

Лабораторная работа №14

Настройка файловых служб

Samba

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НПИБд-01-23

Настройка сервера Samba

```
[root@server.kazhavoronkov.net ~]# dnf -y install samba samba-client cifs-utils
Last metadata expiration check: 2:19:54 ago on Sat 06 Dec 2025 12:10:53 PM UTC.
Dependencies resolved.
=====
 Package          Architecture Version       Repository      Size
=====
Installing:
cifs-utils        x86_64      7.2-1.el10   baseos         117 k
samba             x86_64      4.22.4-106.el10 baseos        959 k
samba-client      x86_64      4.22.4-106.el10 appstream     770 k
Installing dependencies:
libnetapi          x86_64      4.22.4-106.el10 baseos         144 k
samba-common-tools x86_64      4.22.4-106.el10 baseos        481 k
samba-dcerpc        x86_64      4.22.4-106.el10 baseos         716 k
samba-ldb-ldap-modules x86_64      4.22.4-106.el10 baseos         35 k
samba-libs          x86_64      4.22.4-106.el10 baseos         124 k
Transaction Summary
=====
Install 8 Packages

Total download size: 3.3 M
Installed size: 12 M
Downloading Packages:
(1/8): cifs-utils-7.2-1.el10.x86_64.rpm           171 kB/s | 117 kB   00:00
(2/8): libnetapi-4.22.4-106.el10.x86_64.rpm       195 kB/s | 144 kB   00:00
(3/8): samba-4.22.4-106.el10.x86_64.rpm          936 kB/s | 959 kB   00:01
(4/8): samba-common-tools-4.22.4-106.el10.x86_64.rpm 1.4 MB/s | 481 kB   00:00
```

Рис. 1.1. Установка на сервере необходимых пакетов samba samba-client cifs- utils.

Настройка сервера Samba

```
[root@server.kazhavoronkov.net ~]# groupadd -g 1010 sambagroup
[root@server.kazhavoronkov.net ~]# usermod -aG sambagroup kazhavoronkov
[root@server.kazhavoronkov.net ~]# mkdir -p /srv/sambashare
[root@server.kazhavoronkov.net ~]# █
```

Настройка сервера Samba

The screenshot shows a terminal window titled "root@server:~ - sudo -i". The title bar also displays "GNU nano 8.1" and the file path "/etc/samba/smb.conf". The status bar indicates the file is "Modified". The terminal content is the configuration file for Samba:

```
GNU nano 8.1          /etc/samba/smb.conf          Modified
# See smb.conf.example for a more detailed config file or
# read the smb.conf manpage.
# Run 'testparm' to verify the config is correct after
# you modified it.
#
# Note:
# SMB1 is disabled by default. This means clients without support for SMB2 or
# SMB3 are no longer able to connect to smbd (by default).

[global]
workgroup = KAZHAVORONKOV-NET
security = user

passdb backend = tdbsam

printing = cups
printcap name = cups
load printers = yes
cups options = raw
```

Настройка сервера Samba



The screenshot shows a terminal window titled "root@server:~ - sudo -i". The window contains the configuration file `/etc/samba/smb.conf`. The file is modified, as indicated by the "Modified" status bar. The configuration includes sections for [homes], [printers], [prints], and [sambashare].

```
root@server:~ - sudo -i
GNU nano 8.1          /etc/samba/smb.conf          Modified

[homes]
comment = Home Directories
valid users = %S, %D%w%S
browseable = No
read only = No
inherit acls = Yes

[printers]
comment = All Printers
path = /var/tmp
printable = Yes
create mask = 0600
browseable = No

[prints]
comment = Printer Drivers
path = /var/lib/samba/drivers
# printadmin is a local group
write list = printadmin root
force group = printadmin
create mask = 0664
directory mask = 0775

[sambashare]
comment = My Samba Share
path = /srv/sambashare
write list = @sambagroup
```

Настройка сервера Samba

```
[root@server.kazhavoronkov.net ~]# testparm
Load smb config files from /etc/samba/smb.conf
Loaded services file OK.

Weak crypto is allowed by GnuTLS (e.g. NTLM as a compatibility fallback)

Server role: ROLE_STANDALONE

Press enter to see a dump of your service definitions
```

Настройка сервера Samba

```
[root@server.kazhavoronkov.net ~]# systemctl start smb
[root@server.kazhavoronkov.net ~]# systemctl enable smb
Created symlink '/etc/systemd/system/multi-user.target.wants/smb.service' → '/usr/lib/systemd/system/smb.service'.
[root@server.kazhavoronkov.net ~]# systemctl status smb
● smb.service - Samba SMB Daemon
   Loaded: loaded (/usr/lib/systemd/system/smb.service; enabled; preset: disabled)
   Active: active (running) since Sat 2025-12-06 14:35:21 UTC; 20s ago
     Invocation: f8bc2fb7095c4789bc2dfe95cf490668
   Docs: man:smbd(8)
         man:samba(7)
         man:smb.conf(5)
 Main PID: 18149 (smbd)
   Status: "smbd: ready to serve connections..."
    Tasks: 3 (limit: 10691)
   Memory: 13.5M (peak: 13.7M)
     CPU: 77ms
    CGroup: /system.slice/smb.service
            └─18149 /usr/sbin/smbd --foreground --no-process-group
              ├─18152 /usr/sbin/smbd --foreground --no-process-group
              └─18153 /usr/sbin/smbd --foreground --no-process-group

Dec 06 14:35:21 server.kazhavoronkov.net systemd[1]: Starting smb.service - Samba SMB Daemon...
Dec 06 14:35:21 server.kazhavoronkov.net systemd[1]: Started smb.service - Samba SMB Daemon.
[root@server.kazhavoronkov.net ~]#
```

Настройка сервера Samba

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

      Sharename      Type      Comment
      -----      ----      -----
      print$        Disk      Printer Drivers
      sambashare    Disk      My Samba Share
      IPC$          IPC       IPC Service (Samba 4.22.4)
SMB1 disabled -- no workgroup available
[root@server.kazhavoronkov.net ~]#
```

Настройка сервера Samba



The screenshot shows a terminal window with a red header bar. The header bar contains a small icon on the left, the text "root@server:~ - sudo -i" in the center, and three icons on the right: a grid, a list, and a close button.

```
<?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 network
s. 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>
/usr/lib/firewalld/services/samba.xml (END)
```

Настройка сервера Samba

```
[root@server.kazhavoronkov.net ~]# firewall-cmd --add-service=samba
success
[root@server.kazhavoronkov.net ~]# firewall-cmd --add-service=samba --permanent
success
[root@server.kazhavoronkov.net ~]# firewall-cmd --reload
success
[root@server.kazhavoronkov.net ~]#
```

Настройка сервера Samba

```
[root@server.kazhavoronkov.net ~]# chgrp sambagroup /srv/sambashare
[root@server.kazhavoronkov.net ~]# chmod g=rwx /srv/sambashare
[root@server.kazhavoronkov.net ~]# cd /srv
[root@server.kazhavoronkov.net srv]# ls -Z
unconfined_u:object_r:nfs_t:s0 nfs  unconfined_u:object_r:var_t:s0 sambashare
[root@server.kazhavoronkov.net srv]# semanage fcontext -a -t samba_share_t "/srv/sambashare(/.*)?"
[root@server.kazhavoronkov.net srv]# restorecon -vR /srv/sambashare
Relabeled /srv/sambashare from unconfined_u:object_r:var_t:s0 to unconfined_u:object_r:samba_share_t:s0
[root@server.kazhavoronkov.net srv]# ls -Z
    unconfined_u:object_r:nfs_t:s0 nfs  unconfined_u:object_r:samba_share_t:s0 sambashare
[root@server.kazhavoronkov.net srv]# setsebool samba_export_all_rw 1
[root@server.kazhavoronkov.net srv]# setsebool samba_export_all_rw 1 -P
[root@server.kazhavoronkov.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.kazhavoronkov.net srv]#
```

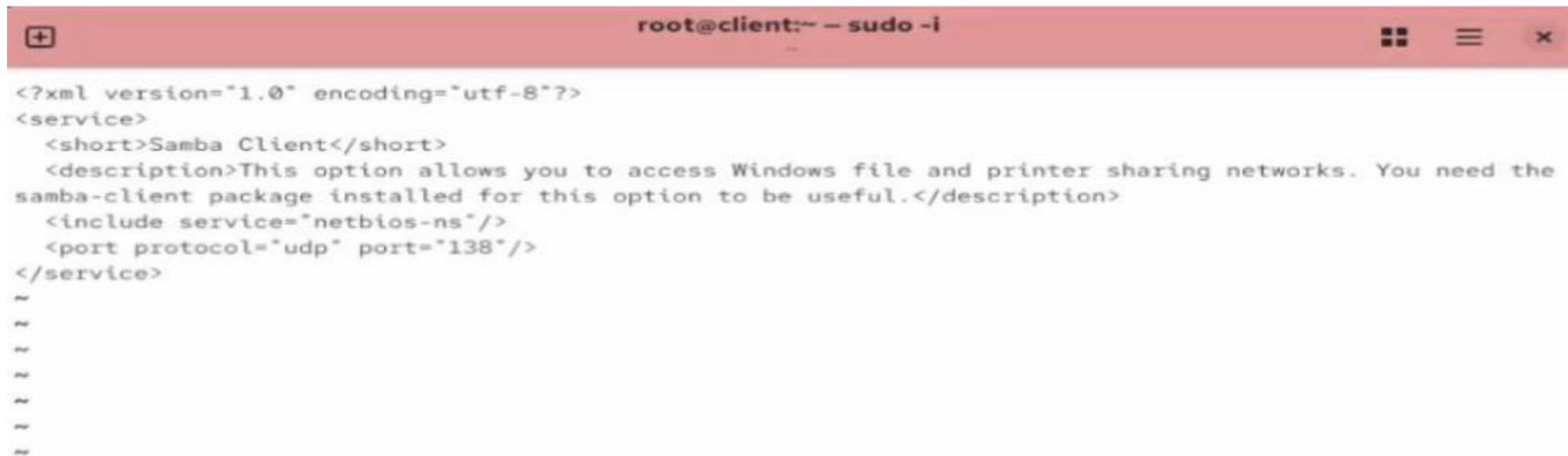
Мониторинг файловой системы Samba на клиенте

```
root@client:~ - sudo -i
[kazhavoronkov@client.kazhavoronkov.net ~]$ sudo -i
[sudo] password for kazhavoronkov:
[root@client.kazhavoronkov.net ~]# dnf -y install samba-client cifs-utils
Last metadata expiration check: 2:57:07 ago on Sat 06 Dec 2025 12:09:41 PM UTC.
Dependencies resolved.
=====
 Package           Architecture   Version      Repository    Size
=====
 Installing:
  cifs-utils       x86_64        7.2-1.el10  baseos        117 k
  samba-client     x86_64        4.22.4-106.el10 appstream    770 k
=====
 Transaction Summary
=====
 Install 2 Packages

 Total download size: 887 k
 Installed size: 3.0 M
 Downloading Packages:
 (1/2): cifs-utils-7.2-1.el10.x86_64.rpm          164 kB/s | 117 kB   00:00
 (2/2): samba-client-4.22.4-106.el10.x86_64.rpm  742 kB/s | 770 kB   00:01
=====
 Total                                         485 kB/s | 887 kB   00:01

 Running transaction check
 Transaction check succeeded.
 Running transaction test
```

Мониторинг файловой системы Samba на клиенте



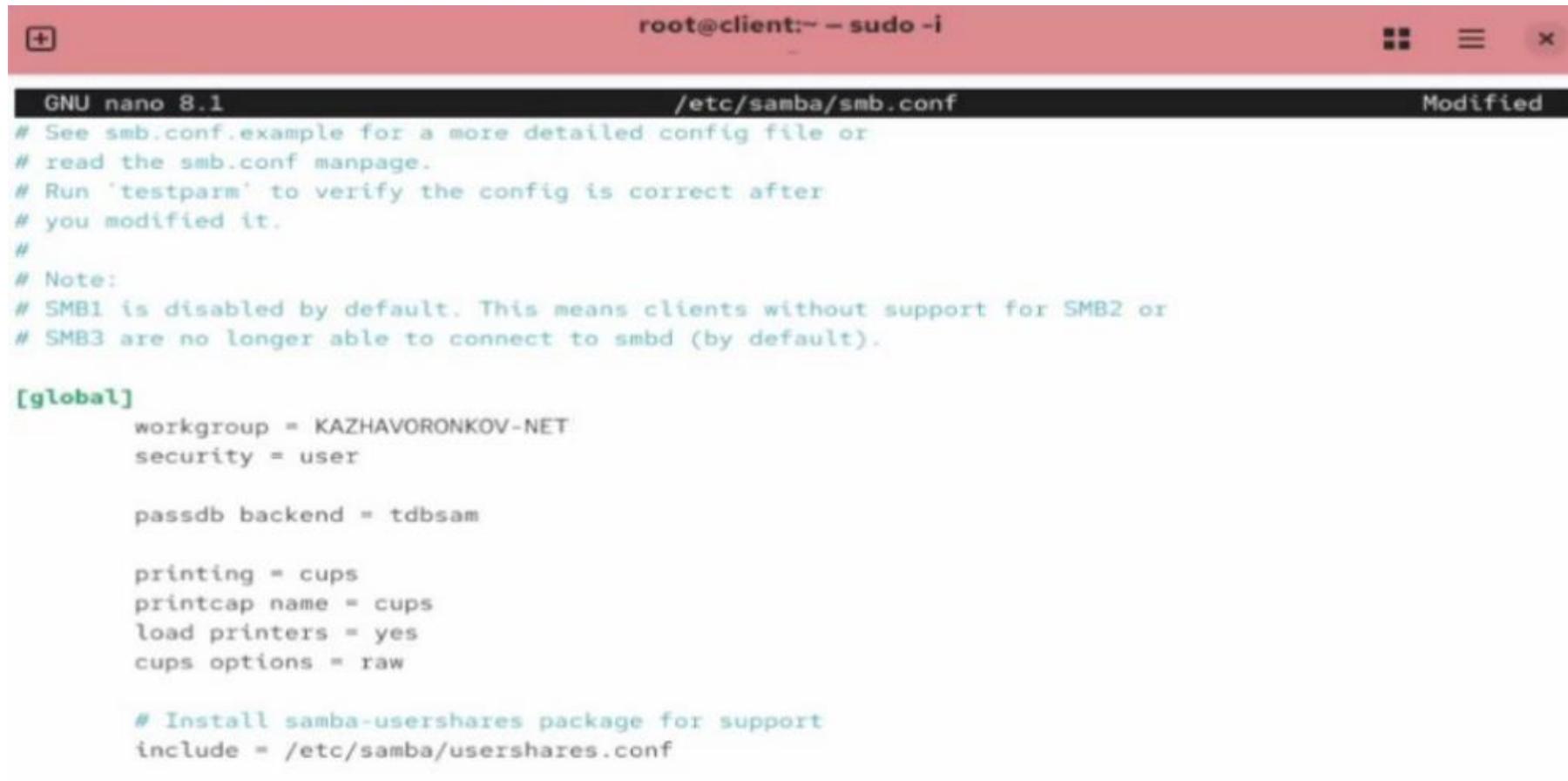
A screenshot of a terminal window with a red header bar. The header bar contains the text "root@client:~ - sudo -i". The main area of the terminal shows the following XML configuration code:

```
<?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 useful.</description>
  <include service="netbios-ns"/>
  <port protocol="udp" port="138"/>
</service>
~
```

Мониторинг файловой системы Samba на клиенте

```
[root@client.kazhavoronkov.net ~]# firewall-cmd --add-service=samba-client
success
[root@client.kazhavoronkov.net ~]# firewall-cmd --add-service=samba-client --permanent
success
[root@client.kazhavoronkov.net ~]# firewall-cmd --reload
success
[root@client.kazhavoronkov.net ~]# groupadd -g 1010 sambagroup
[root@client.kazhavoronkov.net ~]# usermod -aG sambagroup kazhavoronkov
[root@client.kazhavoronkov.net ~]#
```

Мониторинг файловой системы Samba на клиенте



The screenshot shows a terminal window with a red header bar containing the text "root@client:~ - sudo -i". The main area of the terminal is a text editor window titled "GNU nano 8.1" showing the contents of the "/etc/samba/smb.conf" file. The file contains configuration options for the Samba server, including the global section and specific printer settings. The "Modified" status indicator is visible in the top right corner of the editor window.

```
root@client:~ - sudo -i
GNU nano 8.1          /etc/samba/smb.conf          Modified

# See smb.conf.example for a more detailed config file or
# read the smb.conf manpage.
# Run 'testparm' to verify the config is correct after
# you modified it.
#
# Note:
# SMB1 is disabled by default. This means clients without support for SMB2 or
# SMB3 are no longer able to connect to smbd (by default).

[global]
workgroup = KAZHAVORONKOV-NET
security = user

passdb backend = tdb

printing = cups
printcap name = cups
load printers = yes
cups options = raw

# Install samba-usershare package for support
include = /etc/samba/usershare.conf
```

Мониторинг файловой системы Samba на клиенте

```
[root@client.kazhavoronkov.net ~]# smbclient -L //server  
Password for [KAZHAVORONKOV-NET\root]:  
Anonymous login successful
```

Sharename	Type	Comment
-----	----	-----
print\$	Disk	Printer Drivers
sambashare	Disk	My Samba Share
IPC\$	IPC	IPC Service (Samba 4.22.4)

SMB1 disabled -- no workgroup available

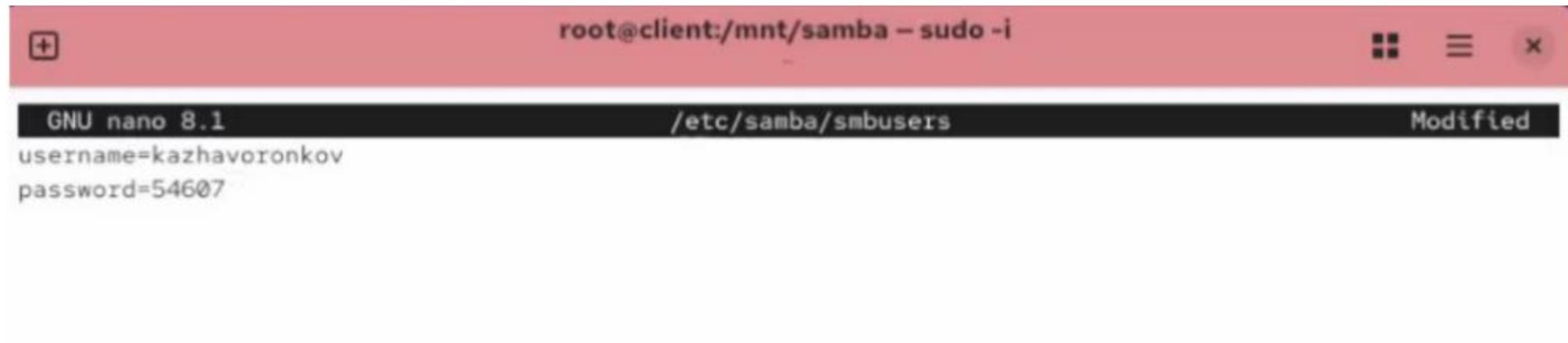
Мониторинг файловой системы Samba на клиенте

```
Password for [KAZHAVORONKOV-NET\root]:  
Anonymous login successful  
  
      Sharename  Type  Comment  
      -----  ----  -----  
      print$    Disk   Printer Drivers  
      sambashare  Disk   My Samba Share  
      IPC$     IPC    IPC Service (Samba 4.22.4)  
SMB1 disabled -- no workgroup available  
[root@client.kazhavoronkov.net ~]# smbclient -L //server -U user  
Password for [KAZHAVORONKOV-NET\user]:  
session setup failed: NT_STATUS_LOGON_FAILURE  
[root@client.kazhavoronkov.net ~]# smbclient -L //server -U kazhavoronkov  
Password for [KAZHAVORONKOV-NET\kazhavoronkov]:  
  
      Sharename  Type  Comment  
      -----  ----  -----  
      print$    Disk   Printer Drivers  
      sambashare  Disk   My Samba Share  
      IPC$     IPC    IPC Service (Samba 4.22.4)  
      kazhavoronkov  Disk   Home Directories  
SMB1 disabled -- no workgroup available  
[root@client.kazhavoronkov.net ~]#
```

Монтирование файловой системы Samba на клиенте

```
[root@client.kazhavoronkov.net samba]# touch /etc/samba/smbusers
[root@client.kazhavoronkov.net samba]# chmod 600 /etc/samba/smbusers
[root@client.kazhavoronkov.net samba]# █
```

Монтирование файловой системы Samba на клиенте

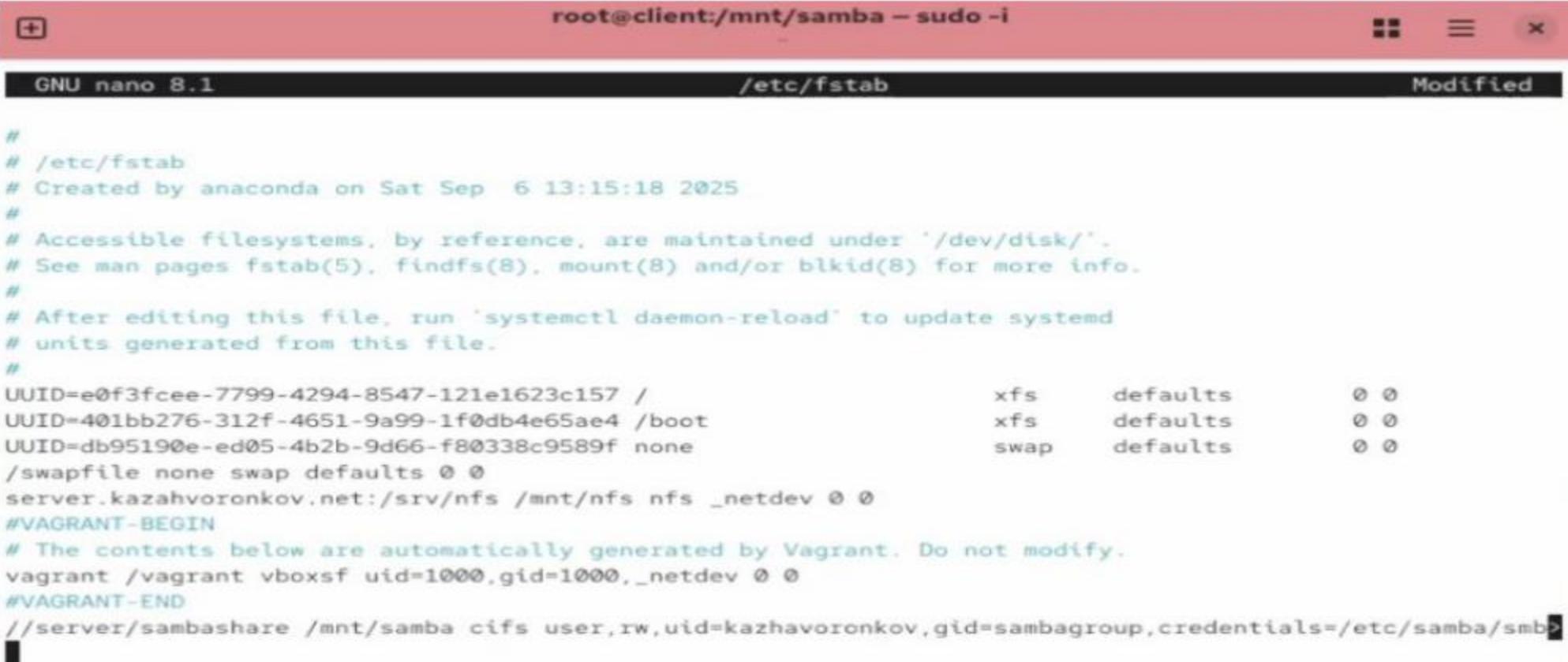


The screenshot shows a terminal window with a red header bar. The header bar contains the text "root@client:/mnt/samba – sudo -i". Below the header is a black navigation bar with icons for file operations. The main area of the terminal shows the command "GNU nano 8.1" followed by the path "/etc/samba/smbusers". The text in the editor is:

```
username=kazhavoronkov
password=54607
```

The word "Modified" is displayed at the top right of the editor area.

Мониторинг файловой системы Samba на клиенте



The screenshot shows a terminal window titled "root@client:/mnt/samba – sudo -i". The title bar is red, and the window has standard window controls (minimize, maximize, close). The terminal is running the "GNU nano 8.1" editor on the "/etc/fstab" file. The file content is as follows:

```
#  
# /etc/fstab  
# Created by anaconda on Sat Sep  6 13:15:18 2025  
#  
# 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=e0f3fcee-7799-4294-8547-121e1623c157 /          xfs      defaults    0 0  
UUID=401bb276-312f-4651-9a99-1f0db4e65ae4 /boot       xfs      defaults    0 0  
UUID=db95190e-ed05-4b2b-9d66-f80338c9589f none        swap     defaults    0 0  
/swapfile none swap defaults 0 0  
server.kazahvoronkov.net:/srv/nfs /mnt/nfs nfs _netdev 0 0  
#VAGRANT-BEGIN  
# The contents below are automatically generated by Vagrant. Do not modify.  
vagrant /vagrant vboxsf uid=1000,gid=1000,_netdev 0 0  
#VAGRANT-END  
//server/sambashare /mnt/samba cifs user,rw,uid=kazhavoronkov,gid=sambagroup,credentials=/etc/samba/smb
```

Монтирование файловой системы Samba на клиенте

```
[root@client.kazhavoronkov.net samba]# systemctl daemon-reload
[root@client.kazhavoronkov.net samba]# mount -a
[root@client.kazhavoronkov.net samba]#
```

Внесение изменений в настройки внутреннего окружения виртуальных машин

```
[root@server.kazhavoronkov.net ~]# cd /vagrant/provision/server
[root@server.kazhavoronkov.net server]# mkdir -p /vagrant/provision/server/smb/etc/samba
[root@server.kazhavoronkov.net server]# cp -R /etc/samba/smb.conf /vagrant/provision/server/smb/etc/samba/
[root@server.kazhavoronkov.net server]# touch smb.sh
[root@server.kazhavoronkov.net server]# chmod +x smb.sh
[root@server.kazhavoronkov.net server]# smb.sh
```

Внесение изменений в настройки внутреннего окружения виртуальных машин



The screenshot shows a terminal window with three tabs:

- root@server:/vagrant/provision/server – sudo -i
- root@server:/srv/sambashare – sudo -i
- root@server:/vagrant/provision/server – sudo -i

The main pane displays a shell script named `smb.sh` with the following content:

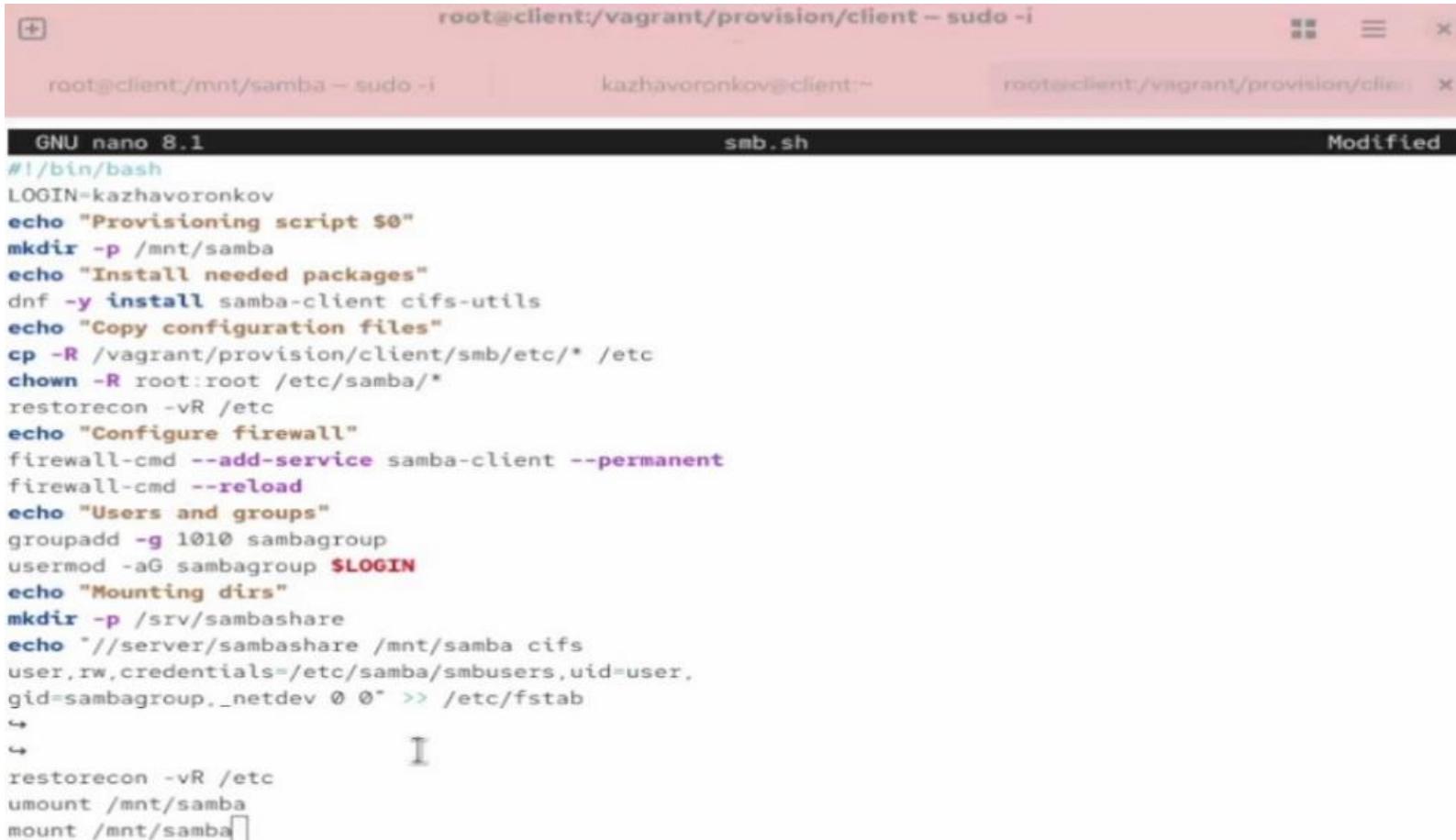
```
PASS=123456
echo "Provisioning script so"
echo "Install needed packages"
dnf -y install samba samba-client cifs-utils
echo "Copy configuration files"
cp -R /vagrant/provision/server/smb/etc/* /etc
chown -R root:root /etc/samba/*
restorecon -vR /etc
echo "Configure firewall"
firewall-cmd --add-service 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
echo "Tuning SELinux"
semanage fcontext -a -t samba_share_t "/srv/sambashare(/.*)?"
setsebool samba_export_all_rw 1
setsebool samba_export_all_rw 1 -P
restorecon -vR /srv/sambashare
echo "Start smb service"
systemctl enable smb
systemctl start smb
systemctl restart firewalld
```

The status bar at the bottom indicates the file is "Modified".

Внесение изменений в настройки внутреннего окружения виртуальных машин

```
[root@client.kazhavoronkov.net ~]# cd /vagrant/provision/client
[root@client.kazhavoronkov.net client]# mkdir -p /vagrant/provision/client/smb/etc/samba
[root@client.kazhavoronkov.net client]# cp -R /etc/samba/smb.conf /vagrant/provision/client/smb/etc/samb
a/
[root@client.kazhavoronkov.net client]# cp -R /etc/samba/smbusers /vagrant/provision/client/smb/etc/samb
a/
[root@client.kazhavoronkov.net client]# touch smb.sh
[root@client.kazhavoronkov.net client]# chmod +x smb.sh
[root@client.kazhavoronkov.net client]# nano ■
```

Внесение изменений в настройки внутреннего окружения виртуальных машин



The screenshot shows a terminal window with three tabs:

- Top tab: root@client:/vagrant/provision/client – sudo -i
- Middle tab: root@client:/mnt/samba – sudo -i
- Bottom tab: kazhavoronkov@client:~

The bottom tab is active and displays a terminal session. The title bar indicates "GNU nano 8.1". The command being run is:

```
#!/bin/bash
LOGIN=kazhavoronkov
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/smbusers,uid=user,
gid=sambagroup,_netdev 0 0" >> /etc/fstab
#
#
restorecon -vR /etc
umount /mnt/samba
mount /mnt/samba
```

Внесение изменений в настройки внутреннего окружения виртуальных машин

```
path: "provision/server/mbs.sh"
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"
```