M. Jawad khan

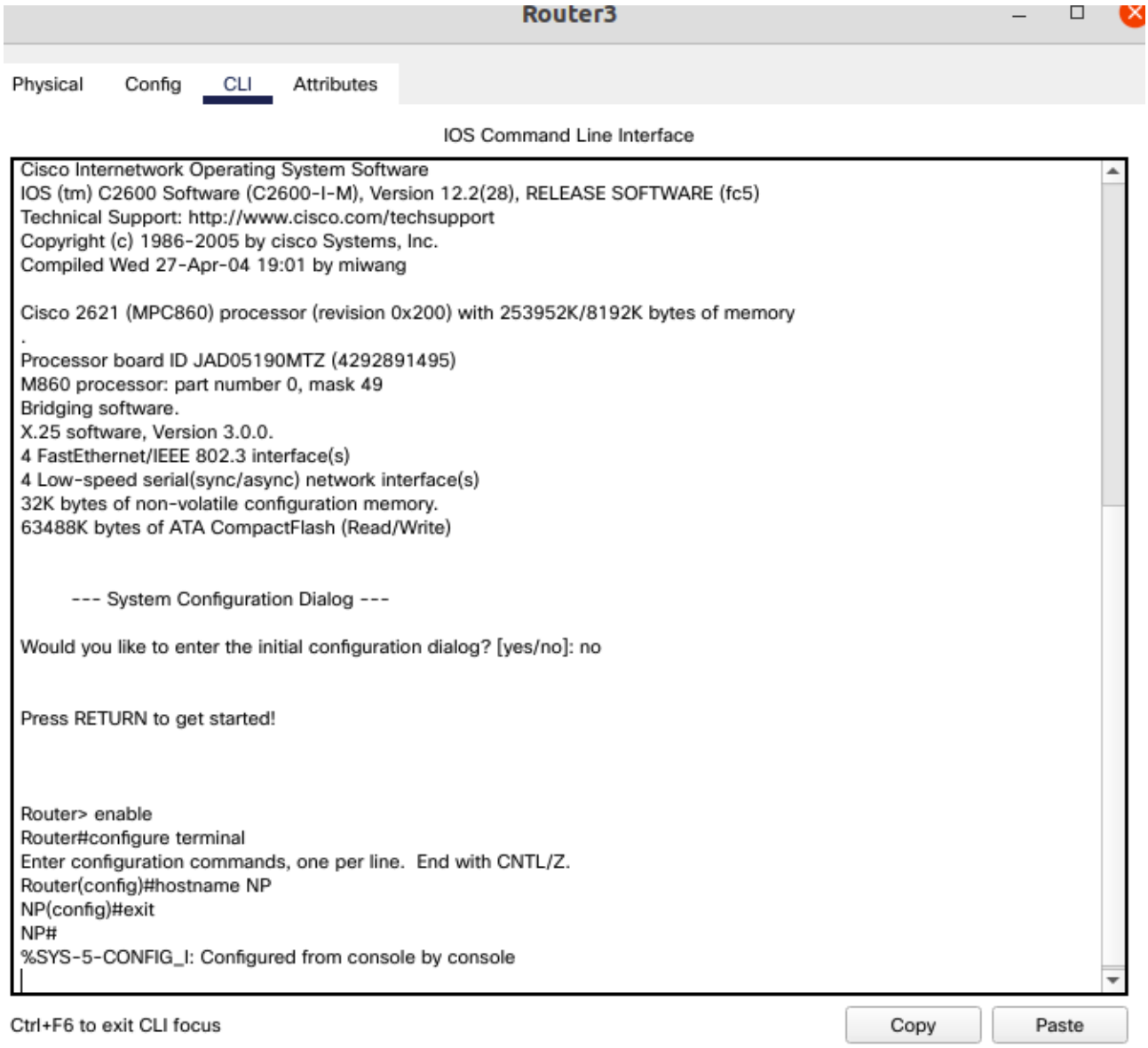
p19-0053

Section BSCS(5A)

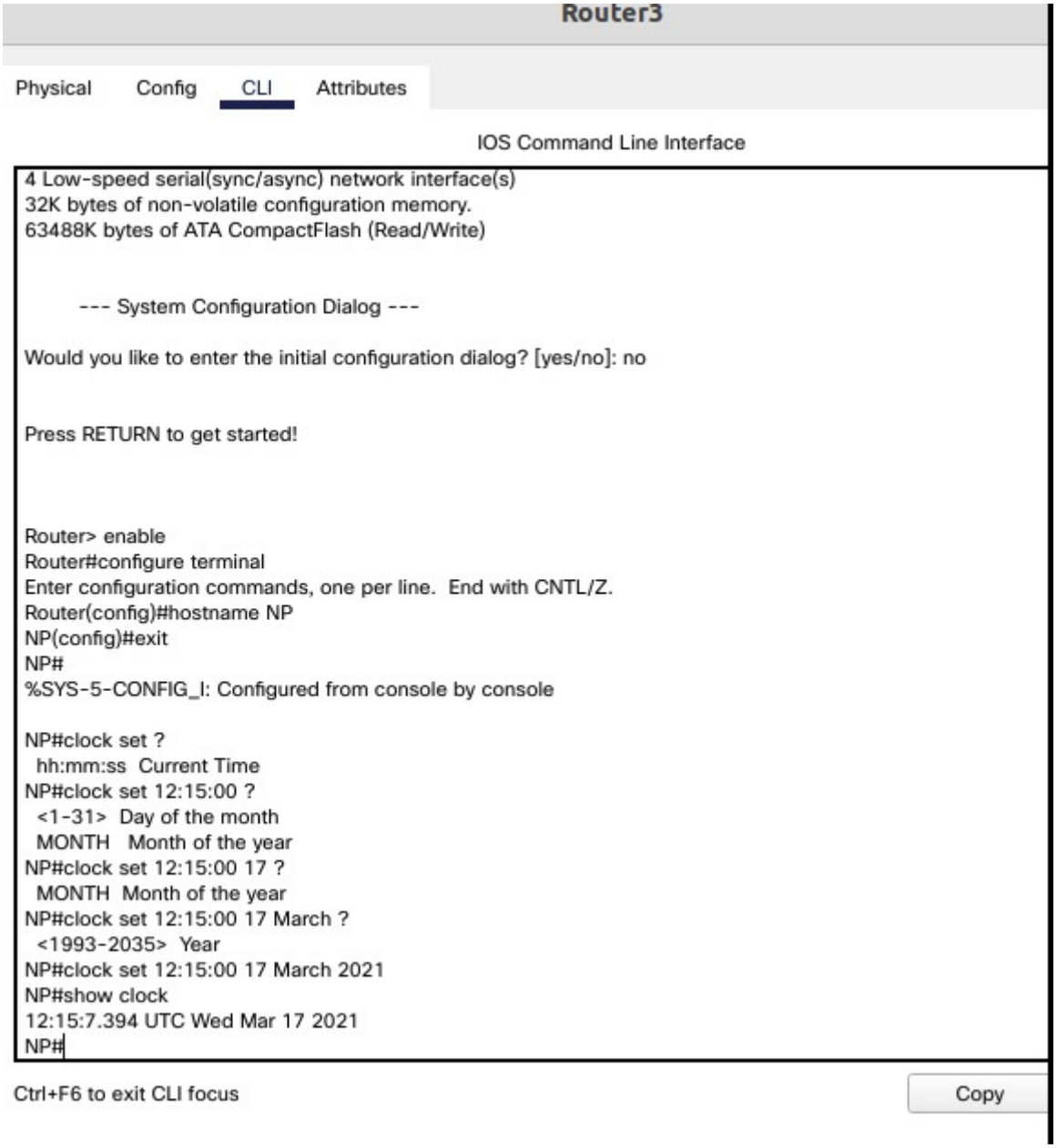
(Lab # 03 Home work)

→ **Setting Router Modes on 2600 Series Routers**

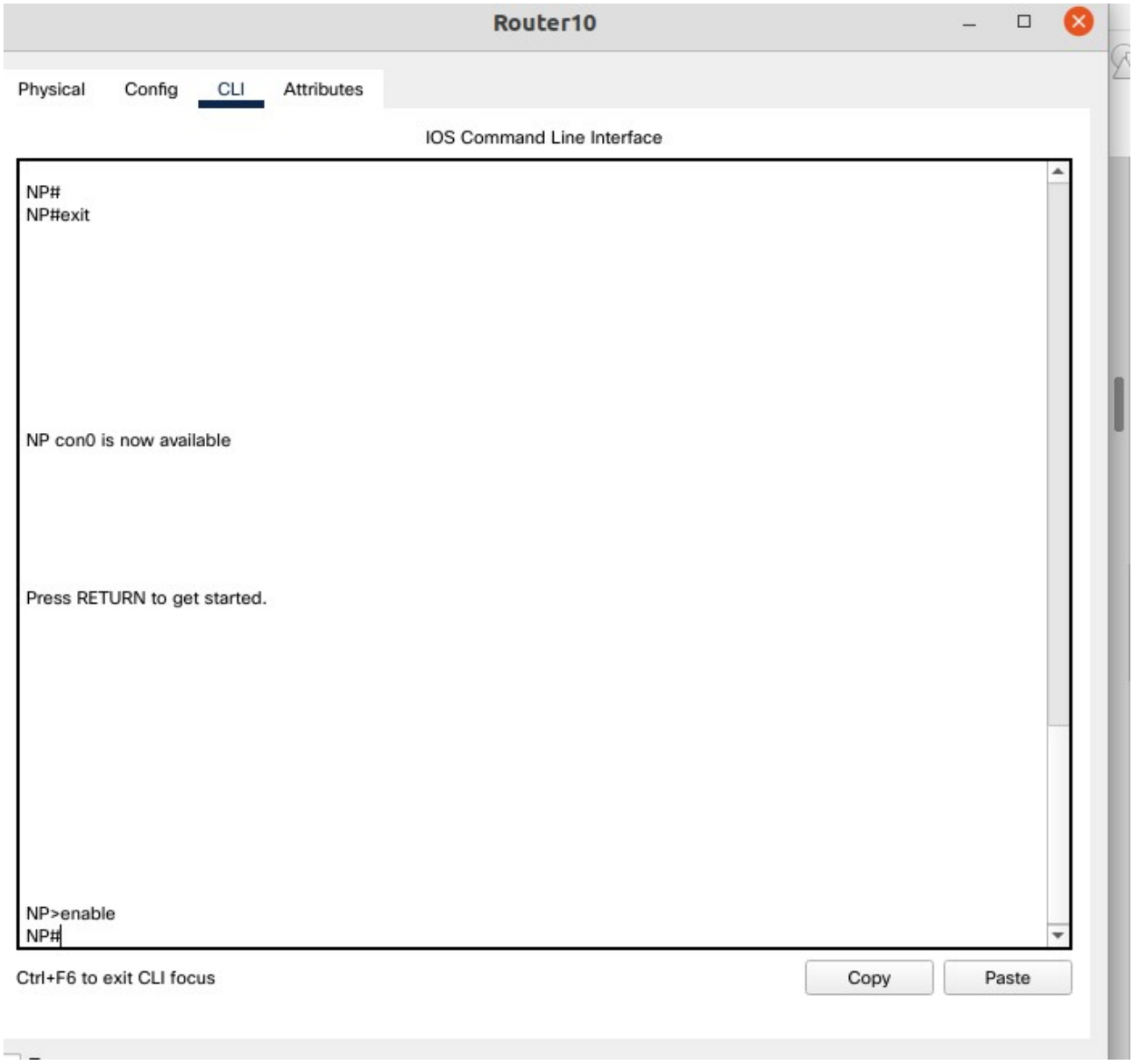
→ **Changing Hostname of the Router**



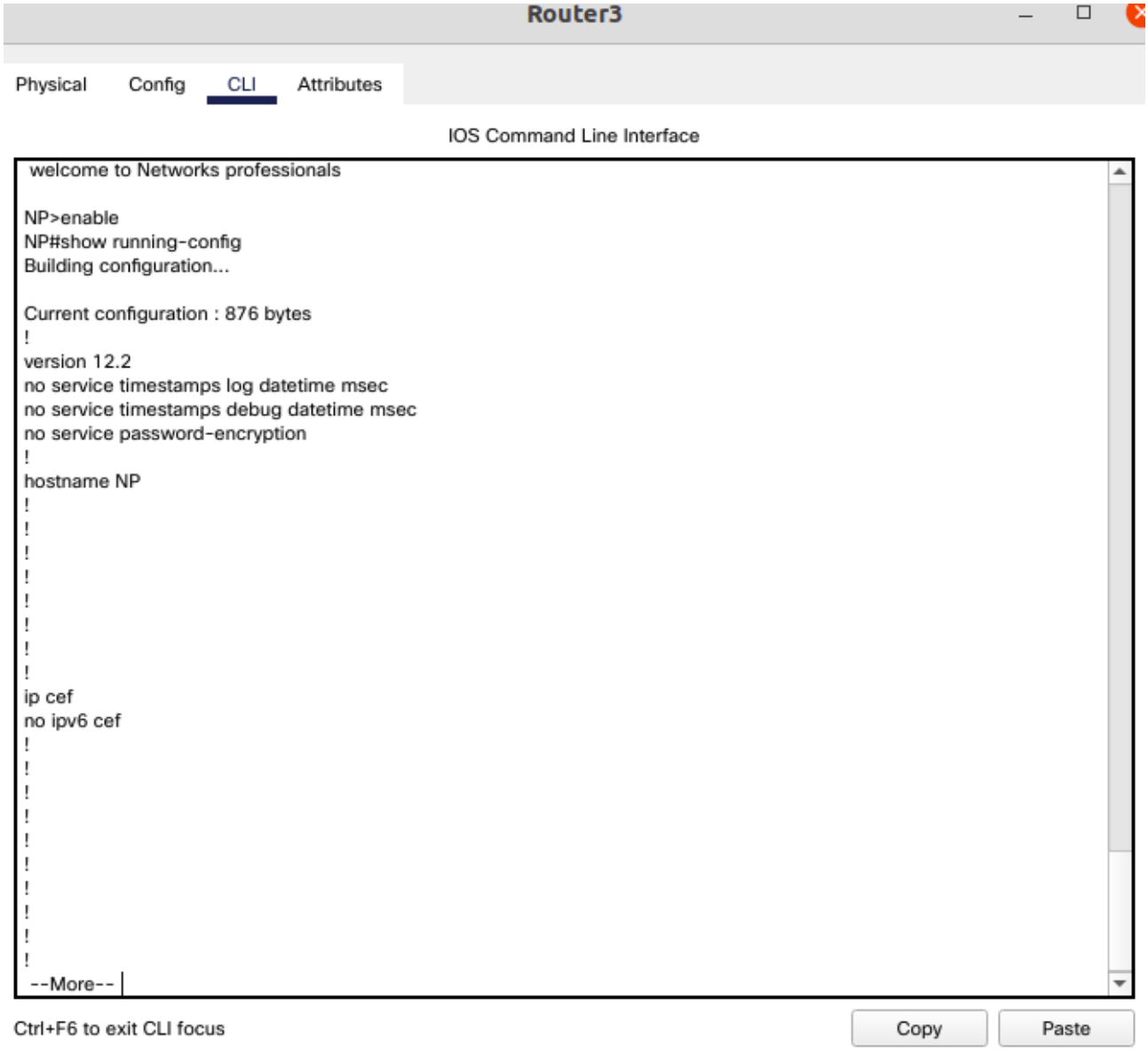
→ Configuring Date and Time on the Router (Clock Set Command)



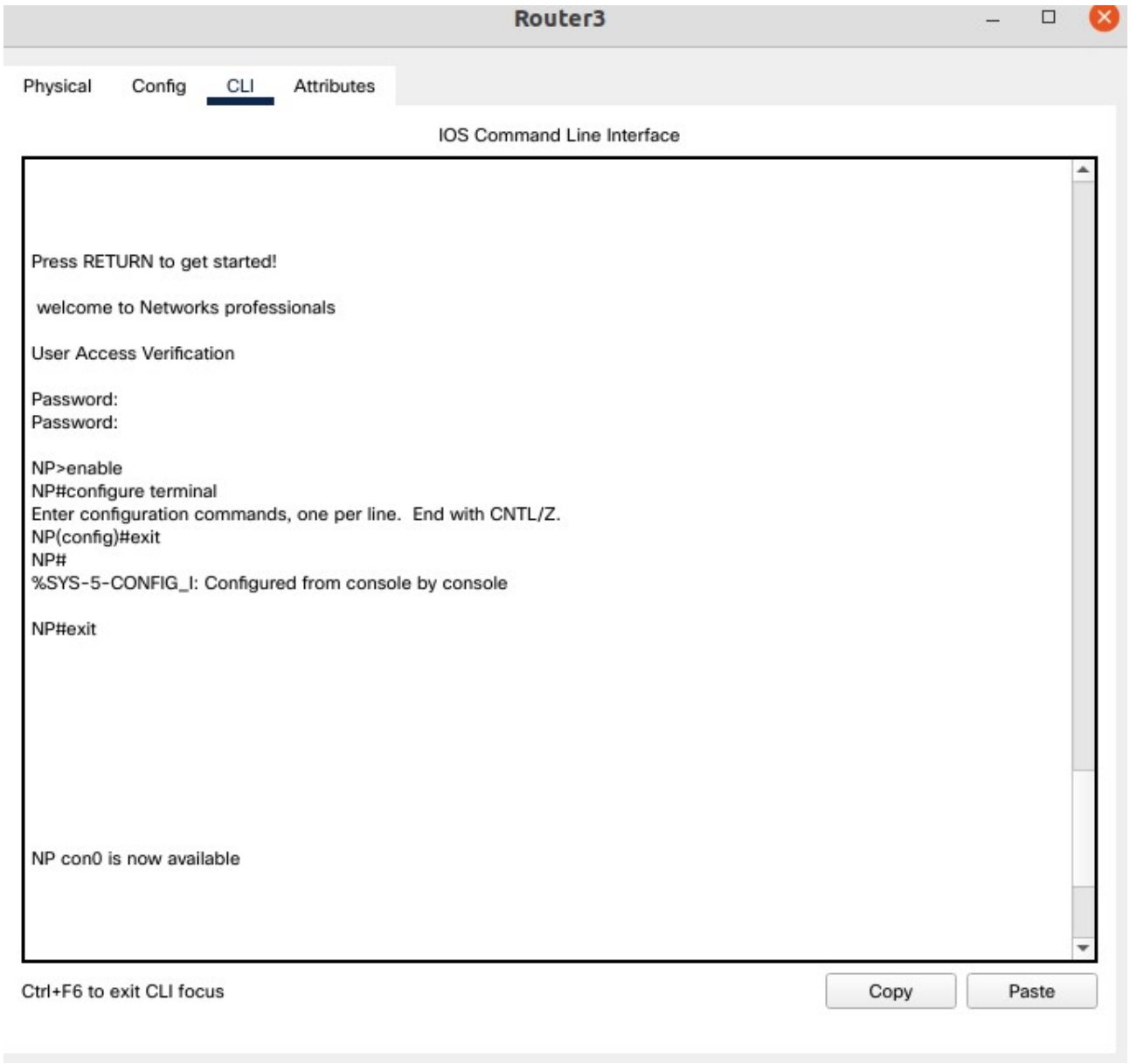
→ Setting a banner on the Router


Router10
Physical
Config
CLI
Attributes
IOS Command Line Interface
NP#
NP#exit
NP con0 is now available
Press RETURN to get started.
NP>enable
NP#
Ctrl+F6 to exit CLI focus
Copy
Paste

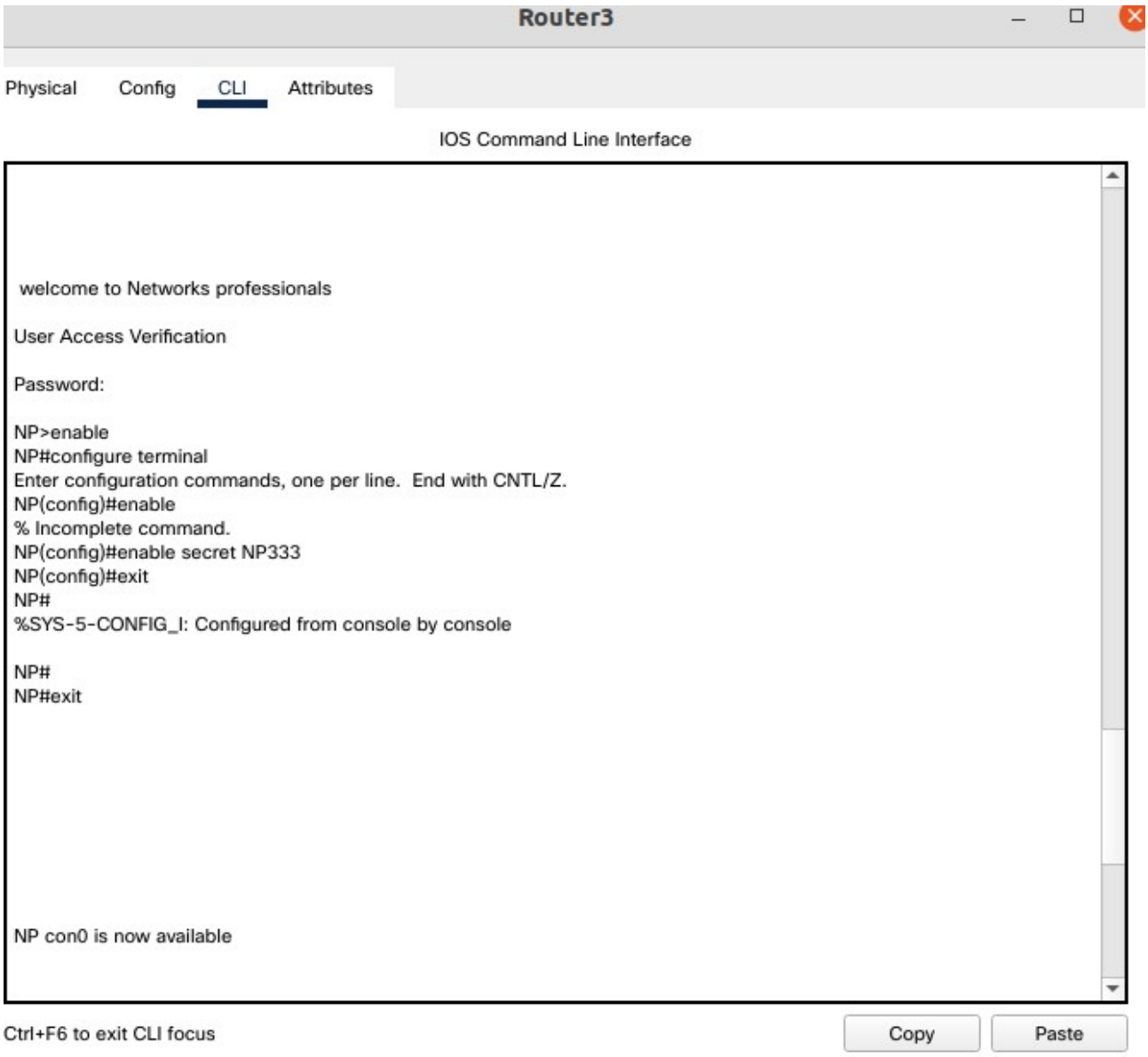
→ Displaying the Router's Running-Configuration and Start-Up Configuration



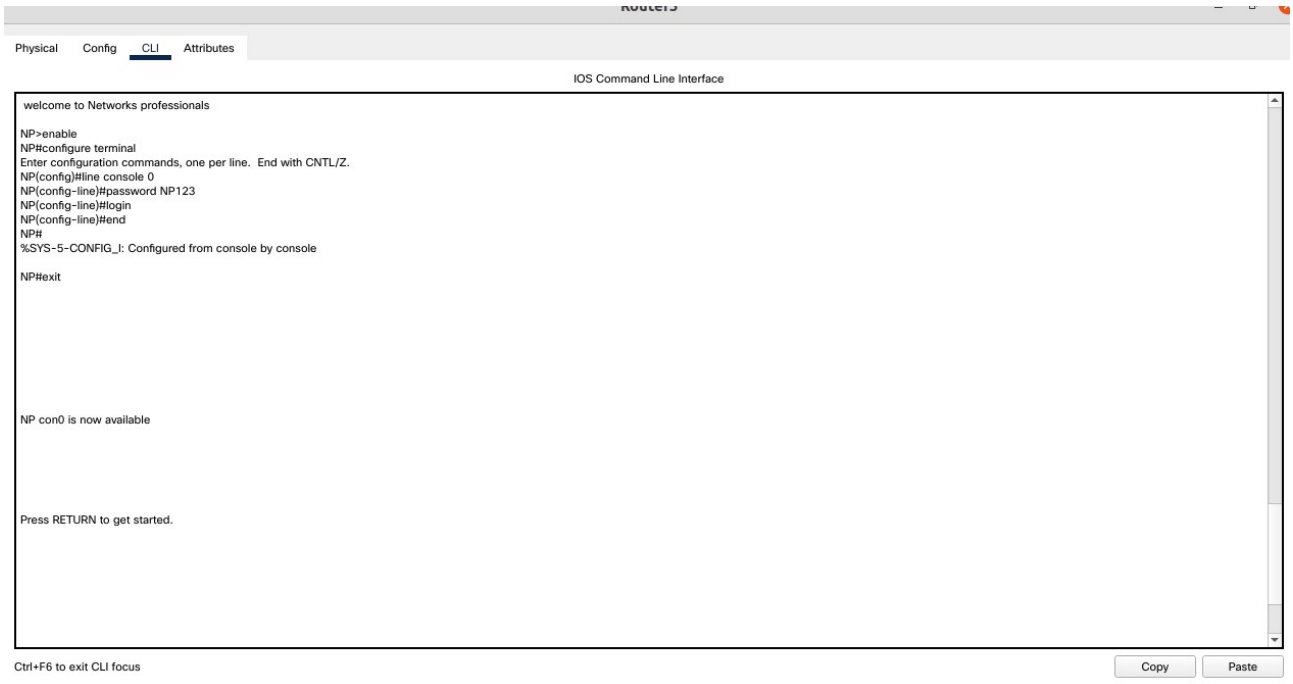
→ Enable Password and Enable Secret Password with the Encryption Techniques/Levels



SECRET (ENCRYPTED) PASSWORD FOR PRIVILEGED MODE



→ Line Console Password Implementation on CISCO 2600 Series Router



→ What is Telnet? How to Telnet? + Line VTY/Telnet Password

Telnet is a network protocol used to virtually access a computer and to provide a two-way, collaborative and text-based communication channel between two machines. It follows a user command Transmission Control Protocol/Internet Protocol (TCP/IP) networking protocol for creating remote sessions.

Telnet is a text-based program that lets you access the console on a router or other device and issue commands. You can Telnet into a router using the Telnet client included with Windows.

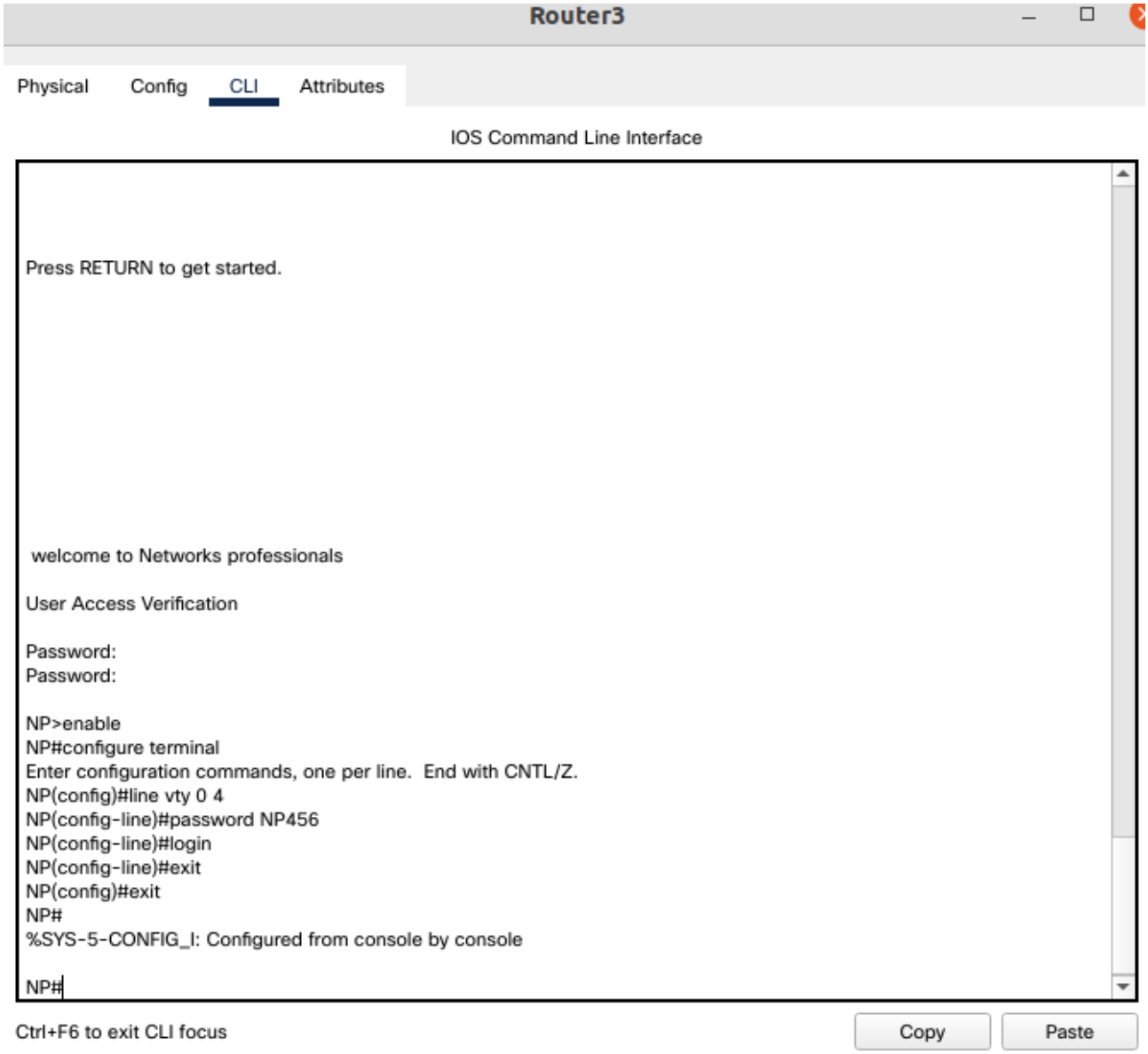
***... Unlike other protocols, Telnet isn't secure and shouldn't be used over the Internet
For example, typing telnet hostname would connect a user to a hostname named hostname. Telnet enables a user to manage an account or device remotely.***

***For example, a user
may telnet into a computer that hosts their website to manage his or her files remotely. ... As shown, a telnet session is a command line interface.***

The term “vty” stands for Virtual teletype. VTY is a virtual port and used to get Telnet or SSH

access to the device. VTY is solely used for inbound connections to the device. ... The abstract "0 – 4" means that the device can allow 5 simultaneous virtual connections which may be Telnet or SSH.

The Line Configuration Mode is used to manage the terminal line characteristics for output formatting.



- Usage of Router with different topology.

A mesh topology

is a network setup where each computer and network device is interconnected with one another. This topology setup allows for most transmissions to be distributed even if one of the connections goes down. It is a topology commonly used for wireless networks.

Different types of mesh topology

There are two forms of this topology: full mesh and a partially-connected mesh.

In a *full mesh topology*, every computer in the network has a connection to each of the other computers in that network. The number of connections in this network can be calculated using the following formula (*n* is the number of computers in the network): n(n-1)/2

In a *partially-connected mesh topology*, at least two of the computers in the network have connections to multiple other computers in that network. It is an inexpensive way to implement redundancy in a network. If one of the primary computers or connections in the network fails, the rest of the network continues to operate normally.

Star topology

is a network topology where each individual piece of a network is attached to a central node (often called a hub or switch). The attachment of these network pieces to the central component is visually represented in a form similar to a star. Star topology is also known as a star network

Techopedia Explains Star Topology

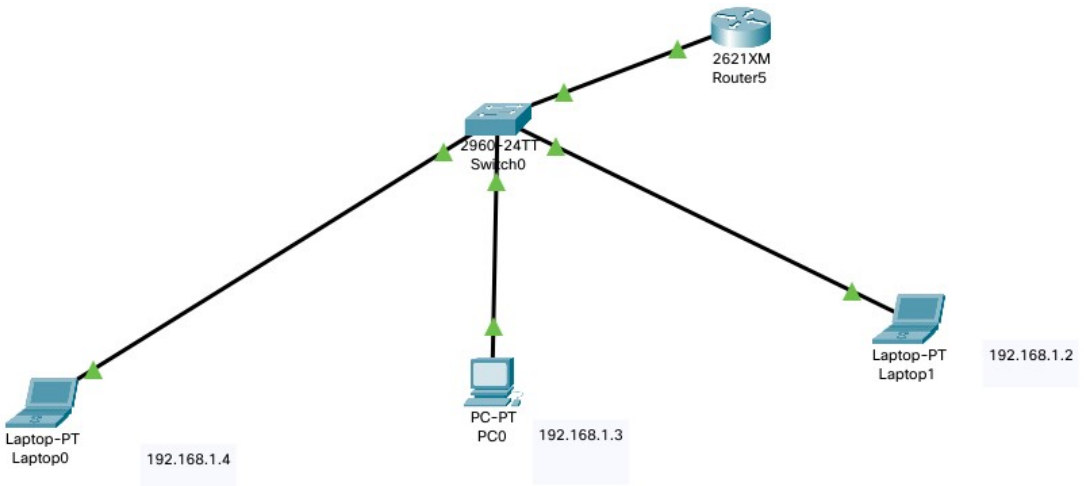
Star topologies are either active or passive networks, depending on the following:

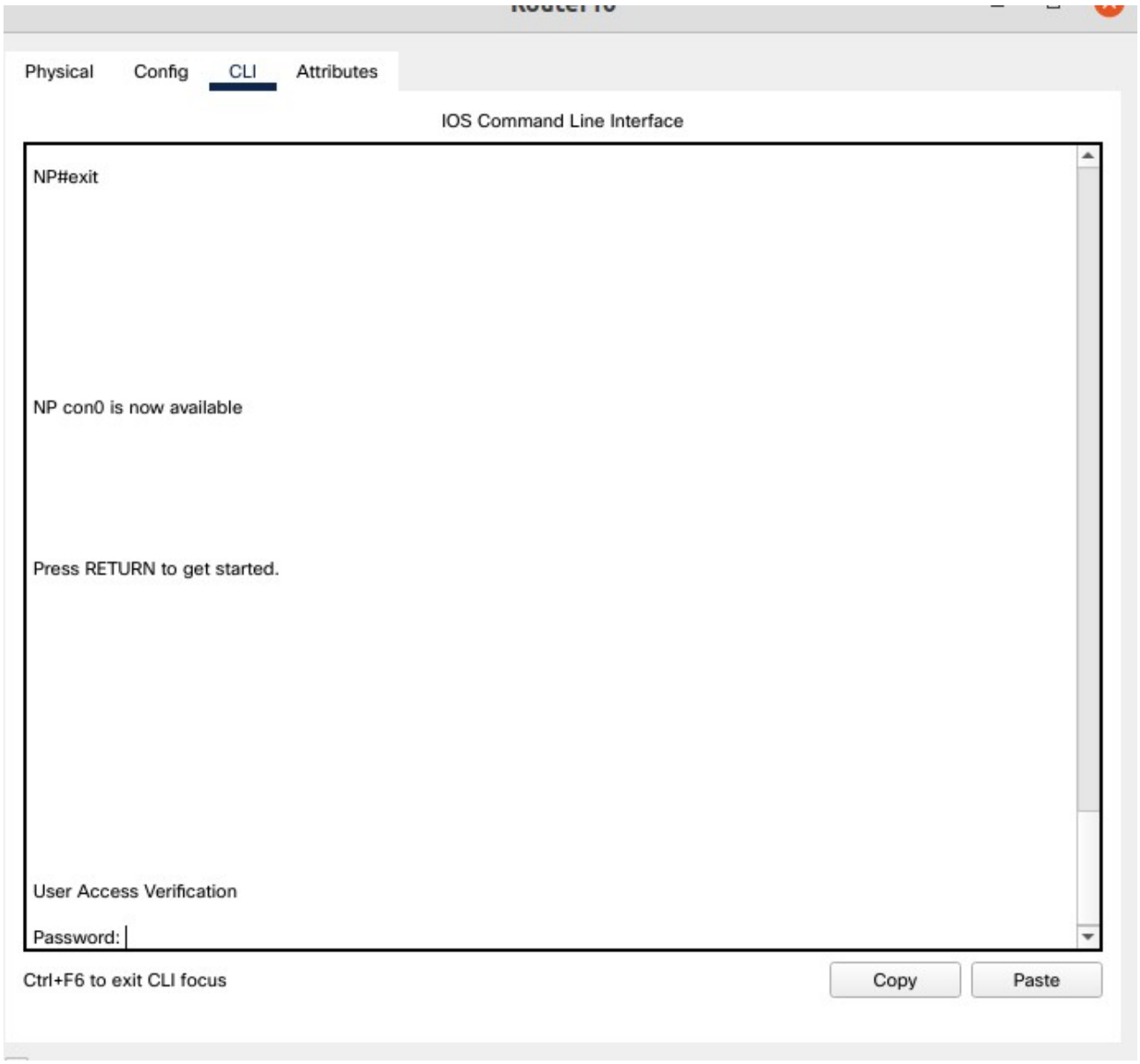
- If the central node performs processes, such as data amplification or regeneration
- If the network actively controls data transit
- If the network requires electrical power sources.

Star topologies also may be implemented with Ethernet/cabled structures, wireless routers and/or other components. In many cases, the central hub is the server, and the additional nodes are clients.

Benefits of a star network topology include the following:

- Has the ability to limit the impact of a single failure. In star networks, a single unit is isolated by its relationship to the central hub, so that if a component goes down, it only affects that unit's local reach.
- Facilitates adding or removing individual components to and from a network, for the same reasons.




Physical
Config
CLI
Attributes
IOS Command Line Interface
NP#exit
NP con0 is now available
Press RETURN to get started.
User Access Verification
Password:
Ctrl+F6 to exit CLI focus
Copy
Paste