

# Real World Application

The Cisco 2600 Series Multi-Service router platform is a dying breed as the Cisco 2800 Series has taken its place however the 2600 series continues to be the router of choice when it comes to building your own Cisco Lab. The Cisco 2600 Series ROMMON is very similar to the latest generation routers so this lab will be a valuable lesson.

### Lab Prerequisites

- You'll need a Cisco 2600 Series router or greater that has a corrupt Cisco IOS image or **NO** IOS image at all. If you wish to simulate this lab you can erase the flash on your device and reboot. Please note that you'll need to backup the Cisco IOS image prior to erasing it unless you have another image on hand that you wish to load onto the device.
- A console connection to the device is **REQUIRED**
- You'll need a TFTP server installed on your PC to restore the image.

### Lab Objectives

- Boot the Cisco router into ROM mode by breaking the boot sequence using the keystroke CTRL + Pause Break
- Set the TFTPDL variables required to execute the procedure which include IP Address, Subnet Mask, Default Gateway, TFTP Server, TFTP Image name.
- Execute the TFTPDL command and load the image into RAM using the -r switch.
- Once booted into Cisco IOS, configure a router so that you may copy a Cisco IOS image from a TFTP server to Flash.
- Once all necessary configuration is done copy the IOS image from the TFTP server to the flash.
- After the copy has completed, reboot the router and verify that the image boots successfully.

### Lab Instruction

As per the prerequisites you'll need a **REAL** Cisco 2600 series router or greater as this lab cannot be emulated on the GNS3 application.

Step 1. Assuming that you already have an active console session to the router and the device is powered you should automatically be placed into ROMMON if your Cisco IOS image is corrupt or missing. However you have "Press Return to get started" Prompt then you've booted

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into an IOS image, you should power cycle the router and press CTRL+BREAK repeatedly to break the boot sequence and be placed into ROM Monitor mode as shown below;

```
System Bootstrap, Version 12.2(8r) [cmong 8r], RELEASE SOFTWARE (fc1) Copyright (c) 2003
```

By executing the help command you can see all the available commands in ROMMON as shown below on the 2651XM;

```
rommon 1 > help alias          set and display aliases command boot          boot up an exte
```

Step 2. In this lab we are most interested in the tftpdnld command.

This command will copy an IOS image from a TFTP Server into flash or load it directly into RAM. By executing the tftpdnld you can view all required variables for the command to operate properly;

```
rommon 2 > tftpdnld          Missing or illegal ip address for variable IP_ADDRESS Illegal IP address.
```

As per the objectives, we're required to set the required variables to execute the tftpdnld command. You can issue the set command to view the current set variables.

```
rommon 3 > set PS1=rommon ! > BOOT= RET_2_RUTC=0 BSI=0 RANDOM_NUM=1492875
```

Shown below is the required variables to execute tftpdnld successfully.

```
rommon 4 > IP_ADDRESS=10.1.1.10 rommon 5 > IP_SUBNET_MASK=255.255.255.0 rommon
```

NOTE: You do not need a default gateway if your TFTP Server is on the same subnet as the Cisco router you're recovering.

Once you have set the variables you can continue on to objective 3 by executing the tftpdnld command with the -r switch to copy the Cisco IOS image from a TFTP Server and load it into ram directly.

```
rommon 9 > tftpdnld -r http://www.cisco.com/ftp/rommon/2600/2600-2552550 Copying (c) 1986-2003
```

Once you've booted your Cisco router into IOS you may be prompted by the Initial configuration Dialog, type no and press return.

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Once you've booted the router into IOS you'll then have to copy an actual image into flash. You're probably thinking why did we not just copy it using TFTPDLND and the answer is quite simple. Using TFTPDLND will take significantly longer to copy an image via TFTP to flash verses booting into RAM and doing a quick ios image recovery as you've done in a previous lab.

If you need reference the previous lab for copying the image back to flash you can click [HERE](#)

The next step is to copy the IOS image from the TFTP Server in Cisco IOS. As shown below the typical prerequisite configuration required to copy an IOS image from a tftp server to flash.

```
Router>enable Router#configure terminal Router(config)#interface fa0/0 Router(config-if)#ip ad
```

Once you've configured the required configuration to copy an ios image via tftp to the router you can execute the copy command as shown below;

```
Router#copy tftp flash Address of name of tftp server ip: 172.16.20.14 Source filename: c2600
```

Once the new IOS image has copied to flash reload your router and verify that the router reboots.

```
Router#reload System configuration has been modified. Save? [yes(c)] yes [no] Overwrite?
```

[www.cisco.com/wwl/export/crypto/tool/stqrg.html](http://www.cisco.com/wwl/export/crypto/tool/stqrg.html)  
[export@cisco.com](mailto:export@cisco.com).

Once you've verified that the new image will boot successfully on your recovered device you've completed the objectives of this lab.