Student notes for

David Bombal's

Packet Tracer Labs Course

David Bombal

THANK YOU!

These student notes have been kindly shared by @DJninjaNZ

Thank you @DJninjaNZ for sharing! Please also give your thanks to @DJninjaNZ via Twitter.

These are not official student notes and are not officially supported, but are shared with the hope that they will help you with your CCNA studies.

If you want to share your notes with others on the course, please submit them to sales@ConfigureTerminal.com and we will review them for addition to the course.

Remember: You will probably learn more by making notes like these and sharing them for the benefit of others.

All the best!

David Bombal

Contents

Brief

This lab is for fixing a power outage and some broke devices

Lab requirements

Configure the network as follows:

Part 1: Config Reg

1. Power cycle devices - yes
2. Fix R2 - ROMMON
3. FixR1 – No configuration found
4. Fix R3 – “File boot failed boot of test.bin failed no valid BOOT image found”
5. Verification: Use the Power Cycle Devices option in Packet Tracer to reboot devices. Make sure that configs are restored and loopbacks are pingable.

Config Register values

Used for password recovery / booting when normal boot fails these values are in hex represented by the 0x. The last value of the hex field 0x2100 represents the boot field with how the router will proceed with choosing an IOS to load.

Boot field values

0: ROMMON OS

1: Load the first IOS file in flash

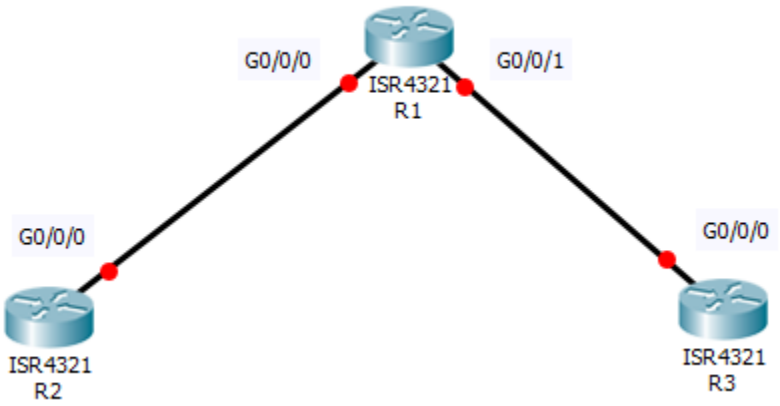
F-F: Try each boot system command in the startup-config in order until one works. If none works load the first IOS file found in flash memory

If all attempts fail load ROMMON

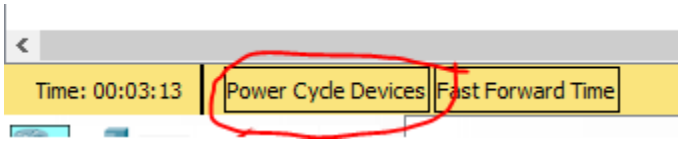
0x102	• Ignores break • 9600 console baud
0x1202	• 1200 baud rate
0x2101	• Boots into bootstrap • Ignores break • Boots into ROM if initial boot fails • 9600 console baud rate
0x2102	• Ignores break • Boots into ROM if initial boot fails • 9600 console baud rate default value for most platforms
0x2120	• Boots into ROMmon • 19200 console speed
0x2122	• Ignores break • Boots into ROM if initial boot fails • 19200 console baud rate
0x2124	• NetBoot • Ignores break • Boots into ROM if initial boot fails • 19200 console speed
0x2142	• Ignores break • Boots into ROM if initial boot fails • 9600 console baud rate • Ignores the contents of Non-Volatile RAM (NVRAM) (ignores configuration)

Ref: Cisco

LabTopology



Here we have three routers that have failed to boot properly and are found with incorrect settings and configurations.



Configurations and Verification

Config Reg
Router2 ? Help //to view available commands confreg 0x2102 //to set configuration to normal boot Reload **Router1** **Router#show version** **Configuration register 0x2142 //ignores NVRAM** Confreg 0x2101 Reload //Do not save the configuration **Router3** No boot system flash test.bin No boot system flash test.bin Dir flash: More flash: live-config //to read the flash file copy flash: running-config live-config copy run start

reload

Verification commands and outputs

R2#show running-config

R2#show ipint brief

R2#show ip protocols

R2#show ipeigrpneighbors //none are up yet

R2#show startup-config

R2#show version
Cisco IOS XE Software, Version 03.16.05.S - Extended Support Release
Cisco IOS Software, ISR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version Version 15.5 (3)S5, RELEASE SOFTWARE (fc2)

Configuration register is 0x2102

R1#show ipeigrpneighbors
IP-EIGRP neighbors for process 100
H Address Interface Hold Uptime SRTT RTO Q Seq
(sec) (ms) CntNum
0 10.1.1.2 Gig0/0/0 13 00:00:15 40 1000 0 3

R1#ping 1.1.1.1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 1.1.1.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 0/2/7 ms

R1#show version
Cisco IOS XE Software, Version 03.16.05.S - Extended Support Release
Cisco IOS Software, ISR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version Version 15.5 (3)S5, RELEASE SOFTWARE (fc2)

Configuration register is 0x2102

R1#show ipeigrpneighbors
IP-EIGRP neighbors for process 100
H Address Interface Hold Uptime SRTT RTO Q Seq
(sec) (ms) CntNum
0 10.1.1.2 Gig0/0/0 10 00:03:18 40 1000 0 16
1 10.1.2.2 Gig0/0/1 12 00:00:06 40 1000 0 7

R1#ping 3.3.3.3

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 3.3.3.3, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 0/3/16 ms

Finally: power cycle again and test that boot is normal and configurations are restored

Extra Examples and Resources

Config register values:

https://www.cisco.com/c/en/us/support/docs/routers/10000-series-routers/50421-config-register-use.html