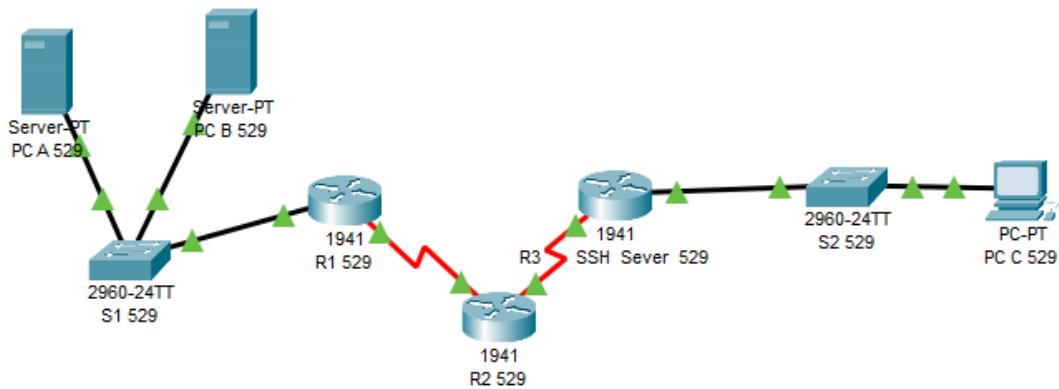


PRACTICAL 1

Packet Tracer - Configure Cisco Routers for Syslog, NTP, and SSH Operations

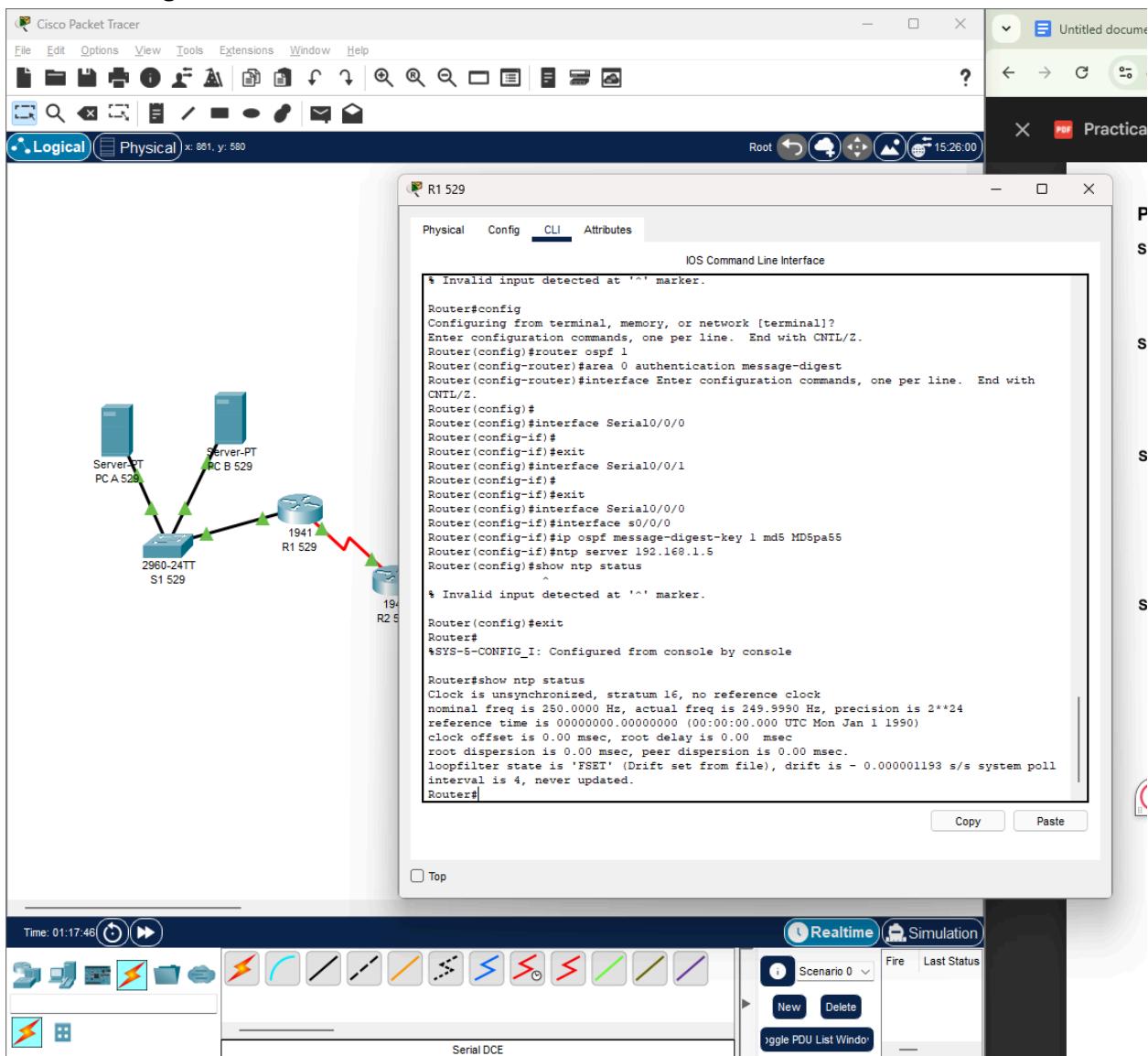
Topology:



Addressing Table

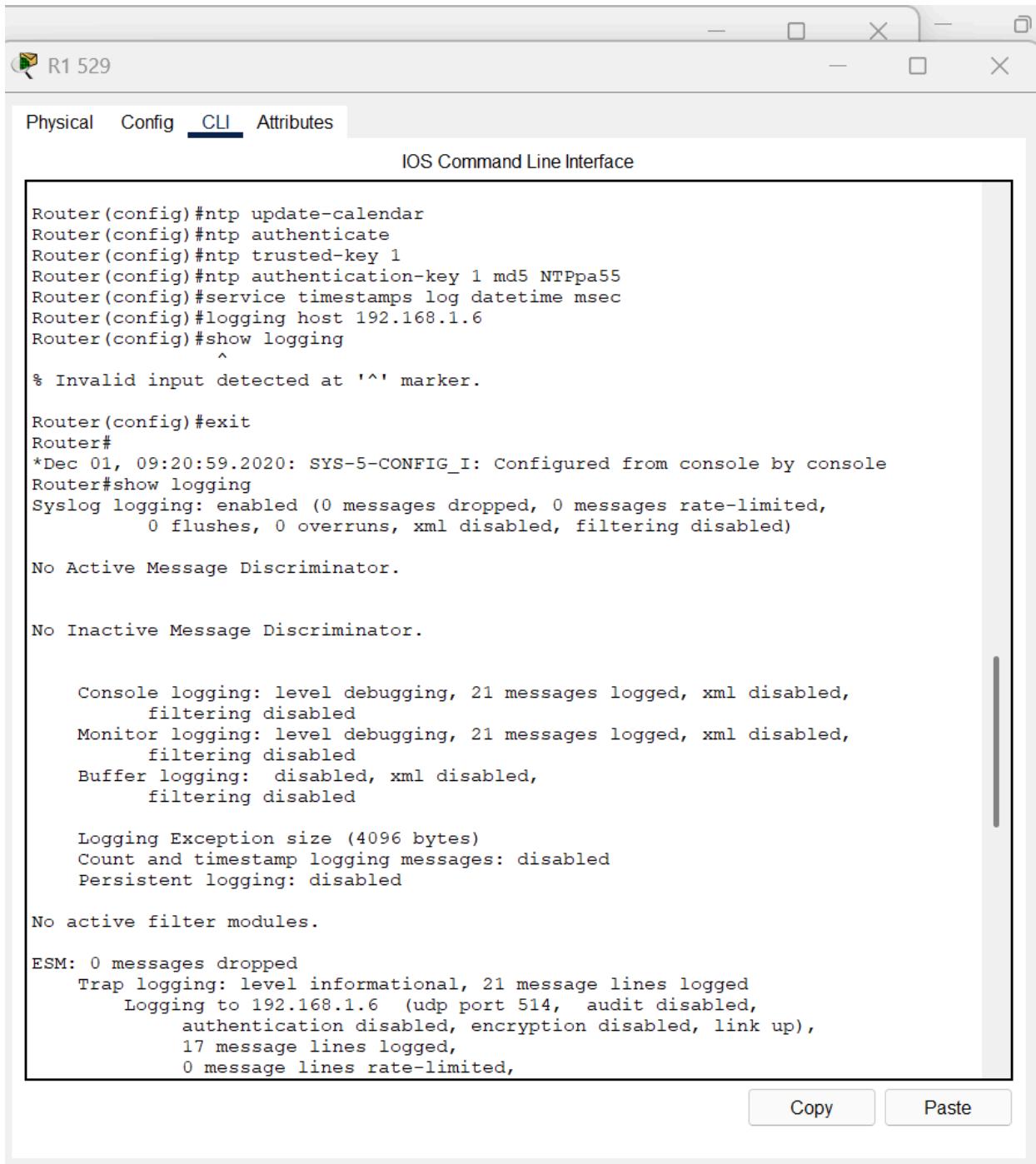
Device	Interface	IP Address	Subnet Mask	Default Gateway	Switch Port
R1	G0/1	192.168.1.1	255.255.255.0	N/A	S1 F0/5
	S0/0/0 (DCE)	10.1.1.1	255.255.255.252	N/A	N/A
R2	S0/0/0	10.1.1.2	255.255.255.252	N/A	N/A
	S0/0/1 (DCE)	10.2.2.2	255.255.255.252	N/A	N/A
R3	G0/1	192.168.3.1	255.255.255.0	N/A	S3 F0/5
	S0/0/1	10.2.2.1	255.255.255.252	N/A	N/A
PC-A	NIC	192.168.1.5	255.255.255.0	192.168.1.1	S1 F0/6
PC-B	NIC	192.168.1.6	255.255.255.0	192.168.1.1	S2 F0/18
PC-C	NIC	192.168.3.5	255.255.255.0	192.168.3.1	S3 F0/18

Part 1: Configure OSPF MD5 Authentication



Part 2: Configure NTP

Part 3: Configure Routers to Log Messages to the Syslog Server



R1 529

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Router(config)#ntp update-calendar
Router(config)#ntp authenticate
Router(config)#ntp trusted-key 1
Router(config)#ntp authentication-key 1 md5 NTPpa55
Router(config)#service timestamps log datetime msec
Router(config)#logging host 192.168.1.6
Router(config)#show logging
^
% Invalid input detected at '^' marker.

Router(config)#exit
Router#
*Dec 01, 09:20:59.2020: SYS-5-CONFIG_I: Configured from console by console
Router#show logging
Syslog logging: enabled (0 messages dropped, 0 messages rate-limited,
    0 flushes, 0 overruns, xml disabled, filtering disabled)

No Active Message Discriminator.

No Inactive Message Discriminator.

Console logging: level debugging, 21 messages logged, xml disabled,
    filtering disabled
Monitor logging: level debugging, 21 messages logged, xml disabled,
    filtering disabled
Buffer logging: disabled, xml disabled,
    filtering disabled

Logging Exception size (4096 bytes)
Count and timestamp logging messages: disabled
Persistent logging: disabled

No active filter modules.

ESM: 0 messages dropped
Trap logging: level informational, 21 message lines logged
    Logging to 192.168.1.6 (udp port 514, audit disabled,
        authentication disabled, encryption disabled, link up),
        17 message lines logged,
        0 message lines rate-limited,
```

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Part 4: Configure R3 to Support SSH Connections

R3 SSH Sever 529

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Router>enabl
Router#config ter
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip domain-name ccnasecurity.com
Router(config)#username SSHadmin privilege 15 secret ciscosshpa55
          ^
% Invalid input detected at '^' marker.

Router(config)#username SSHadmin privilege 15 secret ciscosshpa55
Router(config)#line vty 0 4
Router(config-line)#login local
Router(config-line)#transport input ssh
Router(config-line)#exit
Router(config)#crypto key zeroize rsa
% No Signature RSA Keys found in configuration.

Router(config)#crypto key generate rsa
% Please define a hostname other than Router.
Router(config)#hostname R3
R3(config)#crypto key generate rsa
The name for the keys will be: R3.ccnasecurity.com
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]: 1024
% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

R3(config)#

R3 con0 is now available
```

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Top

R3 SSH Server 529

Physical Config **CLI** Attributes

IOS Command Line Interface

```
R3 con0 is now available

Press RETURN to get started.

*Mar 02, 02:09:21.099: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1, changed state to down
*Mar 02, 02:09:21.099: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1, changed state to up

R3>ip ssh time-out 90
^
% Invalid input detected at '^' marker.

R3>enable
R3#config ter
Enter configuration commands, one per line. End with CNTL/Z.
R3(config)#ip ssh time-out 90
R3(config)#ip ssh authentication-retries 2
R3(config)#ip ssh version 2
R3(config)#end
R3#
*Mar 02, 03:41:54.4141: SYS-5-CONFIG_I: Configured from console by console
R3#show ip ssh
SSH Enabled - version 2.0
Authentication timeout: 90 secs; Authentication retries: 2
R3#
```

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