



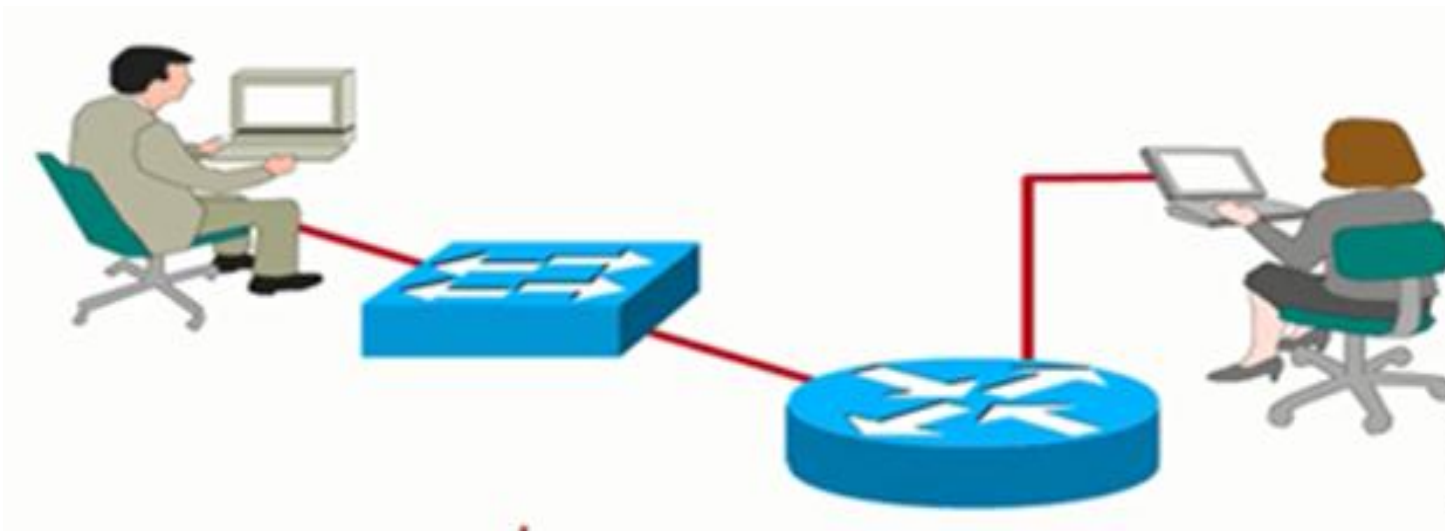
# Remote Access Telnet



Cisco | Networking Academy®  
Mind Wide Open™

# Steps

- Reachability (IP)
- Security
  - Privileged Level Passwords
    - ❖ **Enable Password (not encrypted)**
    - ❖ **Enable Secret Password (encrypted password)**



Cisco Packet Tracer Student

File Edit Options View Tools Extensions Help

Logical [Root] New Cluster Move Object Set Tiled Background Viewport

PC2

Physical Config Desktop Software/Services

### IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address 192.168.1.1

Subnet Mask 255.255.255.0

Default Gateway 192.168.1.100

DNS Server

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address

Link Local Address FE80::201:64FF:FE6E:619D

IPv6 Gateway

IPv6 DNS Server

Time: 00:20:35 Power Cycle Devices Fast Forward Time

Connections

Scenario 0

New Delete

Toggle PDU List Window

The screenshot shows the Cisco Packet Tracer Student application. The main workspace displays a network diagram with a PC-PT PC1 connected to a 2811 Router1, which is connected to a 2950-24 Switch1, and finally to a PC-PT PC2. The IP Configuration window for PC2 is open, showing the following settings:

- IP Configuration:**
  - ☒ Static
  - IP Address: 192.168.1.1
  - Subnet Mask: 255.255.255.0
  - Default Gateway: 192.168.1.100
  - DNS Server: (empty)
- IPv6 Configuration:**
  - ☒ Static
  - IPv6 Address: (empty)
  - Link Local Address: FE80::201:64FF:FE6E:619D
  - IPv6 Gateway: (empty)
  - IPv6 DNS Server: (empty)

The bottom status bar shows the time as 00:20:35 and options to Power Cycle Devices or Fast Forward Time. The bottom left contains a Connections toolbar, and the bottom right shows a Scenario 0 dropdown, New/Delete buttons, and a Toggle PDU List Window button.

Router1
Physical Config CLI

### IOS Command Line Interface

```

cisco 2811 (MPC860) processor (revision 0x200) with 60416K/5120K bytes of memory
Processor board ID JAD05190MTZ (4292891495)
M860 processor: part number 0, mask 49
2 FastEthernet/IEEE 802.3 interface(s)
239K bytes of non-volatile configuration memory.
62720K bytes of ATA CompactFlash (Read/Write)
Cisco IOS Software, 2800 Software (C2800NM-ADVIPSERVICESK9-M), Version 12.4(15)T1, RELEASE
SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2007 by Cisco Systems, Inc.
Compiled Wed 18-Jul-07 06:21 by pt_rel_team

    --- System Configuration Dialog ---

Continue with configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>

```

Copy Paste

Router1

Physical Config CLI

IOS Command Line Interface

Compiled Wed 18-Jul-07 06:21 by pt\_rel\_team

--- System Configuration Dialog ---

Continue with configuration dialog? [yes/no]: no

Press RETURN to get started!

Router > enable

Router # show ip interface brief

Router>enable

Router#show ip interface brief

Interface	IP-Address	OK?	Method	Status	Protocol
FastEthernet0/0	unassigned	YES	unset	administratively down	down
FastEthernet0/1	unassigned	YES	unset	administratively down	down
Vlan1	unassigned	YES	unset	administratively down	down

Router#

Router#

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Router1
Physical
Config
CLI

IOS Command Line Interface

```

Router>enable
Router#show ip interface brief
Interface                IP-Address      OK? Method Status          Protocol
FastEthernet0/0          unassigned      YES NVRAM   administratively down down
FastEthernet0/1          unassigned      YES NVRAM   administratively down down
Vlan1                    unassigned      YES NVRAM   administratively down down
Router#
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface fastethernet 0/0
Router(config-if)#ip address 192.168.1.100 255.255.255.0
Router(config-if)# no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#
Router(config-if)#

```

Router # config t  
Router (config) # interface fastethernet 0/0  
Router (config-if) # ip address 192.168.1.100 255.255.255.0  
Router (config-if) # no shutdown

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Router1

Physical Config CLI

IOS Command Line Interface

```

28000NM-ADVIPSERVICESK9-M)
239K bytes of non-volatile configuration memory.
62720K bytes of ATA CompactFlash (Read/Write)
Cisco IOS Software, 2800 Software (C2800NM-ADVIPSERVICESK9-M), Version 12.4(15)T1, RELEASE
SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2007 by Cisco Systems, Inc.
Compiled Wed 18-Jul-07 06:21 by pt_rel_team

--- System Configuration Dialog ---

Continue with configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#enable secret cisco789
Router(config)#

```

Router > **enable**

Router # **config t**

Router (config) # **enable secret cisco789**

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Router1

Physical Config CLI

IOS Command Line Interface

Technical Support: <http://www.cisco.com/techsupport>  
 Copyright (c) 1986-2007 by Cisco Systems, Inc.  
 Compiled Wed 18-Jul-07 06:21 by pt\_rel\_team

Press RETURN to get started!

Router>enable  
 Router#config t  
 Enter configuration commands, one per line. End with CNTL/Z.  
 Router(config)#line vty 0 4  
 Router(config-line)#password 789  
 Router(config-line)#login  
 Router(config-line)#end  
 Router#  
 %SYS-5-CONFIG\_I: Configured from console by console

Router#copy running-config startup-config  
 Destination filename [startup-config]?  
 Building configuration...  
 [OK]  
 Router#

Router > enable  
 Router # config t  
 Router (config) # line vty 0 4  
 Router (config-line) # password cisco123  
 Router (config-line) # login  
 Router (config-line) # end  
 Router # copy running-config startup-config

Copy Paste



Cisco Packet Tracer Student

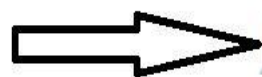
File Edit Options View Tools Extensions Help



Logical

[Root]

New Cluster


LAB vty  
IP : 192.168.1.1/24  
Mask : 255.255.255.0  
GY : 192.168.1.100

PC-PT  
PC2

Time: 02:23:03 Power Cycle Devices Fast Forward Time



Connections



Copper Straight-Through

PC2

Physical Config Desktop Software/Services



IP Configuration



Dial-up



Terminal



Command Prompt



Web Browser



PC Wireless



VPN



Traffic Generator



MIB Browser



Cisco IP Communicator



Email



PPPoE Dialer



Text Editor



Firewall



IPv6 Firewall

Scenario 0

New

Delete

Toggle PDU List Window

Fire Last Status Source Destination Type Color Time(sec) Periodic Num

ealtime

File Edit Options View Tools Extensions Help

Logical [Root] New Cluster

**PC > telnet 192.168.1.100**

PC-PT PC1

LAB vty  
IP : 192.168.1.1/24  
Mask : 255.255.255.0  
GY : 192.168.1.100

2811 Router1

2950-24 Switch1

PC-PT PC2

PC2

Physical Config Desktop Software/Services

**Command Prompt**

```
Packet Tracer PC Command Line 1.0
PC>telnet 192.168.1.100
Trying 192.168.1.100 ...Open

User Access Verification

Password:
Router>
```

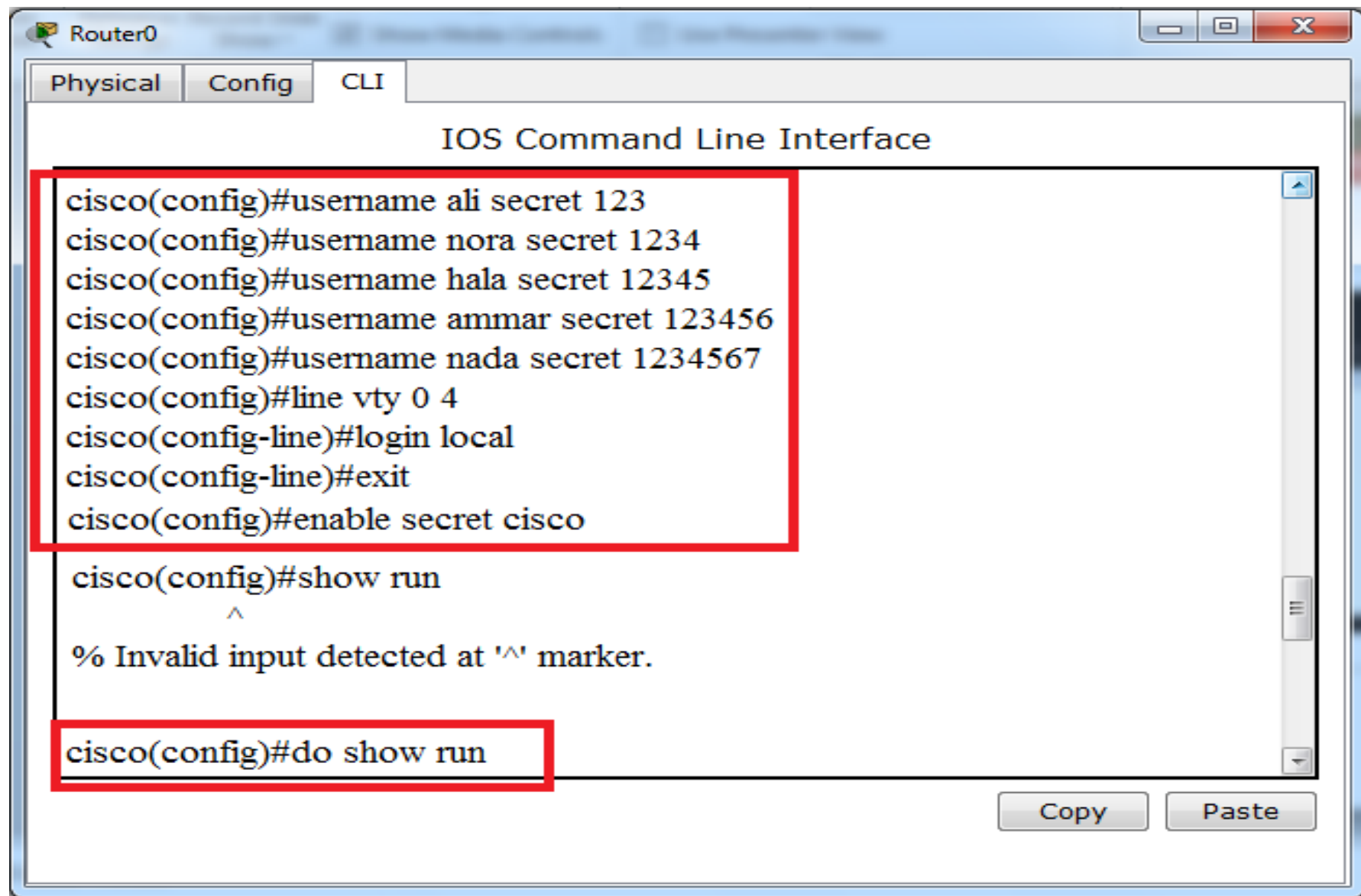
Time: 00:02:18 Power Cycle Devices Fast Forward Time

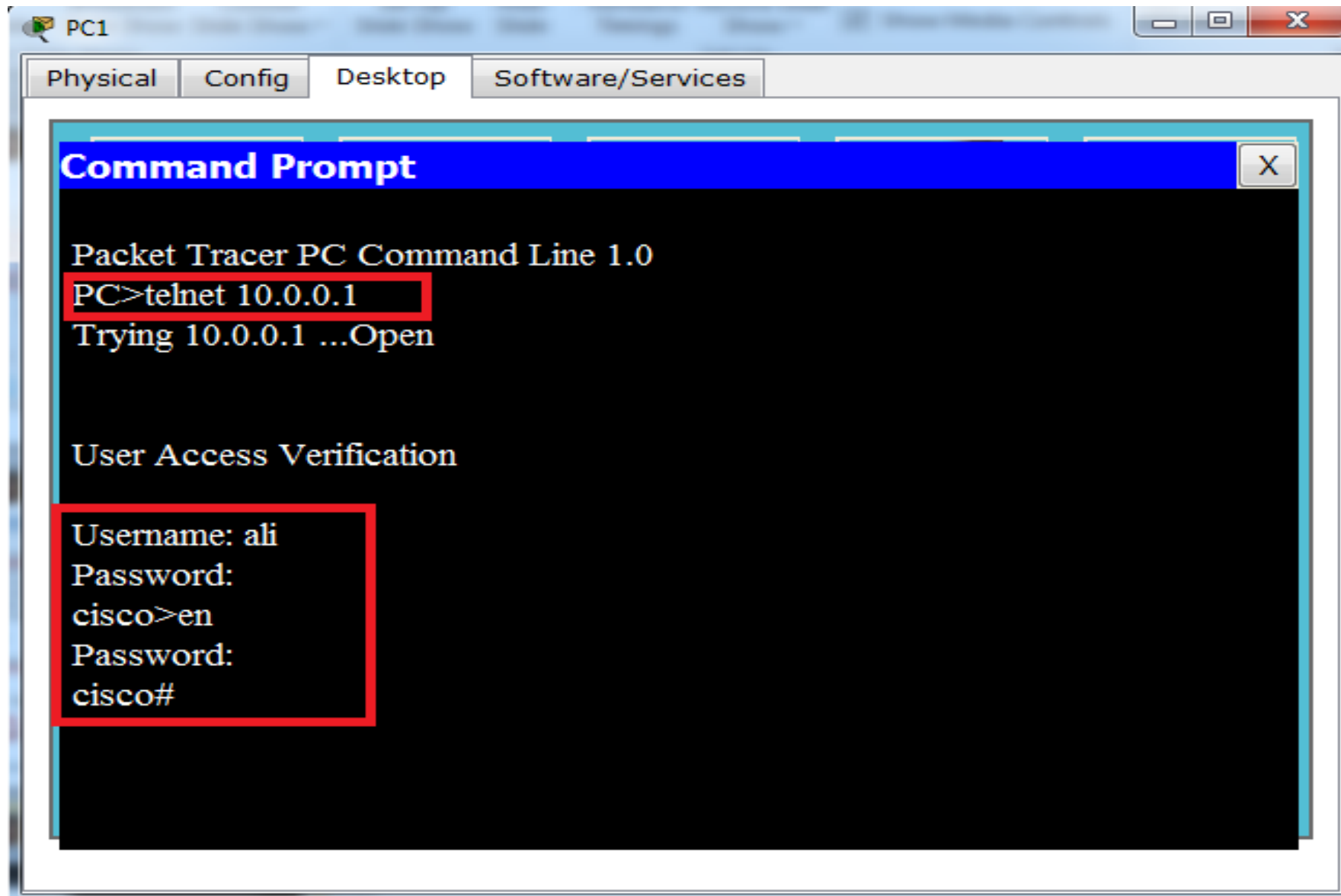
Routers

1841 1941 2620XM 2621XM 2811 2901 2911 819 Generic Generic

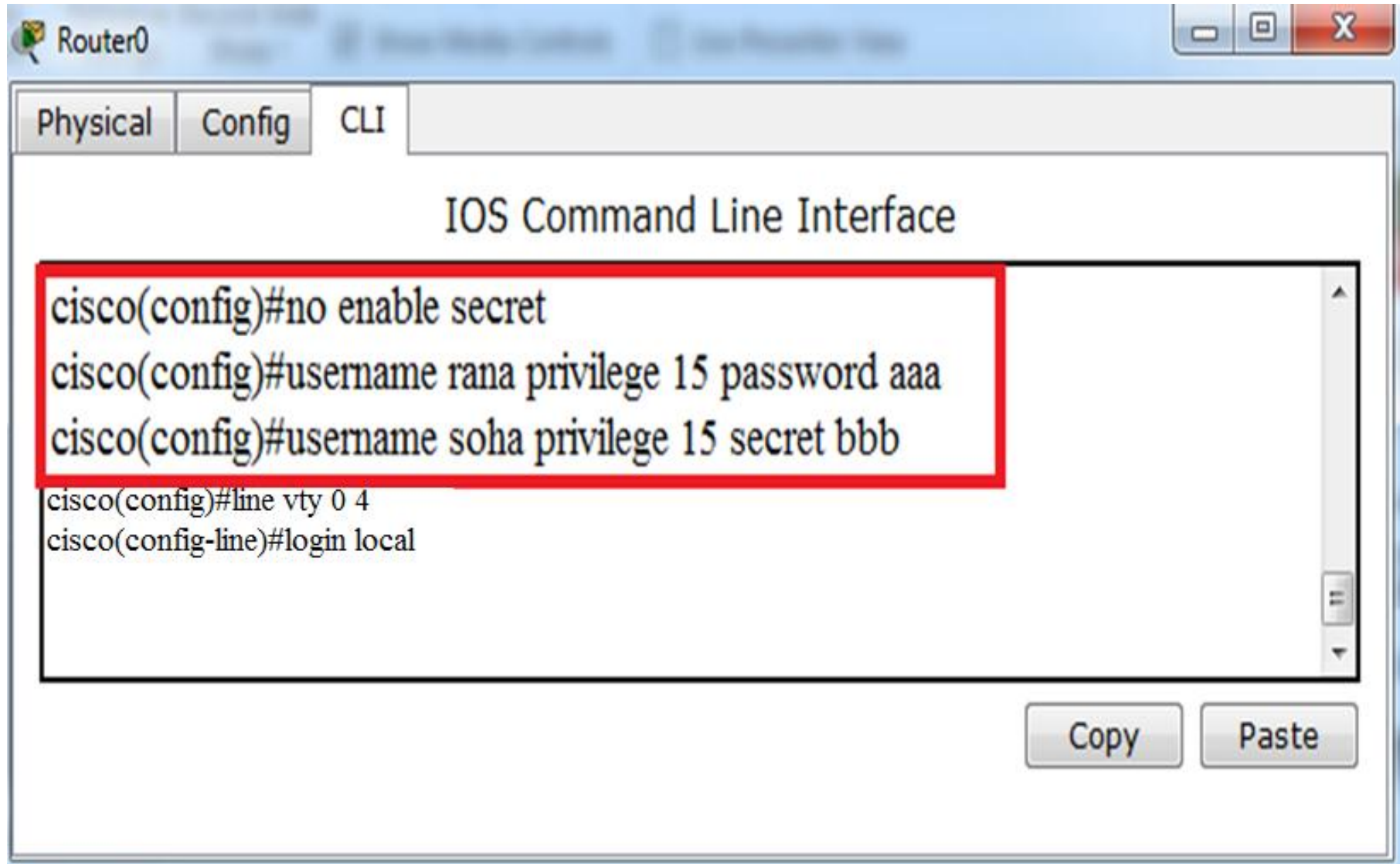
Scenario 0

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num
<p>New Delete</p> <p>Toggle PDU List Window</p>								









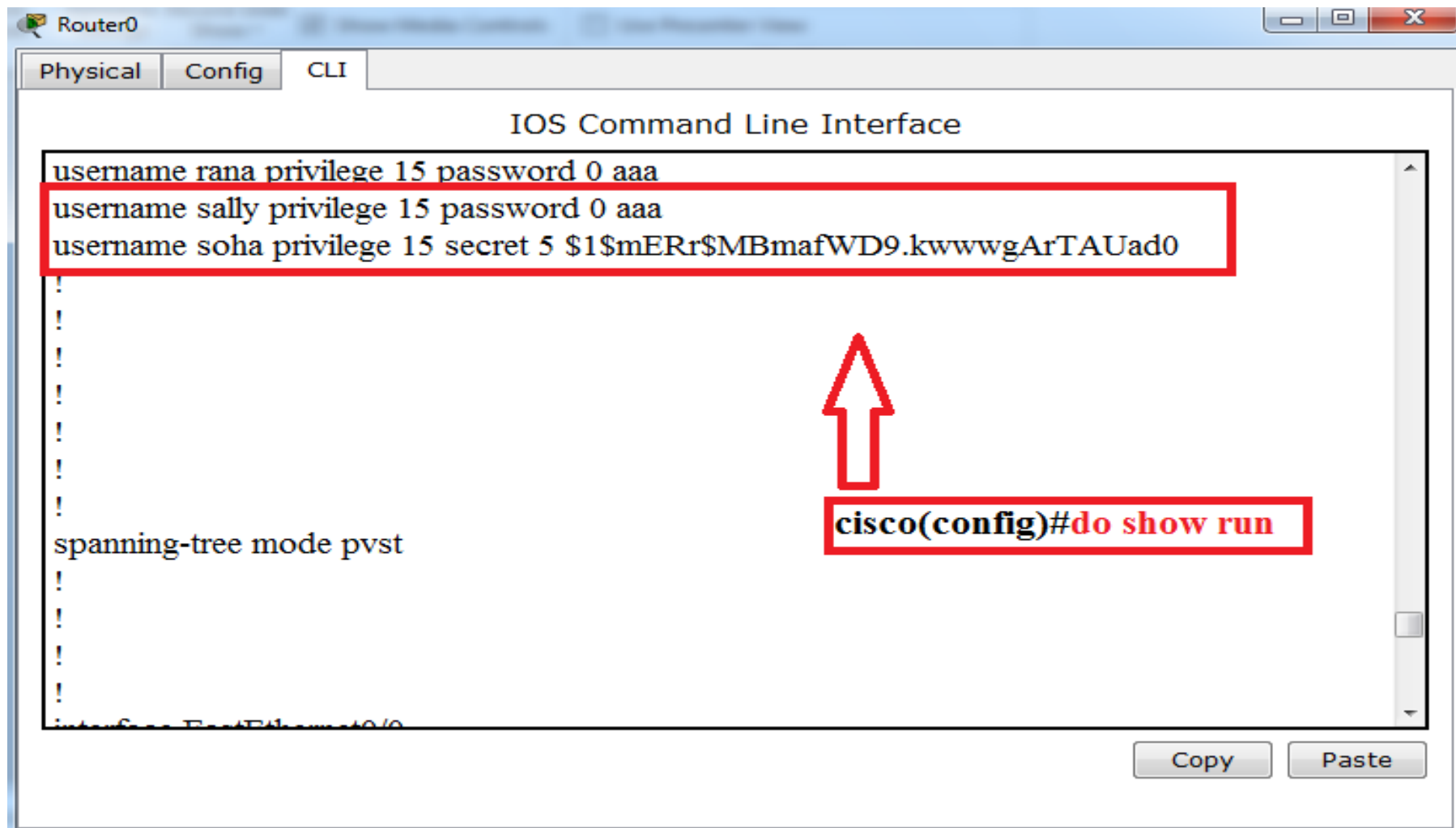
Router0

Physical Config CLI

### IOS Command Line Interface

```
cisco(config)#no enable secret
cisco(config)#username rana privilege 15 password aaa
cisco(config)#username soha privilege 15 secret bbb
cisco(config)#line vty 0 4
cisco(config-line)#login local
```

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Router0

Physical Config CLI

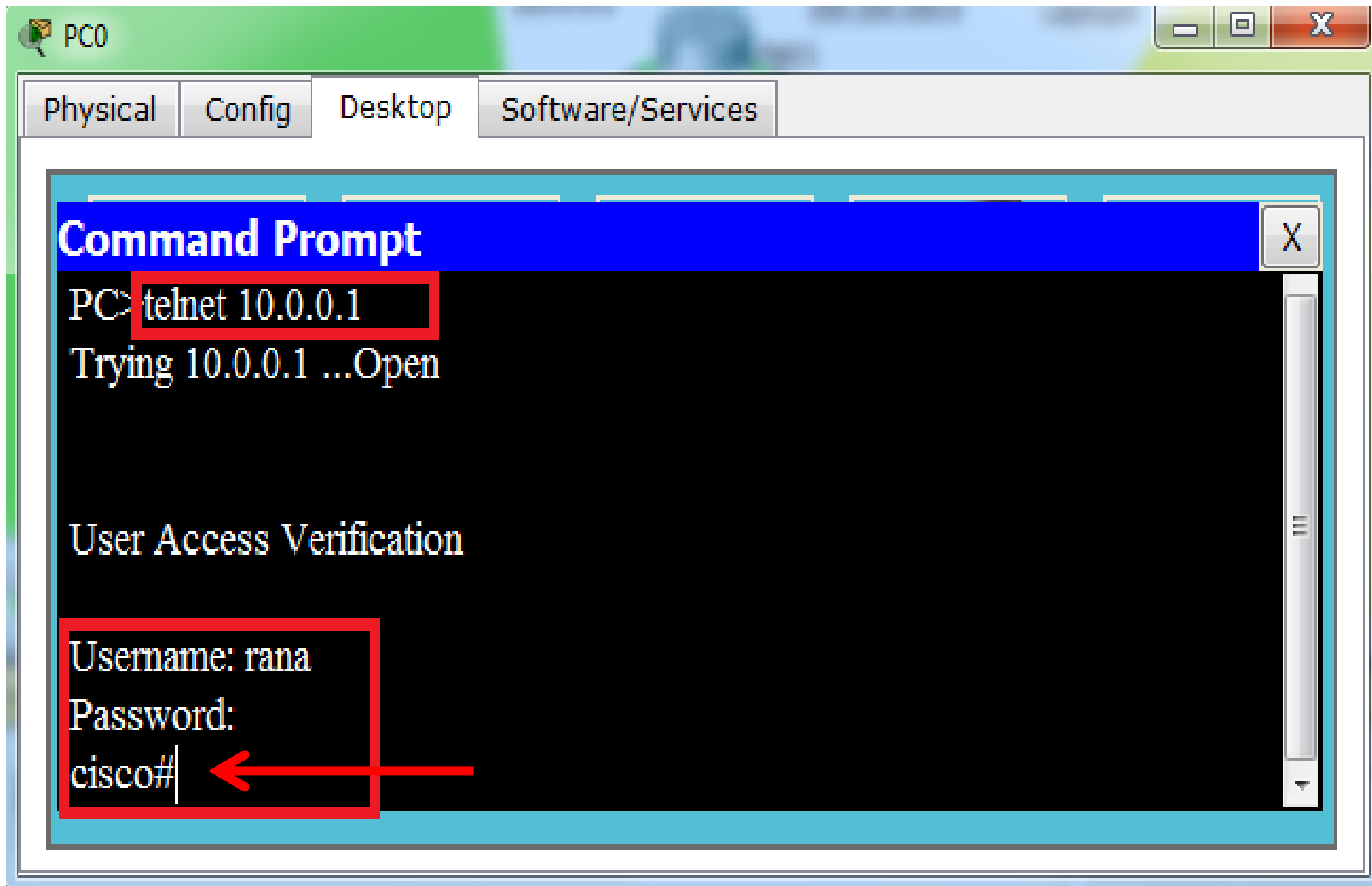
IOS Command Line Interface

```
username rana privilege 15 password 0 aaa
username sally privilege 15 password 0 aaa
username soha privilege 15 secret 5 $1$mERr$MBmafWD9.kwwwgArTAUad0
!
!
!
!
!
!
spanning-tree mode pvst
!
!
!
!
```

cisco(config)#do show run

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Tera Term: New connection

☒ TCP/IP

Host: 192.168.1.1

☒ History

Service: ☒ Telnet

☐ SSH

☐ Other

TCP port#: 23

SSH version: SSH2

Protocol: UNSPEC

☐ Serial

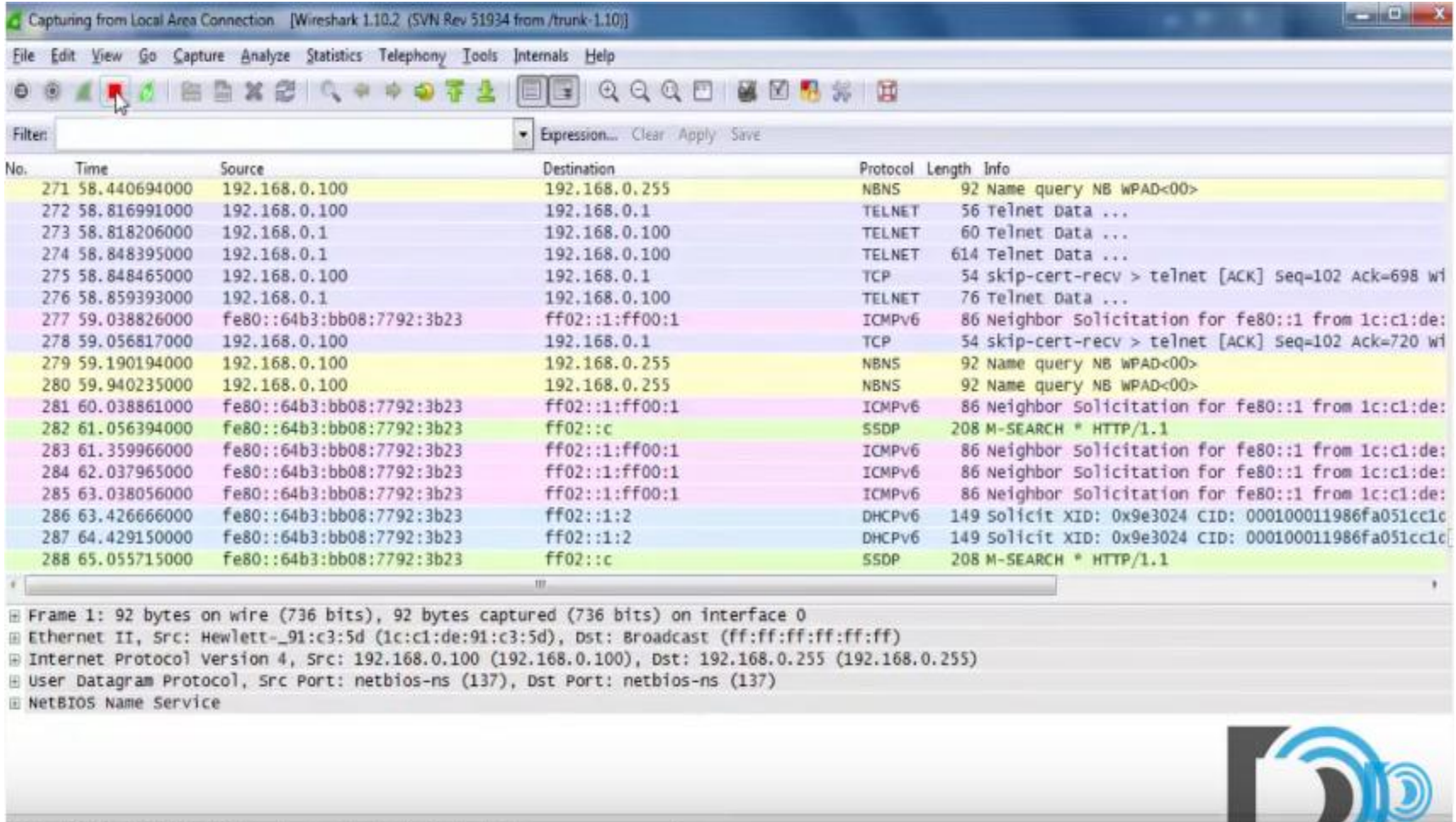
Port:

OK

Cancel

Help

# Wireshark Packet Sniffing Usernames and Passwords



Filter: Expression... Clear Apply Save

No.	Time	Source	Destination	Protocol	Length	Info
271	58.440694000	192.168.0.100	192.168.0.255	NBNS	92	Name query NB WPAD<00>
272	58.816991000	192.168.0.100	192.168.0.1	TELNET	56	Telnet Data ...
273	58.818206000	192.168.0.1	192.168.0.100	TELNET	60	Telnet Data ...
274	58.848395000	192.168.0.1	192.168.0.100	TELNET	614	Telnet Data ...
275	58.848465000	192.168.0.100	192.168.0.1	TCP	54	skip-cert-recv > telnet [ACK] seq=102 Ack=698 wi
276	58.859393000	192.168.0.1	192.168.0.100	TELNET	76	Telnet Data ...
277	59.038826000	fe80::64b3:bb08:7792:3b23	ff02::1:ff00:1	ICMPv6	86	Neighbor Solicitation for fe80::1 from 1c:c1:de:
278	59.056817000	192.168.0.100	192.168.0.1	TCP	54	skip-cert-recv > telnet [ACK] Seq=102 Ack=720 wi
279	59.190194000	192.168.0.100	192.168.0.255	NBNS	92	Name query NB WPAD<00>
280	59.940235000	192.168.0.100	192.168.0.255	NBNS	92	Name query NB WPAD<00>
281	60.038861000	fe80::64b3:bb08:7792:3b23	ff02::1:ff00:1	ICMPv6	86	Neighbor Solicitation for fe80::1 from 1c:c1:de:
282	61.056394000	fe80::64b3:bb08:7792:3b23	ff02::c	SSDP	208	M-SEARCH * HTTP/1.1
283	61.359966000	fe80::64b3:bb08:7792:3b23	ff02::1:ff00:1	ICMPv6	86	Neighbor Solicitation for fe80::1 from 1c:c1:de:
284	62.037965000	fe80::64b3:bb08:7792:3b23	ff02::1:ff00:1	ICMPv6	86	Neighbor Solicitation for fe80::1 from 1c:c1:de:
285	63.038056000	fe80::64b3:bb08:7792:3b23	ff02::1:ff00:1	ICMPv6	86	Neighbor Solicitation for fe80::1 from 1c:c1:de:
286	63.426666000	fe80::64b3:bb08:7792:3b23	ff02::1:2	DHCPv6	149	Solicit XID: 0x9e3024 CID: 000100011986fa051cc1c
287	64.429150000	fe80::64b3:bb08:7792:3b23	ff02::1:2	DHCPv6	149	Solicit XID: 0x9e3024 CID: 000100011986fa051cc1c
288	65.055715000	fe80::64b3:bb08:7792:3b23	ff02::c	SSDP	208	M-SEARCH * HTTP/1.1

Frame 1: 92 bytes on wire (736 bits), 92 bytes captured (736 bits) on interface 0

- Ethernet II, Src: Hewlett\_91:c3:5d (1c:c1:de:91:c3:5d), Dst: Broadcast (ff:ff:ff:ff:ff:ff)
- Internet Protocol Version 4, Src: 192.168.0.100 (192.168.0.100), Dst: 192.168.0.255 (192.168.0.255)
- User Datagram Protocol, Src Port: netbios-ns (137), Dst Port: netbios-ns (137)
- NetBIOS Name Service

Filter: tcp.stream eq 0

o.	Time
107	25.353271
108	25.354855
109	25.354932
110	25.357638
111	25.359359
112	25.359896
113	25.361716
114	25.363550
115	25.363551
116	25.363552
117	25.363552
118	25.363632
119	25.363928
120	25.363962
121	25.365234
122	25.572471
127	29.724855
128	29.726267

Stream Content

.....P....  
User Access Verification  
Username: .. .....XTERM....\$. \$addmmiinn  
Password: cisco12345  
R1>ennaabbllee  
Password: danscourses  
R1#  
R1#sshhooww iipp rroouttee  
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP  
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area  
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2  
E1 - OSPF external type 1, E2 - OSPF external type 2  
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2  
ia - IS-IS inter area, \* - candidate default, U - per-user static route  
o - ODR, P - periodic downloaded static route  
Gateway of last resort is not set  
C 192.168.0.0/24 is directly connected, FastEthernet0/1  
R1#

Entire conversation (820 bytes)

Find Save As Print ASCII EBCDIC Hex Dump C Arrays Raw

Filter Out This Stream Close

```

recv > telnet [SYN] Seq=0 win=819
kip-cert-recv [SYN, ACK] Seq=0 AC
recv > telnet [ACK] Seq=1 Ack=1 W
a ...
a ...
a ...
a ...
a ...
a ...
a ...
a ...
a ...
a ...
recv > telnet [ACK] Seq=31 Ack=70
a ...
a ...
a ...
a ...
recv > telnet [ACK] Seq=45 Ack=73
a ...
a ...

```

