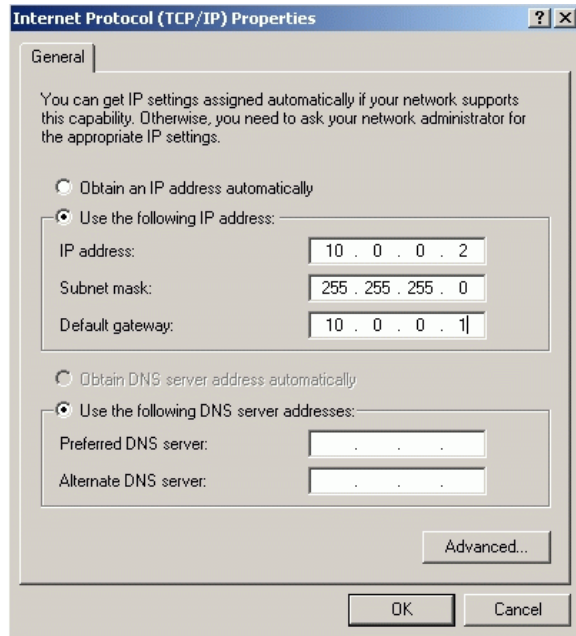# Updating the IOS on a switch

Before you configure your switch, you should set the ip address on your pc.
. On your pc open the Network connection icon (in "Control Panel") select the "local area connection", that you have set up to connect to the switch. Right click the icon and select properties and the "Local Area Connection Properties" window will open up. Scroll down and select the "Internet Protocol (TCP/IP)" line, then click the properties button. This will open the "Internet Protocol (TCP/IP) Properties" window
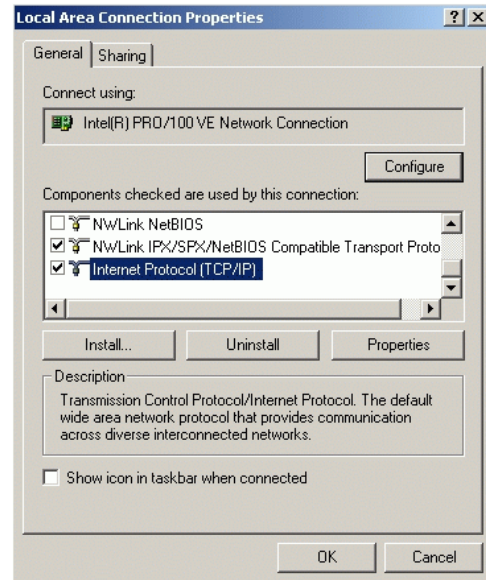
Select the "Use the following IP address" and type in the ip addresses and subnet mask as shown to the right. This will create a static ip address, that you can later use.

Follow these steps to start the Express Setup program on the switch.

1.Verify that no devices are connected to the switch.

2. Press and hold the Mode button, until the four LEDs next to the Mode button turn green. This takes approximately 2 seconds. If this works go to step 3.

**This only works on switches that do not have a configuration file in their file system (if you are trying to upgrade this will be the case) If all of the Mode LEDs begin to blink after you have held the Mode button for 2 seconds or you cannot get the four LEDs to remain lit, a configuration already exists on the switch. If so go to step 2a**

2a) clear the IP address and the switch configuration information, follow these steps.
   a. Press and hold the Mode button, the switch LEDs begin blinking after about 2 seconds.
   b. Continue holding down the Mode button. The LEDs stop blinking after 8 additional seconds and then the switch reboots.

3. When the four LEDs turn green, release the Mode button.
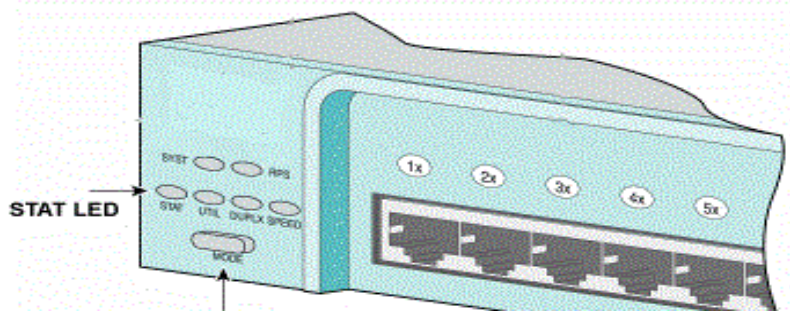
4.Connect the Ethernet cable to the front panel of the switch and the other end to your pc.

5.Wait approximately 30 seconds after the port LEDs turn green, and launch a web browser on your PC.

6. type the ip address 10.0.0.1 in the browser (IE works best for this) and hit "enter"
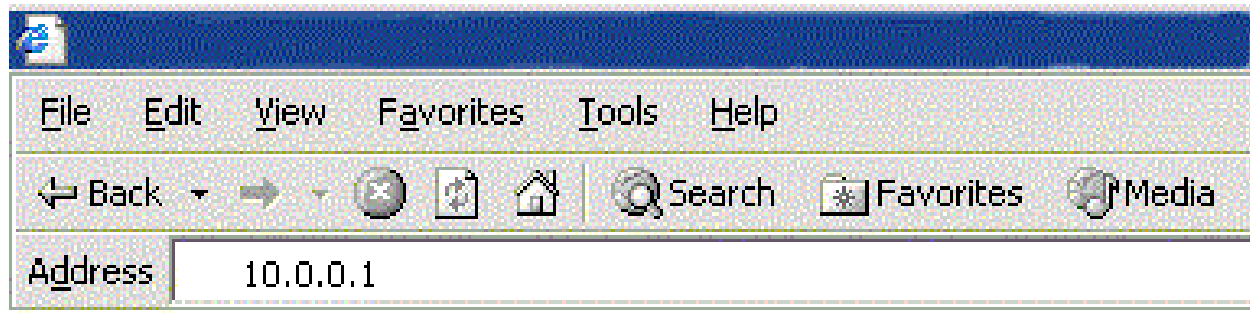


7. If the Express Setup home page appears, then proceed to step 8.

If not then check and make sure that:
Did you wait 30 seconds after connecting the switch and PC or workstation before entering the IP address in your browser?
If not, wait 30 seconds and re-enter 10.0.0.1 in the browser, and press Enter.
Did you connect a crossover instead of a straight-through Ethernet cable between an Ethernet port of the switch and the Ethernet port of the PC?

8. The following parameters are suggested to allow a PC using TCP/IP to manage the switch, more simply. You could put other ip addresses in, but this works!

a.Enter the ip address 10.0.0.254 in the first cell marked "IP Address". This will be the ip address of your switch
b.Click the drop-down arrow in the IP Subnet Mask field, and select the IP Subnet Mask 255.255.255.0 (the same one you entered in the "Internet Protocol (TCP/IP) Properties"
c.Enter the IP address for the default gateway in the Default Gateway field.



Now you are ready to copy files into your switch.

# Updating the IOS

You will want to have the "bin" file which is the IOS that you want to update for your switch. In order to do this you will need a TFTP manager, I found WinAgents online for free and it worked very well. Place your file in the folder of the TFTP manager and then make sure you are able to ping from your switch to your pc and from your pc to your switch.

Open the command prompt on your pc and "ping" the ip address for your switch (10.0.0.254) and on your switch "ping" your pc (10.0.0.2). If you have any problems with that check your Express Setup home page and/or your "Internet Protocol (TCP/IP) Properties" window and check that the settings are correct.

When you are sure you have the connection established use "Putty" (or another Hyper-Terminal program) and get to the "Enabled" mode, then type in the command  "*Switch# Copy TFTP: Flash:*" the switch will ask you a few questions
"*Address or name of remote host []?*" **10.0.0.2** will be your response. Then:
*Source filename []? c2950-i6q4l2-mz.121-13.EA1.bin* where "the bolded file name will be your file for the IOS" that you placed in the folder of your TPTP Manager.
*Destination filename []? c2950-i6q4l2-mz.121-13.EA1.bin*



You will notice that in the first few attempts at transferring the .bin file, there were errors and the files were unable to be downloaded to the switch.  The specific error that mentions "Buffer overflow" is the key to understanding what the problem is. This is an indication that there is not enough  space in "flash" to download the file there.

You should check the contents of the flash memory to determine how much space is available and what files are residing there. If you need to remove files to open up enough space to download the file you need, then you will issue the:
 "switch: delete flash:" command. In the case of the directory on the right, the command will look like this:



```
COM1 - PuTTY

Switch>en
Switch#sh
Switch#show fl
Switch#show flash:

Directory of flash:/

  2  -rwx     1490614    Oct 31 2000 15:28:01  c2900XL-h2s-mz-120.5.1-XP.bin
  4  drwx       11072    Oct 31 2000 15:28:41  html
111  -rwx           0    Mar 01 1993 00:05:04  config.text

3612672 bytes total (1587712 bytes free)
Switch#
```

"switch: **delete flash:c2900xl-h2s-mz.120.5.1-xp.bin"**

Hit enter and then you will see:
Are you sure you want to delete "flash:c2900xl-h2s-mz.120.5.1-xp.bin" (y/n)? **y**
After you type "y" and then hit enter you will receive this message:
"File "flash:c2900xl-h2s-mz.120.5.1-xp.bin" deleted

switch:"
Now you can download the file to your switch.


So  again:
Open the command prompt on your pc and "ping" the ip address for your switch (10.0.0.254) and on your switch "ping" your pc (10.0.0.2). If you have any problems with that check your Express Setup home page and/or your "Internet Protocol (TCP/IP) Prop-erties" window and check that the settings are correct.
When you are sure you have the connection established use "Putty" (or another Hyper-Terminal program) and get to the "Enabled" mode, then type in the command  "*Switch# Copy TFTP: Flash:*" the switch will ask you a few questions
"*Address or name of remote host []?*" **10.0.0.2** will be your response. Then:
*Source filename []? c2950-i6q4l2-mz.121-13.EA1.bin* where "the bolded file name will be your file for the IOS" that you placed in the folder of your TPTP Manager.
*Destination filename []? c2950-i6q4l2-mz.121-13.EA1.bin*
Press RETURN or ENTER. Then you should see an output similar to this.
```
Accessing tftp://20.20.20.2/c2950-i6q4l2-mz.121-13.EA1.bin...

Loading c2950-i6q4l2-mz.121-13.EA1.bin from 10.0.0.2 (via
Vlan1): !!!!!!!!!!


!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!


!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!
```

[OK - 2888547 bytes]
If you got this far you have successfully loaded your IOS. If not you may need to make room in your "Flash" for the file.