

Vyšší odborná škola a Střední
průmyslová škola elektrotechnická
Františka Křižíka

Operační systémy
Komunikace Windows-Linux

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1.WS22 a ADDS Server

Po nainstalování WS22 jsem mu nastavila ip apod.

Udělal jsem ADDS server (postup nemám, protože se mi neukládaly screenshoty :((

The screenshot shows the Windows Server Manager interface. The left-hand navigation pane is open to 'AD DS'. The main area is divided into two sections: 'SERVERS' and 'EVENTS'.

SERVERS Section:

- Header: SERVERS, All servers | 1 total
- Table with columns: Server Name, IPv4 Address, Manageability, Last Update, Windows Activation.
- Row 1: WS22, 192.168.50.254, Online - Performance counters not started, 4/21/2025 6:53:17 PM, Not activated.

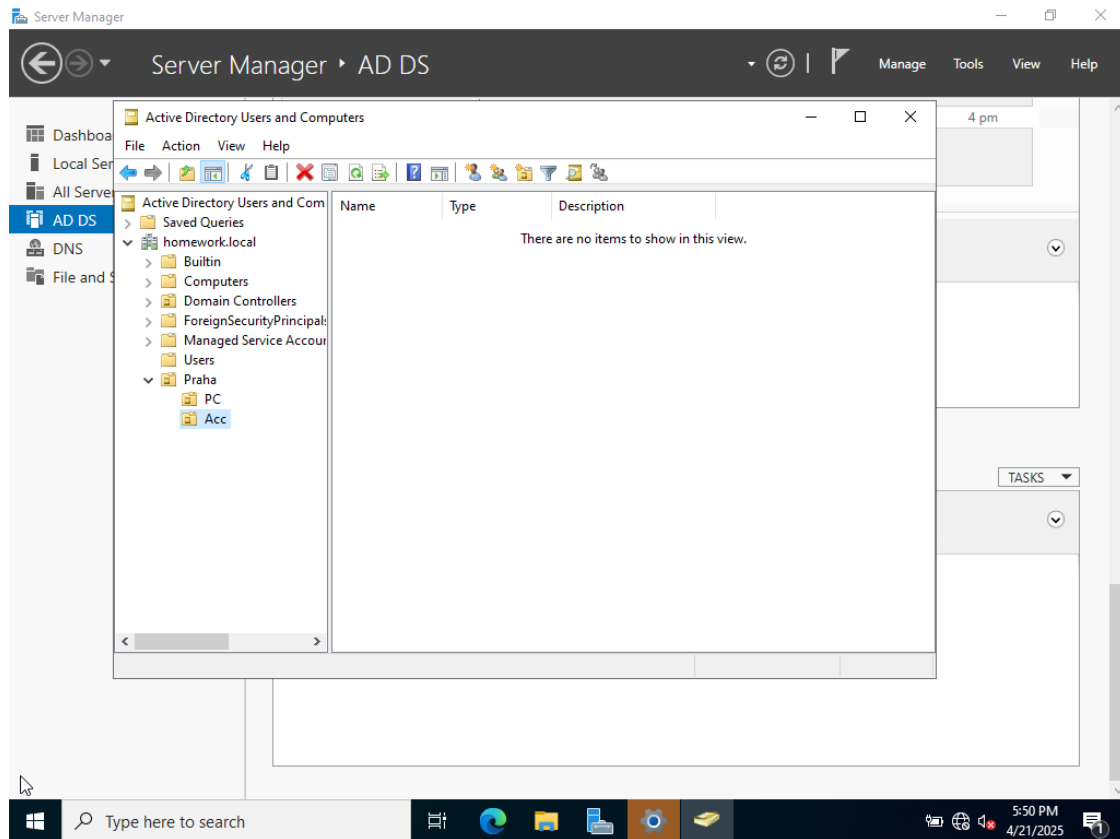
EVENTS Section:

- Header: EVENTS, All events | 13 total
- Table with columns: Server Name, ID, Severity, Source, Log, Date and Time.
- Rows (all from WS22):
 - ID: 1844, Severity: Warning, Source: Microsoft-Windows-ActiveDirectory_DomainService, Log: Directory Service, Date and Time: 4/21/2025 5:26:17 PM
 - ID: 6016, Severity: Warning, Source: DFSR, Log: DFS Replication, Date and Time: 4/21/2025 5:26:14 PM
 - ID: 4013, Severity: Warning, Source: Microsoft-Windows-DNS-Server-Service, Log: DNS Server, Date and Time: 4/21/2025 5:25:51 PM
 - ID: 3041, Severity: Warning, Source: Microsoft-Windows-ActiveDirectory_DomainService, Log: Directory Service, Date and Time: 4/21/2025 5:25:43 PM
 - ID: 2886, Severity: Warning, Source: Microsoft-Windows-ActiveDirectory_DomainService, Log: Directory Service, Date and Time: 4/21/2025 5:25:43 PM
 - ID: 1539, Severity: Warning, Source: Microsoft-Windows-ActiveDirectory_DomainService, Log: Directory Service, Date and Time: 4/21/2025 5:25:31 PM
 - ID: 1463, Severity: Warning, Source: Microsoft-Windows-ActiveDirectory_DomainService, Log: Directory Service, Date and Time: 4/21/2025 5:23:45 PM

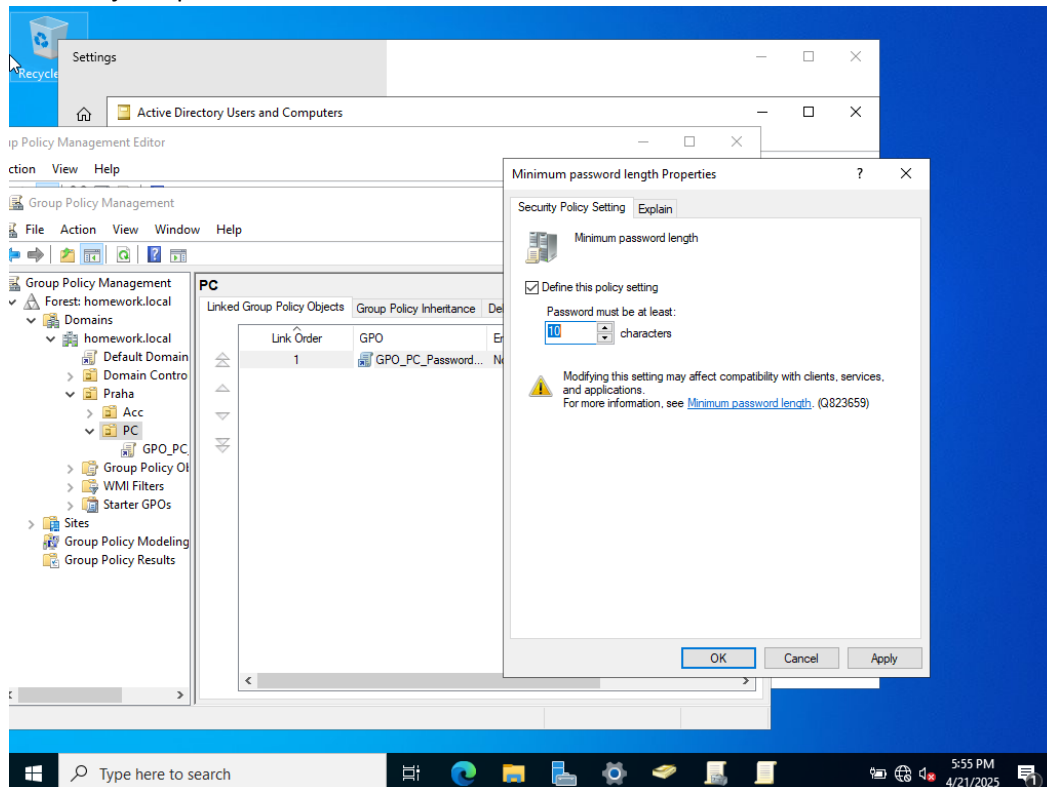
The Windows taskbar at the bottom shows the search bar, task view button, and several pinned applications including Edge, File Explorer, and the Settings app. The system clock indicates 7:00 PM on 4/21/2025.

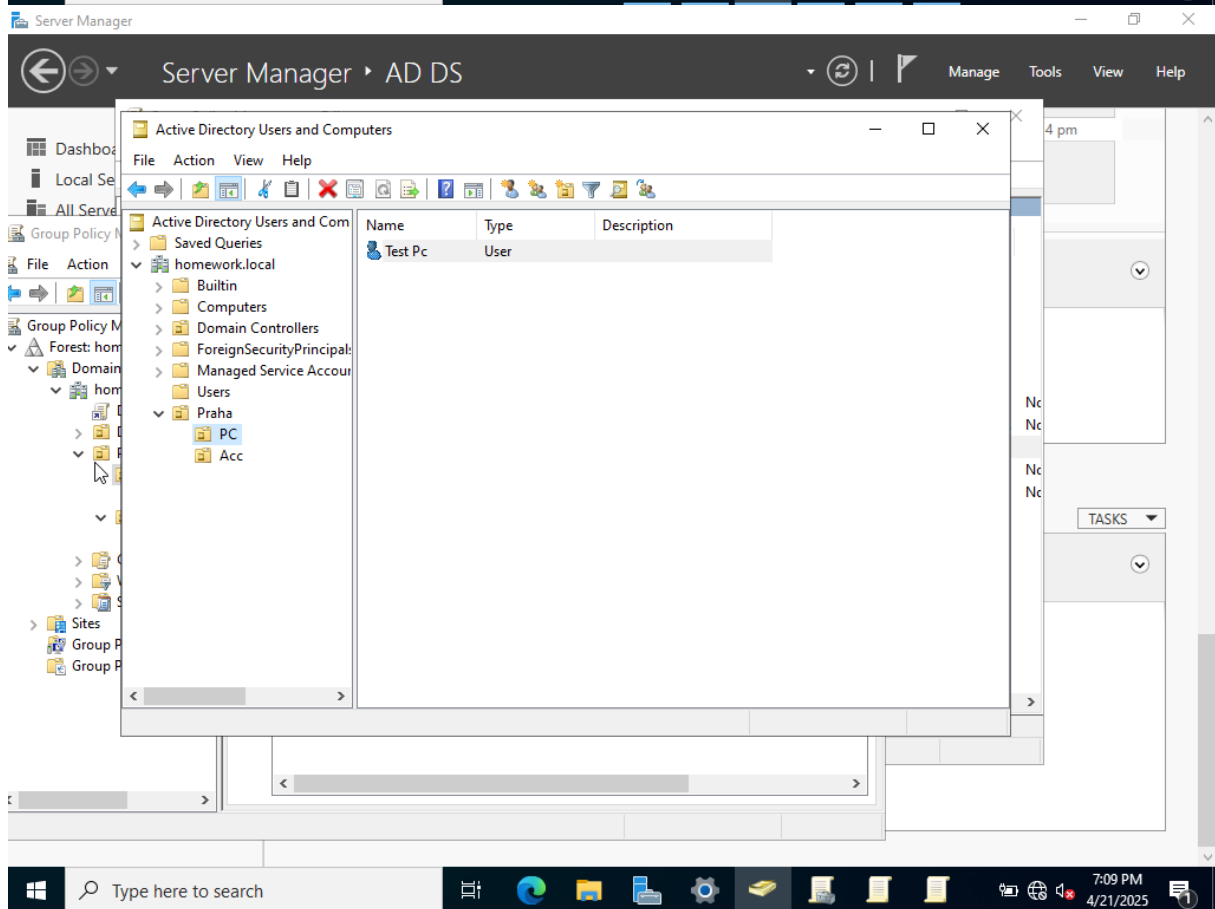
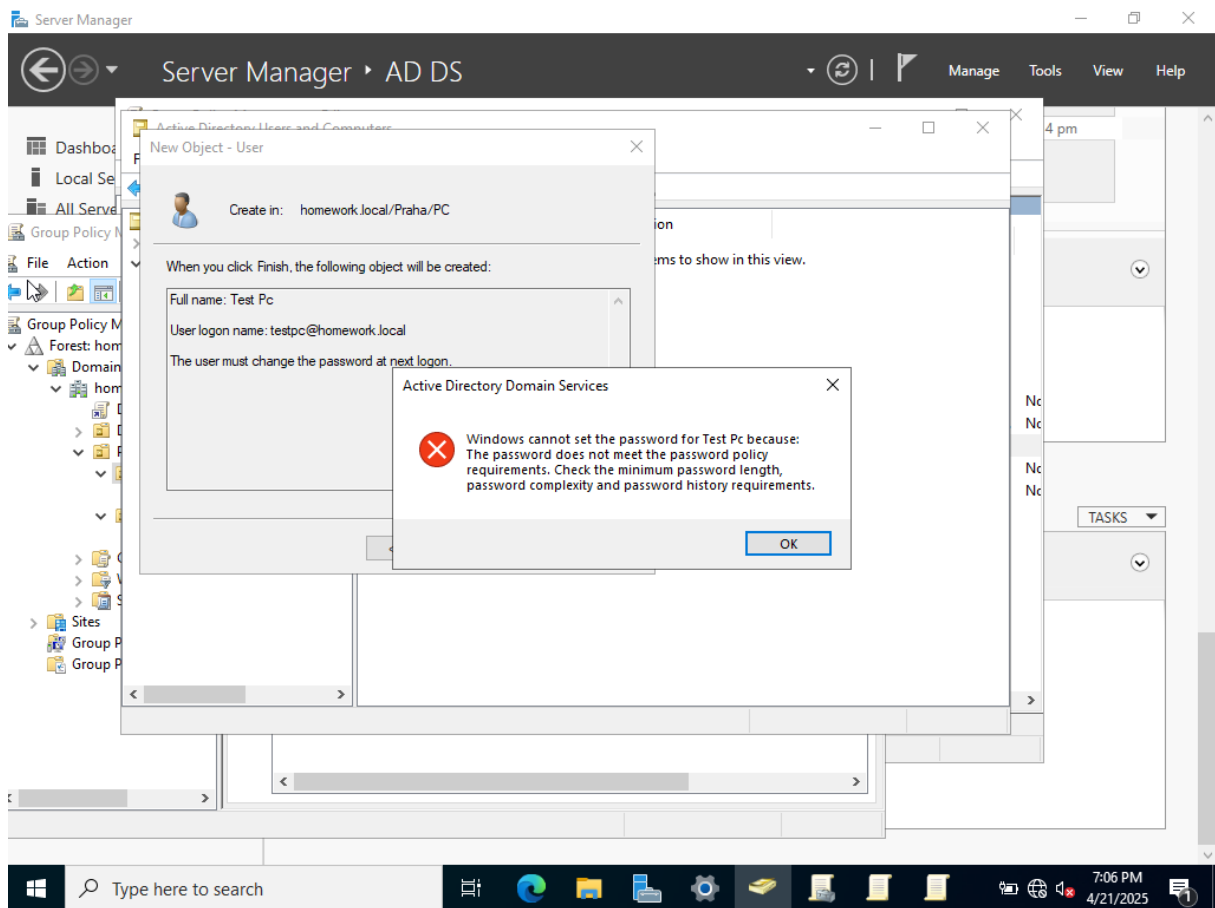
2.OU A GPO

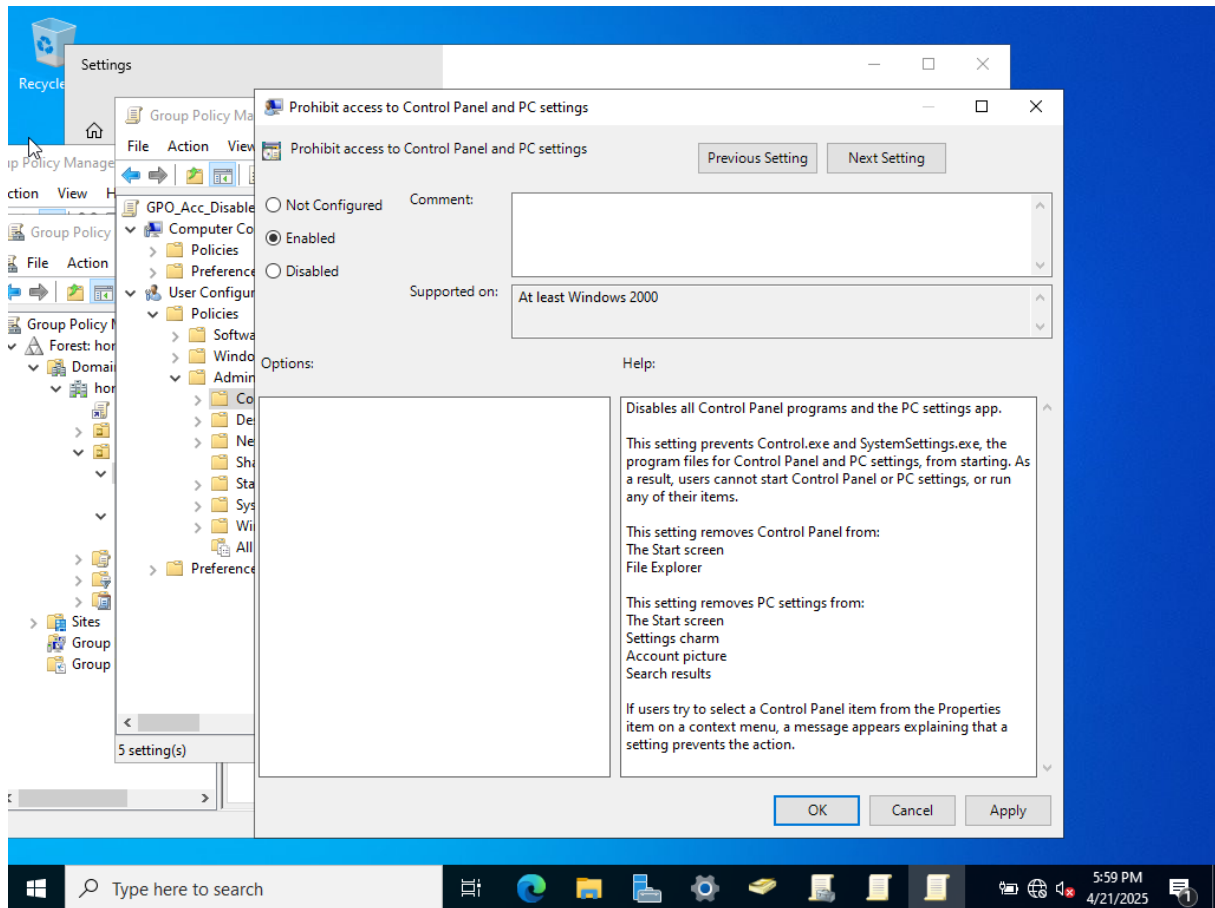
Přidala jsem OU Praha a v ní vytvořila PC a Acc



A začala jsem přidávat GPO

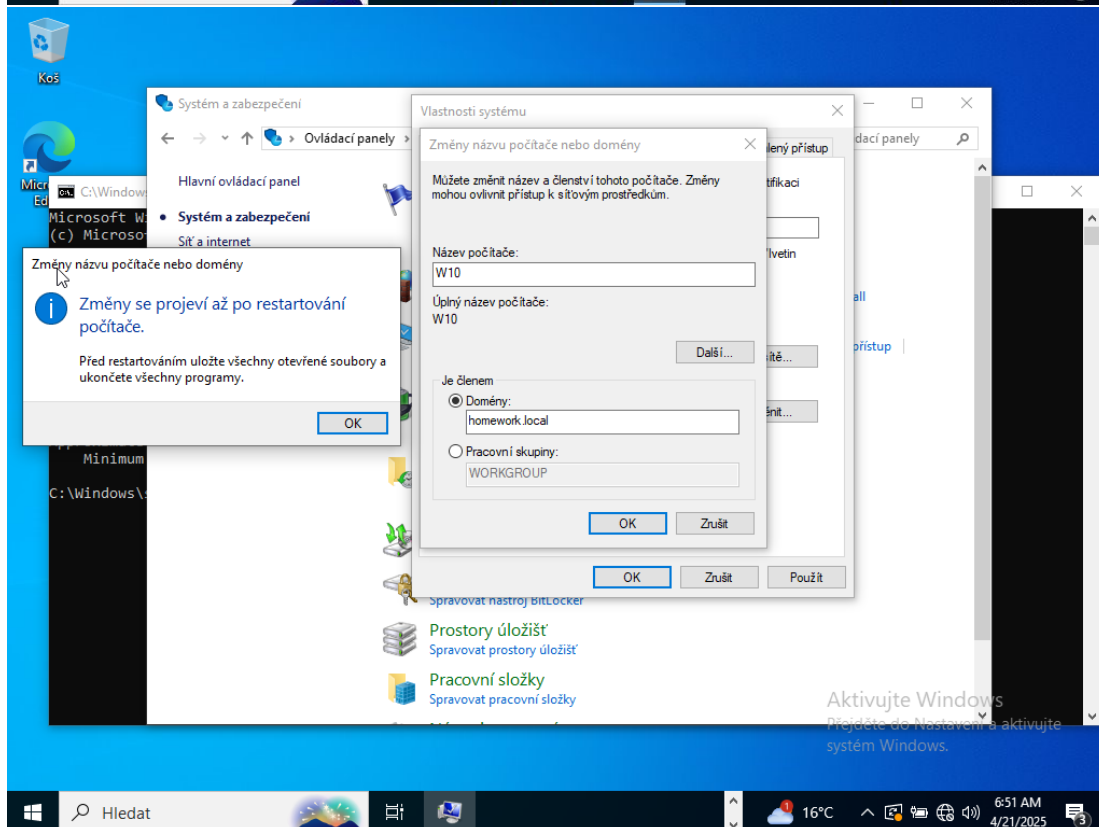
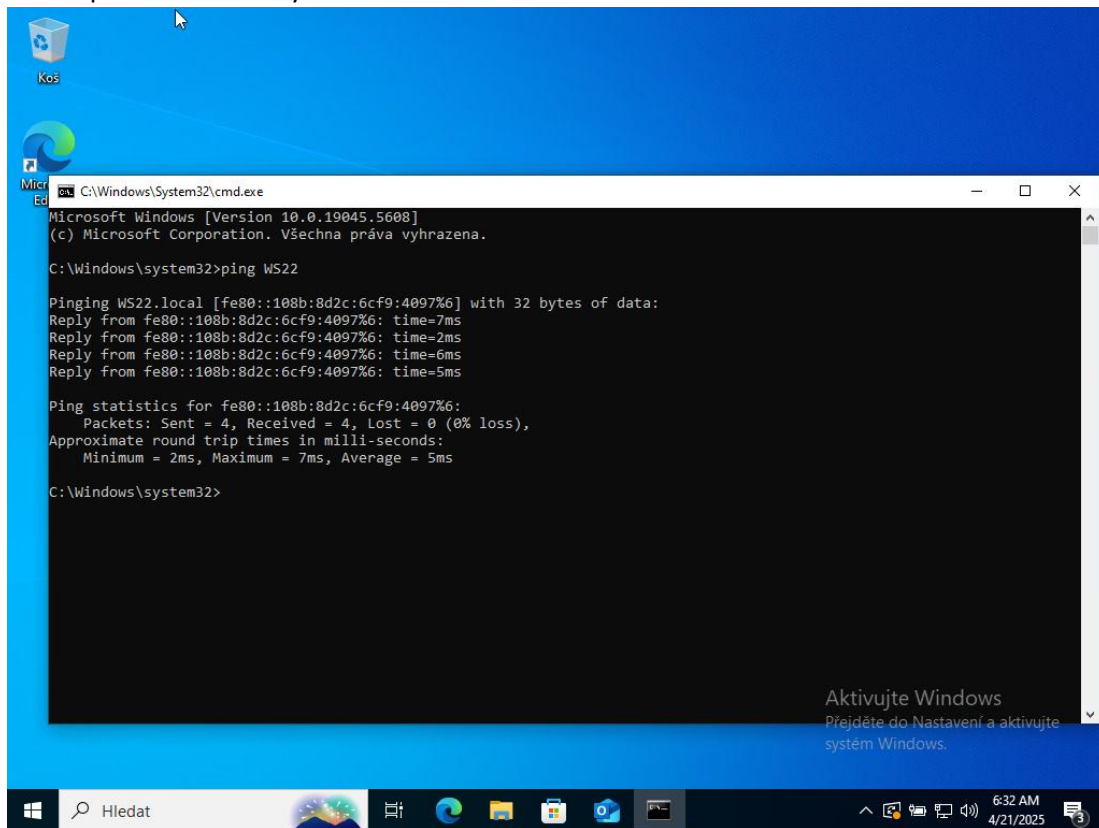




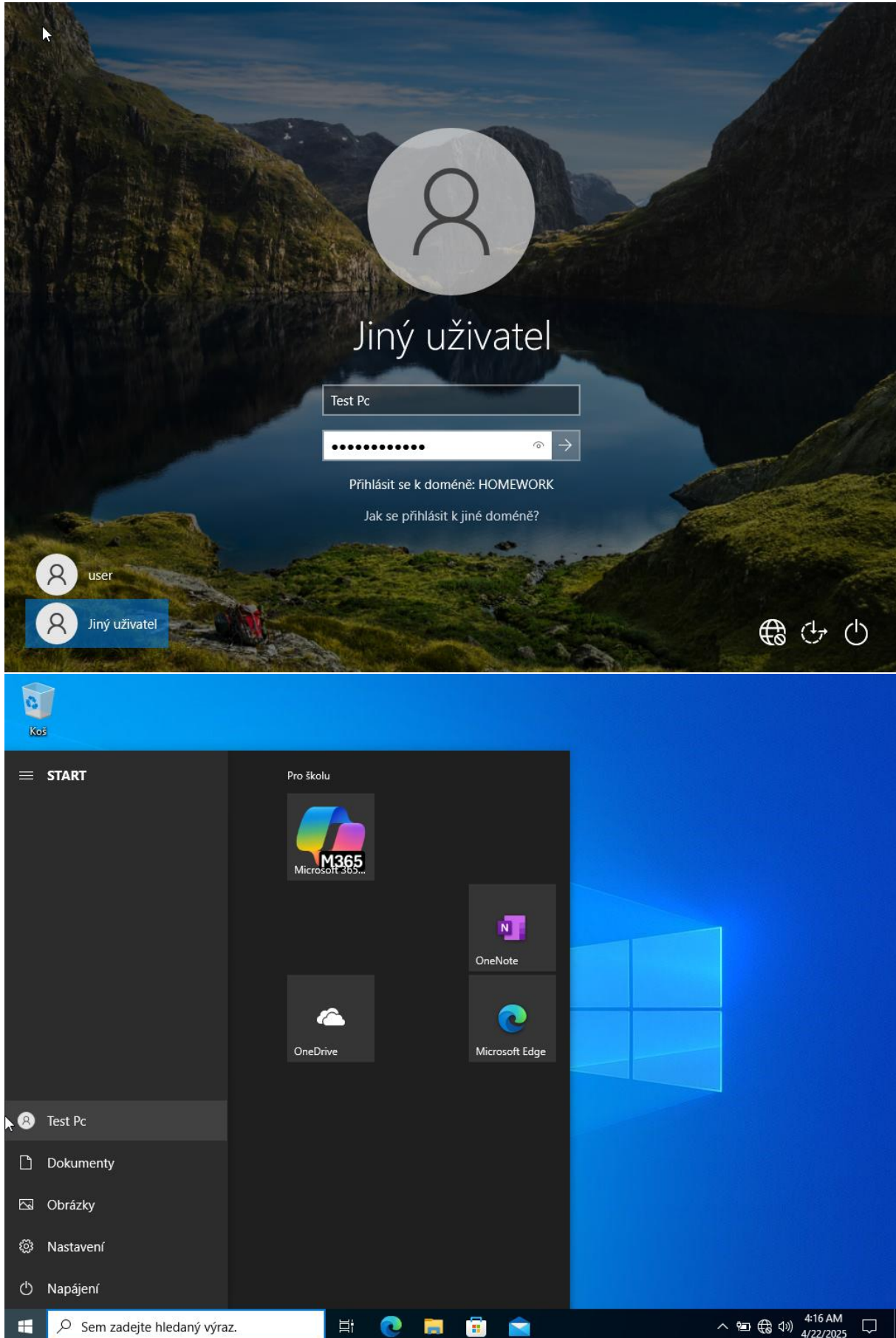


3.W10

Nainstalovala W10 nastavila vše potřebné a pingla se serverem jestli vše běží jak má, pak už jsem ho mohla přidat do domény



Pak jsem otestovala GPO a účet PC



4. Fedora server

1. Připravila jsem síť a IP

Ujistila jsem se, že Fedora byla připojená do stejné NAT sítě (192.168.50.0/24) a měla IP, například 192.168.50.100. Ověřila jsem to příkazem `ip a`. Pokud jsem měla DHCP, bylo to v pořádku. Pokud bych chtěla nastavit statickou IP, mohla jsem to udělat podle potřeby.

2. Zabezpečený FileServer – Samba

- a) Nainstalovala jsem Samby.
- b) Vytvořila jsem složku pro sdílení a nastavila její přístupová práva.
- c) Přidala jsem uživatele pro sdílení, nastavila heslo a přidala ho do Samba databáze.
- d) Konfigurovala jsem sdílení tak, že jsem upravila konfigurační soubor `smb.conf` a přidala potřebné sdílení. Po uložení a restartu služby Samby jsem povolila přístup ve firewallu.

3. Webserver s dvěma stránkami

- a) Nainstalovala jsem Apache server.
- b) Spustila jsem ho a povolila porty pro HTTP (80) a HTTP alternativní port (8081) ve firewallu.
- c) Vytvořila jsem první webovou stránku, která běžela na portu 80.
- d) Vytvořila jsem druhou webovou stránku, která běžela na portu 8081, a pro ni jsem nastavila zvláštní konfiguraci v Apache.

4. Otestovala jsem to:

Na W10 jsem otevřela webový prohlížeč a zadala adresy:

- `http://192.168.50.100` – zobrazila se stránka na portu 80.
- `http://192.168.50.100:8081` – zobrazila se druhá stránka.

```
[ 3/10] samba-2:4.21.5-1.fc41.x86_64 100% | 2.3 MiB/s | 1.8 MiB | 00m00s
[ 4/10] samba-libs-2:4.21.5-1.fc41.x86_64 100% | 1.8 MiB/s | 130.7 KiB | 00m00s
[ 5/10] samba-ldb-ldb-modules-2:4.21.5-1.fc41.x86_64 100% | 572.3 KiB/s | 30.3 KiB | 00m00s
[ 6/10] samba-client-2:4.21.5-1.fc41.x86_64 100% | 5.3 MiB/s | 773.5 KiB | 00m00s
[ 7/10] libsmbclient-2:4.21.5-1.fc41.x86_64 100% | 591.8 KiB/s | 76.3 KiB | 00m00s
[ 8/10] libnetapi-2:4.21.5-1.fc41.x86_64 100% | 981.7 KiB/s | 147.3 KiB | 00m00s
[ 9/10] cups-libs-1:2.4.11-9.fc41.x86_64 100% | 3.3 MiB/s | 253.0 KiB | 00m00s
[10/10] cups-filesystem-1:2.4.11-9.fc41.noarch 100% | 193.8 KiB/s | 13.6 KiB | 00m00s
-----
[10/10] Total 100% | 3.0 MiB/s | 3.6 MiB | 00m01s
Running transaction
[ 1/12] Verify package files 100% | 196.0 B/s | 10.0 B | 00m00s
[ 2/12] Prepare transaction 100% | 48.0 B/s | 10.0 B | 00m00s
[ 3/12] Installing libnetapi-2:4.21.5-1.fc41.x86_64 100% | 4.5 MiB/s | 482.1 KiB | 00m00s
[ 4/12] Installing samba-libs-2:4.21.5-1.fc41.x86_64 100% | 4.8 MiB/s | 364.4 KiB | 00m00s
[ 5/12] Installing cups-filesystem-1:2.4.11-9.fc41.noarch 100% | 99.0 KiB/s | 1.8 KiB | 00m00s
[ 6/12] Installing cups-libs-1:2.4.11-9.fc41.x86_64 100% | 13.7 MiB/s | 615.5 KiB | 00m00s
[ 7/12] Installing samba-dcerpc-2:4.21.5-1.fc41.x86_64 100% | 24.8 MiB/s | 2.9 MiB | 00m00s
[ 8/12] Installing libsmbclient-2:4.21.5-1.fc41.x86_64 100% | 6.4 MiB/s | 164.6 KiB | 00m00s
[ 9/12] Installing samba-ldb-ldb-modules-2:4.21.5-1.fc41.x86_64 100% | 1.9 MiB/s | 56.4 KiB | 00m00s
[10/12] Installing samba-common-tools-2:4.21.5-1.fc41.x86_64 100% | 15.1 MiB/s | 1.3 MiB | 00m00s
[11/12] Installing samba-2:4.21.5-1.fc41.x86_64 100% | 6.0 MiB/s | 3.0 MiB | 00m00s
[12/12] Installing samba-client-2:4.21.5-1.fc41.x86_64 100% | 679.0 KiB/s | 2.5 MiB | 00m04s
Complete!
user@localhost:~$ sudo mkdir -p /srv/sdilene
user@localhost:~$ sudo chmod 777 /srv/sdilene
user@localhost:~$ sudo useradd fsuser
user@localhost:~$ sudo passwd fsuser
Nové heslo:
ŠPATNÉ HESLO: Heslo je kratší než 8 znaků
Opakujte nové heslo:
Hesla se neshodují.
passwd: Chyba manipulace s autentizačním tokenem
passwd: heslo nebylo změněno
user@localhost:~$ sudo passwd fsuser
Nové heslo:
ŠPATNÉ HESLO: Heslo nevyhovuje kontrole slovníkem - je příliš jednoduché nebo systematické
Opakujte nové heslo:
Hesla se neshodují.
passwd: Chyba manipulace s autentizačním tokenem
passwd: heslo nebylo změněno
user@localhost:~$ sudo passwd fsuser
Nové heslo:
Opakujte nové heslo:
passwd: heslo bylo úspěšně změněno
user@localhost:~$ sudo smbpasswd -a fsuser
New SMB password:
Retype new SMB password:
Added user fsuser.
user@localhost:~$

Fedora 41 openh264 (From Cisco) - x86_64 100% | 3.9 KiB/s | 6.0 KiB | 00m02s
Repositories loaded.
Balíček "samba-common-2:4.21.5-1.fc41.noarch" je již nainstalován.

Package Arch Version Repository Size
Installing:
samba x86_64 2:4.21.5-1.fc41 updates 3.0 MiB
samba-client x86_64 2:4.21.5-1.fc41 updates 2.5 MiB
Installing dependencies:
cups-filesystem noarch updates 0.0 B
cups-libs x86_64 1:2.4.11-9.fc41 updates 613.9 KiB
libnetapi x86_64 2:4.21.5-1.fc41 updates 481.4 KiB
libsmbclient x86_64 2:4.21.5-1.fc41 updates 163.9 KiB
samba-common-tools x86_64 2:4.21.5-1.fc41 updates 1.3 MiB
samba-dcerpc x86_64 2:4.21.5-1.fc41 updates 2.9 MiB
samba-ldb-ldb-modules x86_64 2:4.21.5-1.fc41 updates 55.1 KiB
samba-libs x86_64 2:4.21.5-1.fc41 updates 360.2 KiB

Transaction Summary:
Installing: 10 packages

Total size of inbound packages is 4 MiB. Need to download 4 MiB.
After this operation, 11 MiB extra will be used (install 11 MiB, remove 0 B).
[ 1/10] samba-dcerpc-2:4.21.5-1.fc41.x86_64 100% | 2.0 MiB/s | 759.4 KiB | 00m00s
[ 2/10] samba-common-tools-2:4.21.5-1.fc41.x86_64 100% | 1.3 MiB/s | 495.7 KiB | 00m00s
[ 3/10] samba-2:4.21.5-1.fc41.x86_64 100% | 2.3 MiB/s | 1.8 MiB | 00m00s
[ 4/10] samba-libs-2:4.21.5-1.fc41.x86_64 100% | 1.8 MiB/s | 130.7 KiB | 00m00s
[ 5/10] samba-ldb-ldb-modules-2:4.21.5-1.fc41.x86_64 100% | 572.3 KiB/s | 30.3 KiB | 00m00s
[ 6/10] samba-client-2:4.21.5-1.fc41.x86_64 100% | 5.3 MiB/s | 773.5 KiB | 00m00s
[ 7/10] libsmbclient-2:4.21.5-1.fc41.x86_64 100% | 591.8 KiB/s | 76.3 KiB | 00m00s
[ 8/10] libnetapi-2:4.21.5-1.fc41.x86_64 100% | 981.7 KiB/s | 147.3 KiB | 00m00s
[ 9/10] cups-libs-1:2.4.11-9.fc41.x86_64 100% | 3.3 MiB/s | 253.0 KiB | 00m00s
[10/10] cups-filesystem-1:2.4.11-9.fc41.noarch 100% | 193.8 KiB/s | 13.6 KiB | 00m00s
-----
[10/10] Total 100% | 3.0 MiB/s | 3.6 MiB | 00m01s
Running transaction
[ 1/12] Verify package files 100% | 196.0 B/s | 10.0 B | 00m00s
[ 2/12] Prepare transaction 100% | 48.0 B/s | 10.0 B | 00m00s
[ 3/12] Installing libnetapi-2:4.21.5-1.fc41.x86_64 100% | 4.5 MiB/s | 482.1 KiB | 00m00s
[ 4/12] Installing samba-libs-2:4.21.5-1.fc41.x86_64 100% | 4.8 MiB/s | 364.4 KiB | 00m00s
[ 5/12] Installing cups-filesystem-1:2.4.11-9.fc41.noarch 100% | 99.0 KiB/s | 1.8 KiB | 00m00s
[ 6/12] Installing cups-libs-1:2.4.11-9.fc41.x86_64 100% | 13.7 MiB/s | 615.5 KiB | 00m00s
[ 7/12] Installing samba-dcerpc-2:4.21.5-1.fc41.x86_64 100% | 24.8 MiB/s | 2.9 MiB | 00m00s
[ 8/12] Installing libsmbclient-2:4.21.5-1.fc41.x86_64 100% | 6.4 MiB/s | 164.6 KiB | 00m00s
[ 9/12] Installing samba-ldb-ldb-modules-2:4.21.5-1.fc41.x86_64 100% | 1.9 MiB/s | 56.4 KiB | 00m00s
[10/12] Installing samba-common-tools-2:4.21.5-1.fc41.x86_64 100% | 15.1 MiB/s | 1.3 MiB | 00m00s
[11/12] Installing samba-2:4.21.5-1.fc41.x86_64 100% | 6.0 MiB/s | 3.0 MiB | 00m00s
[12/12] Installing samba-client-2:4.21.5-1.fc41.x86_64 100% | 679.0 KiB/s | 2.5 MiB | 00m04s
Complete!
user@localhost:~$
```

```
GNU nano 8.1 /etc/samba/smb.conf
# 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 = SAMBA
    security = user

    passdb backend = tdbsam

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

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

[homes]
    comment = Home Directories
    valid users = %S, %Daw/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
    write list = @printadmin root
    force group = @printadmin
    create mask = 0664
    directory mask = 0775

[ Přečteno 44 řádků ]
G Nápověda  O Zapsat  F Hledat  K Ujmnout  I Provést  C Umístění  U Zrušit  A Značka  J K závorce  B Předchozí
X Ukončit  R Otevřít soubor  N Nahradit  U Uložit  N Zarovnat  J Jít na řádek  E Znovu  G Kopírovat  B Na_jdiZpět  F Další

[homes]
    comment = Home Directories
    valid users = %S, %Daw/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
    write list = @printadmin root
    force group = @printadmin
    create mask = 0664
    directory mask = 0775

[sdilene]
    path = /srv/sdilene
    valid users = fsuser
    browsable = yes
    writable = yes
    read only = no
    guest ok = no

user@localhost:~$
-a /etc/samba/smb.conf install nano samba smbpasswd useradd
a fsuser ip -p samba samba-client /srv/sdilene -y
dnf chmod mkdir passwd samba-common sudo 777
user@localhost:~$
-a /etc/samba/smb.conf install nano samba smbpasswd useradd
a fsuser ip -p samba samba-client /srv/sdilene -y
dnf chmod mkdir passwd samba-common sudo 777
user@localhost:~$
-a /etc/samba/smb.conf install nano samba smbpasswd useradd
a fsuser ip -p samba samba-client /srv/sdilene -y
dnf chmod mkdir passwd samba-common sudo 777
user@localhost:~$
-a /etc/samba/smb.conf install nano samba smbpasswd useradd
a fsuser ip -p samba samba-client /srv/sdilene -y
dnf chmod mkdir passwd samba-common sudo 777
user@localhost:~$
```

```

browsable = No

[print$]
comment = Printer Drivers
path = /var/lib/samba/drivers
write list = @printadmin root
force group = @printadmin
create mask = 0664
directory mask = 0775

[fsdilene]
path = /srv/sdilene
valid users = fsuser
browsable = yes
writable = yes
read only = no
guest ok = no

user@localhost:~$
-a /etc/samba/smb.conf install nano samba smbpasswd useradd
-a fsuser ip -p samba-client /srv/sdilene -y
dnf chmod mkdir passwd samba-common sudo 777
user@localhost:~$
-a /etc/samba/smb.conf install nano samba smbpasswd useradd
-a fsuser ip -p samba-client /srv/sdilene -y
dnf chmod mkdir passwd samba-common sudo 777
user@localhost:~$
-a /etc/samba/smb.conf install nano samba smbpasswd useradd
-a fsuser ip -p samba-client /srv/sdilene -y
dnf chmod mkdir passwd samba-common sudo 777
user@localhost:~$ sudo systemctl enable smb
[sudo] hello pro user:
Created symlink '/etc/systemd/system/multi-user.target.wants/smb.service' to '/usr/lib/systemd/system/smb.service'.
user@localhost:~$ sudo systemctl start smb
user@localhost:~$ sudo firewall-cmd --permanent
State: running

No options specified
usage: 'firewall-cmd --help' for usage information or see firewall-cmd(1) man page
user@localhost:~$ sudo firewall-cmd --permanent --add-service=samba
success
user@localhost:~$ sudo firewall-cmd --reload
success
user@localhost:~$

Installing dependencies:
apr x86_64 1.7.5-1.fc41 fedora 302.3 KiB
apr-util x86_64 1.6.3-21.fc41 fedora 220.5 KiB
apr-util-lmdb x86_64 1.6.3-21.fc41 fedora 15.2 KiB
fedora-logos-httpd noarch 38.1.0-6.fc41 fedora 12.1 KiB
httpd-core x86_64 2.4.63-1.fc41 updates 4.8 MiB
httpd-filesystem noarch 2.4.63-1.fc41 updates 464.0 B
httpd-tools x86_64 2.4.63-1.fc41 updates 215.0 KiB
Installing weak dependencies:
apr-util-openssl x86_64 1.6.3-21.fc41 fedora 23.5 KiB
julietaula-montserrat-fonts noarch 1:7.222-9.fc41 fedora 4.2 MiB
mod_http2 x86_64 2.0.29-2.fc41 fedora 432.0 KiB
mod_lua x86_64 2.4.63-1.fc41 updates 138.1 KiB

Transaction Summary:
Installing: 12 packages

Total size of inbound packages is 4 MiB. Need to download 4 MiB.
After this operation, 10 MiB extra will be used (install 10 MiB, remove 0 B).
[ 1/12] httpd-0:2.4.63-1.fc41.x86_64 100% | 413.9 KiB/s | 46.4 KiB | 00m00s
[ 2/12] apr-0:1.7.5-1.fc41.x86_64 100% | 782.5 KiB/s | 128.6 KiB | 00m00s
[ 3/12] apr-util-0:1.6.3-21.fc41.x86_64 100% | 1.3 MiB/s | 97.4 KiB | 00m00s
[ 4/12] apr-util-lmdb-0:1.6.3-21.fc41.x86_64 100% | 381.6 KiB/s | 14.5 KiB | 00m00s
[ 5/12] httpd-core-0:2.4.63-1.fc41.x86_64 100% | 4.5 MiB/s | 1.4 MiB | 00m00s
[ 6/12] httpd-filesystem-0:2.4.63-1.fc41.noarch 100% | 184.7 KiB/s | 12.2 KiB | 00m00s
[ 7/12] httpd-tools-0:2.4.63-1.fc41.x86_64 100% | 1.1 MiB/s | 80.3 KiB | 00m00s
[ 8/12] fedora-logos-httpd-0:38.1.0-6.fc41.noarch 100% | 444.5 KiB/s | 15.1 KiB | 00m00s
[ 9/12] mod_lua-0:2.4.63-1.fc41.x86_64 100% | 1.2 MiB/s | 57.1 KiB | 00m00s
[10/12] apr-util-openssl-0:1.6.3-21.fc41.x86_64 100% | 294.7 KiB/s | 16.2 KiB | 00m00s
[11/12] mod_http2-0:2.0.29-2.fc41.x86_64 100% | 1.9 MiB/s | 161.1 KiB | 00m00s
[12/12] julietaula-montserrat-fonts-1:7.222-9.fc41.noarch 100% | 7.3 MiB/s | 1.6 MiB | 00m00s
-----
[12/12] Total 100% | 1.9 MiB/s | 3.7 MiB | 00m02s
Running transaction
[ 1/14] Verify package files 100% | 187.0 B/s | 12.0 B | 00m00s
[ 2/14] Prepare transaction 100% | 56.0 B/s | 12.0 B | 00m00s
[ 3/14] Installing apr-0:1.7.5-1.fc41.x86_64 100% | 2.9 MiB/s | 304.1 KiB | 00m00s
[ 4/14] Installing apr-util-0:1.6.3-21.fc41.x86_64 100% | 7.7 MiB/s | 222.0 KiB | 00m00s
[ 5/14] Installing apr-util-lmdb-0:1.6.3-21.fc41.x86_64 100% | 845.2 KiB/s | 16.1 KiB | 00m00s
[ 6/14] Installing httpd-tools-0:2.4.63-1.fc41.x86_64 100% | 4.7 MiB/s | 219.6 KiB | 00m00s
[ 7/14] Installing fedora-logos-httpd-0:38.1.0-6.fc41.noarch 100% | 59.8 KiB/s | 13.0 KiB | 00m00s
[ 8/14] Installing httpd-filesystem-0:2.4.63-1.fc41.noarch 100% | 46.0 KiB/s | 2.2 KiB | 00m00s
[ 9/14] Installing httpd-core-0:2.4.63-1.fc41.x86_64 100% | 7.1 MiB/s | 4.9 MiB | 00m01s
[10/14] Installing httpd-0:2.4.63-1.fc41.x86_64 100% | 634.0 KiB/s | 60.5 KiB | 00m00s
[11/14] Installing mod_lua-0:2.4.63-1.fc41.x86_64 100% | 5.0 MiB/s | 130.0 KiB | 00m00s
[12/14] Installing mod_http2-0:2.0.29-2.fc41.x86_64 100% | 12.1 MiB/s | 434.3 KiB | 00m00s
[13/14] Installing apr-util-openssl-0:1.6.3-21.fc41.x86_64 100% | 1.2 MiB/s | 24.4 KiB | 00m00s
[14/14] Installing julietaula-montserrat-fonts-1:7.222-9.fc41.noarch 100% | 1.5 MiB/s | 4.2 MiB | 00m03s
Complete!
user@localhost:~$

```

```

mod_http2                                x86_64      2.0.29-2.fc41      fedora      432.0 KiB
mod_lua                                  x86_64      2.4.63-1.fc41      updates     130.1 KiB

Transaction Summary:
  Installing:           12 packages

Total size of inbound packages is 4 MiB. Need to download 4 MiB.
After this operation, 10 MiB extra will be used (install 10 MiB, remove 0 B).
[ 1/12] httpd-0:2.4.63-1.fc41.x86_64      100% | 413.9 KiB/s | 46.4 KiB | 00m00s
[ 2/12] apr-0:1.7.5-1.fc41.x86_64         100% | 782.5 KiB/s | 128.6 KiB | 00m00s
[ 3/12] apr-util-0:1.6.3-21.fc41.x86_64   100% | 1.3 MiB/s | 97.4 KiB | 00m00s
[ 4/12] apr-util-ldb-0:1.6.3-21.fc41.x86_64 100% | 381.6 KiB/s | 14.5 KiB | 00m00s
[ 5/12] httpd-core-0:2.4.63-1.fc41.x86_64  100% | 4.5 MiB/s | 1.4 MiB | 00m00s
[ 6/12] httpd-filesystem-0:2.4.63-1.fc41.noarch 100% | 184.7 KiB/s | 12.2 KiB | 00m00s
[ 7/12] httpd-tools-0:2.4.63-1.fc41.x86_64 100% | 1.1 MiB/s | 80.3 KiB | 00m00s
[ 8/12] fedora-logos-httpd-0:38.1.0-6.fc41.noarch 100% | 444.5 KiB/s | 15.1 KiB | 00m00s
[ 9/12] mod_lua-0:2.4.63-1.fc41.x86_64     100% | 1.2 MiB/s | 57.1 KiB | 00m00s
[10/12] apr-util-openssl-0:1.6.3-21.fc41.x86_64 100% | 294.7 KiB/s | 16.2 KiB | 00m00s
[11/12] mod_http2-0:2.0.29-2.fc41.x86_64    100% | 1.9 MiB/s | 161.1 KiB | 00m00s
[12/12] julietaula-montserrat-fonts-1:7.222-9.fc41.noarch 100% | 7.3 MiB/s | 1.6 MiB | 00m00s
-----
[12/12] Total                               100% | 1.9 MiB/s | 3.7 MiB | 00m02s
Running transaction
[ 1/14] Verify package files                100% | 187.0 B/s | 12.0 B | 00m00s
[ 2/14] Prepare transaction                 100% | 56.0 B/s | 12.0 B | 00m00s
[ 3/14] Installing apr-0:1.7.5-1.fc41.x86_64 100% | 2.9 MiB/s | 304.1 KiB | 00m00s
[ 4/14] Installing apr-util-0:1.6.3-21.fc41.x86_64 100% | 7.7 MiB/s | 222.0 KiB | 00m00s
[ 5/14] Installing apr-util-ldb-0:1.6.3-21.fc41.x86_64 100% | 845.2 KiB/s | 16.1 KiB | 00m00s
[ 6/14] Installing httpd-tools-0:2.4.63-1.fc41.x86_64 100% | 4.7 MiB/s | 219.6 KiB | 00m00s
[ 7/14] Installing fedora-logos-httpd-0:38.1.0-6.fc41.noarch 100% | 59.0 KiB/s | 13.0 KiB | 00m00s
[ 8/14] Installing httpd-filesystem-0:2.4.63-1.fc41.noarch 100% | 46.0 KiB/s | 2.2 KiB | 00m00s
[ 9/14] Installing httpd-core-0:2.4.63-1.fc41.x86_64 100% | 7.1 MiB/s | 4.9 MiB | 00m01s
[10/14] Installing httpd-0:2.4.63-1.fc41.x86_64 100% | 634.0 KiB/s | 68.5 KiB | 00m00s
[11/14] Installing mod_lua-0:2.4.63-1.fc41.x86_64 100% | 5.0 MiB/s | 138.8 KiB | 00m00s
[12/14] Installing mod_http2-0:2.0.29-2.fc41.x86_64 100% | 12.1 MiB/s | 434.3 KiB | 00m00s
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[14/14] Installing julietaula-montserrat-fonts-1:7.222-9.fc41.noarch 100% | 1.5 MiB/s | 4.2 MiB | 00m03s
Complete!
user@localhost:~$ sudo systemctl enable httpd
Created symlink '/etc/systemd/system/multi-user.target.wants/httpd.service' + '/usr/lib/systemd/system/httpd.service'.
user@localhost:~$ sudo systemctl start httpd
user@localhost:~$ sudo firewall-cmd --permanent --add-port=80/tcp
Error: INVALID_PROTOCOL: 'tcp' not in {'tcp','udp','sctp','dccp'}
user@localhost:~$ sudo firewall-cmd --permanent --add-port=80/tcp
success
user@localhost:~$ sudo firewall-cmd --permanent --add-port=8081/tcp
success
user@localhost:~$ sudo firewall-cmd --reload
success
user@localhost:~$

Total size of inbound packages is 4 MiB. Need to download 4 MiB.
After this operation, 10 MiB extra will be used (install 10 MiB, remove 0 B).
[ 1/12] httpd-0:2.4.63-1.fc41.x86_64      100% | 413.9 KiB/s | 46.4 KiB | 00m00s
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[ 3/12] apr-util-0:1.6.3-21.fc41.x86_64   100% | 1.3 MiB/s | 97.4 KiB | 00m00s
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Complete!
user@localhost:~$ sudo systemctl enable httpd
Created symlink '/etc/systemd/system/multi-user.target.wants/httpd.service' + '/usr/lib/systemd/system/httpd.service'.
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user@localhost:~$ sudo firewall-cmd --permanent --add-port=80/tcp
Error: INVALID_PROTOCOL: 'tcp' not in {'tcp','udp','sctp','dccp'}
user@localhost:~$ sudo firewall-cmd --permanent --add-port=80/tcp
success
user@localhost:~$ sudo firewall-cmd --permanent --add-port=8081/tcp
success
user@localhost:~$ sudo firewall-cmd --reload
success
user@localhost:~$ echo "první stránka na portu 80" | sudo tee /var/www/html/index.html
první stránka na portu 80
user@localhost:~$ sudo mkdir /var/www/html/0801
user@localhost:~$ echo "druhá stránka na portu 8081" | sudo tee /var/www/html/0801/index.html
druhá stránka na portu 8081
user@localhost:~$

```

```
GNU nano 8.1 /etc/httpd/conf.d/port8081.conf
Listen 8081
<VirtualHost *:8081>
    DocumentRoot "/var/www/html8081"
    <Directory "/var/www/html8081">
        AllowOverride None
        Require all granted
    </Directory>
</VirtualHost>

user@localhost: $
```

