LAN – propojení 4 přepínačů

CLI konzola switch0
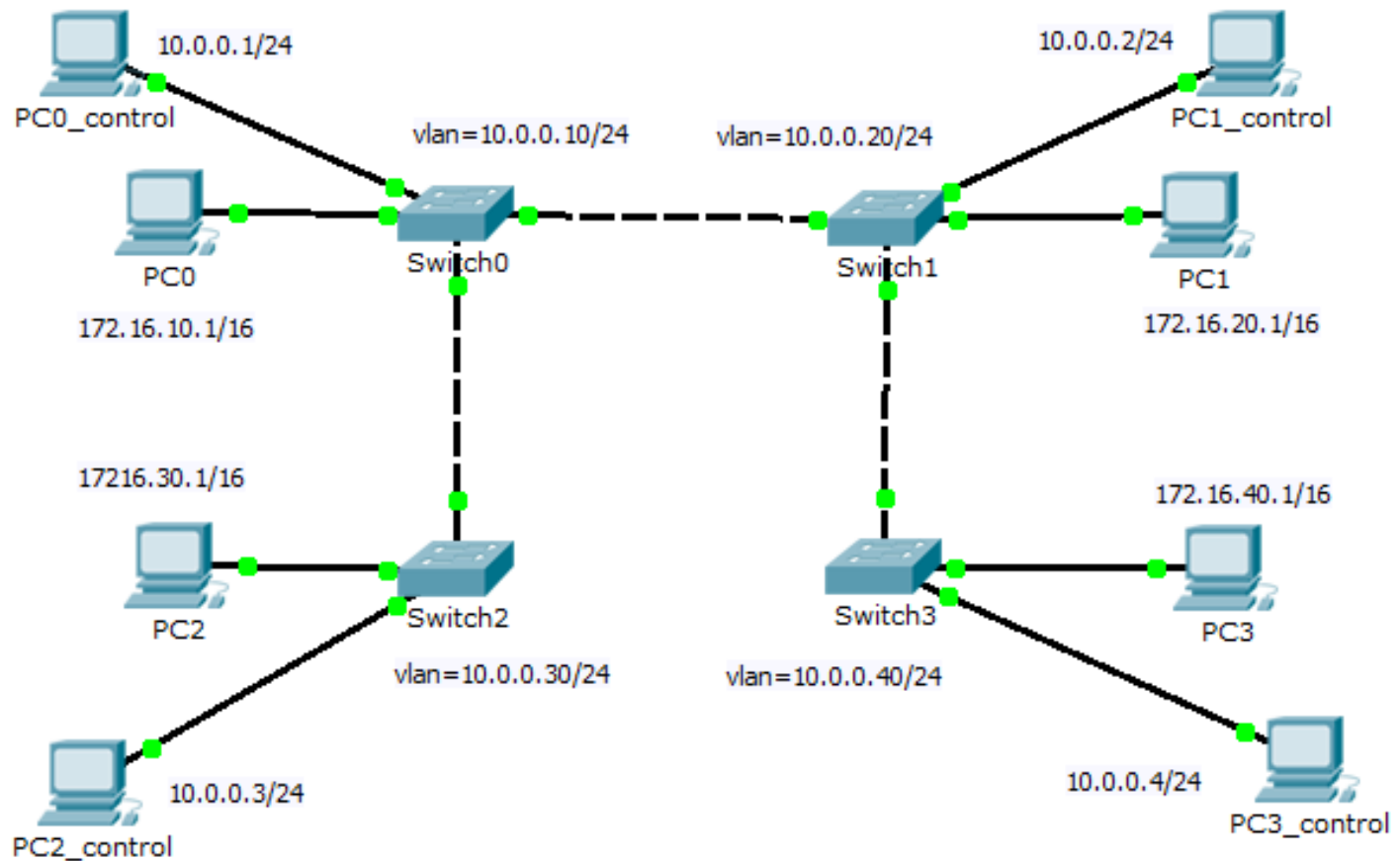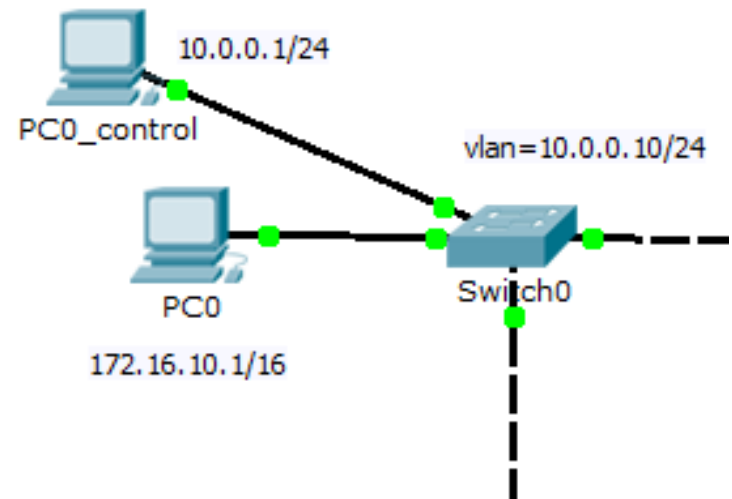
- ➢ Switch> **en**
- ➢ Switch# **conf t**
- ➢ Switch(config)# **hostname sw0**
- ➢ sw0(config)# **enable secret cisco**
- ➢ sw0(config)# **int vlan1**
- ➢ sw0(config-if)# **ip address 10.0.0.10 255.255.255.0**
- ➢ sw0(config-if)# **line vty 0 4**
- ➢ sw0(config-line)# **password cisco**
- ➢ sw0(config-line)#
- ➢ sw0# **sh ip int brief**
- ➢ sw0# **en**
- ➢ sw0# **conf t**
- ➢ sw0(config)# **int vlan1**
- ➢ sw0(config-if)# **no sh**

10.0.0.1/24

PC0_control

vlan=10.0.0.10/24

PC0

172.16.10.1/16

Switch0

Kontrola zapojení a testy

sw0> **en**

Password:

sw0# **sh cdp ne**

Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge

S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone
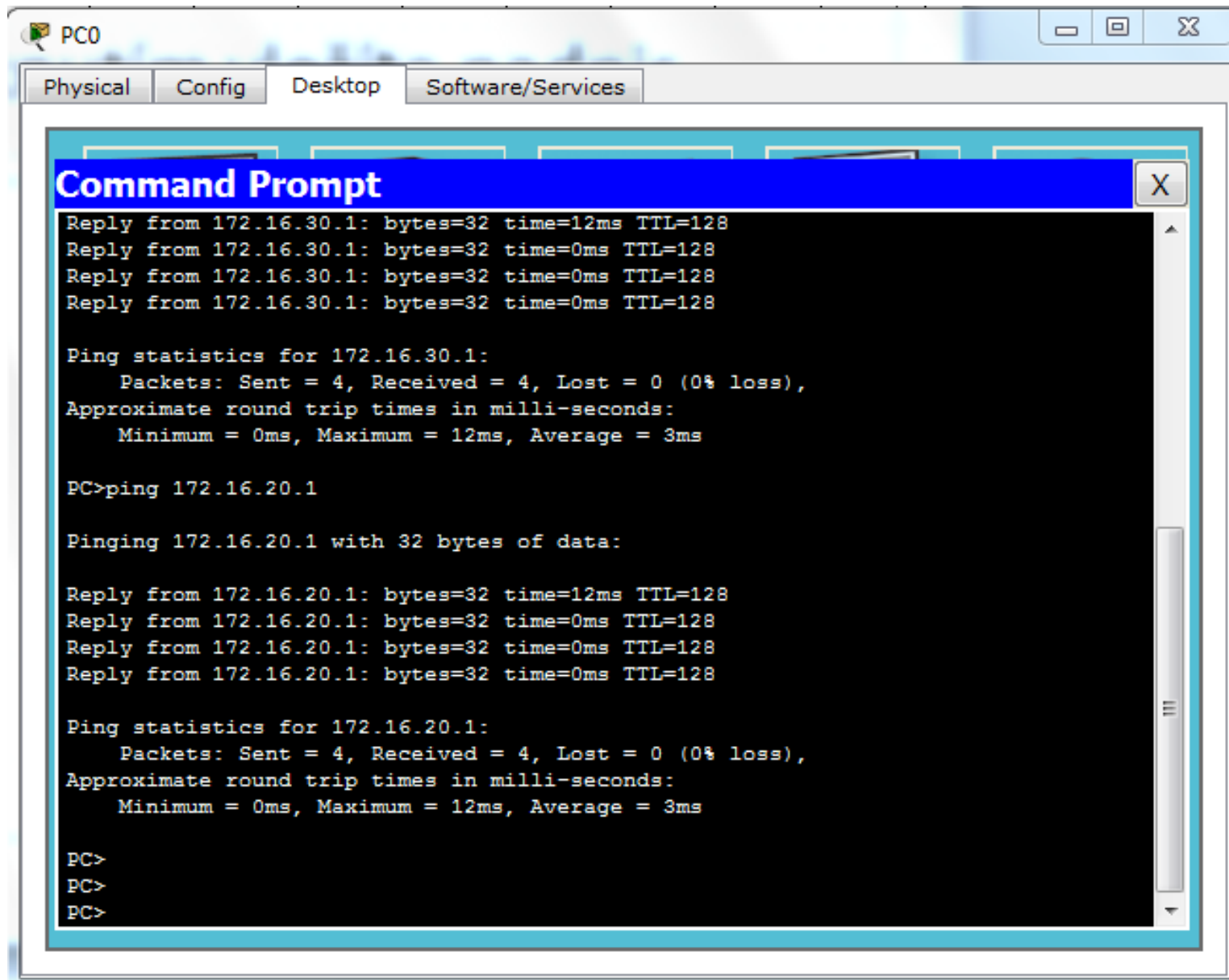
Device ID	Local Intrfce	Holdtme	Capability	Platform	Port ID
sw2	Gig 1/1	167	S	2960	Gig 1/1
sw1	Gig 1/2	134	S	2960	Gig 1/2

sw0#

Kontrola ping


```
PC0
Physical    Config    Desktop    Software/Services

Command Prompt                                              X

Reply from 172.16.30.1: bytes=32 time=12ms TTL=128
Reply from 172.16.30.1: bytes=32 time=0ms TTL=128
Reply from 172.16.30.1: bytes=32 time=0ms TTL=128
Reply from 172.16.30.1: bytes=32 time=0ms TTL=128

Ping statistics for 172.16.30.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 12ms, Average = 3ms

PC>ping 172.16.20.1

Pinging 172.16.20.1 with 32 bytes of data:

Reply from 172.16.20.1: bytes=32 time=12ms TTL=128
Reply from 172.16.20.1: bytes=32 time=0ms TTL=128
Reply from 172.16.20.1: bytes=32 time=0ms TTL=128
Reply from 172.16.20.1: bytes=32 time=0ms TTL=128

Ping statistics for 172.16.20.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 12ms, Average = 3ms

PC>
PC>
PC>
```

Kontrola ARP tabulky

```
sw0# sh arp
Protocol  Address          Age (min)  Hardware Addr   Type   Interface
Internet  10.0.0.1            74  0060.7084.DDC3  ARPA   Vlan1
Internet  10.0.0.10            -  0001.C913.943B  ARPA   Vlan1
sw0#
```

```
sw0# sh mac address-table
          Mac Address Table
-------------------------------------------
Vlan    Mac Address      Type        Ports
----    -----------      --------    -----
   1    0001.438a.1a01   DYNAMIC     Gig1/1
   1    0002.1762.2802   DYNAMIC     Gig1/2
```

```
PC>
PC>arp -a
  Internet Address       Physical Address       Type
  172.16.20.1            0009.7c53.4708         dynamic
  172.16.30.1            0060.7016.ea0a         dynamic

PC>
```

Naplnění ARP tabulky

sw0# **sh arp**

Protocol Address   Age (min) Hardware Addr   Type   Interface

Internet 10.0.0.1   122 0060.7084.DDC3 ARPA   Vlan1

Internet 10.0.0.10   -   0001.C913.943B ARPA   Vlan1

sw0# **sh mac add**

    Mac Address Table

Vlan   Mac Address   Type   Ports

----   ----------   --------   -----

  1   0001.438a.1a01   DYNAMIC   Gig1/1

  1   0002.1762.2802   DYNAMIC   Gig1/2

  1   0005.5e8c.aa02   DYNAMIC   Gig1/1

  1   0060.2f24.9811   DYNAMIC   Gig1/2

sw0#

Další příkazy IOS cisco

➢ SW2> **en**

➢ SW2# erase ?

➢   startup-config Erase contents of configuration memory

➢ SW2# erase start

➢ SW2# **erase startup-config**

➢ Erasing the nvram filesystem will remove all configuration files! Continue? [confirm] [OK] Erase of nvram: complete %SYS-7-NV_BLOCK_INIT: Initialized the geometry of nvram

➢ SW2# **reload**

➢ Proceed with reload? [confirm]

Studený restart systému

C2960 Boot Loader (C2960-HBOOT-M) Version 12.2(25r)FX, RELEASE SOFTWARE (fc4)

Cisco WS-C2960-24TT (RC32300) processor (revision C0) with 21039K bytes of memory.

2960-24TT starting...

Base ethernet MAC Address: 000B.BED5.97D7

Xmodem file system is available.

Initializing Flash...

flashfs[0]: 1 files, 0 directories

flashfs[0]: 0 orphaned files, 0 orphaned directories

flashfs[0]: Total bytes: 64016384

flashfs[0]: Bytes used: 4414921

flashfs[0]: Bytes available: 59601463

flashfs[0]: flashfs fsck took 1 seconds.

...done Initializing Flash.

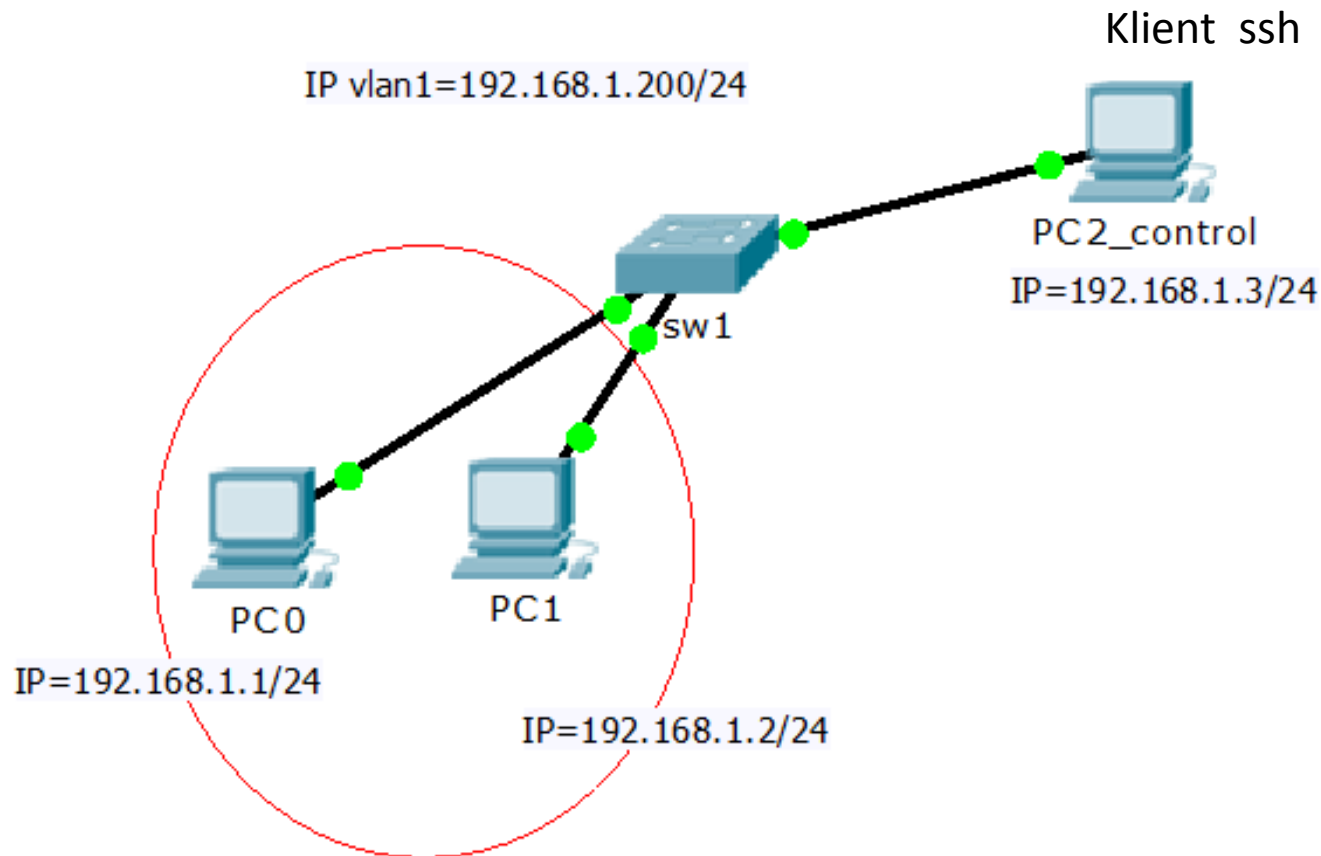Boot Sector Filesystem (bs:) installed, fsid: 3

Parameter Block Filesystem (pb:) installed, fsid: 4

Loading "flash:/c2960-lanbase-mz.122-25.FX.bin"...

##

################### [OK]

Nastavení služby Secure Shell (**SSH**)

Nastavení služby Secure Shell (SSH)

- ➤ Switch> **en**
- ➤ Switch# **conf t**
- ➤ Switch(config)# **hostname sw1**
- ➤ sw0(config)# **enable secret cisco**
- ➤ sw1(config-line)# **int vlan1**
- ➤ sw1(config-if)# **ip address 10.0.0.10   255.255.255.0**
- ➤ sw1(config-if)# **no sh**
- ➤ sw1(config)# **line vty 0 4**
- ➤ sw1(config-line)# **transport input ssh**
- ➤ sw1(config-line)# **login local**
- ➤ sw1(config)# **username opiol password cisco**
- ➤ sw1(config)# **ip domain name mamut.com**
- ➤ sw1(config)# **crypto key generate rsa**

  % You already have RSA keys defined named sw1.mamut.com .

  % Do you really want to replace them? [yes/no]: yes

  The name for the keys will be: sw1.mamut.com

  Choose the size of the key modulus in the range of 360 to 2048 for your General Purpose Keys. Choosing a key modulus greater than 512 may take a few minutes.

  How many bits in the modulus [512]:

- ➤ **1024**

  % Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

- ➤ sw1(config)# **ip ssh version 2**

Propojení PC2_control s přepínačem sw1

```
PC>ssh
Packet Tracer PC SSH

Usage: SSH -l username target

PC>ssh -l opiol 192.168.1.200
Open
Password:




sw1>
```

sw1**# sh running-config   ….. Listing aktuální konfigurace**

Building configuration...

hostname sw1
enable secret 5
1mERr$hx5rVt7rPNoS4wqbXKX7m0
ip ssh version 2
ip domain-name mamut.com
username opiol privilege 1 password 0 cisco

interface Vlan1
 ip address 192.168.1.200 255.255.255.0
line con 0
line vty 0 4
 password cisco
line vty 5 15