server.ngalacan.net systemd[1]: Started Samba SMB Daemon.
lines 1-21/21 (END)

[root@server.ngalacan.net ~]# smbclient -L //server
Password for [NGALACAN-NET\root]:
Anonymous login successful

      Sharename      Type      Comment
      -----      -
      print$         Disk      Printer Drivers
      sambashare      Disk      My Samba Share
      IPC$            IPC       IPC Service (Samba 4.19.4)

SMB1 disabled -- no workgroup available
```

Рис. 2: Запуск демона и просмотр статуса, проверка доступа к общему ресурсу



The image shows a terminal window with a dark background. The title bar at the top reads "root@server:~". Inside the terminal, the content of a configuration file is displayed in XML format. The XML defines a service named "Samba" with a description, an include for "samba-client", and two port configurations: one for port 139 (TCP) and another for port 445 (TCP). The terminal shows the first few lines of the XML document, including the XML declaration and the opening of the service element.

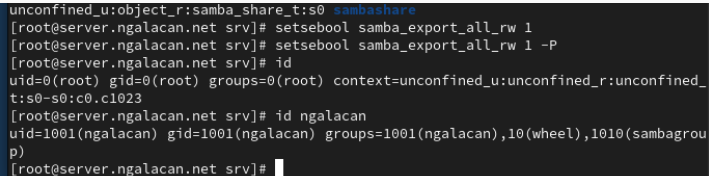
```
<?xml version="1.0" encoding="utf-8"?>
<service>
  <short>Samba</short>
  <description>This option allows you to access and participate in Windows file and
printer sharing networks. You need the samba package installed for this option to be
useful.</description>
  <include service="samba-client"/>
  <port protocol="tcp" port="139"/>
  <port protocol="tcp" port="445"/>
</service>
~
~
```

Рис. 3: Просмотр файла конфигурации межсетевого экрана для Samba

## Выполнение лабораторной работы

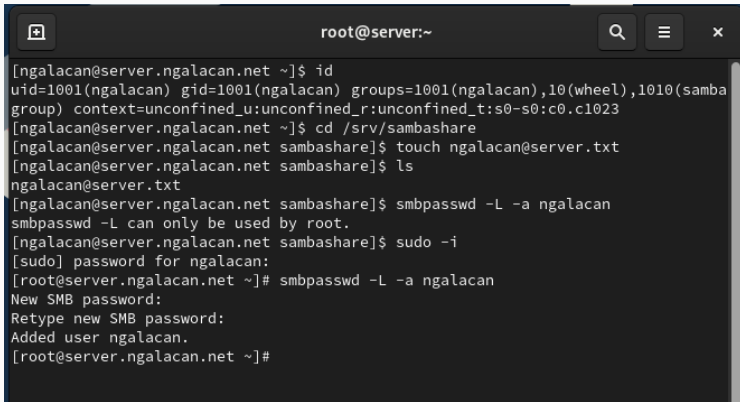
```
SMB1 disabled -- no workgroup available
[root@server.ngalacan.net ~]# less /usr/lib/firewalld/services/samba.xml
[root@server.ngalacan.net ~]# firewall-cmd --add-service=samba
success
[root@server.ngalacan.net ~]# firewall-cmd --add-service=samba --permanent
success
[root@server.ngalacan.net ~]# firewall-cmd --reload
success
[root@server.ngalacan.net ~]# chgrp sambagroup /srv/smbashare
[root@server.ngalacan.net ~]# chmod g=rwx /srv/smbashare
[root@server.ngalacan.net ~]# cd /srv
[root@server.ngalacan.net srv]# ls -Z
unconfined_u:object_r:nfs_t:s0 nfs unconfined_u:object_r:var_t:s0 sambashare
[root@server.ngalacan.net srv]# semanage fcontext -a -t samba_share_t "/srv/smbashare(/.*)?"
[root@server.ngalacan.net srv]# restorecon -vR /srv/smbashare
Relabeled /srv/smbashare from unconfined_u:object_r:var_t:s0 to unconfined_u:object_r:samba_share_t:s0
[root@server.ngalacan.net srv]# ls -Z
unconfined_u:object_r:nfs_t:s0 nfs
unconfined_u:object_r:samba_share_t:s0 sambashare
[root@server.ngalacan.net srv]#
```

Рис. 4: Настройка межсетевого экрана, прав доступа и изменение контекста безопасности

A terminal window with a dark background and light blue text. The text shows a sequence of commands and their outputs in a Linux environment. The commands are: 'setsebool samba\_export\_all\_rw 1', 'setsebool samba\_export\_all\_rw 1 -P', 'id', and 'id ngalacan'. The outputs show the current user's context and the target user's details.

```
unconfined_u:object_r:samba_share_t:s0 sambashare
[root@server.ngalacan.net srv]# setsebool samba_export_all_rw 1
[root@server.ngalacan.net srv]# setsebool samba_export_all_rw 1 -P
[root@server.ngalacan.net srv]# id
uid=0(root) gid=0(root) groups=0(root) context=unconfined_u:unconfined_r:unconfined_
t:s0-s0:c0.c1023
[root@server.ngalacan.net srv]# id ngalacan
uid=1001(ngalacan) gid=1001(ngalacan) groups=1001(ngalacan),10(wheel),1010(sambagrou
p)
[root@server.ngalacan.net srv]#
```

Рис. 5: Разрешение экспортирование разделяемых ресурсов для чтения и записи, просмотр id

A terminal window titled 'root@server:~' with search, menu, and close buttons. It shows a series of commands and their outputs. The user 'ngalacan' is initially at the prompt. They run 'id' showing they are in the 'wheel' group. Then they navigate to '/srv/smbshare', create a file 'ngalacan@server.txt', and list the directory. Next, they attempt to use 'smbpasswd' but are told it requires root. They then run 'sudo -i' to become root. As root, they run 'smbpasswd -L -a ngalacan', which prompts for a new password and confirms the user addition. Finally, they exit 'sudo' with '#'.

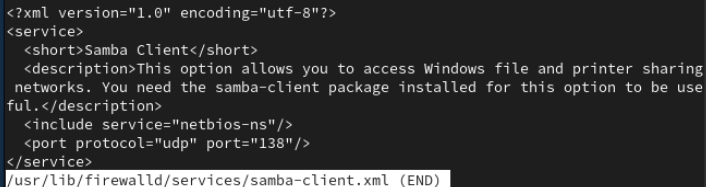
```
root@server:~  
[ngalacan@server.ngalacan.net ~]$ id  
uid=1001(ngalacan) gid=1001(ngalacan) groups=1001(ngalacan),10(wheel),1010(samba  
group) context=unconfined_u:unconfined_r:unconfined_t:s0-s0:c0.c1023  
[ngalacan@server.ngalacan.net ~]$ cd /srv/smbshare  
[ngalacan@server.ngalacan.net smbshare]$ touch ngalacan@server.txt  
[ngalacan@server.ngalacan.net smbshare]$ ls  
ngalacan@server.txt  
[ngalacan@server.ngalacan.net smbshare]$ smbpasswd -L -a ngalacan  
smbpasswd -L can only be used by root.  
[ngalacan@server.ngalacan.net smbshare]$ sudo -i  
[sudo] password for ngalacan:  
[root@server.ngalacan.net ~]# smbpasswd -L -a ngalacan  
New SMB password:  
Retype new SMB password:  
Added user ngalacan.  
[root@server.ngalacan.net ~]#
```

Рис. 6: Создание файла на разделяемом ресурсе, добавление пользователя в базу Samba

## Монтирование файловой системы Samba на клиенте

---

```
dnf -y install samba-client cifs-utils
```



```
<?xml version="1.0" encoding="utf-8"?>
<service>
  <short>Samba Client</short>
  <description>This option allows you to access Windows file and printer sharing
networks. You need the samba-client package installed for this option to be use
ful.</description>
  <include service="netbios-ns"/>
  <port protocol="udp" port="138"/>
</service>
/usr/lib/firewalld/services/samba-client.xml (END)
```

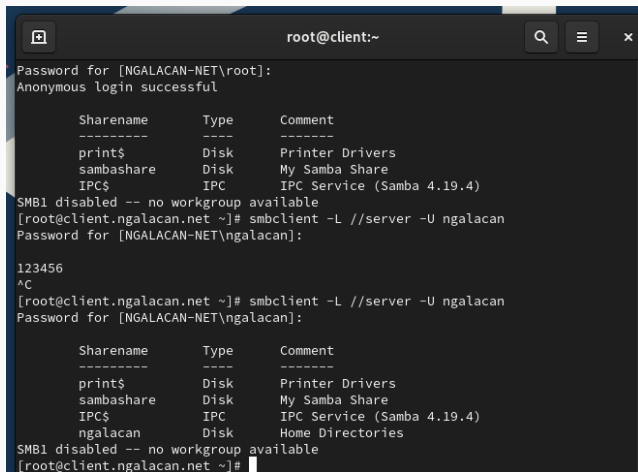
Рис. 7: Просмотр файла конфигурации межсетевого экрана для клиента Samba



```
complete:  
[root@client.ngalacan.net ~]# less /usr/lib/firewalld/services/samba-client.xml  
[root@client.ngalacan.net ~]# firewall-cmd --add-service=samba-client  
success  
[root@client.ngalacan.net ~]# firewall-cmd --add-service=samba-client --permanen  
t  
success  
[root@client.ngalacan.net ~]# firewall-cmd --reload  
success  
[root@client.ngalacan.net ~]# groupadd -g 1010 sambagroup  
[root@client.ngalacan.net ~]# usermod -aG sambagroup ngalacan  
[root@client.ngalacan.net ~]#
```

Рис. 8: Настройка межсетевого экрана на клиенте, создание группы и добавление пользователя

## Выполнение лабораторной работы



```
root@client:~
Password for [NGALACAN-NET\root]:
Anonymous login successful

      Sharename      Type      Comment
      -----
      print$         Disk      Printer Drivers
      sambashare     Disk      My Samba Share
      IPC$           IPC       IPC Service (Samba 4.19.4)
SMB1 disabled -- no workgroup available
[root@client.ngalacan.net ~]# smbclient -L //server -U ngalacan
Password for [NGALACAN-NET\ngalacan]:

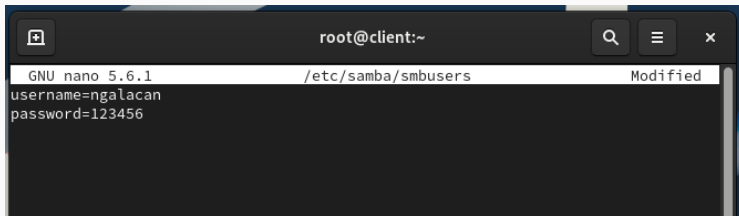
123456
^C
[root@client.ngalacan.net ~]# smbclient -L //server -U ngalacan
Password for [NGALACAN-NET\ngalacan]:

      Sharename      Type      Comment
      -----
      print$         Disk      Printer Drivers
      sambashare     Disk      My Samba Share
      IPC$           IPC       IPC Service (Samba 4.19.4)
      ngalacan       Disk      Home Directories
SMB1 disabled -- no workgroup available
[root@client.ngalacan.net ~]#
```

Рис. 9: Проверка наличия общего доступа под разными пользователями

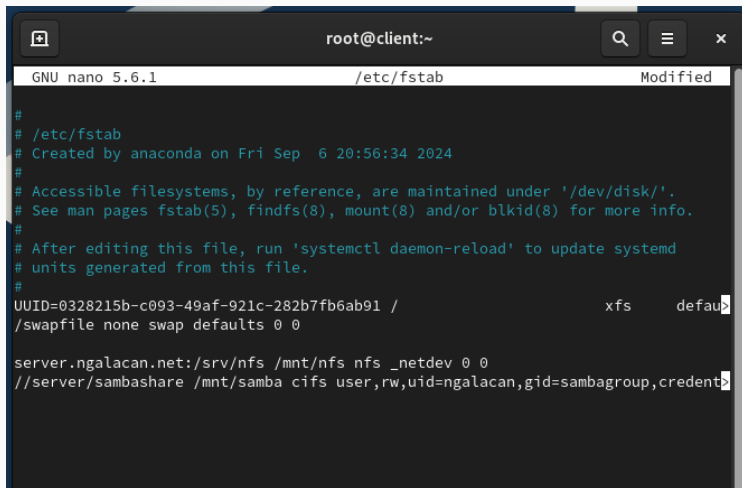
```
SMB1 disabled -- no workgroup available
[root@client.ngalacan.net ~]# mkdir /mnt/samba
[root@client.ngalacan.net ~]# mount -o username=ngalacan,user,rw,uid=ngalacan,gid=sambagroup //server/sambashare /mnt/samba
Password for ngalacan@//server/sambashare:
[root@client.ngalacan.net ~]# cd /mnt/samba
[root@client.ngalacan.net samba]# touch ngalacan@client.txt
[root@client.ngalacan.net samba]# ls
ngalacan@client.txt  ngalacan@server.txt
[root@client.ngalacan.net samba]# umount /mnt/samba
umount: /mnt/samba: target is busy.
[root@client.ngalacan.net samba]# cd
[root@client.ngalacan.net ~]# umount /mnt/samba
[root@client.ngalacan.net ~]#
```

Рис. 10: Создание точки монтирования, проверка записи файлов на разделяемом ресурсе пользователем, отмонтирование каталога



```
root@client:~  
GNU nano 5.6.1 /etc/samba/smbusers Modified  
username=ngalacan  
password=123456
```

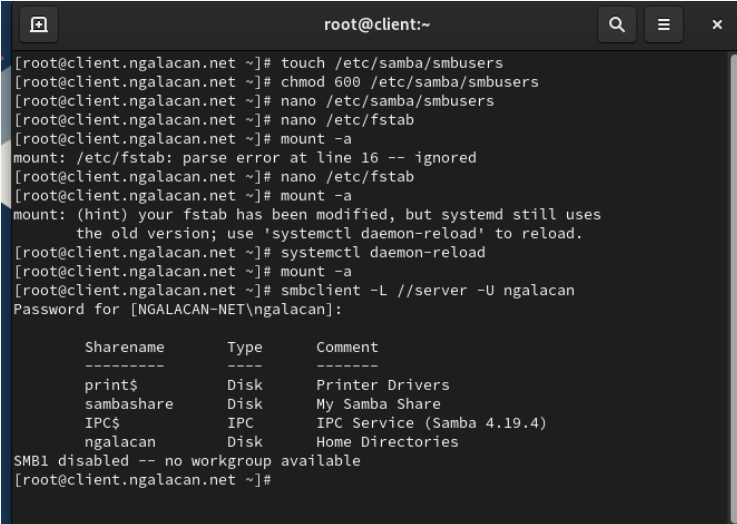
Рис. 11: Редактирование файла `/etc/samba/smbusers`



The screenshot shows a terminal window with the title bar 'root@client:~'. The window contains the GNU nano 5.6.1 text editor editing the file /etc/fstab. The editor's status bar at the top indicates 'GNU nano 5.6.1', the file path '/etc/fstab', and the state 'Modified'. The content of the file is as follows:

```
#  
# /etc/fstab  
# Created by anaconda on Fri Sep  6 20:56:34 2024  
#  
# Accessible filesystems, by reference, are maintained under '/dev/disk/'.  
# See man pages fstab(5), findfs(8), mount(8) and/or blkid(8) for more info.  
#  
# After editing this file, run 'systemctl daemon-reload' to update systemd  
# units generated from this file.  
#  
UUID=0328215b-c093-49af-921c-282b7fb6ab91 / xfs defaults 0 0  
/swapfile none swap defaults 0 0  
  
server.ngalacan.net:/srv/nfs /mnt/nfs nfs _netdev 0 0  
//server/sambashare /mnt/samba cifs user,rw,uid=ngalacan,gid=sambagroup,credent
```

Рис. 12: Редактирование /etc/fstab на клиенте

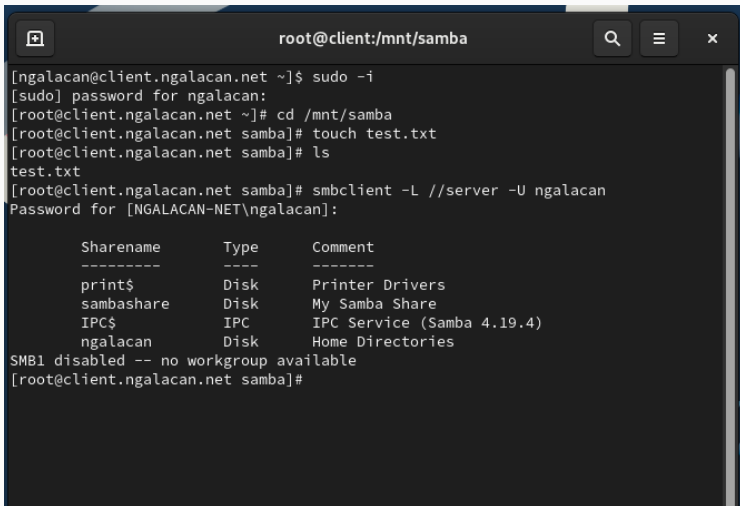


```
root@client:~  
[root@client.ngalacan.net ~]# touch /etc/samba/smbusers  
[root@client.ngalacan.net ~]# chmod 600 /etc/samba/smbusers  
[root@client.ngalacan.net ~]# nano /etc/samba/smbusers  
[root@client.ngalacan.net ~]# nano /etc/fstab  
[root@client.ngalacan.net ~]# mount -a  
mount: /etc/fstab: parse error at line 16 -- ignored  
[root@client.ngalacan.net ~]# nano /etc/fstab  
[root@client.ngalacan.net ~]# mount -a  
mount: (hint) your fstab has been modified, but systemd still uses  
the old version; use 'systemctl daemon-reload' to reload.  
[root@client.ngalacan.net ~]# systemctl daemon-reload  
[root@client.ngalacan.net ~]# mount -a  
[root@client.ngalacan.net ~]# smbclient -L //server -U ngalacan  
Password for [NGALACAN-NET\ngalacan]:  


| Sharename | Type | Comment                    |
|-----------|------|----------------------------|
| -----     | ---- | -----                      |
| print\$   | Disk | Printer Drivers            |
| smbashare | Disk | My Samba Share             |
| IPC\$     | IPC  | IPC Service (Samba 4.19.4) |
| ngalacan  | Disk | Home Directories           |

  
SMB1 disabled -- no workgroup available  
[root@client.ngalacan.net ~]#
```

Рис. 13: Монтирование общего ресурса и проверка



```
root@client:/mnt/samba

[ngalacan@client.ngalacan.net ~]$ sudo -i
[sudo] password for ngalacan:
[root@client.ngalacan.net ~]# cd /mnt/samba
[root@client.ngalacan.net samba]# touch test.txt
[root@client.ngalacan.net samba]# ls
test.txt
[root@client.ngalacan.net samba]# smbclient -L //server -U ngalacan
Password for [NGALACAN-NET\ngalacan]:

      Sharename      Type      Comment
      -----      -
      print$         Disk      Printer Drivers
      sambashare      Disk      My Samba Share
      IPC$            IPC       IPC Service (Samba 4.19.4)
      ngalacan        Disk      Home Directories
SMB1 disabled -- no workgroup available
[root@client.ngalacan.net samba]#
```

Рис. 14: Проверка доступа к разделяемым ресурсам после перезагрузки

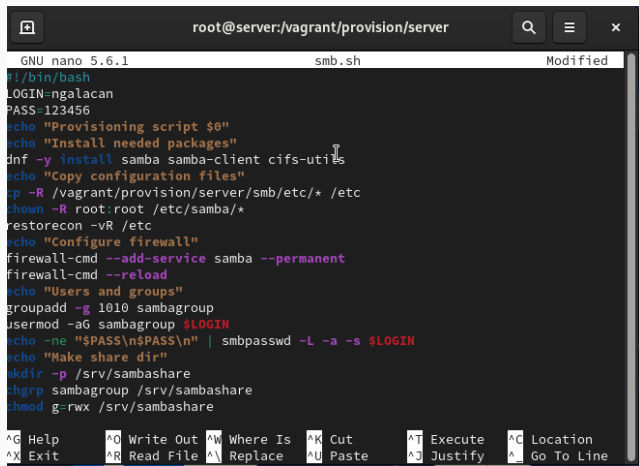
Внесение изменений в настройки  
внутреннего окружения  
виртуальной машины

---



```
cd /vagrant/provision/server  
mkdir -p /vagrant/provision/server/smb/etc/samba  
cp -R /etc/samba/smb.conf /vagrant/provision/server/smb/etc/samba/
```

## Выполнение лабораторной работы



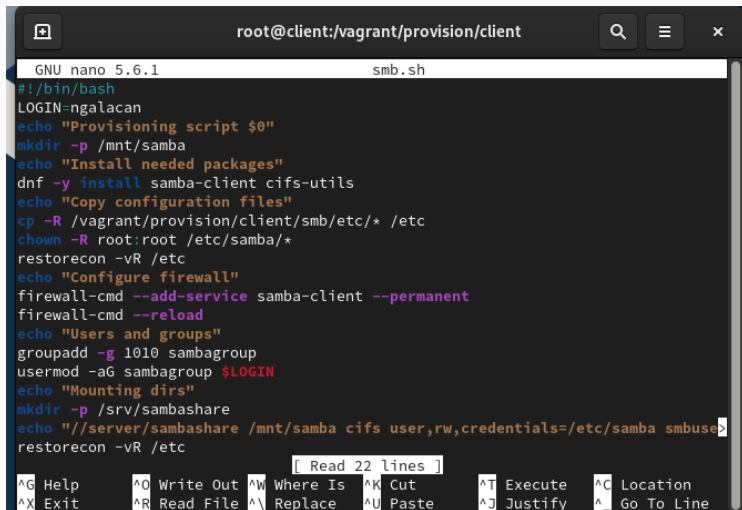
The screenshot shows a terminal window with the title bar "root@server:/vagrant/provision/server". The terminal is running the GNU nano 5.6.1 text editor, editing a file named "smb.sh". The script content is as follows:

```
#!/bin/bash
LOGIN=ngalacan
PASS=123456
echo "Provisioning script $0"
echo "Install needed packages"
dnf -y install samba samba-client cifs-utils
echo "Copy configuration files"
cp -R /vagrant/provision/server/smb/etc/* /etc
chown -R root:root /etc/samba/*
restorecon -vR /etc
echo "Configure firewall"
firewall-cmd --add-service samba --permanent
firewall-cmd --reload
echo "Users and groups"
groupadd -g 1010 sambagroup
usermod -aG sambagroup $LOGIN
echo -ne "$PASS\n$PASS\n" | smbpasswd -L -a -s $LOGIN
echo "Make share dir"
mkdir -p /srv/sambashare
chgrp sambagroup /srv/sambashare
chmod g=rwx /srv/sambashare
```

At the bottom of the terminal, the nano editor's help menu is visible, showing various keyboard shortcuts for navigation and editing.

Рис. 15: Редактирование smb.sh на сервере

```
cd /vagrant/provision/client  
mkdir -p /vagrant/provision/client/smb/etc/samba  
cp -R /etc/samba/smb.conf /vagrant/provision/client/smb/etc/samba/  
cp -R /etc/samba/smbusers /vagrant/provision/client/smb/etc/samba/
```



The screenshot shows a terminal window titled 'root@client:/vagrant/provision/client'. Inside, the GNU nano 5.6.1 editor is open, editing the file 'smb.sh'. The script content is as follows:

```
#!/bin/bash
LOGIN=ngalacan
echo "Provisioning script $0"
mkdir -p /mnt/samba
echo "Install needed packages"
dnf -y install samba-client cifs-utils
echo "Copy configuration files"
cp -R /vagrant/provision/client/smb/etc/* /etc
chown -R root:root /etc/samba/*
restorecon -vR /etc
echo "Configure firewall"
firewall-cmd --add-service samba-client --permanent
firewall-cmd --reload
echo "Users and groups"
groupadd -g 1010 sambagroup
usermod -aG sambagroup $LOGIN
echo "Mounting dirs"
mkdir -p /srv/sambashare
echo "//server/sambashare /mnt/samba cifs user,rw,credentials=/etc/samba/smbuse>
restorecon -vR /etc
```

At the bottom of the terminal, a status bar displays navigation and editing shortcuts:

<b>^G</b> Help	<b>^O</b> Write Out	<b>^W</b> Where Is	<b>^K</b> Cut	<b>^T</b> Execute	<b>^C</b> Location
<b>^X</b> Exit	<b>^R</b> Read File	<b>^I</b> Replace	<b>^U</b> Paste	<b>^J</b> Justify	<b>^_</b> Go To Line

Рис. 16: Редактирование smb.sh на клиенте

```
server.vm.provision "SMB server",  
    type: "shell",  
    preserve_order: true,  
    path: "provision/server/smb.sh"  
client.vm.provision "SMB client",  
    type: "shell",  
    preserve_order: true,  
    path: "provision/client/smb.sh"
```

В результате выполнения работы были приобретены навыки настройки доступа групп пользователей к общим ресурсам по протоколу SMB.