

Nastavni predmet RAČUNALNE MREŽE_3H

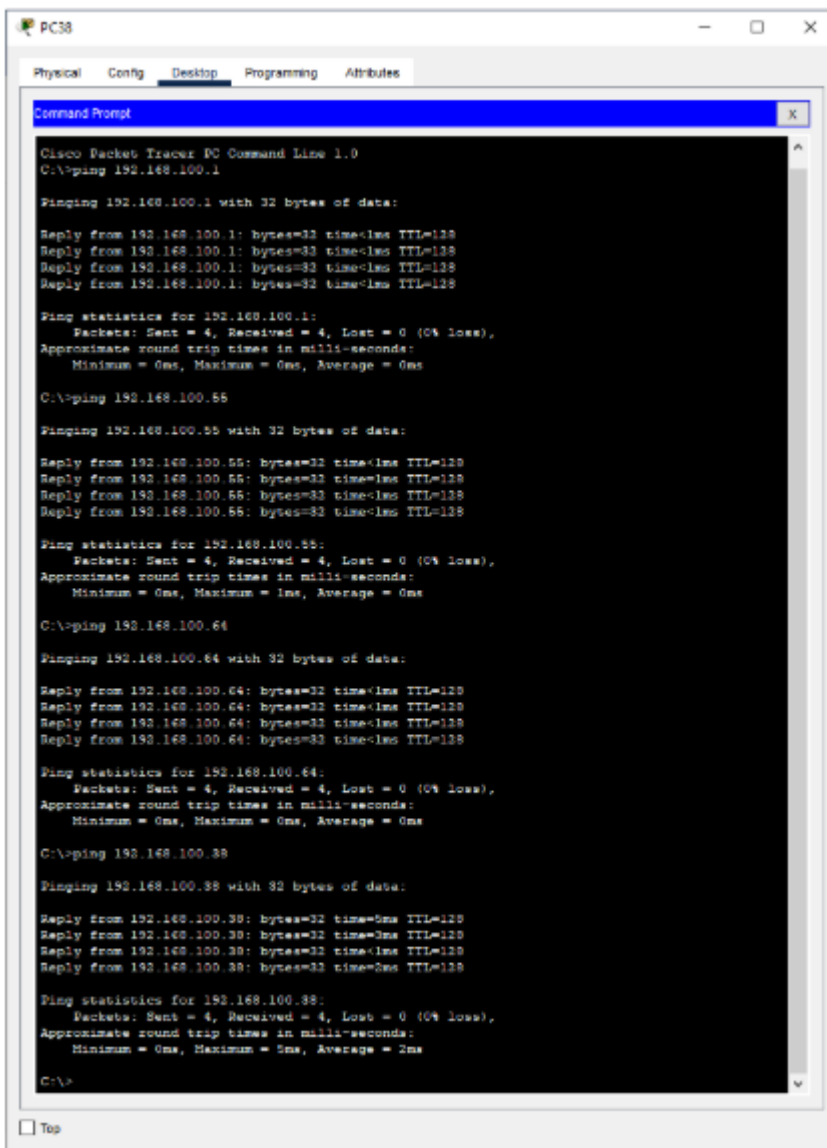
Naslov cjeline Djelovanje u mrežnom sloju

Naslov jedinice Vježba 4: Subnetiranje pomoću VLSMtehnike

Ime i Prezime Učenika: Marko Gregl, 3.C

1. ZADATAK

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



```
PC38
Physical  Config  Desktop  Programming  Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.100.1

Pinging 192.168.100.1 with 32 bytes of data:

Reply from 192.168.100.1: bytes=32 time<1ms TTL=128
Reply from 192.168.100.1: bytes=32 time<1ms TTL=128
Reply from 192.168.100.1: bytes=32 time<1ms TTL=128
Reply from 192.168.100.1: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.100.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.100.55

Pinging 192.168.100.55 with 32 bytes of data:

Reply from 192.168.100.55: bytes=32 time<1ms TTL=128
Reply from 192.168.100.55: bytes=32 time<1ms TTL=128
Reply from 192.168.100.55: bytes=32 time<1ms TTL=128
Reply from 192.168.100.55: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.100.55:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 192.168.100.64

Pinging 192.168.100.64 with 32 bytes of data:

Reply from 192.168.100.64: bytes=32 time<1ms TTL=128
Reply from 192.168.100.64: bytes=32 time<1ms TTL=128
Reply from 192.168.100.64: bytes=32 time<1ms TTL=128
Reply from 192.168.100.64: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.100.64:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

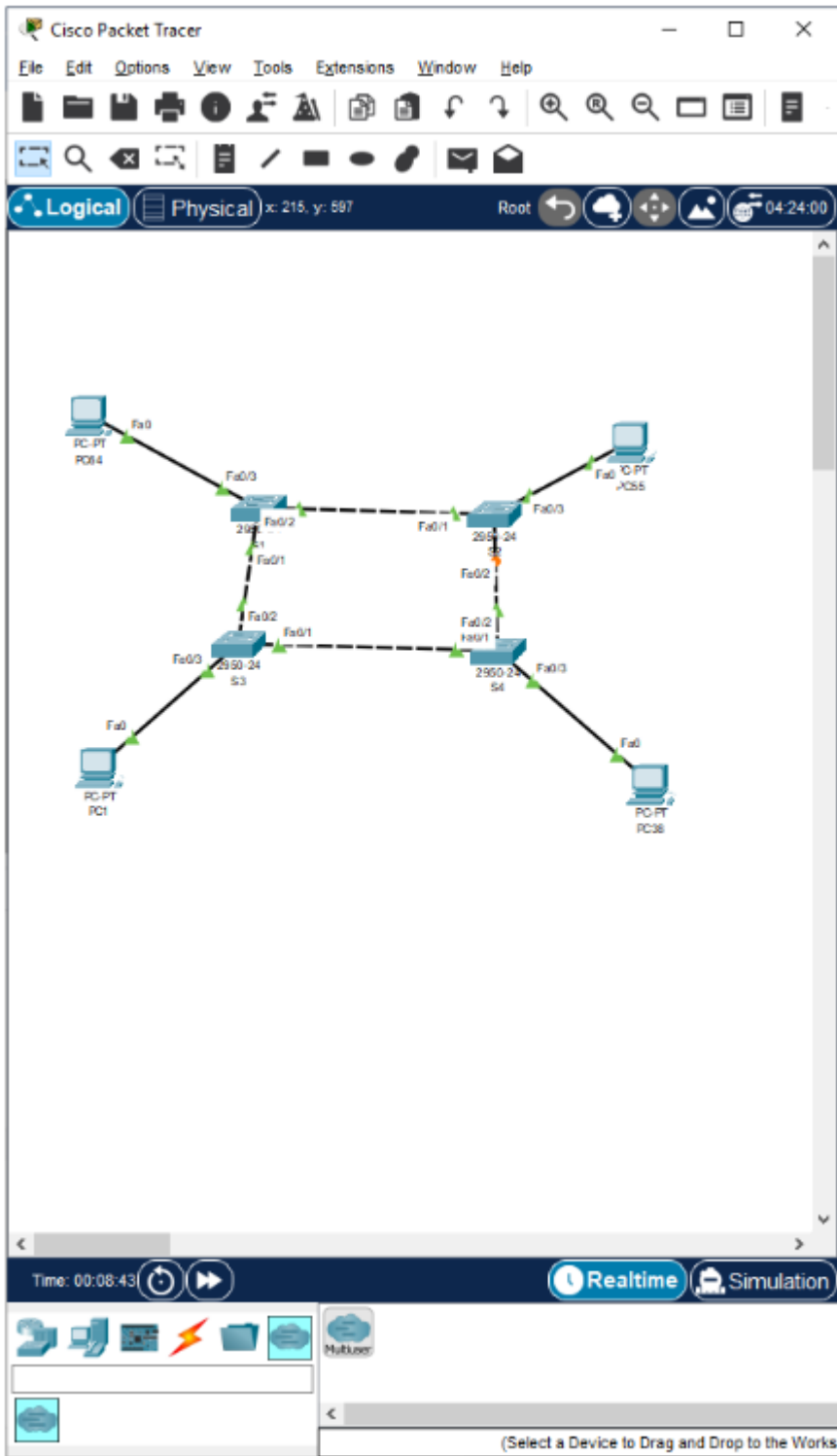
C:\>ping 192.168.100.38

Pinging 192.168.100.38 with 32 bytes of data:

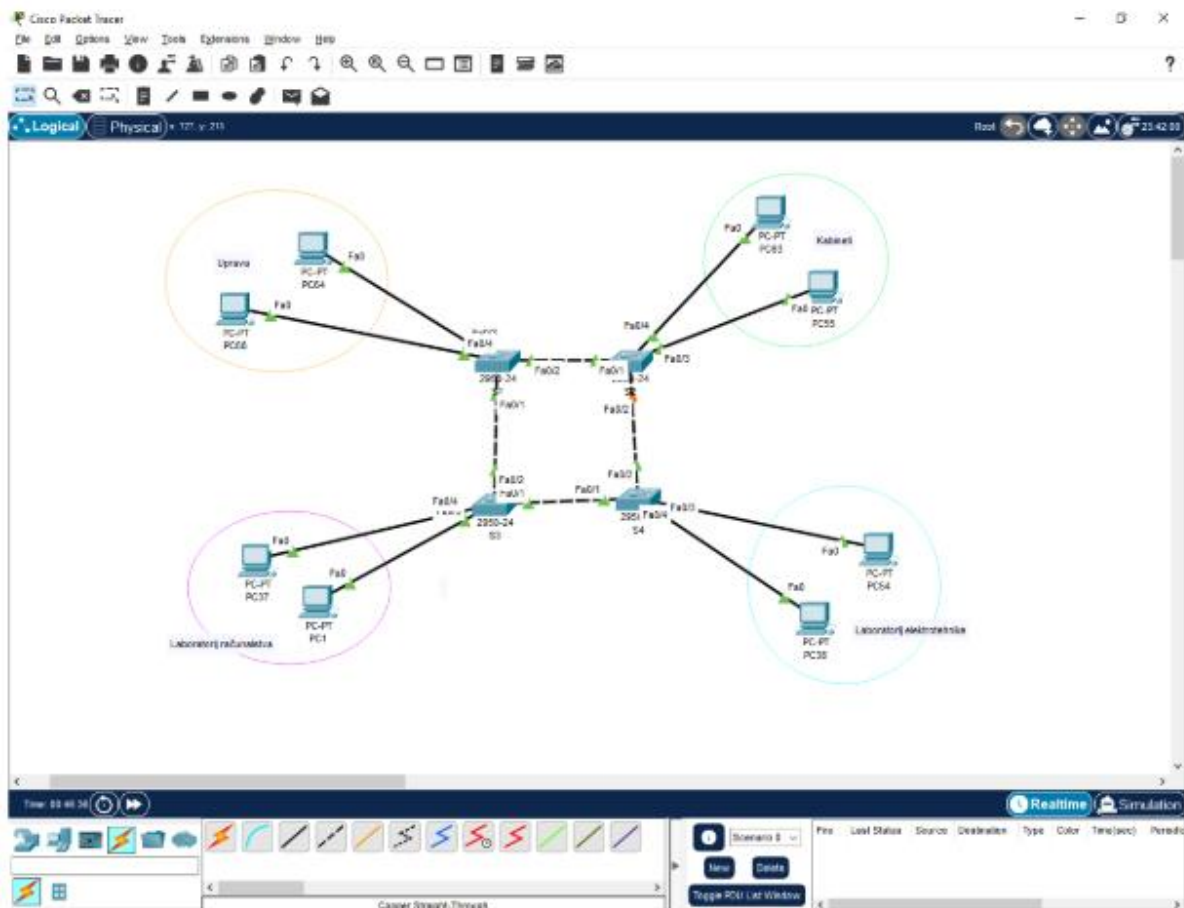
Reply from 192.168.100.38: bytes=32 time<0ms TTL=128
Reply from 192.168.100.38: bytes=32 time<0ms TTL=128
Reply from 192.168.100.38: bytes=32 time<1ms TTL=128
Reply from 192.168.100.38: bytes=32 time<2ms TTL=128

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 = 5ms, Average = 2ms

C:\>
```



2. Zadatak



Podmrežna maska promjenjive duljine (VLSM) je podmreža -- segmentirani dio veće mreže -- strategija dizajna gdje sve podmrežne maske mogu imati različite veličine. Ovaj proces "podmreže podmreža" omogućuje mrežnim inženjerima korištenje više maski za različite podmreže jedne klase A, B ili C mreže.

Računanje:

1. Podmreža: Adresa mreže (192.168.100.0), Moguće adrese hosta (192.168.100.1 – 192.168.100.62), Dobivamo računanjem: $26 - 2 = 62$, Subnet maska: 255.255.255.192
2. Podmreža: Adresa mreže (192.168.100.64), Moguće adrese hosta (192.168.100.65 – 192.168.100.94), Dobivamo računanjem: $25 - 2 = 30$, Subnet maska: 255.255.255.224
3. Podmreža: Adresa mreže (192.168.100.96), Moguće adrese hosta (192.168.100.97 – 192.168.100.110), Dobivamo računanjem: $24 - 2 = 14$, Subnet maska: 255.255.255.240

4. Podmreža: Adresa mreže (192.168.100.112), Moguće adrese hosta (192.168.100.113 – 192.168.100.118), Dobivamo računanjem: $2^3 - 2 = 6$, Subnet maska: 255.255.255.248

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Subnetting Successful

Major Network: **192.168.100.0/24**
 Available IP addresses in major network: **254**
 Number of IP addresses needed: **88**
 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

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