

Ex. No: 7 – Configure Initial Router Settings

Date: 20-09-2025

Objective

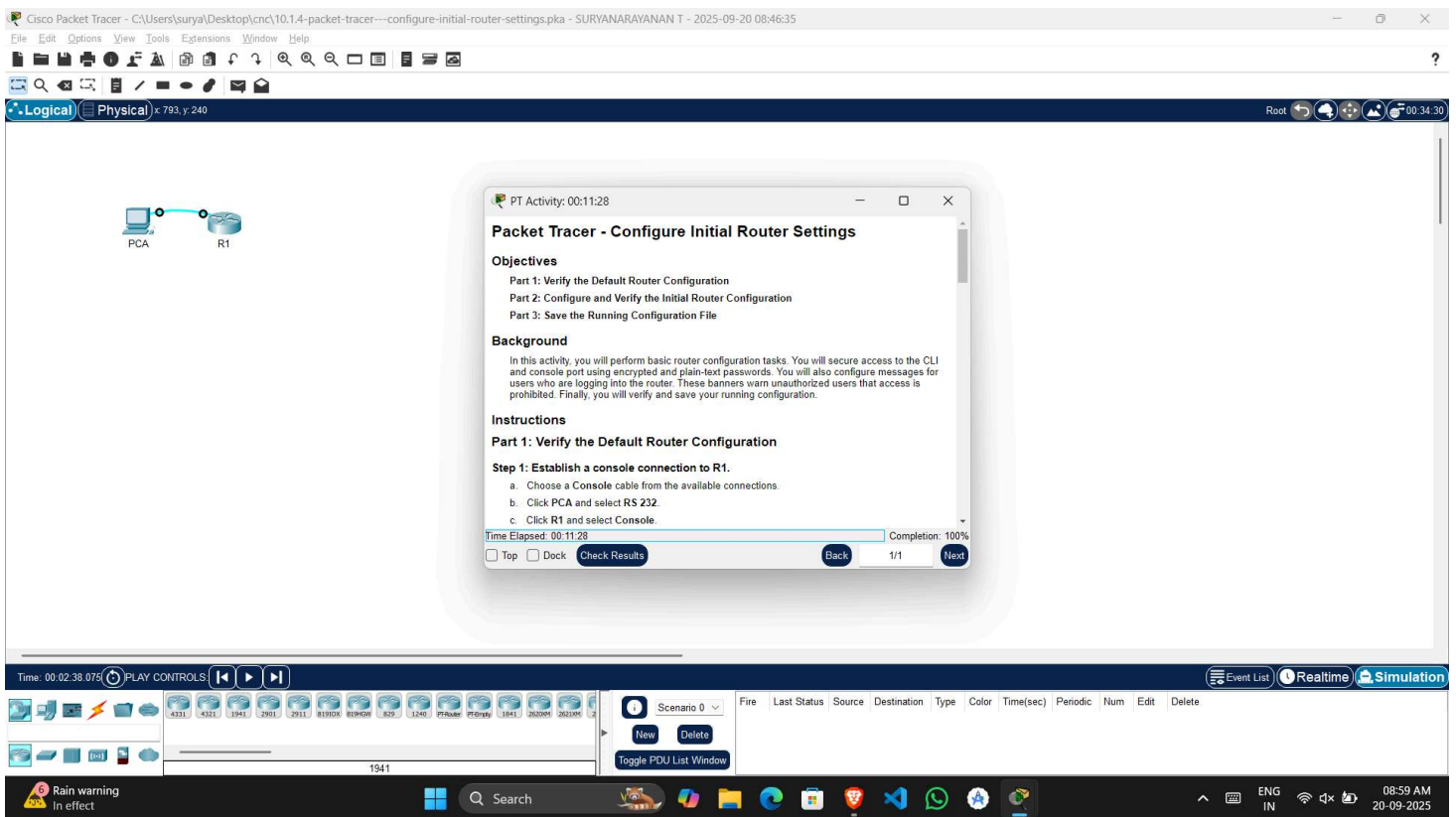
To perform basic router configuration tasks in Cisco Packet Tracer including:

- Verifying the default router configuration.
 - Configuring initial router settings (hostname, MOTD, passwords).
 - Securing access to the CLI and console port.
 - Encrypting passwords.
 - Verifying and saving the configuration to NVRAM and flash.
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Apparatus/Tools Required

- Cisco Packet Tracer
 - 1 Router (R1 – 2911 or equivalent)
 - 1 PC (for console connection)
 - Console cable (RS-232 to Console)
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Network Topology Diagram



Procedure

Part 1: Verify the Default Router Configuration

1. Connect PC → Router R1 using a Console cable.
2. On PC → Desktop → Terminal → Connect to R1.
3. Enter privileged EXEC mode:
4. Router> enable
5. Router#
6. Display running configuration:
7. Router# show running-config
 - o Observe hostname, interfaces, vty lines.
8. Display startup configuration:
9. Router# show startup-config
 - o Router shows: startup-config is not present (because nothing is saved in NVRAM yet).

Part 2: Configure and Verify Initial Router Configuration

1. Enter global configuration mode:
2. Router# configure terminal
3. Configure hostname:
4. Router(config)# hostname R1
5. Configure MOTD banner:
6. R1(config)# banner motd # Unauthorized access is strictly prohibited #
7. Configure passwords:
 - o Console password:
 - o R1(config)# line console 0
 - o R1(config-line)# password letmein
 - o R1(config-line)# login
 - o R1(config-line)# exit
 - o Enable password (unencrypted):
 - o R1(config)# enable password cisco
 - o Enable secret (encrypted):
 - o R1(config)# enable secret itsasecret
8. Encrypt all plain-text passwords:
9. R1(config)# service password-encryption
10. Exit and verify login prompts:
 - o On exit, router shows MOTD.
 - o User is prompted for password.
 - o Enter letmein (console) → access User EXEC mode.
 - o Enter itsasecret → access Privileged EXEC mode.

Part 3: Save the Running Configuration

1. Save running configuration to NVRAM:
2. R1# copy running-config startup-config
 - Short version:
 - R1# wr
3. Verify NVRAM contents:
4. R1# show startup-config
 - o Confirms saved configuration.
5. Save startup config to flash (backup):
6. R1# copy startup-config flash
 - o Use show flash to verify file stored in flash.

Commands Used

- To enter privileged mode: enable
- To view config: show running-config, show startup-config
- To configure hostname: hostname
- To configure MOTD banner: banner motd
- To set passwords: enable password, enable secret, line console
- To encrypt passwords: service password-encryption
- To save configuration: copy running-config startup-config, wr, copy startup-config flash

Output (Attach Screenshots)

- Console connection to router
- Running configuration before and after
- MOTD banner display
- Password prompts
- Saved configuration in NVRAM and flash

The screenshot displays the Cisco Packet Tracer interface. On the left, the 'Activity Results' panel shows a table of assessment items for the task 'Configure Initial Router Settings'. The table lists various configurations like connecting to the console, setting the MOTD banner, and configuring passwords, all marked as 'Correct'. On the right, a terminal window for the router 'PCA' is open, showing the initial boot sequence and the user access verification screen. The terminal output includes hardware details, boot messages, and prompts for login and password entry. The bottom of the screen shows the Windows taskbar with the date and time as 09:05 AM on 20-09-2025.

Assessment Items	Status	Points	Component(s)	Feedback
Network				
PCA				
RS 232		0	Other	
Link to R1		0	Other	
Connects to Console	Correct	8	Device Connection	
R1				
Banner MOTD	Correct	8	Basic Security Co...	
Console		0	Other	
Link to PCA		0	Other	
Connects to RS 232	Correct	8	Device Connection	
Console Line				
Login	Correct	8	Basic Security Co...	
Password	Correct	8	Basic Security Co...	
Enable Password	Correct	8	Basic Security Co...	
Enable Secret	Correct	8	Basic Security Co...	
Host Name	Correct	8	Hostname Config...	
Service Password Encryption	Correct	8	Basic Security Co...	
Startup Config	Correct	8	Configuration Man...	

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PCA
Physical Config Desktop Programming Attributes
Terminal
Processor board ID FTK152400K5
4 FastEthernet interface(s)
2 Gigabit Ethernet interface(s)
2 Low-speed serial(sync/async) network interface(s)
DRAM configuration is 64 bits wide with parity disabled.
385K bytes of non-volatile configuration memory.
249856K bytes of ATA System CompactFlash 0 (Read/Write)

Press RETURN to get started!

Unauthorized access is strictly prohibited

User Access Verification

Password:
% Password: timeout expired!

Press RETURN to get started!

Unauthorized access is strictly prohibited

User Access Verification

Password:
R1enable
Password:
Password:
R1#
  
```

Result

The router was successfully configured with hostname, banner, encrypted passwords, and secure console access. The configuration was verified and saved to NVRAM and flash, ensuring persistence across reboots.