Task 2:

Execute the following network commands like Ipconfig, tracert, telnet, netsh, ping, nslookup, netstat

Procedure:

Step 1: Launch Cisco packet tracer. Double click the Cisco packet tracer icon on your desktop or find it in your applications list and open the program

Step 2: Create a simple network topology

1. Add devices (routers and switches).

* Drag and drop a router and a switch from the device list on to the work space.
* Drag and drop 2 PC’s on to the work space.

1. Connect Devices

* Use the connection tools to connect the devices
* Connect 1 PC to the switch using copper straight cable
* Connect the switch to the router using another copper straight cable
* Connect the 2 PC to the switch using copper

Step 3: Configure Devices

* Configure the router
* Click on the router , go to config tab. Assign IP Address to the router interfaces

Example: interfaceG0/0:IP Address 192.168.1.1, Subnet mask: 255.255.255.0

PC1: interfaceG0/0:IP Address 192.168.2.1, Subnet mask: 255.255.255.0

* Configure the PCs
* Click on each PC and go to the desktop option and then IP configuration. Assign IP Addresses to each PC.

Example: PC0: IP Address1922.168.1.2, Subnet mask 255.255.255.0, Default Gateway: 192.168.1.1

PC1: IP Address1922.168.2.2, Subnet mask 255.255.255.0, Default Gateway: 192.168.2.1

Step 4: Execute Networking Commands

* Open command prompt on a PC0:
* Click on a PC0.
* Go to the desktop tab and open the command prompt.

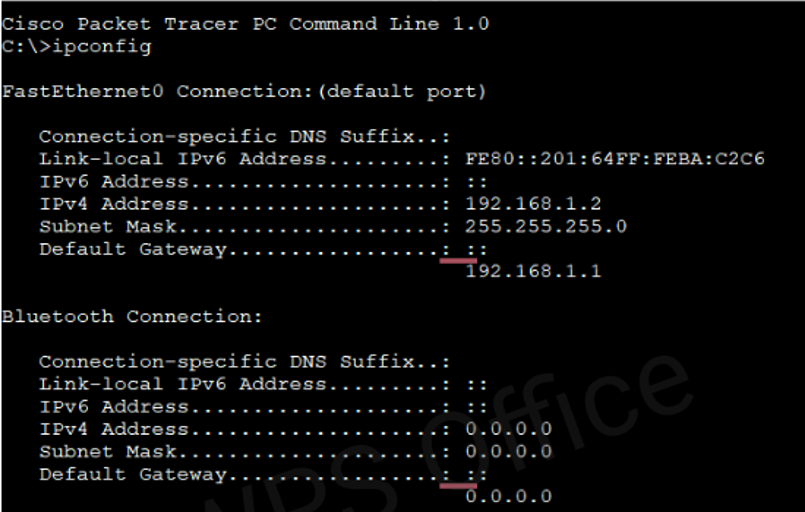
1. Ipconfig:

The command displays all current TCP/IP network configuration values and refreshes DHCP and DNS settings.

Open the command prompt of PC0:

* Click on PC0
* Go to the desktop tab
* Open the command prompt
* Type command **ipconfig**

**Output:**



* Follow the same steps for PC1: The output will be

A screenshot of a computer

AI-generated content may be incorrect.

**2. Command tracert:**

This command traces the path taken to a destination by sending ICMP echo request messages

**Step1:**

* Click on PC0
* Go to desktop tab
* Open the command prompt

Commnad: tracert 192.168.2.2

**Output:**

A computer screen with white text

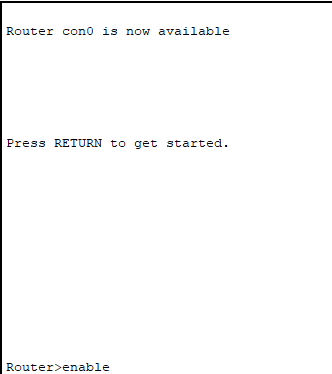
AI-generated content may be incorrect.

1. **Command telnet:**

Telnet is an unencrypted protocol and is not secure. For real-world applications, consider using SSH to secure remote connections.

Step1:

* Click on the router
* Go to the config tab
* Select the interface connected to the switch (e.g. G0/0)
* Assign IP address 192.168.1.1, Subnet mask: 255.255.255.0
* Open the CLI and type exit until you get this



* Once you get this type all these commands:

Router>enable

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router (config) #line vty 0 4

Router (config-line)#password cisco

Router (config-line)#login

Router (config-line)#exit

Router (config-line)#exit

Router (config)#end

Router#

\SYS-5-CONFIG\_I: Configured from console by console

Router#write memory Building configuration...

[OK]

Router#

A white screen with black text

AI-generated content may be incorrect. **Reference image to write the commands**

**Step2:**

* Now open the Command prompt of PC0
* Click on the PC0
* Click on the desktop
* Then click on the command prompt
* Enter the command: telnet 192.168.1.1
* You can see the password: type cisco

Your command execution is completed

**Output:**

**A screen shot of a computer

AI-generated content may be incorrect.**

**Router configuration and brief ip interface:**

* **Note:** This should be done in the CLP (Command line interface) of the router

**Command:** show ip interface brief

**Output:**

A close-up of a text

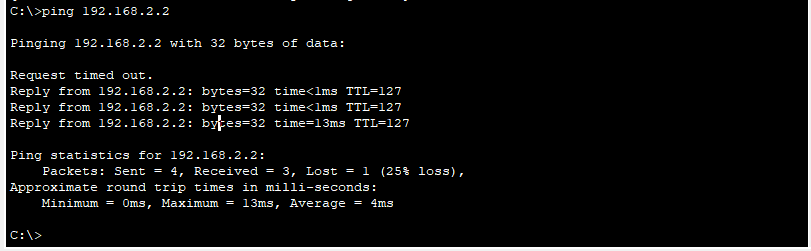
AI-generated content may be incorrect.

1. **Command ping:**

The ping command is used to **test network connectivity** between two devices. It checks if one device (like a PC) can reach another device (like a router, server, or website) and measures how long it takes.

* Click on the PC0
* Click on the desktop
* Click command prompt
* Type the following command
* Command: ping 192.168.2.2

**Output:**

****

1. **Command nslookup:**

This command queries the DNS to obtain domain name or IP address maping.

To use the nslookup command to resolve a domain name to an IP addressin Cisco Packet Tracer, you’ll need to ensure that the DNS server is properly configured in your netwok topology.

**Step 1:** Add one server (to act as a DNS server).

**Step2:** Connect both PCs and the server to the switch using copper straight-through cables.

Configure the DNS Server

1. Assign IP Address:

* Click on the server.
* Go to the Config tab and select the FastEthernet0 interface.
* Assign

IP address: 192.168.1.3,

Subnet Mask: 255.255.255.0,

Default Gateway: 192.168.1.1.

Configure DNS Service:

* Go to the Services tab on the server.
* Select DNS and turn the service On.
* Add an entry for www.google.com with an IP address (e.g., 8.8.8.8).
* Use the nslookup Command

**Step3:** Open Command Prompt on PCO:

* Go to the Desktop tab on PCO.
* Open the Command Prompt. 2.
* Execute the nslookup
* Command: nslookup www.google.com

**Output:**

A computer screen with white text

AI-generated content may be incorrect.

1. **Command netstat:**

* This command displays network connections for the Transmission Control Protocol (TCP), routing tables, and a number of network interface and network protocol statistics.
* The netstat command is used to display network connections, routing tables, interface statistics, masquerade connections, and multicast memberships.

**DNS Server Configuration:** Ensure that the DNS server is correctly configured and running.

**DNS Entries:** The DNS entry for www.google.com should be added to the DNS server with an IP address.

**Network Configuration:**

Ensure that all devices are correctly connected and configured with appropriate IP addresses, subnet masks, and default gateways.

A diagram of a computer network

AI-generated content may be incorrect.