

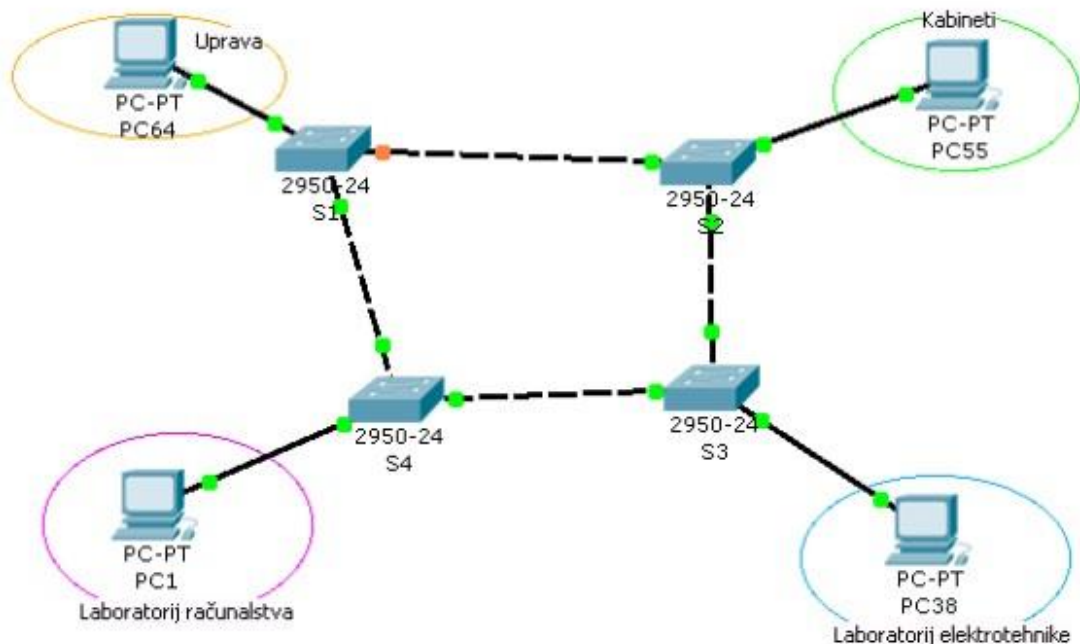
LV03: Subnetiranje pomoću VLSM tehnike

Izvođenje vježbe:

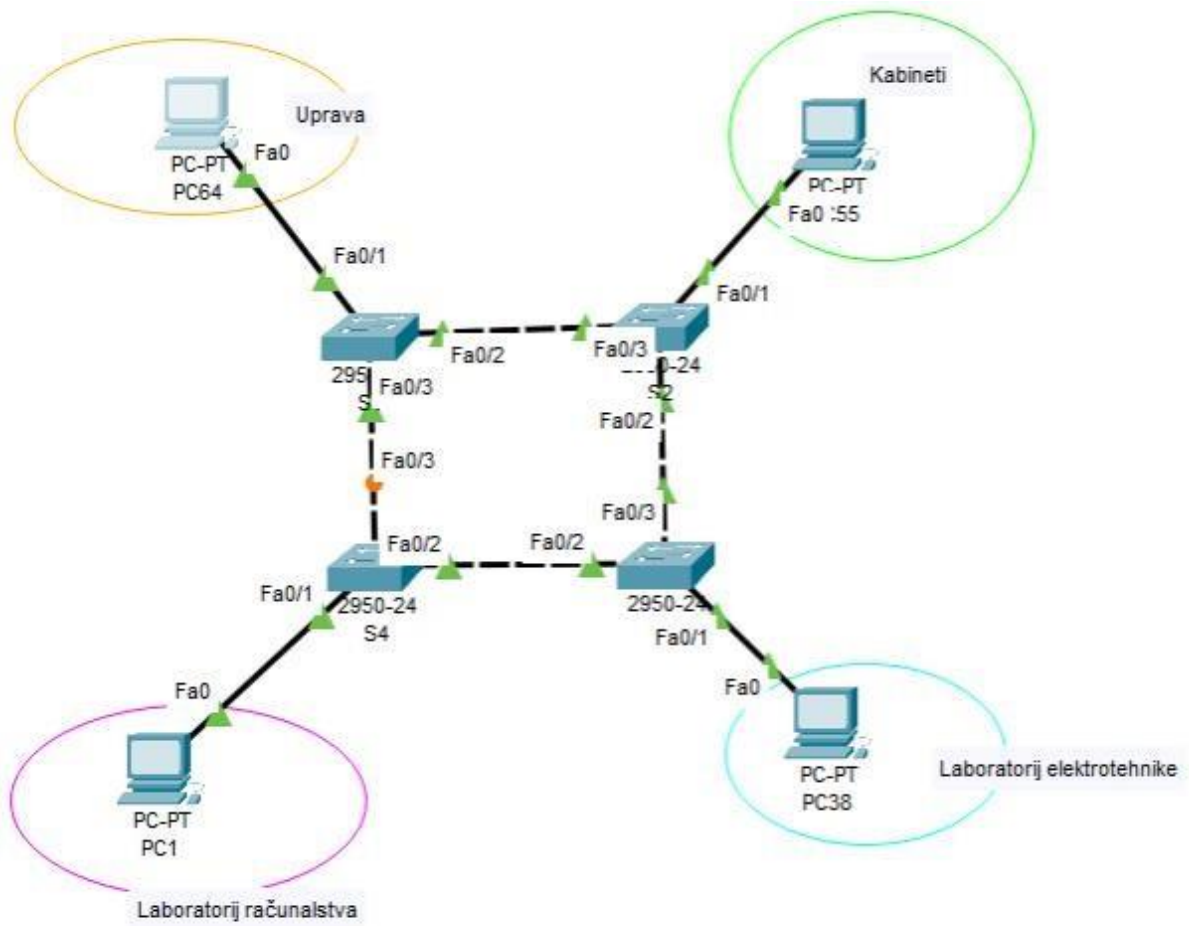
1) U tehničkoj školi je u uporabi 68 računala, prema slijedećem rasporedu:

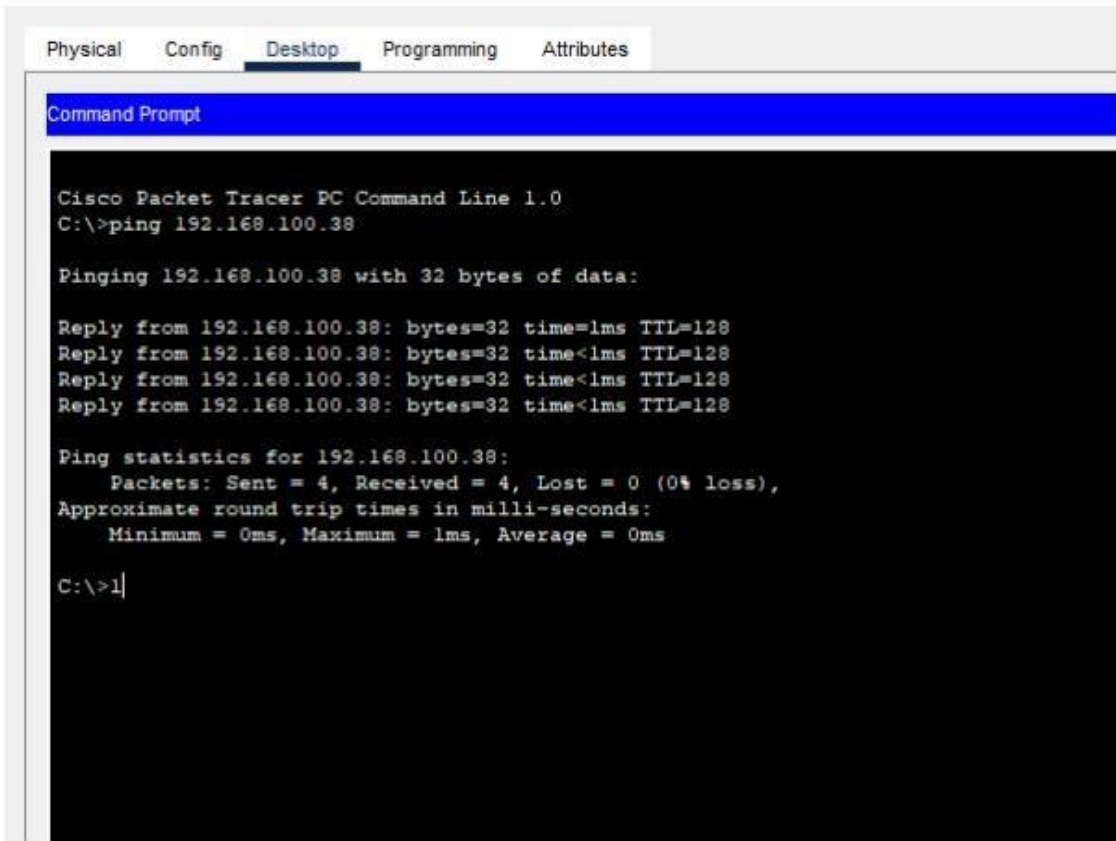
Organizacijska jedinica	Broj računala	Naziv računala
Laboratorij računarstva	37	PC1 – PC37
Laboratorij elektrotehnike	17	PC38 – PC54
Kabineti	9	PC55 – PC63
Uprava	5	PC64 – PC68

Školi je dodijeljen adresni blok 192.168.100.0/24. Svaka organizacijska jedinica u svojem prostoru ima prespojnik. Prespojnici su u zadanoj (default) konfiguraciji i međusobno su povezani Ethernet kabelom.



Formiraj LAN prema prikazanoj topologiji i provjeri veze između pojedinih dijelova mreže pinganjem.





The screenshot shows a Cisco Packet Tracer PC Command Line interface. The window title is "PC64" and the tabs are "Physical", "Config", "Desktop", "Programming", and "Attributes". The "Desktop" tab is active, showing a "Command Prompt" window. The text in the Command Prompt is as follows:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.100.38

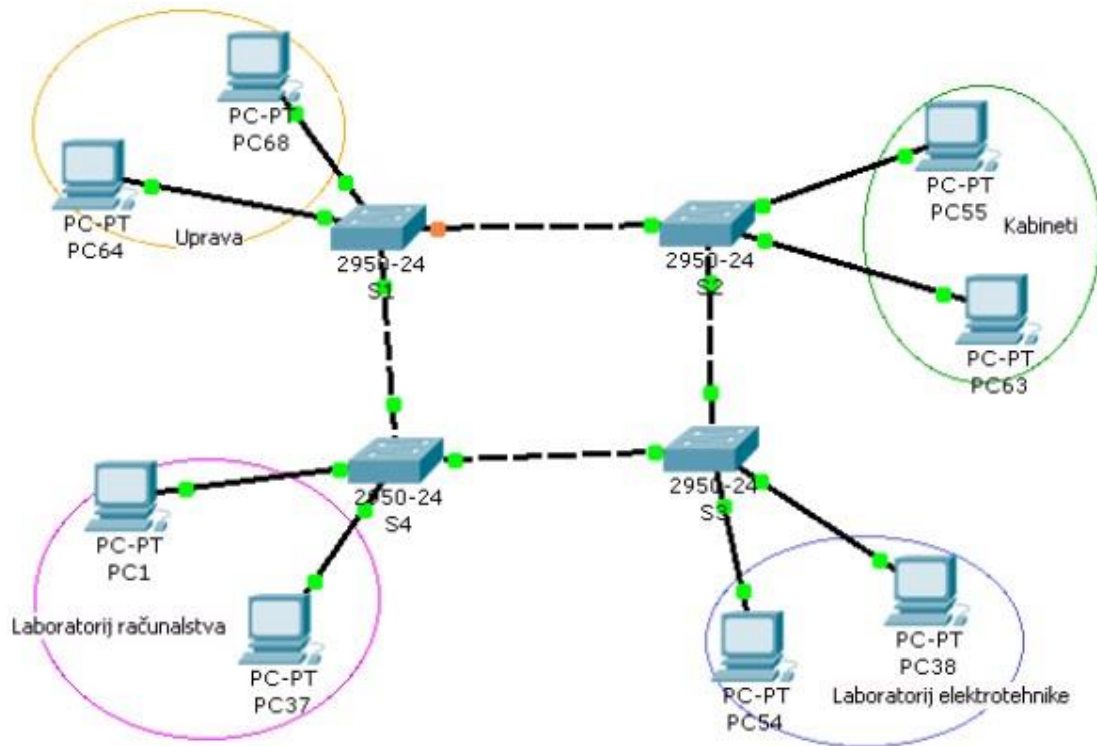
Pinging 192.168.100.38 with 32 bytes of data:

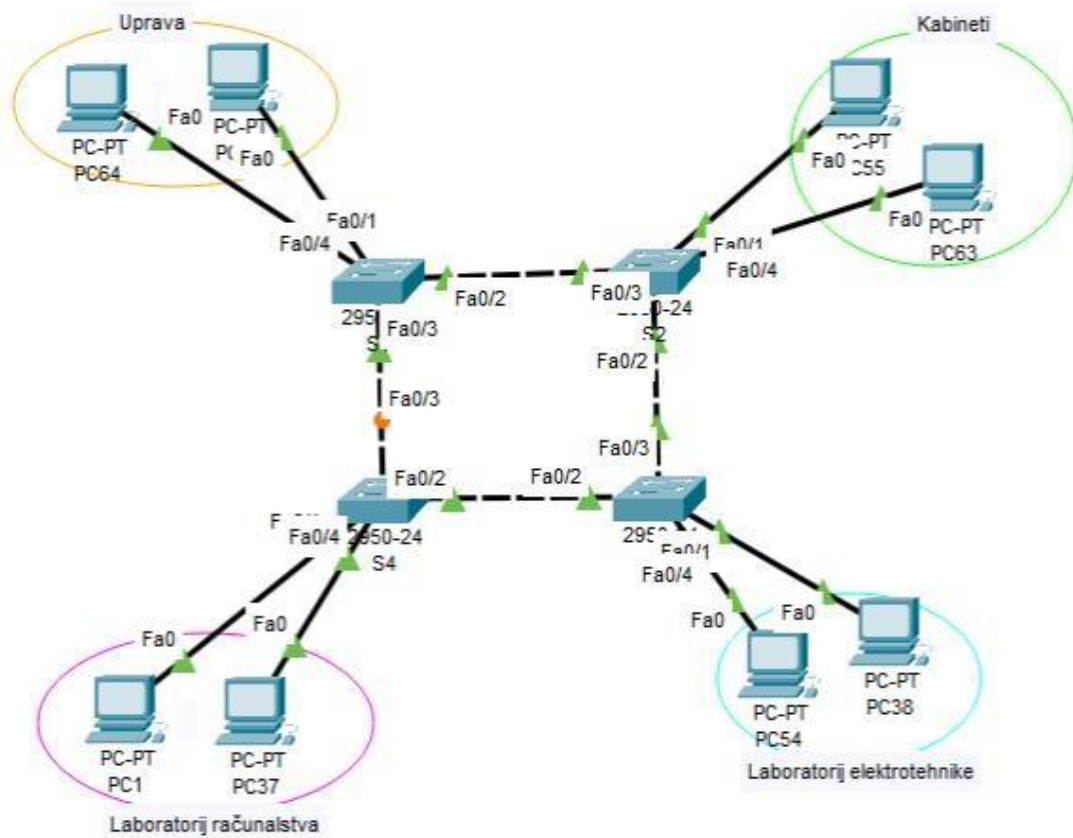
Reply from 192.168.100.38: bytes=32 time=1ms TTL=128
Reply from 192.168.100.38: bytes=32 time<1ms TTL=128
Reply from 192.168.100.38: bytes=32 time<1ms TTL=128
Reply from 192.168.100.38: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.100.38:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>|
```

- 2) Uprava škole odlučila je da se izvrši subnetiranje postojeće mreže uporabom VLSM, kako bi svaka organizacijska cjelina imala neovisnu mrežu. Tehničari imaju zadatak da nakon subnetiranja prikažu i dokumentiraju novu adresnu shemu, te uporabom Packet Tracera provjere da li su mreže neovisne.





PC54

Physical Config **Desktop** Programming Attributes

Command Prompt

```

Cisco Packet Tracer PC Command Line 1.0
C:\>pin 192.168.100.113
Invalid Command.

C:\>
C:\>ping 192.168.100.113

Pinging 192.168.100.113 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.100.113:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 192.168.100.65

Pinging 192.168.100.65 with 32 bytes of data:

Reply from 192.168.100.65: bytes=32 time<1ms TTL=128
Reply from 192.168.100.65: bytes=32 time<1ms TTL=128
Reply from 192.168.100.65: bytes=32 time<1ms TTL=128
Reply from 192.168.100.65: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.100.65:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>

```

Subnetting Successful

Major Network: 192.168.100.0/24
 Available IP addresses in major network: 254
 Number of IP addresses needed: 68
 Available IP addresses in allocated subnets: 112
 About 47% of available major network address space is used
 About 61% of subnetted network address space is used

Subnet Name	Needed Size	Allocated Size	Address	Mask	Dec Mask	Assignable Range	Broadcast
A	37	62	192.168.100.0	/26	255.255.255.192	192.168.100.1 - 192.168.100.62	192.168.100.63
B	17	30	192.168.100.64	/27	255.255.255.224	192.168.100.65 - 192.168.100.94	192.168.100.95
C	9	14	192.168.100.96	/28	255.255.255.240	192.168.100.97 - 192.168.100.110	192.168.100.111
D	5	6	192.168.100.112	/29	255.255.255.248	192.168.100.113 - 192.168.100.118	192.168.100.119