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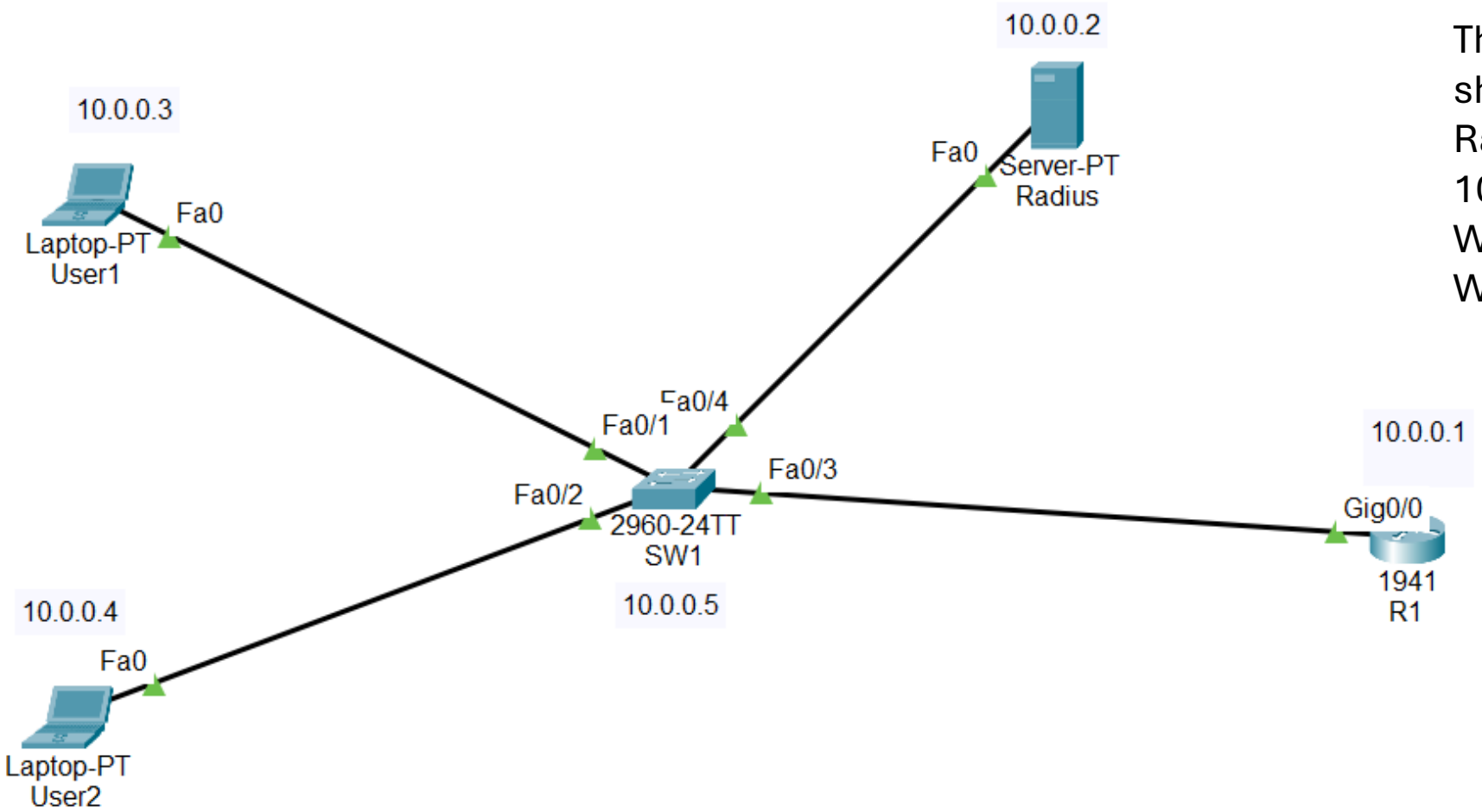
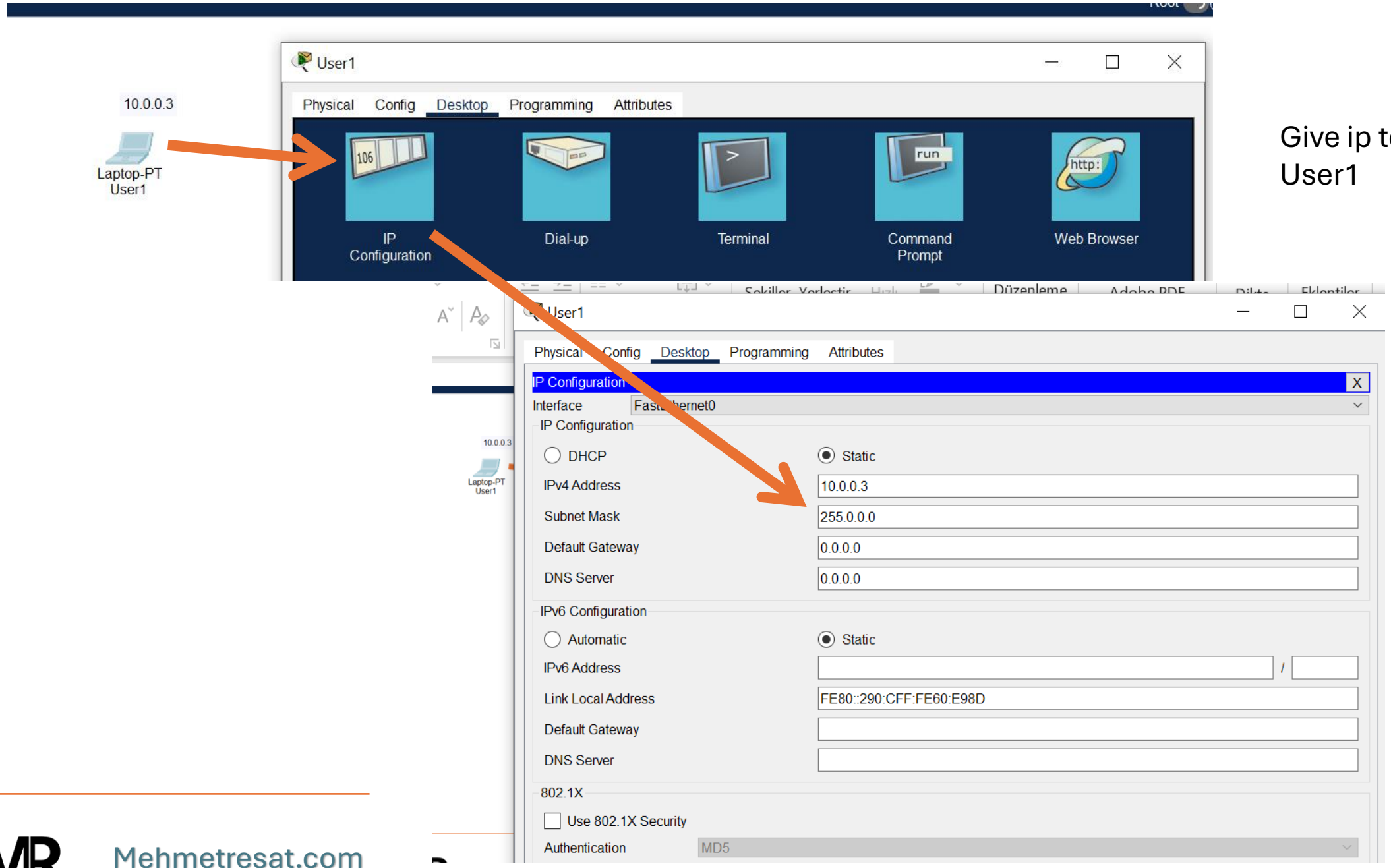
Mehmetresat.com

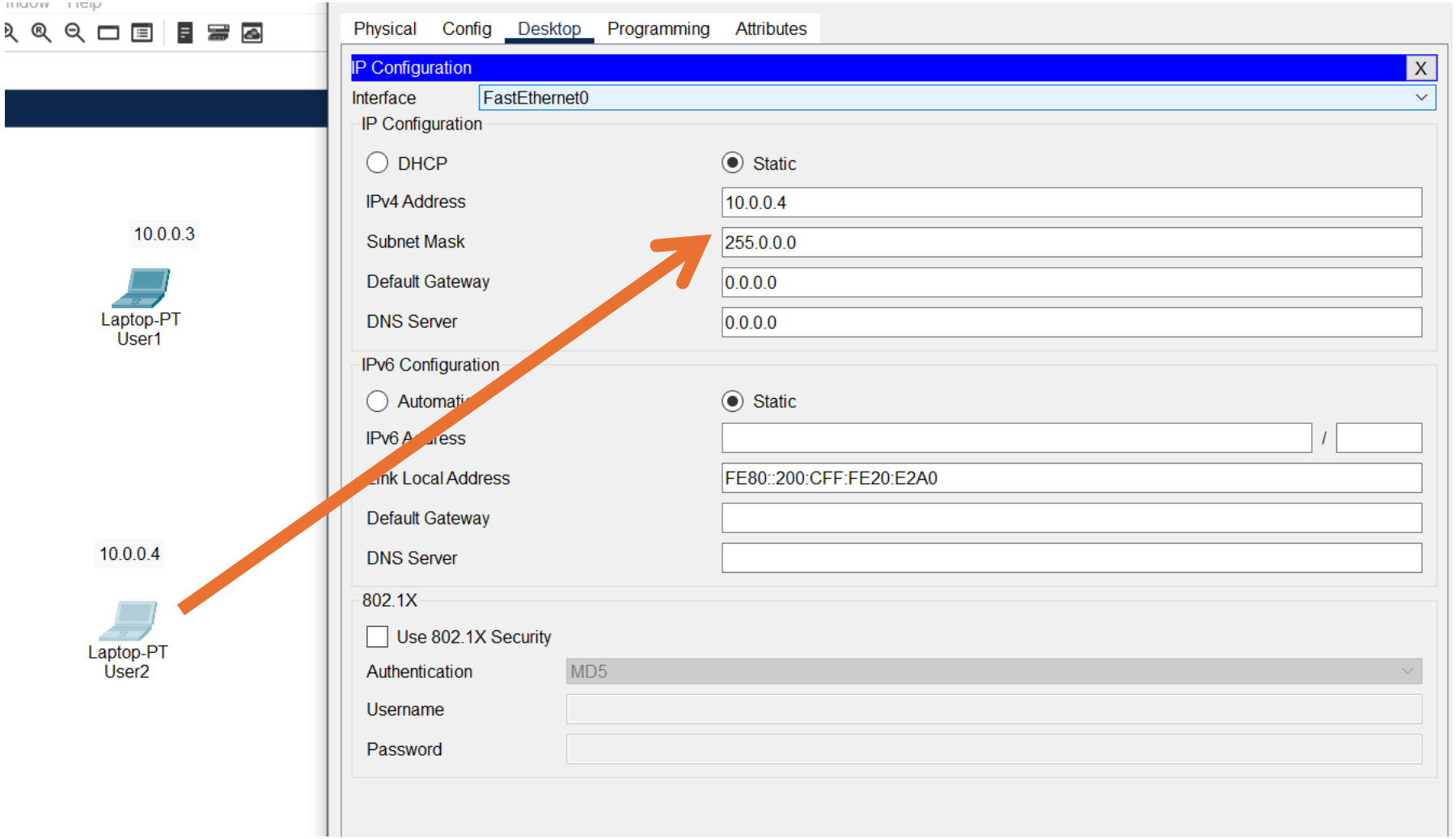
RADIUS - AAA Configuration On Cisco Devices



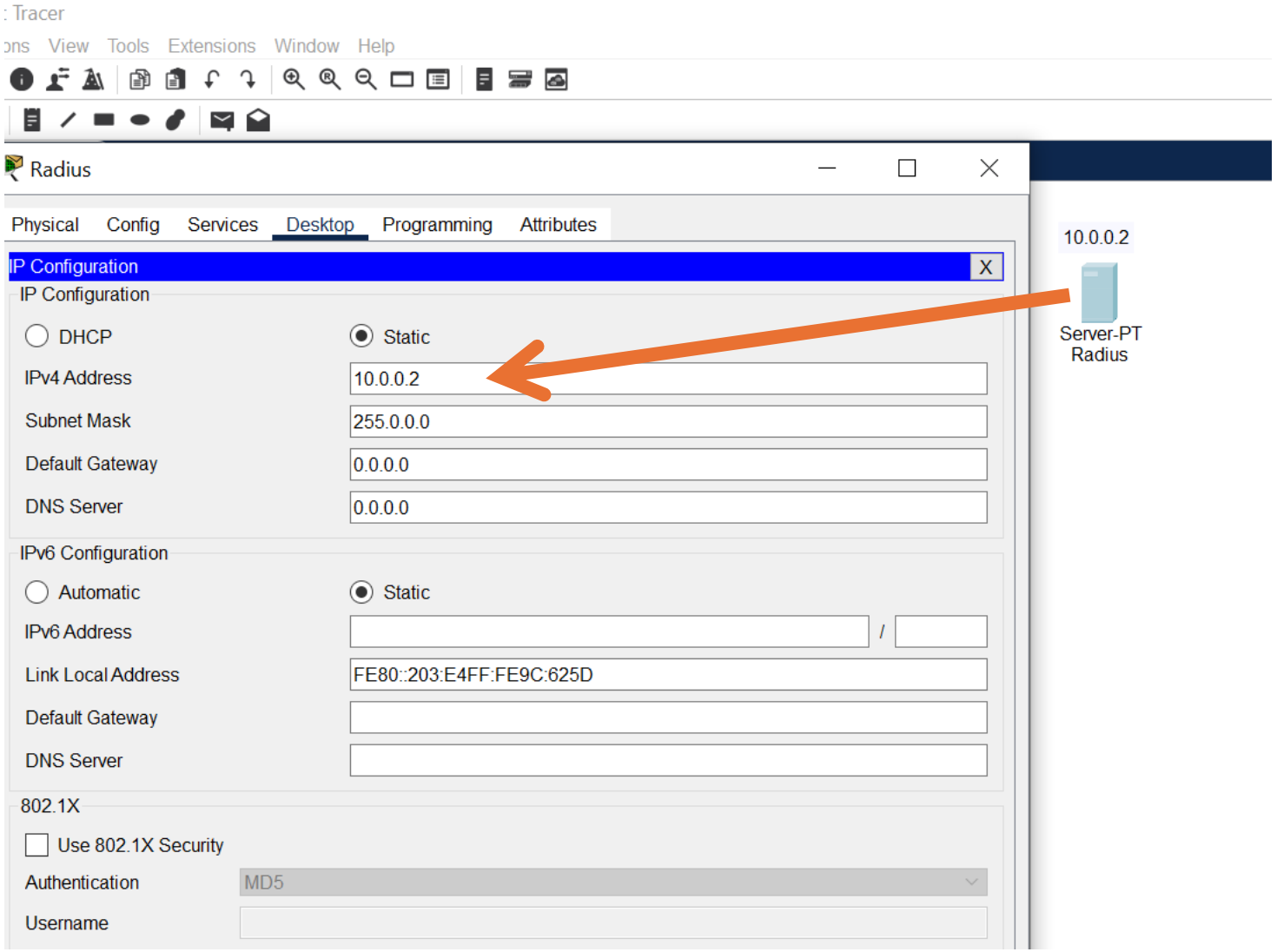
The topology we will make is as shown in the figure. ip of devices : Radius server 10.0.0.2/8 – Router 10.0.0.1 – Swith 10.0.0.5 – Workstation user1 10.0.0.3 – Workstation user2 10.0.0.4



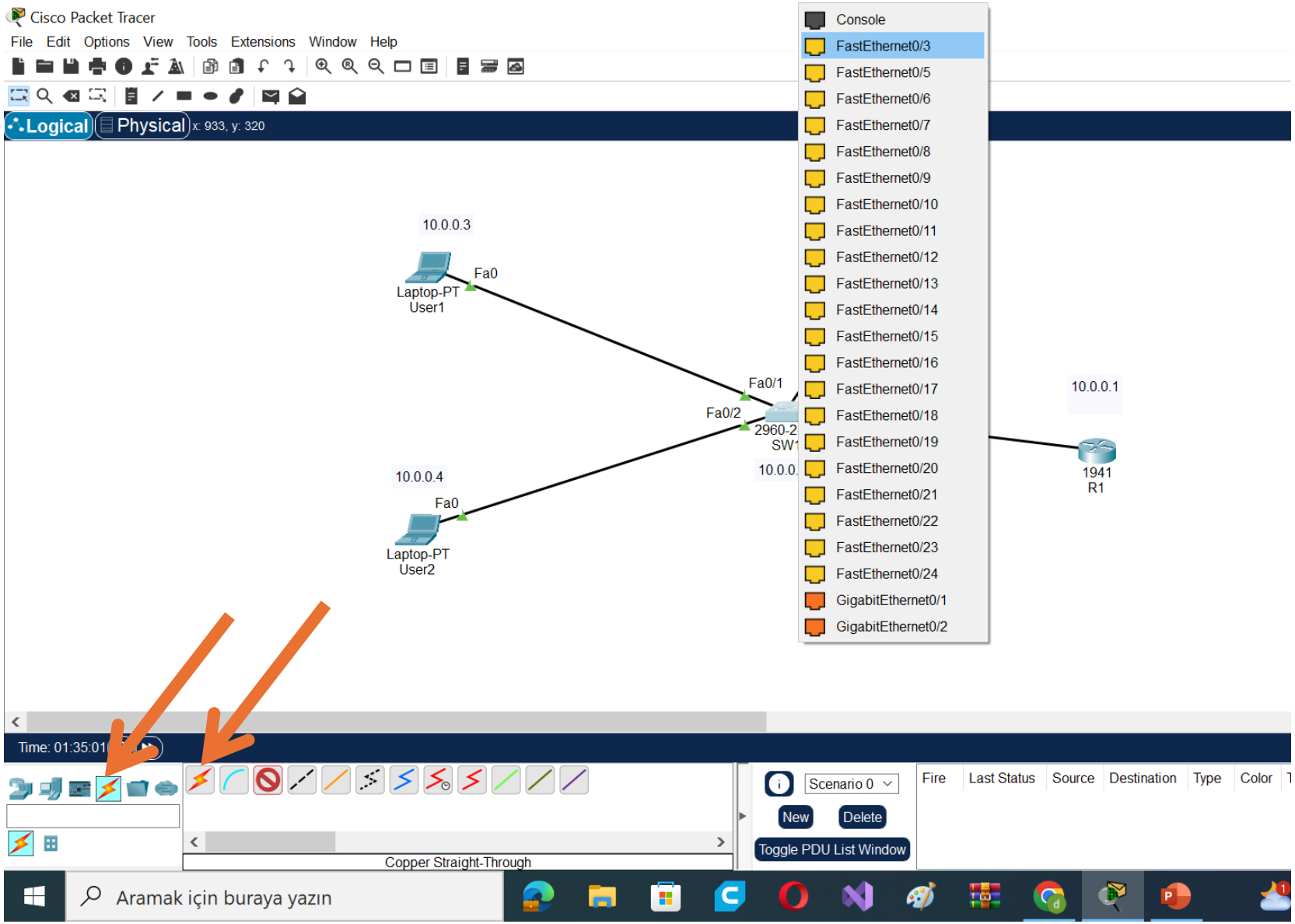
Give ip to devices :
User1



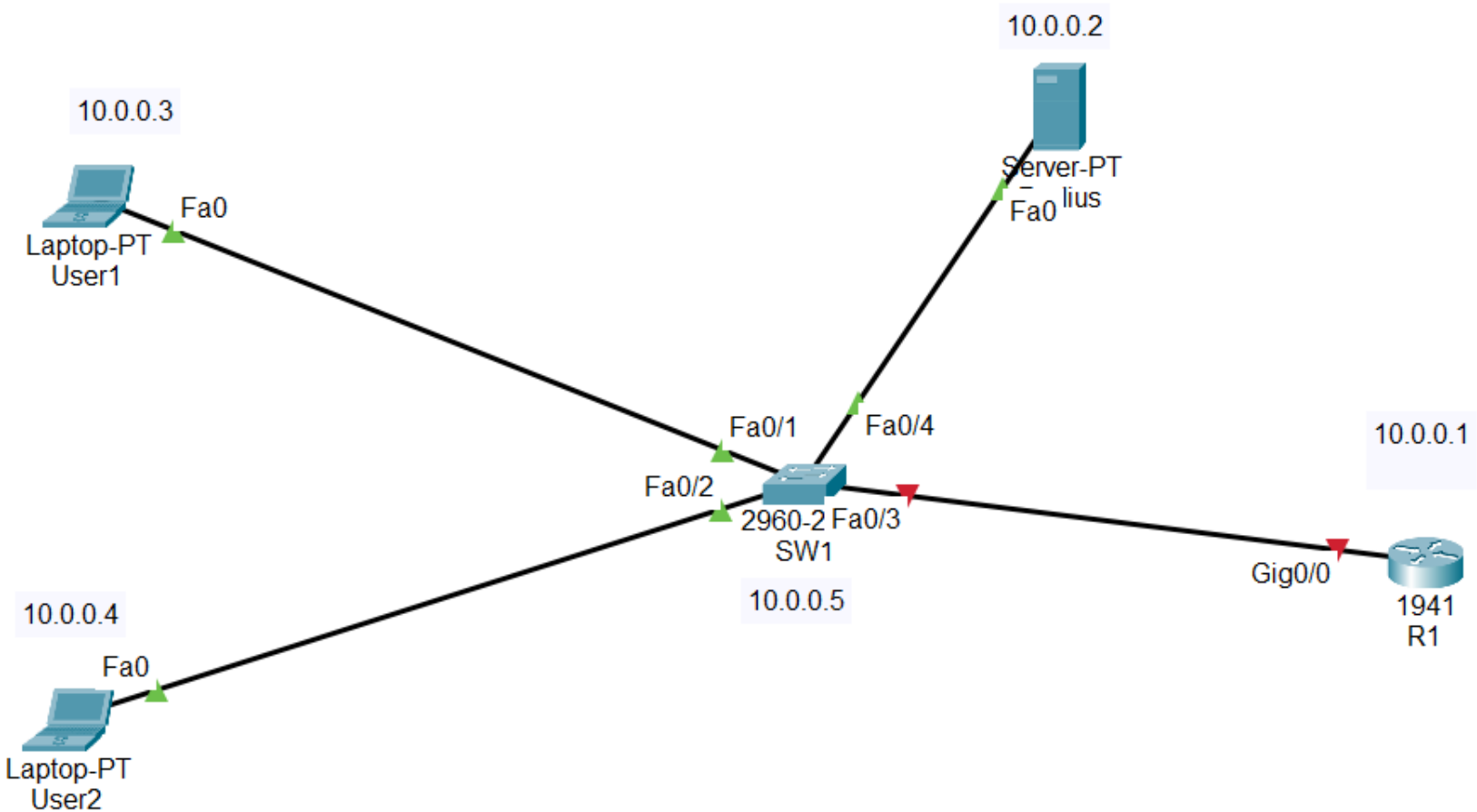
Give ip to devices :
User2



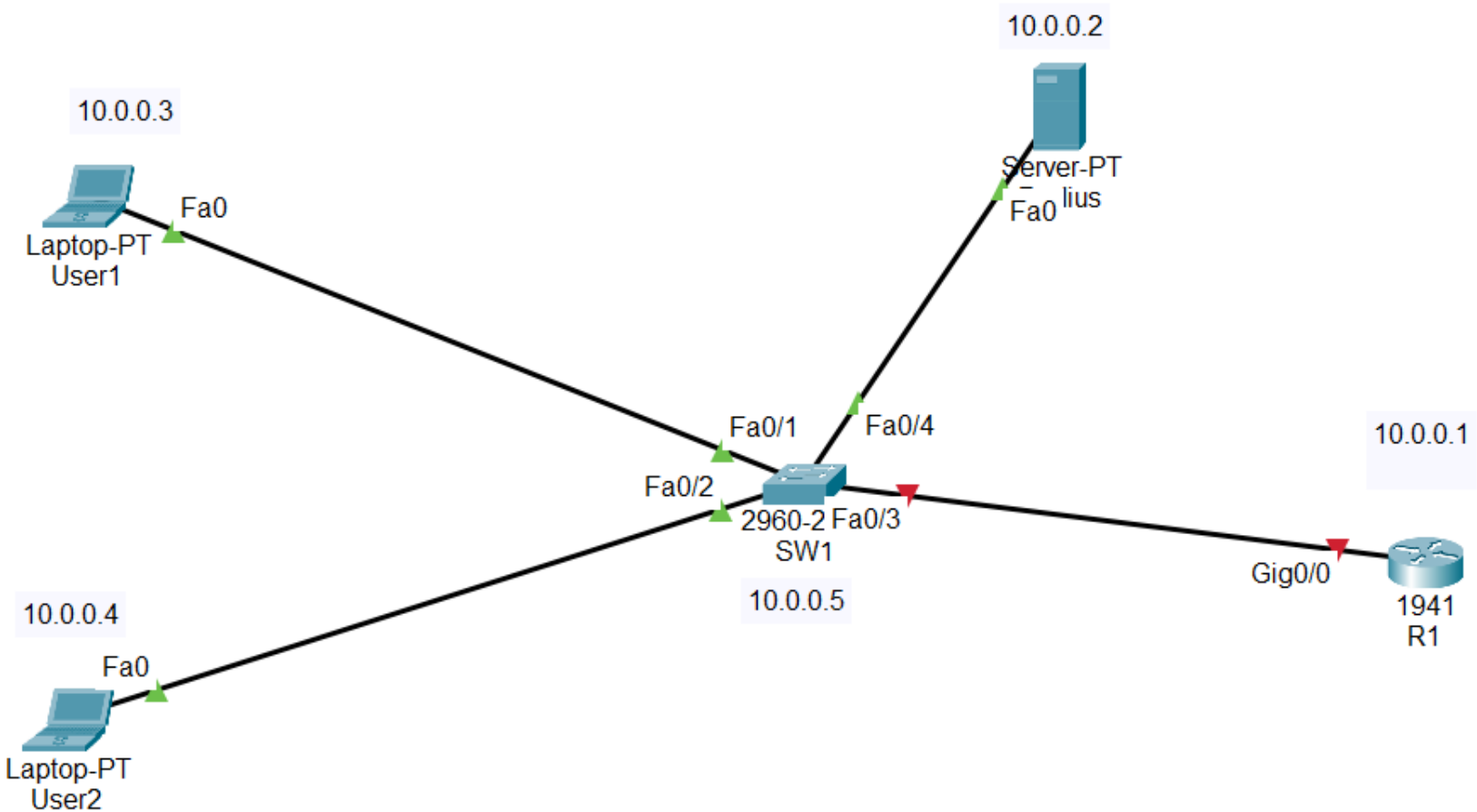
Give ip to devices :
Radius Server



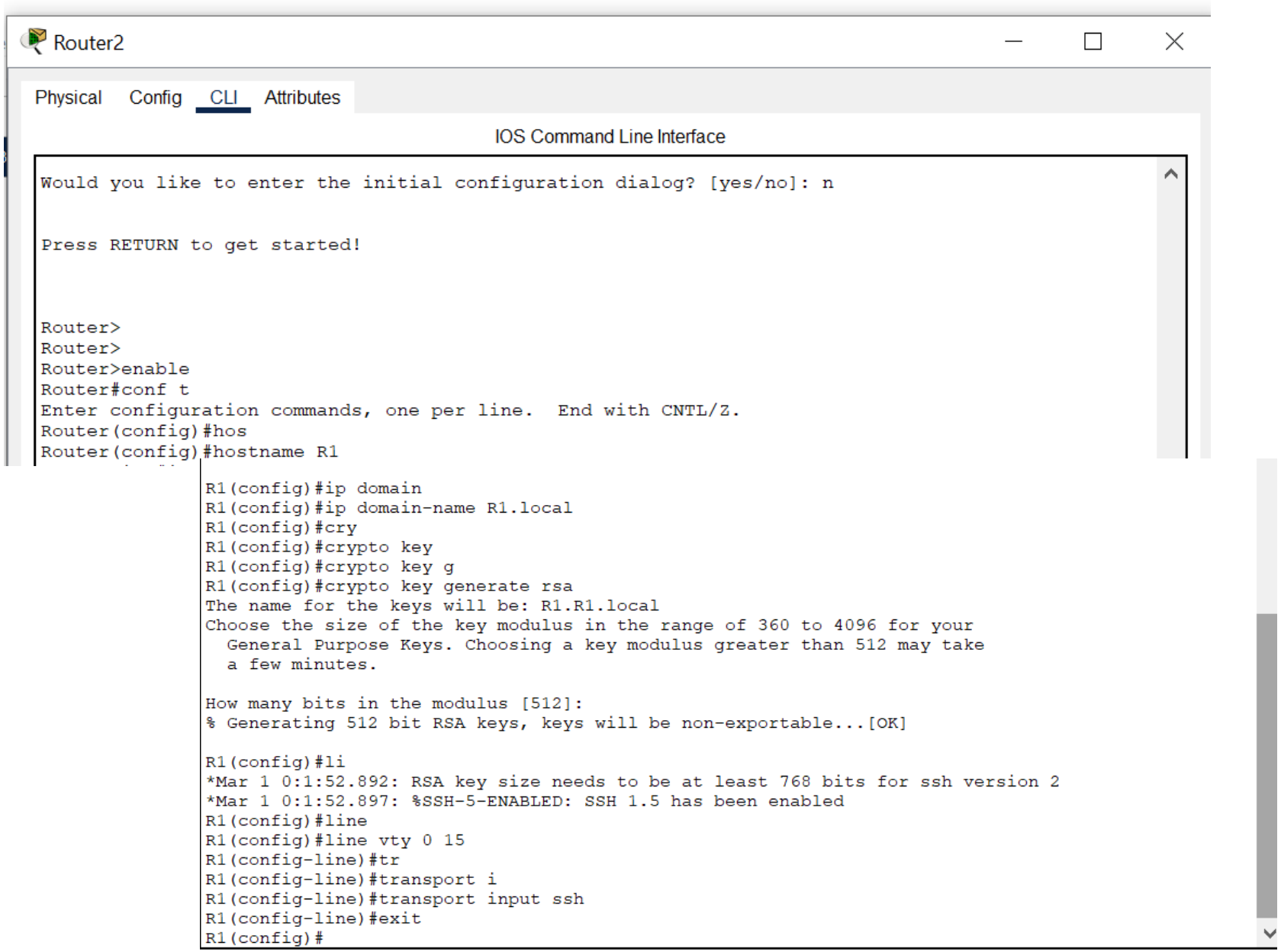
We connect the devices



final state of topology



final state of topology



Enable SSH in router

>configure terminal
hostname R1
ip domain-name r1.local
crypto key generate rsa
line vty 0 15
transport input ssh
exit

```
Switch>
Switch>
Switch>
Switch>enable
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hos
Switch(config)#hostname SW1
SW1(config)#ip domain-name sw1.local
SW1(config)#crypto key generate rsa
The name for the keys will be: SW1.sw1.local
Choose the size of the key modulus in the range of 360 to 4096 for your
  General Purpose Keys. Choosing a key modulus greater than 512 may take
  a few minutes.

How many bits in the modulus [512]:
% Generating 512 bit RSA keys, keys will be non-exportable...[OK]

SW1(config)#
*Mar 1 0:24:2.273: RSA key size needs to be at least 768 bits for ssh version 2
*Mar 1 0:24:2.273: %SSH-5-ENABLED: SSH 1.5 has been enabled
SW1(config)#line vty 0 15
SW1(config-line)#transport input ssh
SW1(config-line)#ext
                  ^
% Invalid input detected at '^' marker.

SW1(config-line)#exit
SW1(config)#
```

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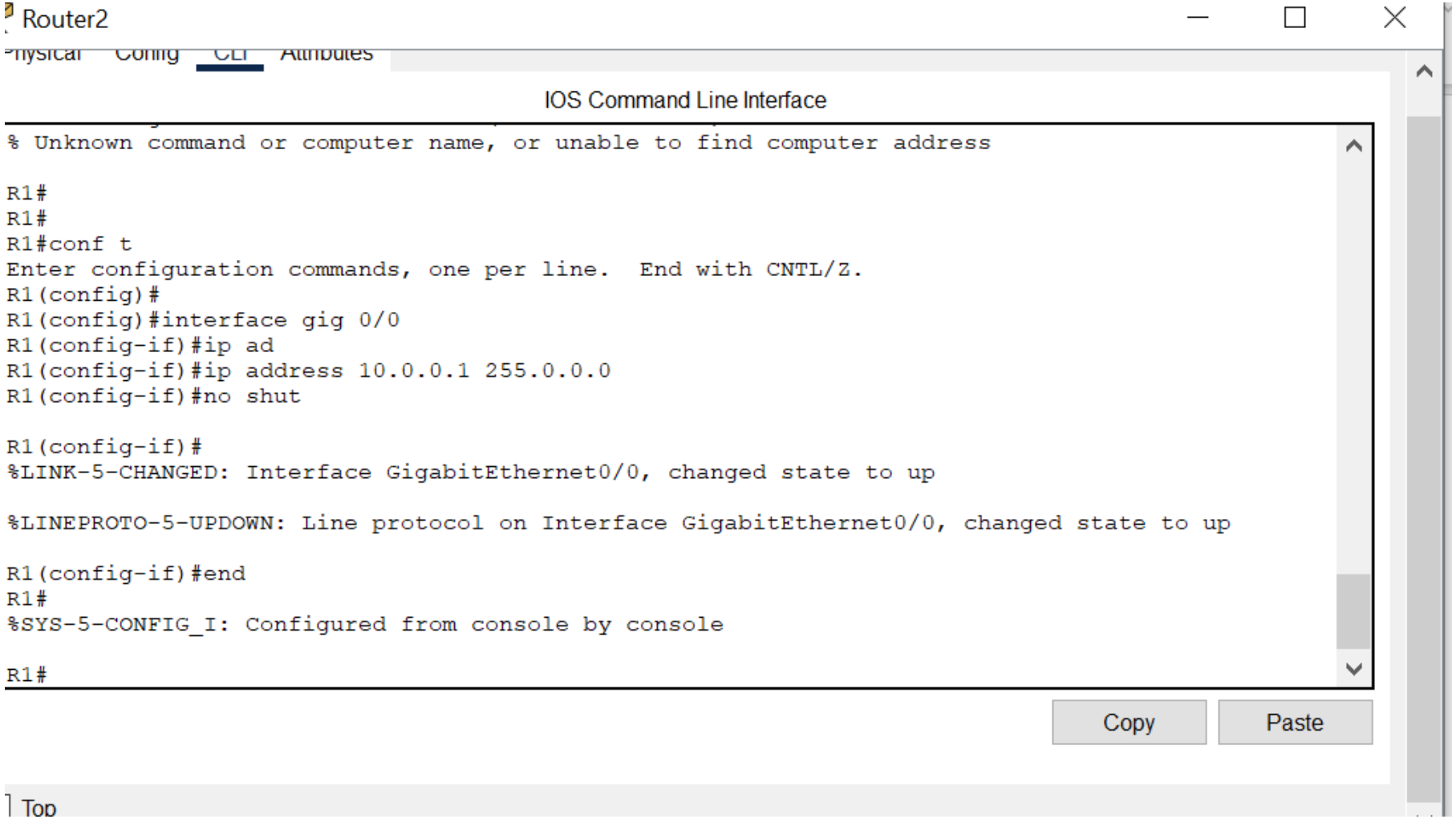
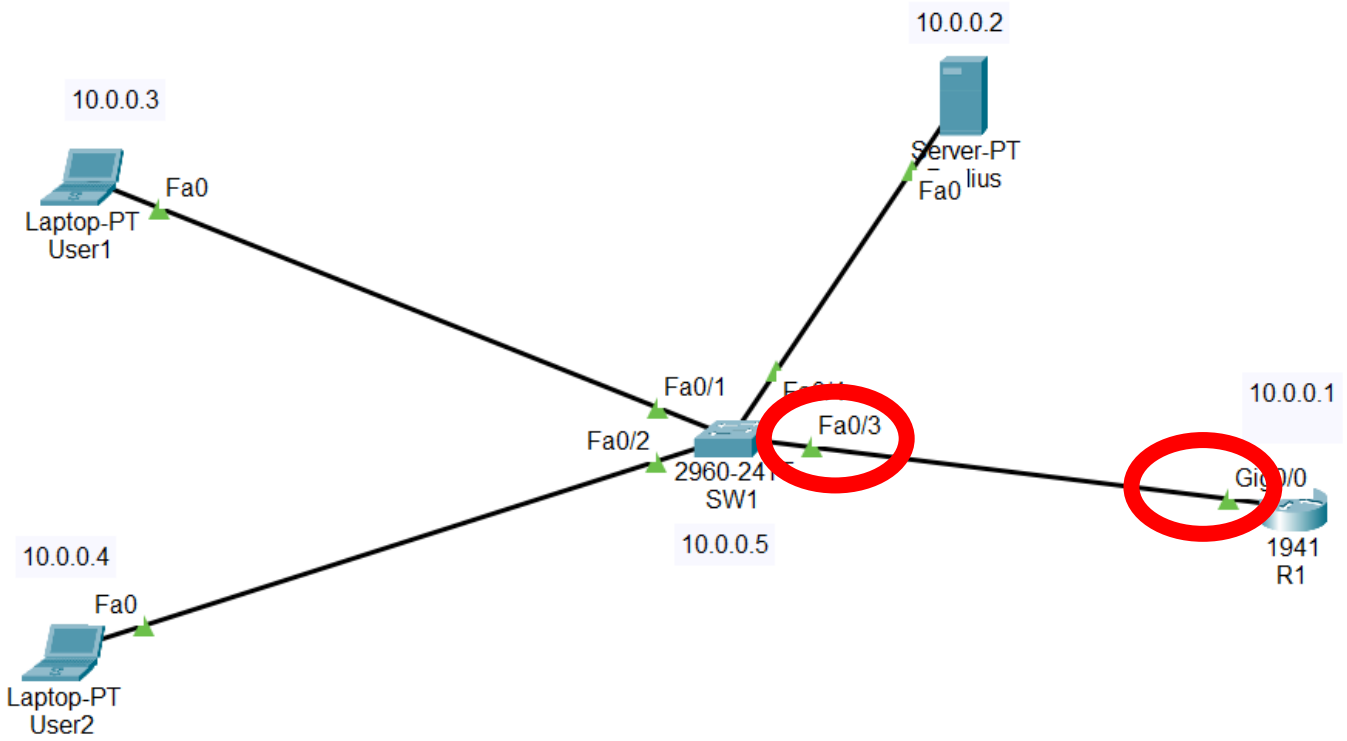
Enable SSH in Switch

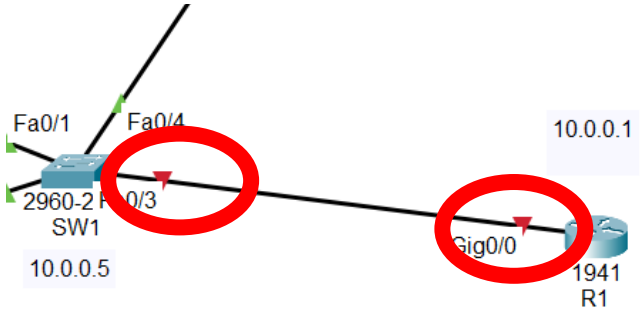
>configure terminal
hostname SW1
ip domain-name sw1.local
crypto key generate rsa
line vty 0 15
transport input ssh
exit



Active Router port
gig 0/0

>enable
#conf t
#interface gig 0/0
#ip address 10.0.0.1 255.0.0.0
#no shut
#end





Connection turn to green and be active

```
SW1#
SW1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
SW1(config)#int vlan1
SW1(config-if)#ip address 10.0.0.5 255.0.0.0
SW1(config-if)#no shut

SW1(config-if)#
%LINK-5-CHANGED: Interface Vlan1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to up

SW1(config-if)#end
SW1#
%SYS-5-CONFIG_I: Configured from console by console

SW1#
```

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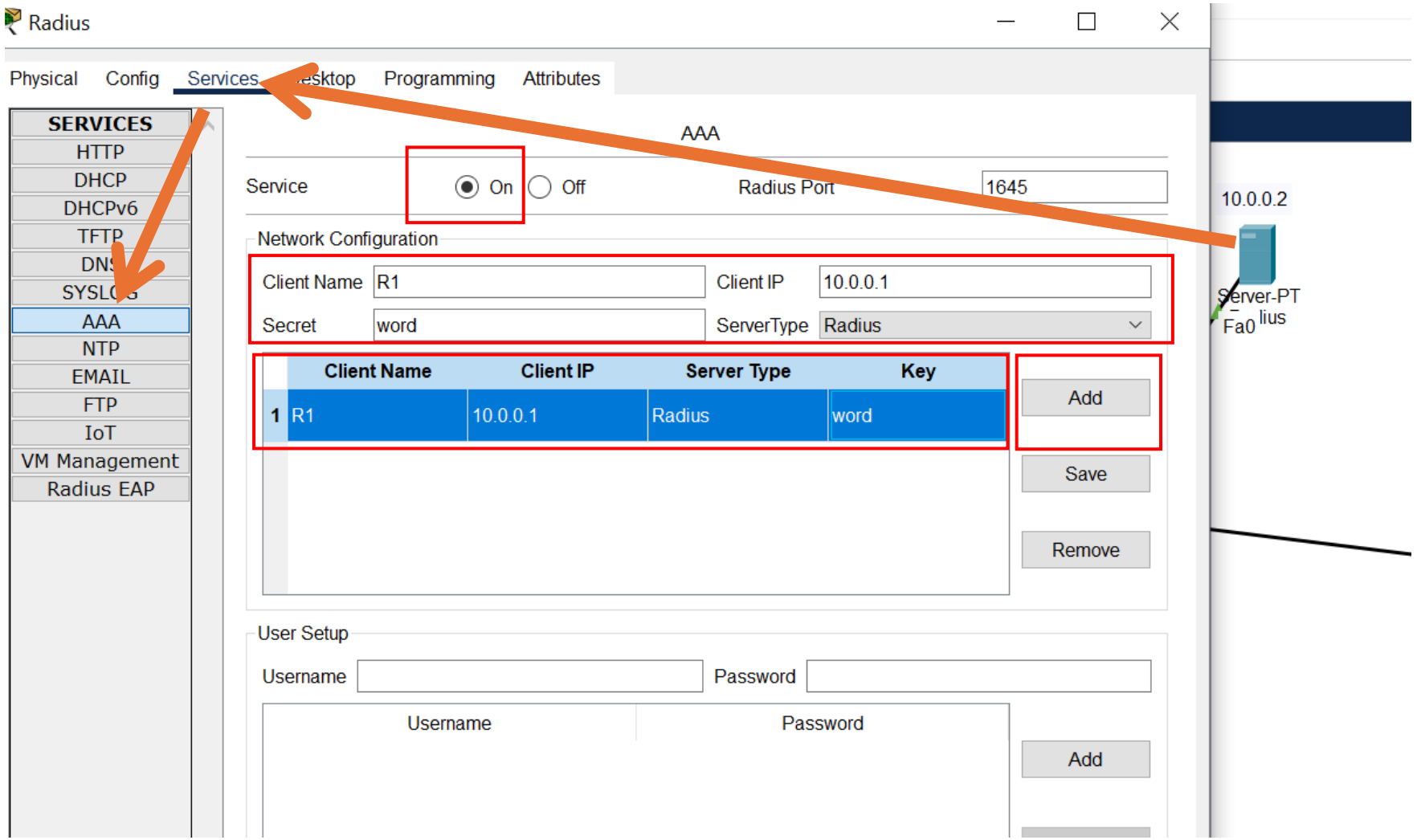
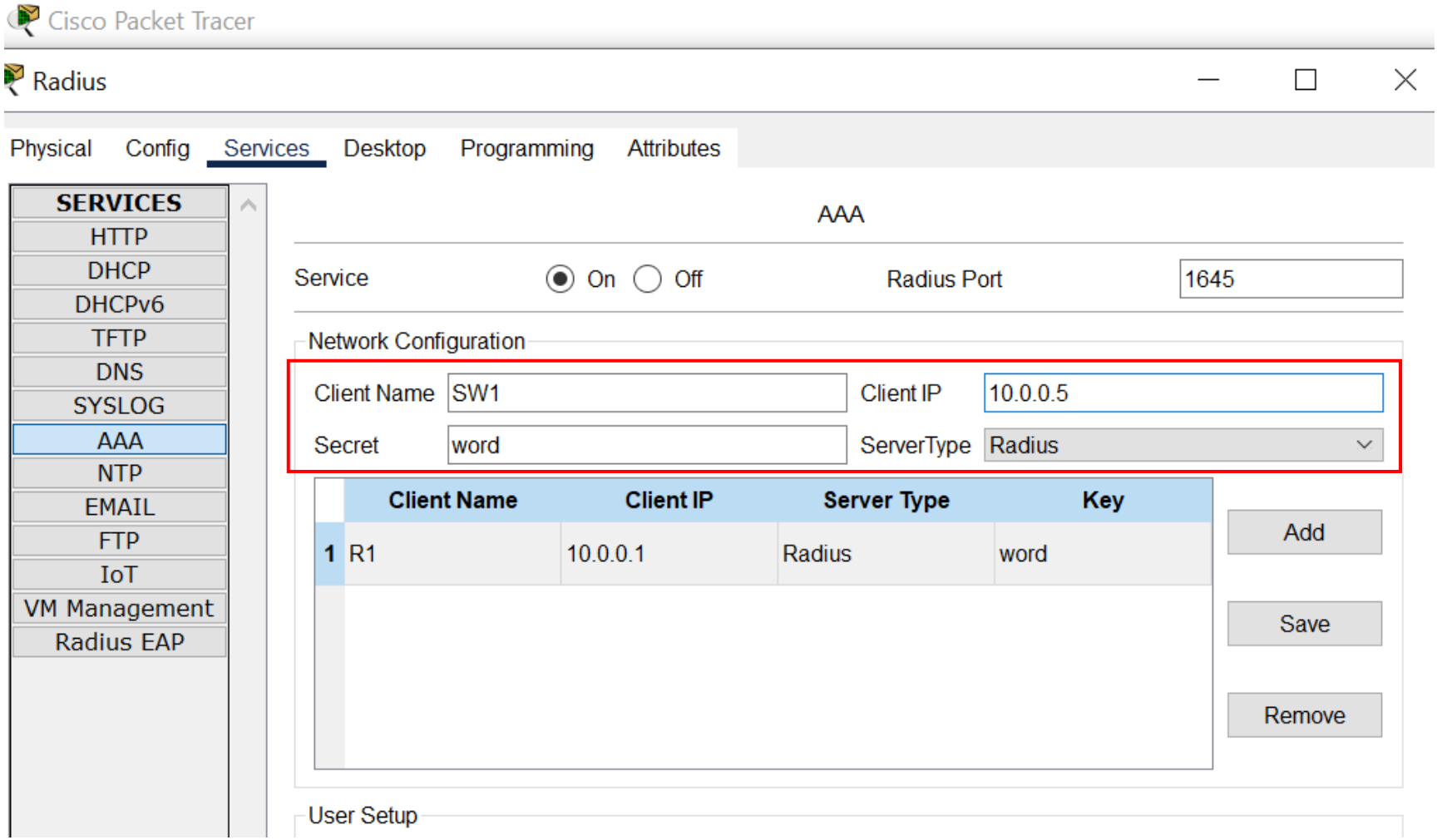
Active Switch vlan port

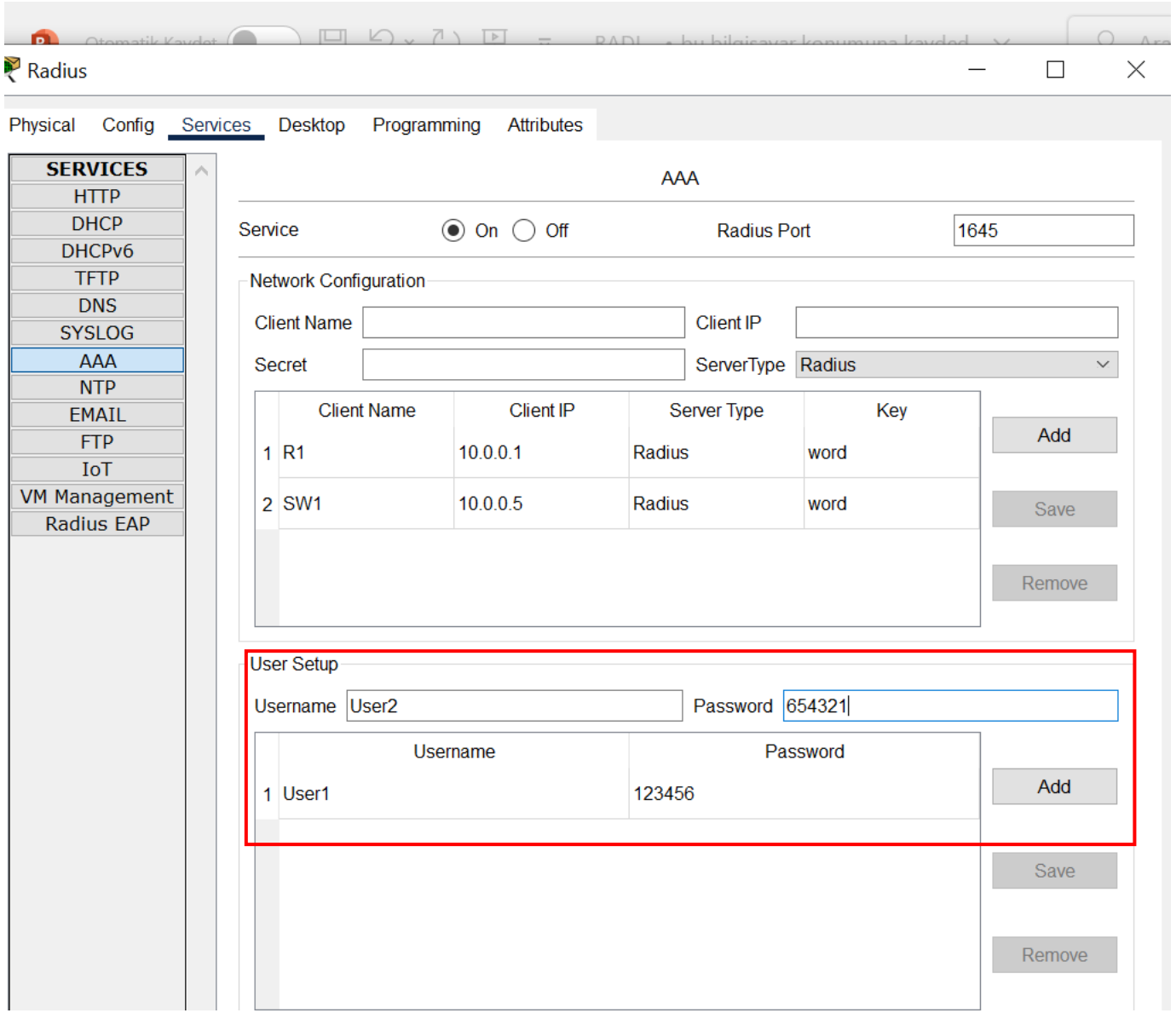
>enable
#conf t
#int vlan1
#ip address 10.0.0.5 255.0.0.0
#no shut
#end



Add R1 as a client to Radius Server



Add SW1 as a client to Radius Server



Add User1 and User2 with password to connecting with ssh

Active Radius
Server in the Router

```
R1>enable
R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#aaa new-model
R1(config)#radius-server host 10.0.0.2 key word
R1(config)#aaa authen
R1(config)#aaa authentication login de
R1(config)#aaa authentication login default gr
R1(config)#aaa authentication login default group ra
R1(config)#aaa authentication login default group radius local
R1(config)#aaa authentication enable default group radius
R1(config)#end
R1#
%SYS-5-CONFIG_I: Configured from console by console

R1#
```

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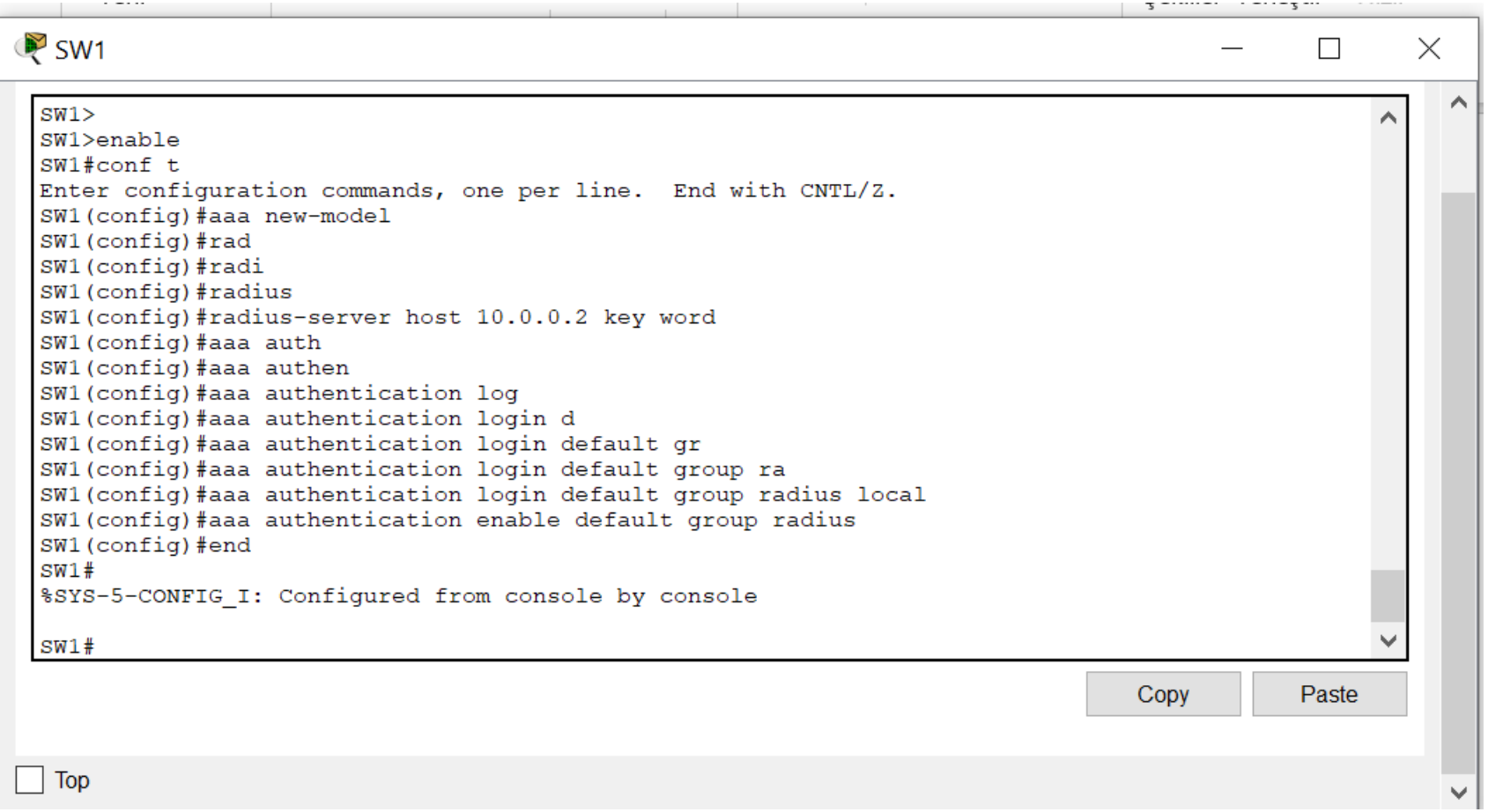
>configure terminal
aaa new-model
radius-server host 10.0.0.2 key word
aaa authentication login default group radius local
aaa authentication enable default group radius

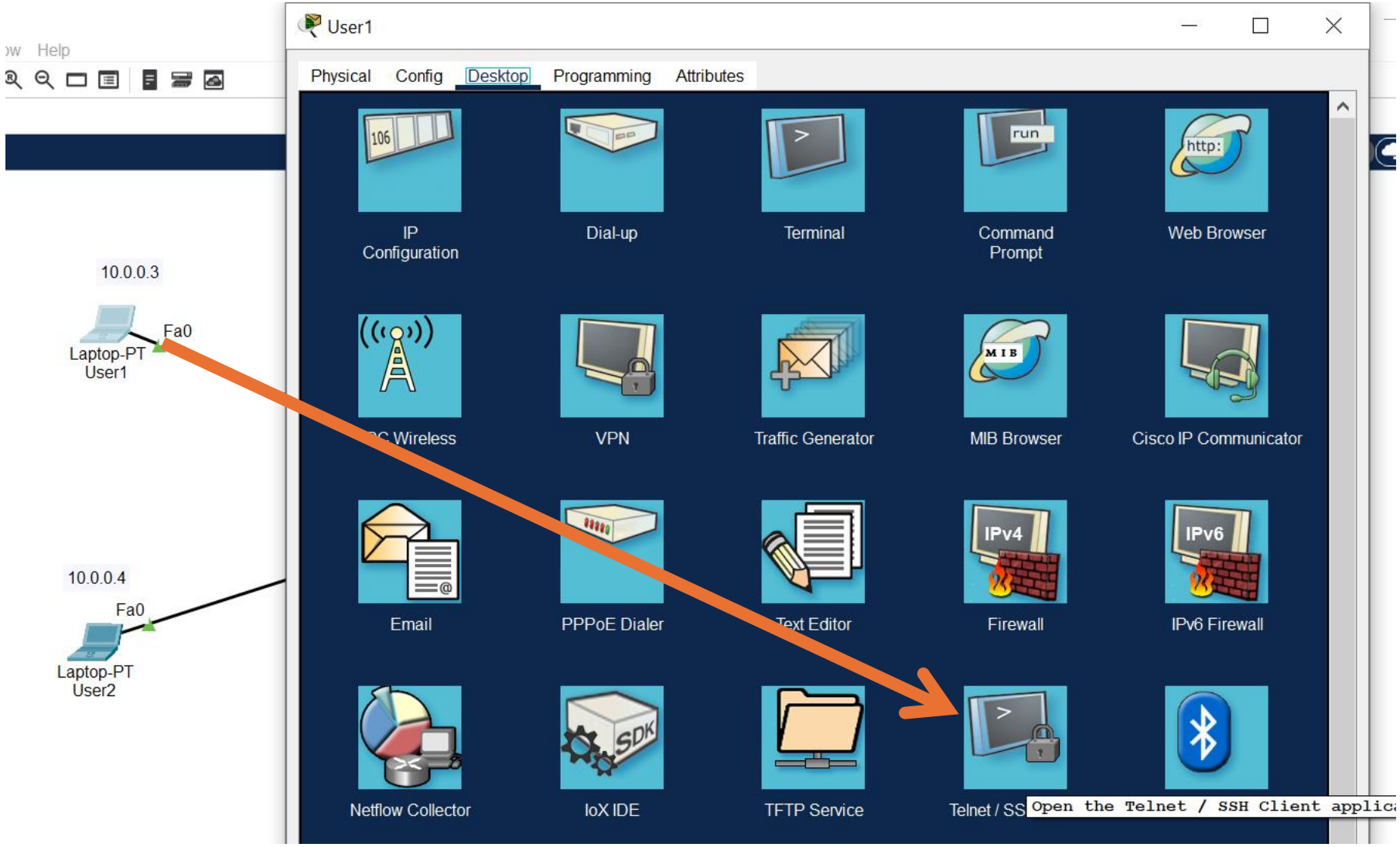
•group radius: First try RADIUS for authentication
•local: If RADIUS is unavailable, use the router's local database



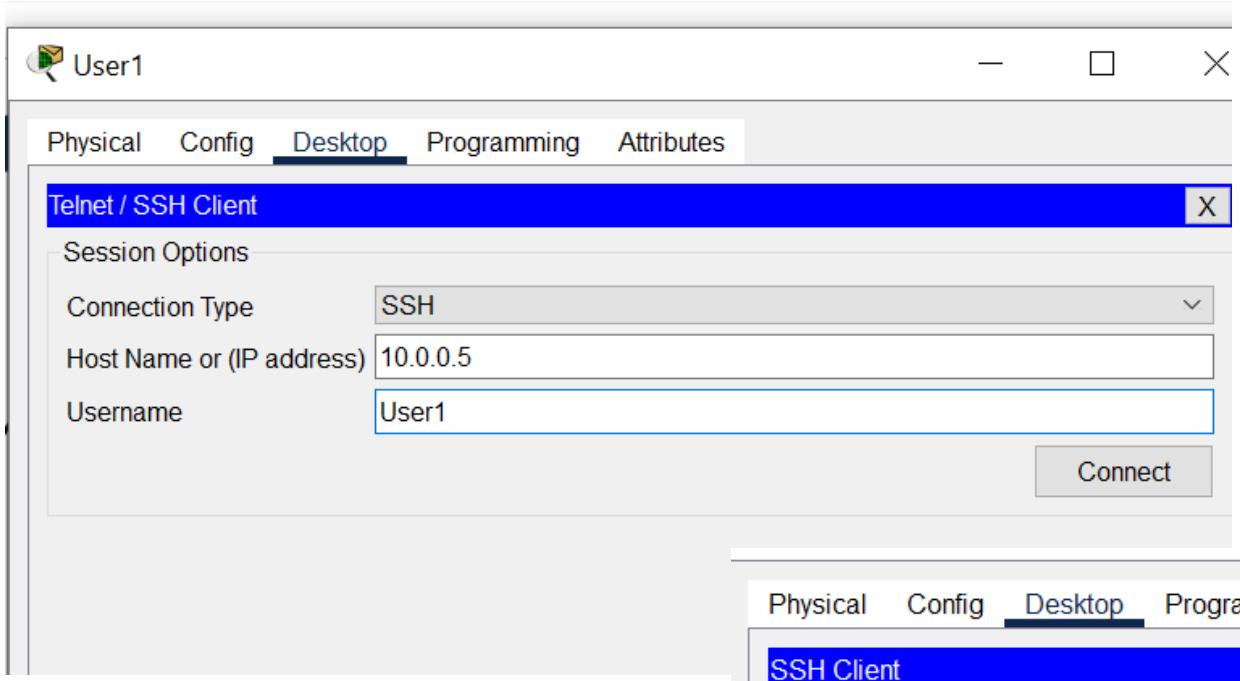
Active Radius Server in the Switch

>configure terminal
aaa new-model
radius-server host 10.0.0.2 key word
aaa authentication login default group radius local
aaa authentication enable default group radius

•group radius: First try RADIUS for authentication
•local: If RADIUS is unavailable, use the router's local database

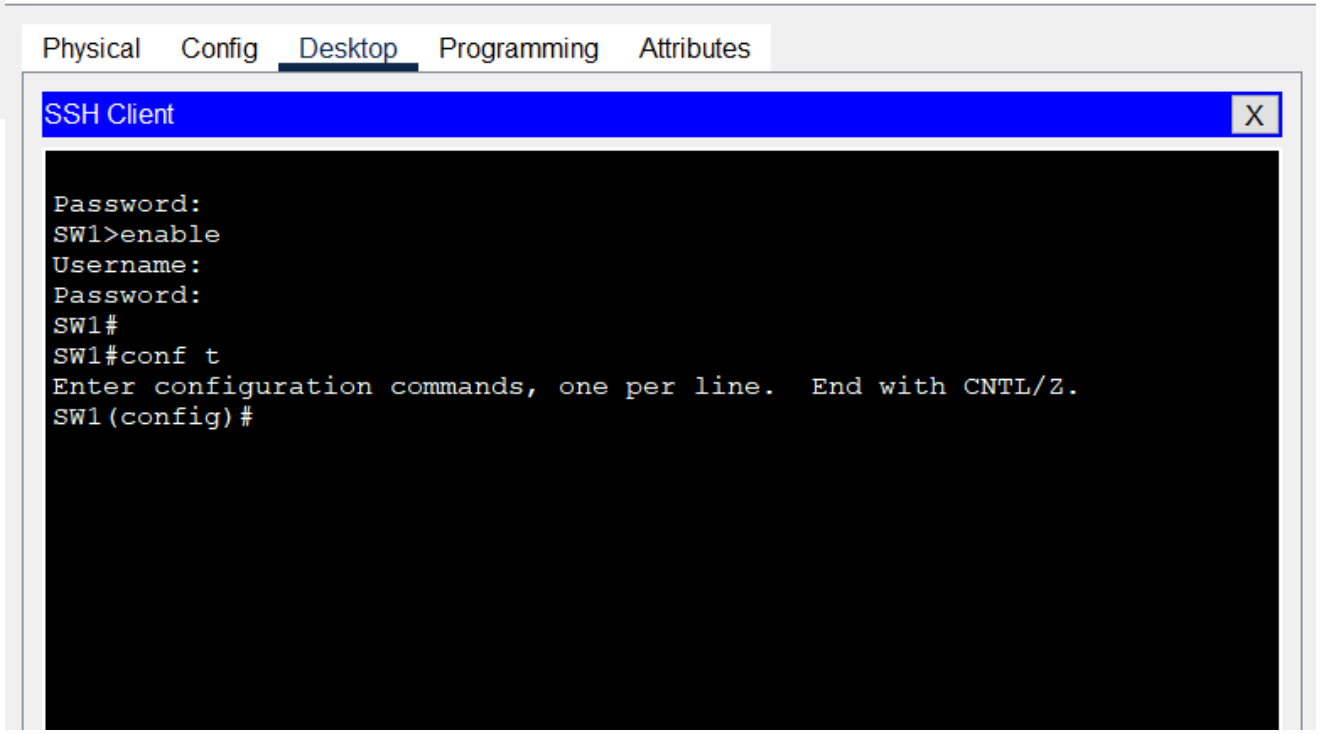


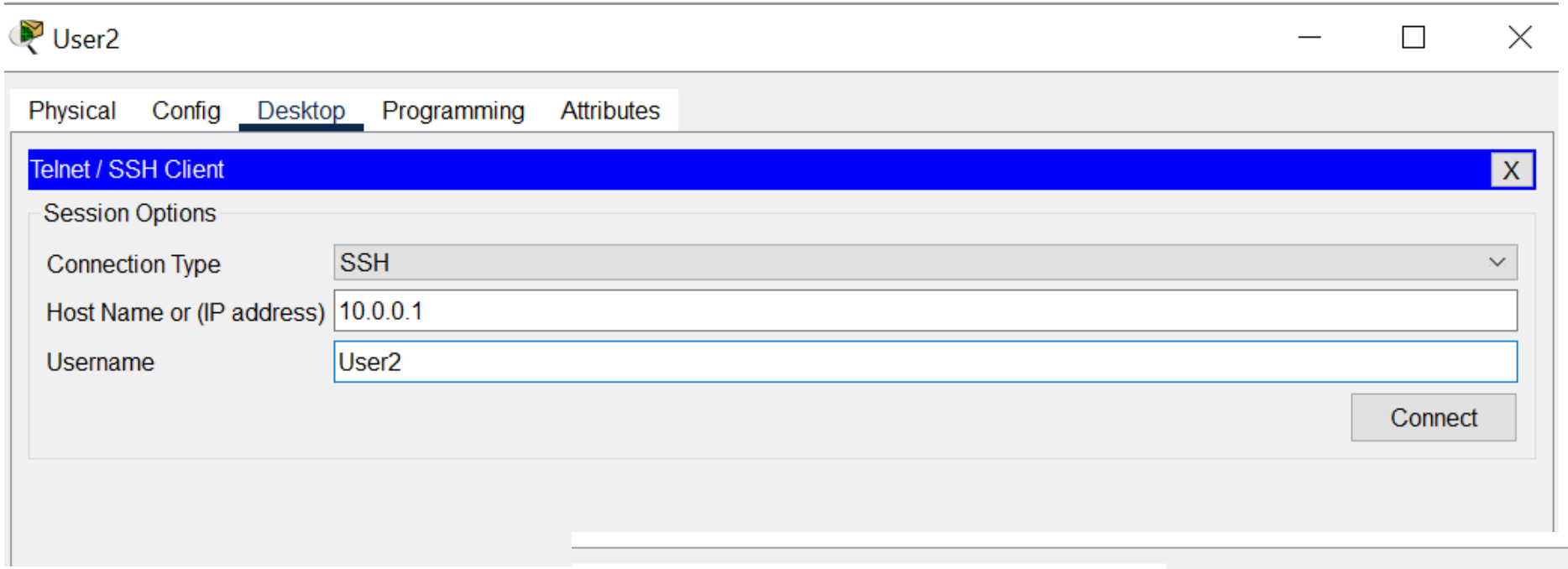
Use SSH to connection



Use SSH to connect to the Switch

Username : User1
Password : 123456





Use SSH to connect to the Router

Username : User2
Password : 654321