

Администрирование сетевых подсистем

Настройка файловых служб Samba (Лабораторная работа №14)

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Цели и задачи работы

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

Настройка сервера Samba

```
sssd-nfs-idmap-2.11.1-2.el10_1.1.x86_64      sssd-proxy-2.11.1-2.el10_1.1.x86_64
Installed:
cifs-utils-7.2-1.el10.x86_64                  libnetapi-4.22.4-106.el10.x86_64
samba-4.22.4-106.el10.x86_64                  samba-client-4.22.4-106.el10.x86_64
samba-common-tools-4.22.4-106.el10.x86_64     samba-dcerpc-4.22.4-106.el10.x86_64
samba-ldb-ldb-modules-4.22.4-106.el10.x86_64  samba-libs-4.22.4-106.el10.x86_64

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

Рис. 1: Создание каталога

```
[homes]
<----->comment = Home Directories
<----->valid users = %S, %Dw%S
<----->browseable = No
<----->read only = No
<----->inherit acls = Yes

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

[print$]
<----->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

[smbashare]
<----->comment = My Samba Share
<----->path = /srv/smbashare
<----->write list = @sambagroup
```

Запуск и проверка службы

```
[root@server.zmustafaev.net ~]# systemctl start smb
[root@server.zmustafaev.net ~]# systemctl enable smb
Created symlink '/etc/systemd/system/multi-user.target.wants/smb.service' → '/usr/lib/systemd/system/smb.service'.
[root@server.zmustafaev.net ~]# systemctl status smb
● smb.service - Samba SMB Daemon
   Loaded: loaded (/usr/lib/systemd/system/smb.service; enabled; preset: disabled)
   Active: active (running) since Mon 2025-12-01 09:48:08 UTC; 12s ago
 Invocation: d8fb9f84f4574a7d9d857c43082a78e8
    Docs: man:smbd(8)
          man:samba(7)
          man:smb.conf(5)
 Main PID: 14675 (smbd)
   Status: "smbd: ready to serve connections..."
    Tasks: 3 (limit: 10381)
  Memory: 8.5M (peak: 8.8M)
     CPU: 26ms
   CGroup: /system.slice/smb.service
           └─14675 /usr/sbin/smbd --foreground --no-process-group
             └─14678 /usr/sbin/smbd --foreground --no-process-group
               └─14679 /usr/sbin/smbd --foreground --no-process-group

Dec 01 09:48:08 server.zmustafaev.net systemd[1]: Starting smb.service - Samba SMB Daemon...
Dec 01 09:48:08 server.zmustafaev.net systemd[1]: Started smb.service - Samba SMB Daemon.
[root@server.zmustafaev.net ~]# smbclient -L //server
Password for [ZMUSTAFAEV-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.zmustafaev.net ~]#
```

Рис. 3: Проверка доступа

Межсетевой экран и SELinux

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

Рис. 4: Просмотр samba.xml

SELinux: контексты и разрешения

```
[root@server.zmustafaev.net ~]#  
[root@server.zmustafaev.net ~]# firewall-cmd --add-service=samba  
success  
[root@server.zmustafaev.net ~]# firewall-cmd --add-service=samba --permanent  
success  
[root@server.zmustafaev.net ~]# firewall-cmd --reload  
success  
[root@server.zmustafaev.net ~]# chgrp sambagroup /srv/smbashare/  
[root@server.zmustafaev.net ~]# chmod g=rwx /srv/smbashare/  
[root@server.zmustafaev.net ~]# cd /srv  
[root@server.zmustafaev.net srv]# ls -Z  
unconfined_u:object_r:nfs_t:s0 nfs unconfined_u:object_r:var_t:s0 sambashare  
[root@server.zmustafaev.net srv]# semanage fcontext -a -t samba_share_t "/srv/smbashare(/.*)?"  
[root@server.zmustafaev.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.zmustafaev.net srv]# ls -Z  
unconfined_u:object_r:nfs_t:s0 nfs unconfined_u:object_r:samba_share_t:s0 sambashare  
[root@server.zmustafaev.net srv]# setsebool samba_export_all_rw 1  
[root@server.zmustafaev.net srv]# setsebool samba_export_all_rw 1 -P  
[root@server.zmustafaev.net srv]#
```

Рис. 5: Контексты SELinux

Создание пользователей Samba

```
[zmustafaev@server.zmustafaev.net ~]$  
[zmustafaev@server.zmustafaev.net ~]$ newgrp sambagroup  
[zmustafaev@server.zmustafaev.net ~]$  
[zmustafaev@server.zmustafaev.net ~]$ id  
uid=1001(zmustafaev) gid=1010(sambagroup) groups=1010(sambagroup),10(wheel),1001(zmustafaev) context=unconfined_u:unconfi  
ned_r:unconfined_t:s0-s0:c0.c1023  
[zmustafaev@server.zmustafaev.net ~]$ cd /srv/sambashare/  
[zmustafaev@server.zmustafaev.net sambashare]$ touch zmustafaev@server.txt  
[zmustafaev@server.zmustafaev.net sambashare]$ ls  
zmustafaev@server.txt  
[zmustafaev@server.zmustafaev.net sambashare]$ ls -l  
total 0  
-rw-r--r--. 1 zmustafaev sambagroup 0 Dec 1 09:53 zmustafaev@server.txt  
[zmustafaev@server.zmustafaev.net sambashare]$
```

Рис. 6: Создание файла

```
[root@server.zmustafaev.net srv]#  
[root@server.zmustafaev.net srv]# smbpasswd -L -a zmustafaev  
New SMB password:  
Retype new SMB password:  
Added user zmustafaev.  
[root@server.zmustafaev.net srv]#  
[root@server.zmustafaev.net srv]#
```

Рис. 7: Добавление SMB-пользователя

Настройка клиента Samba

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

Рис. 8: Группы клиента

Проверка подключения

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

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

SMB1 disabled -- no workgroup available

```
[root@client.zmustafaev.net ~]# smbclient -L //server -U zmustafaev
Password for [ZMUSTAFAEV-NET\zmustafaev]:
```

Sharename	Type	Comment
-----	----	-----
print\$	Disk	Printer Drivers
smbashare	Disk	My Samba Share
IPC\$	IPC	IPC Service (Samba 4.22.4)
zmustafaev	Disk	Home Directories

SMB1 disabled -- no workgroup available

```
[root@client.zmustafaev.net ~]#
```

Рис. 9: Просмотр ресурсов

Монтирование ресурсов

```
[root@client.zmustafaev.net ~]#  
[root@client.zmustafaev.net ~]# mkdir /mnt/samba  
[root@client.zmustafaev.net ~]# mount -o username=zmustafaev,user,rw,uid=zmustafaev,gid=sambagroup //server/smbashare /mnt/samba/  
Password for zmustafaev@//server/smbashare:  
[root@client.zmustafaev.net ~]# mount | grep mnt  
server.zmustafaev.net:/srv/nfs on /mnt/nfs type nfs4 (rw,relatime,vers=4.2,rsize=262144,wszsize=262144,namlen=255,hard,proto=tcp,timeo=600,retrans=2,sec=sys,clientaddr=192.168.1.30,local_lock=none,addr=192.168.1.1,_netdev)  
//server/smbashare on /mnt/samba type cifs (rw,nosuid,nodev,noexec,relatime,vers=3.1.1,cache=strict,upcall_target=app,username=zmustafaev,uid=1001,forceuid,gid=1010,forcegid,addr=192.168.1.1,file_mode=0755,dir_mode=0755,soft,nounix,serverino,mapposix,repars  
e=nfs,rsize=4194304,wszsize=4194304,bsize=1048576,retrans=1,echo_interval=60,actimeo=1,c  
losetimeo=1,user)  
[root@client.zmustafaev.net ~]#
```

Рис. 10: Монтирование ресурса

```
[zmustafaev@client.zmustafaev.net ~]$  
[zmustafaev@client.zmustafaev.net ~]$ newgrp sambagroup  
[zmustafaev@client.zmustafaev.net ~]$  
[zmustafaev@client.zmustafaev.net ~]$ cd /mnt/samba/  
[zmustafaev@client.zmustafaev.net samba]$ ls  
zmustafaev@server.txt  
[zmustafaev@client.zmustafaev.net samba]$ touch zmustafaev@client.txt  
[zmustafaev@client.zmustafaev.net samba]$ ls -l  
total 0  
-rwxr-xr-x. 1 zmustafaev sambagroup 0 Dec  1 10:01 zmustafaev@client.txt  
-rwxr-xr-x. 1 zmustafaev sambagroup 0 Dec  1 09:53 zmustafaev@server.txt  
[zmustafaev@client.zmustafaev.net samba]$
```

Рис. 11: Создание файла на клиенте

Автоматическое монтирование

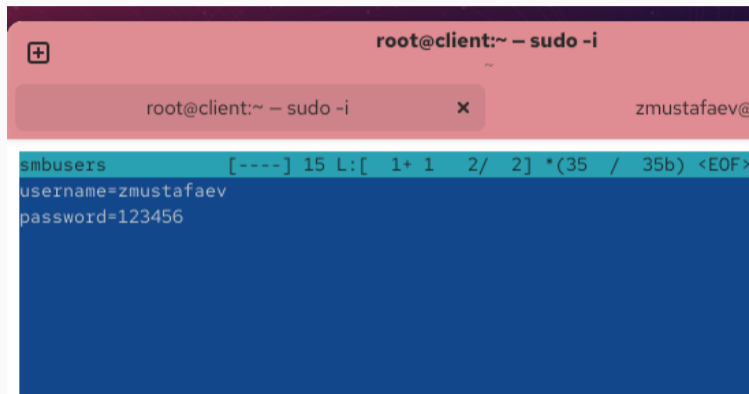


Рис. 12: Файл cred

Запись в fstab

```
fstab      [----]  0 L:[  1+16  17/ 23] *(796 /1128b) 0115 0x073      [*][X]

#
# /etc/fstab
# Created by anaconda on Wed Sep  3 08:53:23 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=908334c5-81ab-40aa-ad89-1bd296275208 /                    xfs     defaults
UUID=964b6a41-d718-411a-a362-f90f740c04d8 /boot                xfs     defaults
UUID=2000-E25B          /boot/efi                vfat    umask=0077,shortname=winnt 0 2
UUID=7e0ea0d4-0dbc-4e9b-bcd8-a0b4c565de96 /home                xfs     defaults
UUID=3c01d968-53fe-4cb3-8a7c-cc0f286d9e58 none                 swap    defaults
server.zmustafaev.net:/srv/nfs /mnt/nfs nfs _netdev 0 0
//server/sambashare /mnt/samba cifs user,rw,uid=zmustafaev,gid=sambagroup,credentials=
#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
```

1 Help 2 Save 3 Mark 4 Replac 5 Copy 6 Move 7 Search 8 Delete 9 PullDn 10 Quit

```
[root@client.zmustafaev.net ~]#  
[root@client.zmustafaev.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.zmustafaev.net ~]#  
[root@client.zmustafaev.net ~]# mount | grep mnt  
server.zmustafaev.net:/srv/nfs on /mnt/nfs type nfs4 (rw,relatime,vers=4.2,rsz=26214  
4,wsz=262144,namlen=255,hard,proto=tcp,timeo=600,retrans=2,sec=sys,clientaddr=192.16  
8.1.30,local_lock=none,addr=192.168.1.1,_netdev)  
//server/sambashare on /mnt/samba type cifs (rw,nosuid,nodev,noexec,relatime,vers=3.1.  
1,cache=strict,upcall_target=app,username=zmustafaev,uid=1001,forceuid,gid=1010,forceg  
id,addr=192.168.1.1,file_mode=0755,dir_mode=0755,soft,nounix,serverino,mapposix,repars  
e=nfs,rsz=4194304,wsz=4194304,bsz=1048576,retrans=1,echo_interval=60,actimeo=1,c  
losetimeo=1,user,_netdev)  
[root@client.zmustafaev.net ~]#
```

Рис. 14: mount -a

Выводы по проделанной работе

- Настроены сервер и клиент Samba
- Реализованы права доступа, SELinux-контексты, SMB-пользователи
- Монтирование выполнено вручную и автоматически через fstab
- Созданы скрипты автоматизации для Vagrant
- Работа демонстрирует принципы управления доступом и безопасностью SMB-ресурсов в Linux