

# CIFS (samba DFS)

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:

- Astra Linux Special Edition .10015-01 ( 1.7)
- Astra Linux Special Edition .10015-10 ( )
- Astra Linux Special Edition .10015-17
- Astra Linux Special Edition .10015-37 ( 7.7)
- Astra Linux Special Edition .10015-03 ( 7.6)
- Astra Linux Special Edition .10152-02 ( 4.7)
- Astra Linux Special Edition .10015-01 ( 1.6)
- Astra Linux Special Edition .10015-16 . 1
- Astra Linux Special Edition .10015-16 . 2
- Astra Linux Special Edition .10265-01 ( 8.1)
- Astra Linux Common Edition 2.12 ( )

∴ [FreeIPA](#)



Astra Linux Special Edition , samba, :

## 1. Samba:

```
use socket MAC label = YES
```

( samba samba) ∴

```
sudo net conf setparm global "use socket MAC label" "Yes"
```

## 2. Astra Linux Special Edition x.7 (SMB/CIFS)



Astra Linux Special Edition x.7 .

sec=krb5i,vers=1.0, server signing = required homes. :

a. ;

b. , samba [global]:

```
server max protocol = NT1
server signing = required
```

( samba samba) ∴

```
sudo net conf setparm global "server max protocol" "NT1"
sudo net conf setparm global "server signing" "required"
```

/etc/samba/smb.conf, ;

## 3. , ( ), :

```
sudo smbcontrol all reload-config
```

- - Samba. FreeIPA , .. samba, FreeIPA ( --setup-adtrust). FreeIPA samba [Samba + FreeIPA](#) [Samba Kerberos](#).  
**ipa0.ipadomain.ru.**
- -. , FreeIPA.

## samba

samba [Samba](#)

, :  
:

```
sudo mkdir /share1
```

, Astra Linux Special Edition, :

```
sudo mkdir -p /share1/{zero,dsp,secret,topsecret}
```

, :

```
sudo chmod 777 /share1 -R
```

"4. " " . 1.10015-01 97 01-1"():

```
sudo pdpl-file 3:0:-1:ccnr /share1/  
sudo pdpl-file 1:0:0 /share1/dsp  
sudo pdpl-file 2:0:0 /share1/secret  
sudo pdpl-file 3:0:0 /share1/topsecret
```

## samba

/etc/samba/smb.conf :

**/etc/samba/smb.conf**

```
[global]  
#  
workgroup = WORKGROUP  
# netbios  
disable netbios = no  
# , ,  
map to guest = Bad User  
  
[share1]  
comment = For all doc's  
#  
guest ok = yes  
path = /share1  
read only = no  
available = yes  
browseable = yes  
case sensitive = yes  
ea support = yes  
fstype = Samba  
smb encrypt = auto
```



, samba- "" fly-fm NetBIOS  
/etc/samba/smb.conf "disable netbios = no" ( ).

```
disable netbios = no
```

testparm

testparm , Samba:

```
sudo systemctl restart smbd
```

smbtree

[homes] -

[homes] - .

, .

, , :

- [global]



passdb backend = smbpasswd

- samba

```
sudo systemctl restart smbd
```

- samba:

```
smbpasswd -a username
```

[homes] /etc/samba/smb.conf :



```
[homes]
comment = Home Directories
valid users = %S
# [homes] (read only = yes).
# read only = no
read only = No
create mask = 0700
directory mask = 0700
browseable = no
guest ok = no
```

, (, smbclient username):

```
smbclient //ipa0.ipadomain.ru/username
```

, :

 smbclient //ipa0.ipadomain.ru/username -U username

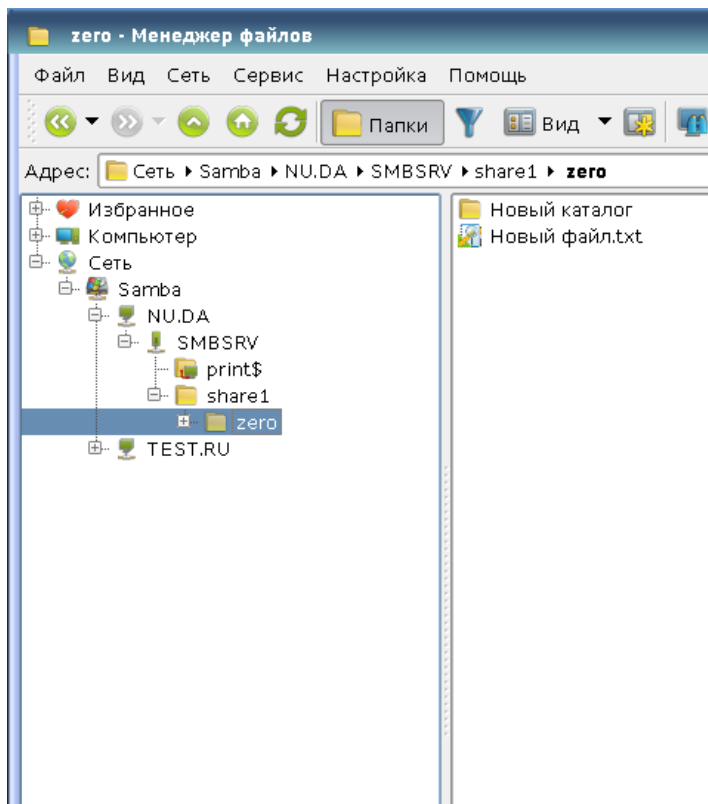
```
samba , [homes].  
, , (/etc/passwd).  
, samba .  
/etc/passwd, .
```

[homes] path, , /home, .. /home/username, , /samba/users/username:

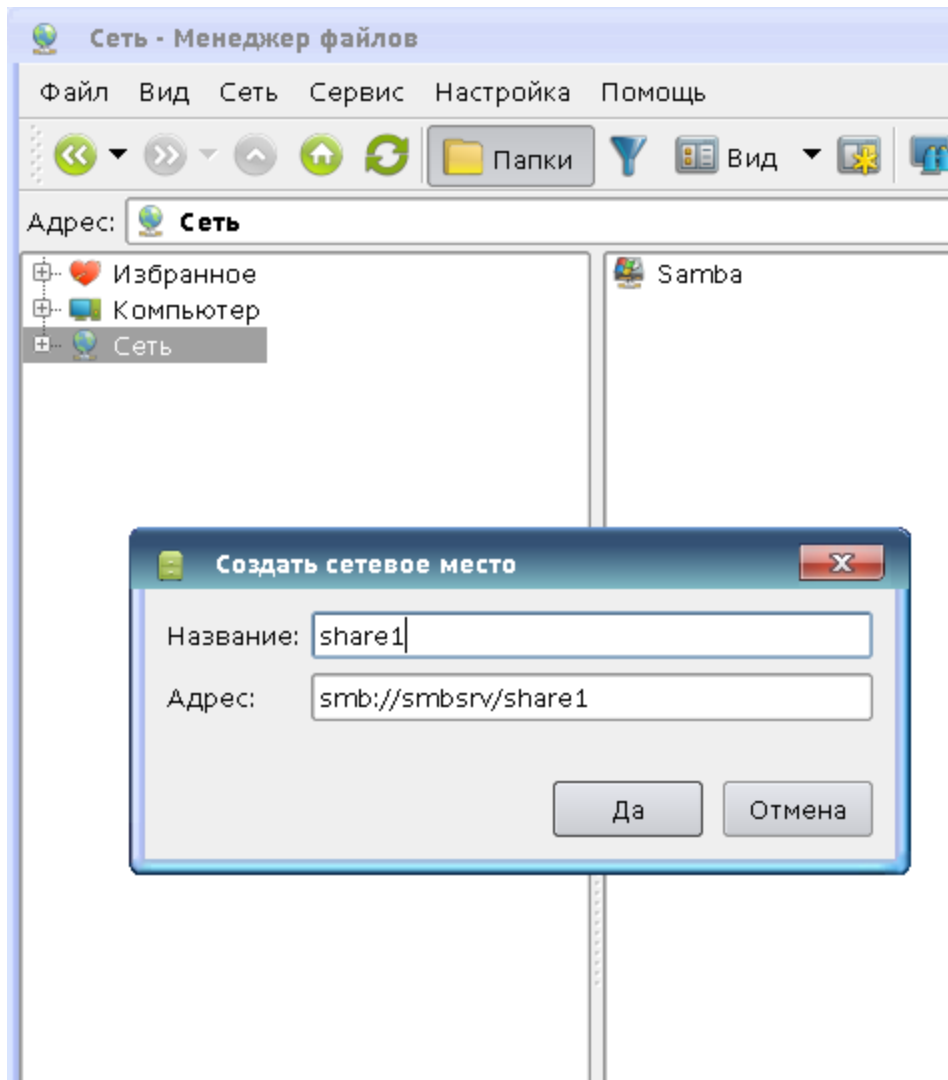
 [homes]  
comment = Home Directories  
valid users = %S  
**path = /samba/users/%S**  
read only = No  
create mask = 0700  
directory mask = 0700  
browseable = no  
guest ok = no

## samba

(fly-fm) "", Samba NetBIOS :



NetBIOS , , "" "":



fly-fm .

## CIFS/Samba

- cifs-utils:

```
sudo apt install cifs-utils
```

mount ,:

```
sudo mount.cifs /// /_ [-o ]
sudo mount -t cifs /// /_ [-o ]
```

, , , , .. /media/share1 ,:

```
sudo mkdir /media/share1
sudo chmod 777 /media/share1
sudo mount -t cifs //fileserver1.org.net/share1 /media/share1 -o user=
```

/etc/fstab sudo.  
/etc/fstab , :



```
//fileserver1.org.net/share1 /media/share1 cifs user,rw,noauto,ioccharset=utf8,soft 0 0
```

```
/, user .  
mount :
```

```
mount /media/share1
```

```
man mount mount.cifs. /etc/fstab man fstab.
```

```
/etc/fstab :
```

```
! //fileserver1.org.net/share1 /media/share1 cifs user,rw,noauto,ioccharset=utf8,nosharesock,vers=1.0,soft 0 0
```



```
Kerberos sec=krb5i sec=krb5. Kerberos .
```



```
Kerberos Kerberos, FreeIPA Astra Linux.  
. FreeIPA Kerberos.
```

## pam\_mount

```
PAM- pam_mount, libpam-mount, - cifs-utils libpam_mount:
```

```
sudo apt install cifs-utils libpam-mount
```



```
libpam-mount PAM-  
( /etc/pam.d/, ).  
, pam_mount PAM- .  
, Kerberos (. FreeIPA Astra Linux).
```

```
pam_mount /etc/security/pam_mount.conf.xml.
```

```
libpam_mount pam_mount pam- (common-auth, common-session) /etc/pam.d.
```

```
pam_mount man pam_mount pam_mount.conf.
```

```
pam-mount , :
```

### /etc/security/pam\_mount.conf.xml

```
<?xml version="1.0" encoding="utf-8" ?>  
<!DOCTYPE pam_mount SYSTEM "pam_mount.conf.xml.dtd">  
<!--  
    See pam_mount.conf(5) for a description.  
-->  
<pam_mount>  
    <!-- debug should come before everything else,  
         since this file is still processed in a single pass  
         from top-to-bottom -->  
    <debug enable="1" />  
    <!-- Volume definitions -->  
    <cifsmount>mount.cifs //%(SERVER)/%(VOLUME) %(MNTPT) -o %(OPTIONS) </cifsmount>  
    <!-- pam_mount parameters: General tunables -->  
    <!-- , -->  
    <volume  
        fstype="cifs"  
        server="ipa0.ipadomain.ru"  
        path="share1"  
        mountpoint="/media/%(USER)"
```

```

        options="user=%(USER),cuid=%(USER),sec=krb5i,file_mode=0770,dir_mode=0770"
/>

<!--
<luserconf name=".pam_mount.conf.xml" />
-->

<!-- Note that commenting out mntoptions will give you the defaults.
      You will need to explicitly initialize it with the empty string
      to reset the defaults to nothing. -->
<mntoptions allow="nosuid,nodev,loop,encryption,fsck,nonempty,allow_root,allow_other" />
<!--
<mntoptions deny="suid,dev" />
<mntoptions allow="" />
<mntoptions deny="" />
-->
<mntoptions require="nosuid,nodev" />

<logout wait="50000" hup="1" term="1" kill="1" />
<!-- <logout wait="0" hup="no" term="no" kill="no" /> -->
<!-- pam_mount parameters: Volume-related -->
<mkmountpoint enable="1" remove="true" />
</pam_mount>

```



/media/username. , . mountpoint="/home/%(USER)/share1" /share1/ . Astra Linux Special Edition , ,  
PAM-, , pam\_mount . :

1. pam\_mount /etc/pam.d/common-session;
2. /etc/pam.d/login /etc/pam.d/fly-dm Astra Linux:

FreeIPA ( ):



session required pam\_parsec\_mac.so  
session optional pam\_mount.so

ALD ( ):



session required pam\_parsec\_mac.so  
session required pam\_ald.so  
session optional pam\_mount.so

(, samba home):

```

...
<volume
    fstype="cifs"
    server="ipa0.ipadomain.ru"
    path="% (USER)"
    mountpoint="/home/%(USER)"
    options="user=%(USER),cuid=%(USER),sec=krb5i,file_mode=0770,dir_mode=0770"
/>
...

```



Kerberos sec=krb5i ( , ) sec=krb5. **Kerberos** .



cuid=%(USER), .

mountpoint , : /media/ald\_share. :





```
path="share" mountpoint="/media/ald_share" options="user=%(USER),rw,setuids,perm,soft,sec=krb5i,cuid=%(USERID),file_mode=0770,dir_mode=0770,iocharset=utf8,vers=1.0" />
```



**logout** . . .

**mkmountpoint** .

**cifsmount** , .

**volume** .

## pam\_mount

[homes], /home/<\_> . pam\_mount:

### /etc/security/pam\_mount.conf.xml

```
<?xml version="1.0" encoding="utf-8" ?>
<!DOCTYPE pam_mount SYSTEM "pam_mount.conf.xml.dtd">
<!--
    See pam_mount.conf(5) for a description.
-->

<pam_mount>
  <!-- debug should come before everything else,
        since this file is still processed in a single pass
        from top-to-bottom -->
  <debug enable="1" />

  <!-- Volume definitions -->
  <!-- homes -->
  <cifsmount>mount.cifs //%(SERVER)/%(USER) %(MNTPT) -o %(OPTIONS) </cifsmount>
  <!-- pam_mount parameters: General tunables -->
  <!-- , -->
  <volume
    fstype="cifs"
    server="ipa0.ipadomain.ru"
    path="%(USER)"
    mountpoint="/home/%(USER)"
    options="rw,user=%(USER),gid=%(USER),uid=%(USER),cuid=%(USER),sec=krb5i,file_mode=0770,
dir_mode=0770"
  />
  <!--
    <userconf name=".pam_mount.conf.xml" />
  -->

  <!-- Note that commenting out mntoptions will give you the defaults.
        You will need to explicitly initialize it with the empty string
        to reset the defaults to nothing. -->
  <mntoptions allow="nosuid,nodev,loop,encryption,fsck,nonempty,allow_root,allow_other" />
  <!--
  <mntoptions deny="suid,dev" />
  <mntoptions allow="*" />
  <mntoptions deny="*" />
  -->
  <mntoptions require="nosuid,nodev" />

  <logout wait="50000" hup="1" term="1" kill="1" />
  <!-- <logout wait="0" hup="no" term="no" kill="no" /> -->
  <!-- pam_mount parameters: Volume-related -->
  <mkmountpoint enable="1" remove="true" />
</pam_mount>
```



SAMBA AD winbind - user=%(DOMAIN\_USER).

pam\_mount . , luserconf /etc/security/pam\_mount.conf.xml pam\_mount. :

```
luserconf name="<__>"
```

⋮

```
<luserconf name=".pam_mount.conf.xml" />
```

\* \* , , \* \* , , , , , , userconf.

• •

- mntoptions allow - , :

```
<mntoptions allow="user,cuid,vers,sec,nosuid,nodev,loop,encryption,fsck,nonempty,allow_root,allow_other" />
```

```
nosuid nodev, , , ;
```

- mntoptions deny - . ;
- mntoptions require - . nosuid nodev. , , ;

## DFS

|                               |                   |                     |
|-------------------------------|-------------------|---------------------|
| Distributed File System (DFS) | Microsoft Windows | . DFS, samba, cifs. |
|-------------------------------|-------------------|---------------------|

DFS keyutils:

```
sudo apt install keyutils
```

```
DFS ( , , ), linux_5.4.0-110.astra35+ci1 linux-5.10_5.10.0-1057.astra6+ci7.
```

DFS , :

$$\vdots$$

```
mount -t cifs //server1.active_directory.test/dfs1 ~/mnt -o cruid=user1,sec=krb5
```

$$\vdots$$

```
mount -t cifs //active_directory.test/dfs1 ~/mnt -o cruid=user1,sec=krb5
```

DFS Kerberos :

1. . — . : SETSPN:

```
SETSPN -s cifs/<_> <_>
```

•

```
SETSPN -s cifs/ad12.loc w12
```

2. "-t" /etc/request-key.d/cifs.spnego.conf:



， "-t" ， DNS- ( DNS-) ， 。

```
create cifs.spnego * * /usr/sbin/cifs.upcall -t %k
```

, DFS , samba, CIFS, .

pam\_mount, :

reenter password for pam\_mount



pam\_mount, , .

/etc/pam.d/common-session :

session optional pam\_mount.so

:

session optional pam\_mount.so disable\_interactive