

**UNIVERZITET U BIHAĆU  
TEHNIČKI FAKULTET  
BIHAĆ**

# **RAČUNARSKE MREŽE**

**Laboratorijske vježbe**

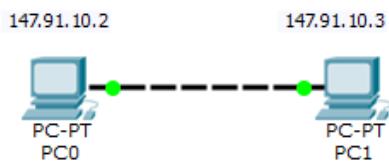
**CISCO Packet Tracer  
(Vježba 1)**

**mr. Amel Toroman, dipl. ing.el.  
Viši asistent**

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## PRIMJER 1: Povezivanje dva računara direktnom vezom

Dva računara je najjednostavnije povezati direktnom vezom korištenjem *ethernet* priključka i odgovarajućeg *cross-over ethernet* kabla.



Ispravnost ostvarene veze se provjerava korištenjem komande **ping** u okviru *Command Prompt*-a. Potrebno je otvoriti Command Prompt računara PC0 i otkucati sljedeću komandu:

```
ping 147.91.10.3
```

```
Packet Tracer PC Command Line 1.0
PC>ping 147.91.10.3

Pinging 147.91.10.3 with 32 bytes of data:

Reply from 147.91.10.3: bytes=32 time=5ms TTL=128
Reply from 147.91.10.3: bytes=32 time=0ms TTL=128
Reply from 147.91.10.3: bytes=32 time=0ms TTL=128
Reply from 147.91.10.3: bytes=32 time=0ms TTL=128

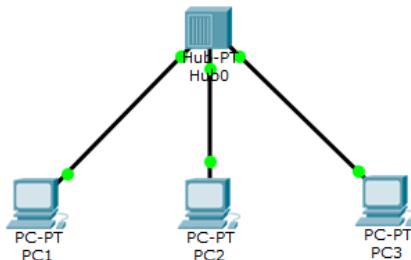
Ping statistics for 147.91.10.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 5ms, Average = 1ms

PC>
```

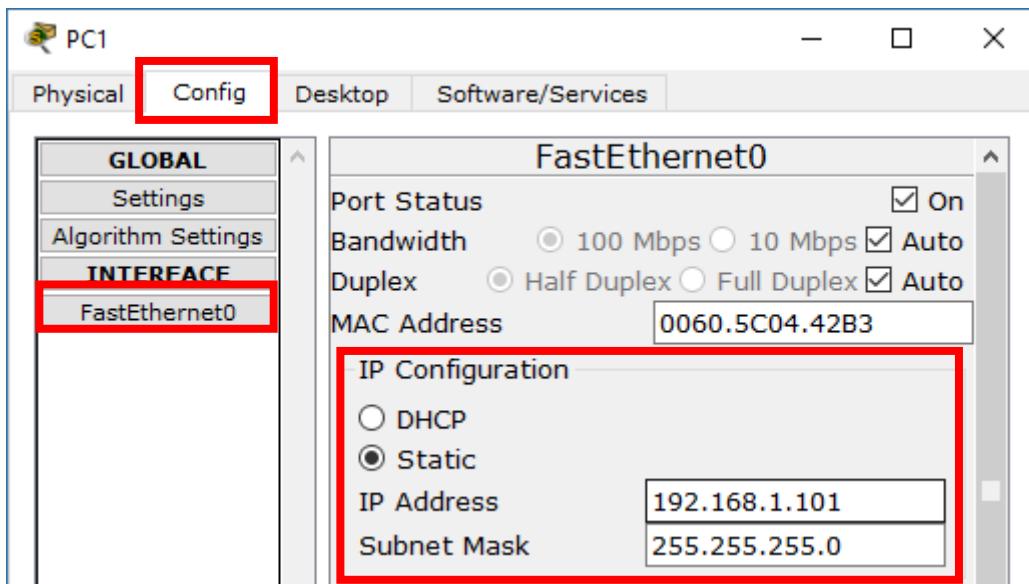
Slika 1. Testiranje ispravnosti povezivanja korištenjem ping komande

## PRIMJER 2: Hub (Tri računara i hub)

Hub je uređaj koji šalje pakete svim uređajima u mreži, nakon toga odgovara onaj paket kojem je namijenjen.



Računar	IP adresa	Subnet mask
PC1	192.168.1.101	255.255.255.0
PC2	192.168.1.102	255.255.255.0
PC3	192.168.1.103	255.255.255.0



```
Packet Tracer PC Command Line 1.0
PC>ping 192.168.1.103

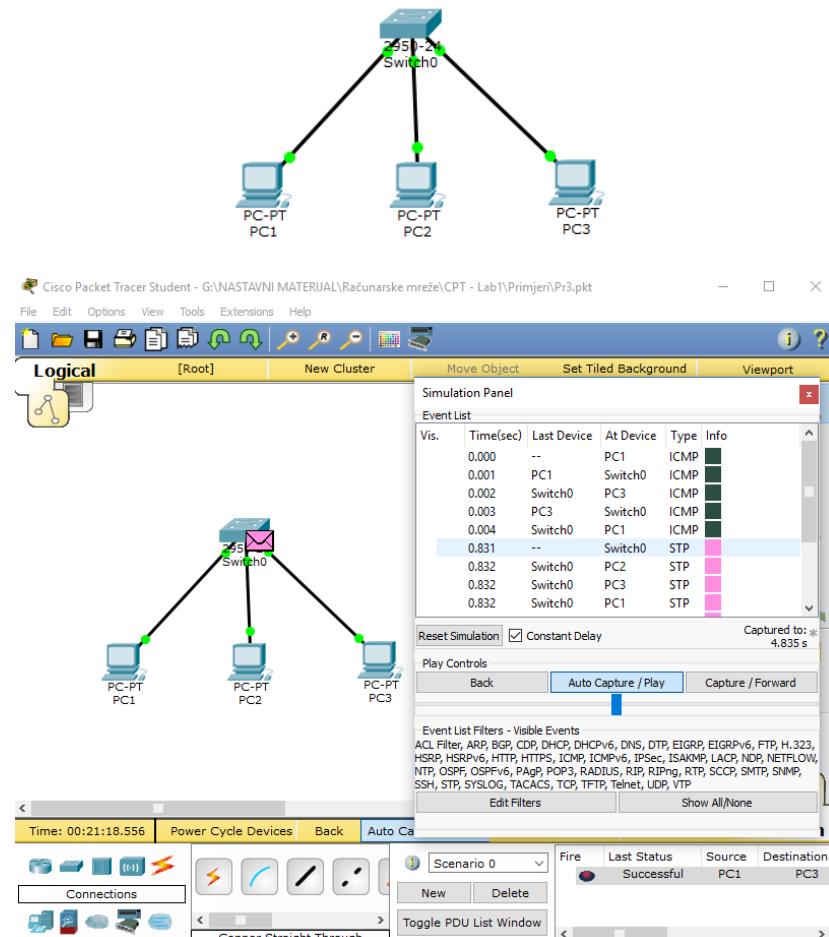
Pinging 192.168.1.103 with 32 bytes of data:

Reply from 192.168.1.103: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.1.103:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 1ms, Average = 1ms
```

### PRIMJER 3: Switch (Tri računara i switch)

Switch je uređaj koji šalje pakete samo onim uređajima u mreži kojim je namijenjen paket.



Kao što vidimo SWITCH proslijeđuje samo računaru koji treba da primi podatke i kad on primi šalje povratnu informaciju da je paket stigao.

### Command Prompt

```
Packet Tracer PC Command Line 1.0
PC>ping 192.168.1.103

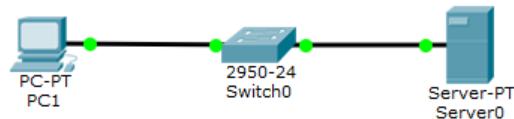
Pinging 192.168.1.103 with 32 bytes of data:

Reply from 192.168.1.103: bytes=32 time=0ms TTL=128

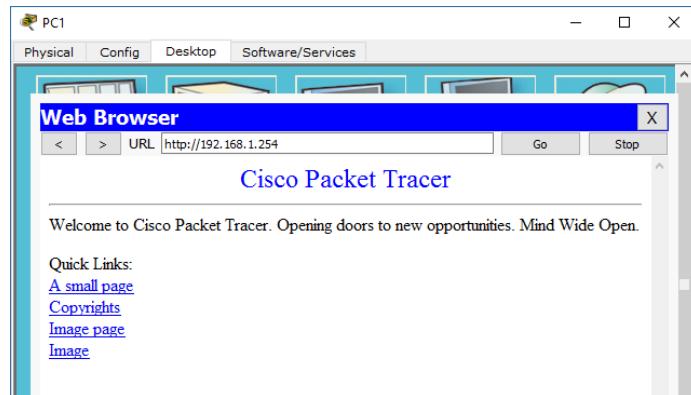
Ping statistics for 192.168.1.103:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

PC>
```

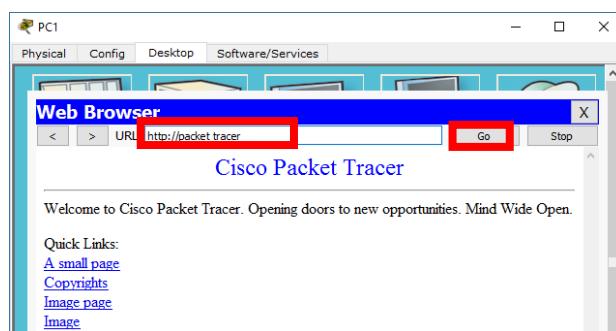
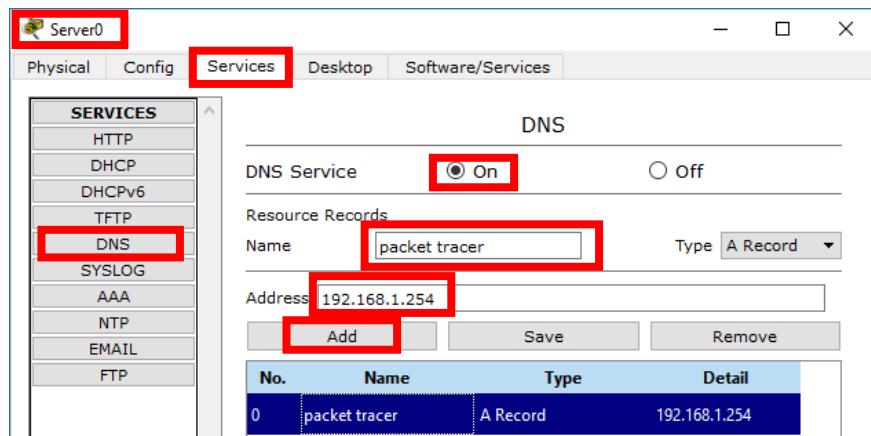
## PRIMJER 4: Server



Računar/Server	IP adresa	Subnet mask
PC1	192.168.1.101	255.255.255.0
Server	192.168.1.254	255.255.255.0



## DNS



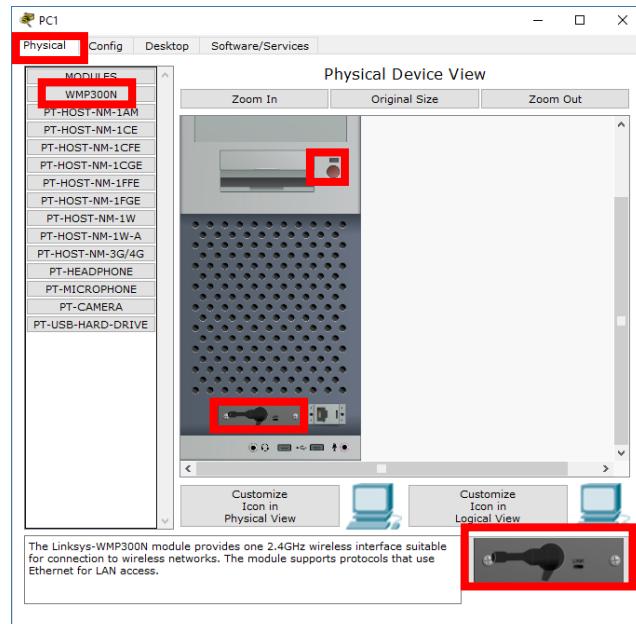
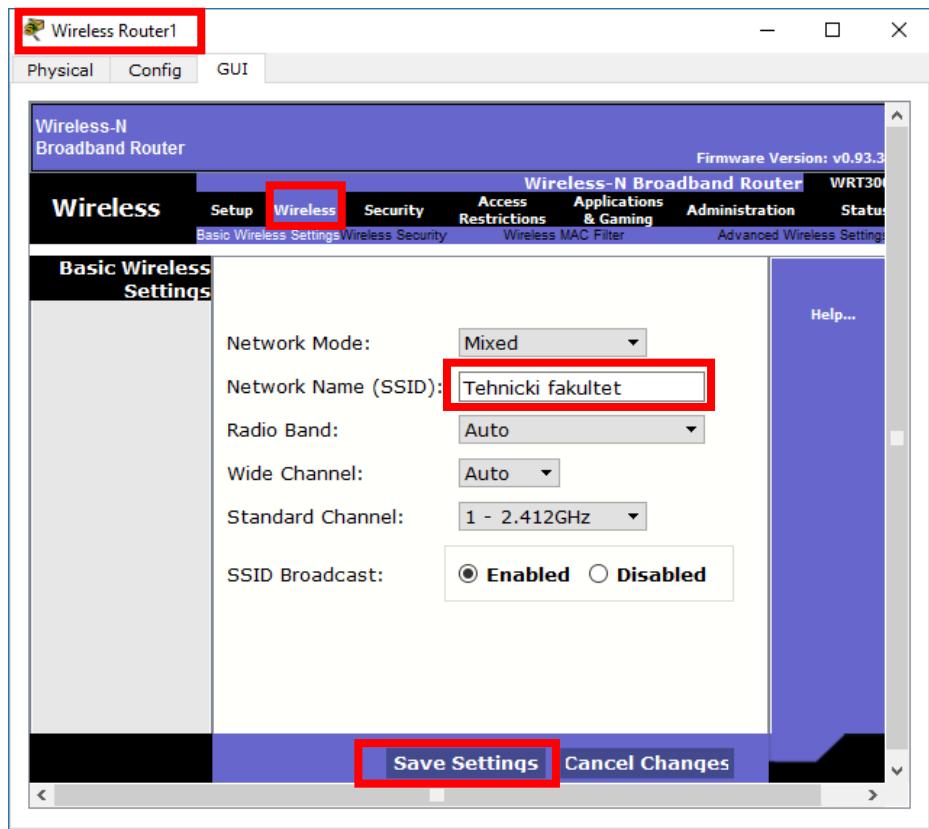
## PRIMJER 5: Wireless router

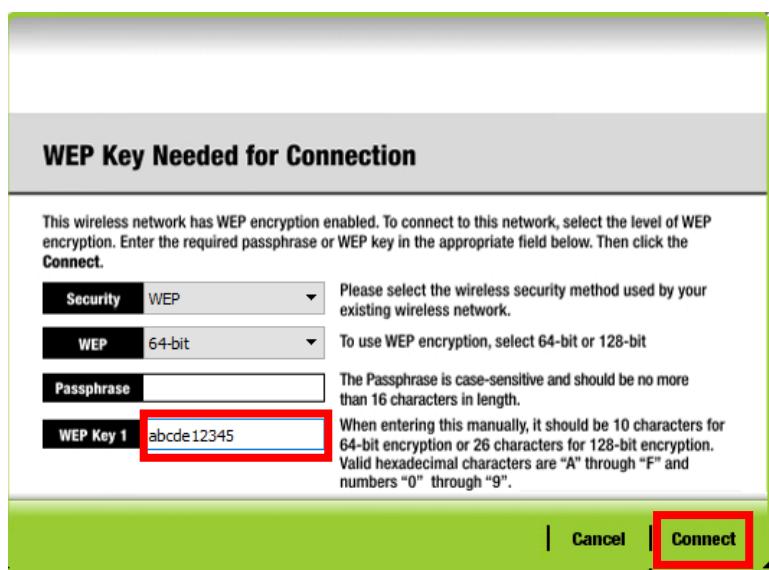
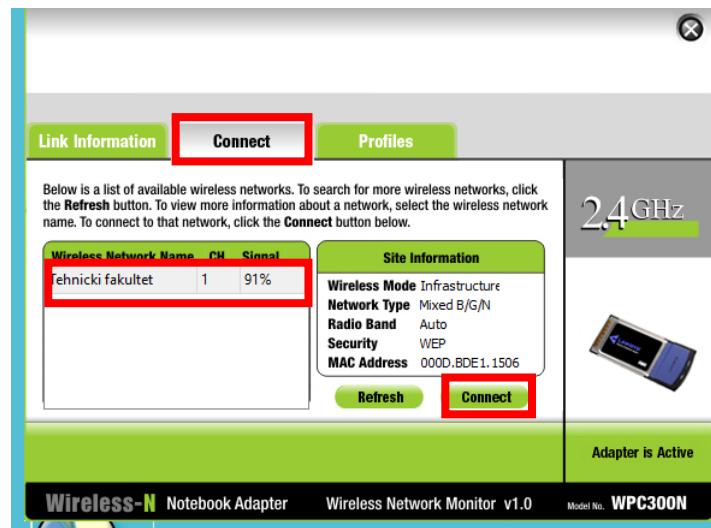


The diagram shows a WRT300N Wireless Router connected to two PCs, PC1 and PC2, via cables.

**Wireless Router1 Configuration Screens:**

- Wireless Settings (Config Tab):**
  - SSID: Default
  - Channel: 6
  - Authentication:
    - WEP
    - WPA-PSK
    - WPA
  - WEP Key: abcde12345
  - RADIUS Server Settings
  - IP Address
  - Shared Secret
  - Encryption Type: 40/64-Bits (10 Hex digits)
- Setup - Internet Setup (Setup Tab):**
  - Internet Connection type: Automatic Configuration - DHCP
  - Host Name:
  - Domain Name:
  - MTU: 1500
  - Router IP: 192.168.0.1
  - Subnet Mask: 255.255.255.0
  - DHCP Server:
    - Enabled
    - Disabled
  - DHCP Reservation
  - Start IP Address: 192.168.0.100





## Command Prompt

```

Packet Tracer PC Command Line 1.0
PC>
Packet Tracer PC Command Line 1.0
PC>ping 192.168.0.101

Pinging 192.168.0.101 with 32 bytes of data:

Reply from 192.168.0.101: bytes=32 time=31ms TTL=128
Reply from 192.168.0.101: bytes=32 time=22ms TTL=128
Reply from 192.168.0.101: bytes=32 time=23ms TTL=128
Reply from 192.168.0.101: bytes=32 time=18ms TTL=128

Ping statistics for 192.168.0.101:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 18ms, Maximum = 31ms, Average = 23ms
  
```