Tutorial on how to install DD-WRT on a Linksys WRT54G wireless router Version 5 or Version 6.

Well now you've spent 50 or 60 bucks on this nifty Linksys WRT54G router and you're probably asking yourself the same question I did, what can I do with it now? Well with some searching I found I could install Linux on it and make it do many various thing that the VXworks firmware wouldn't let you. So if you are so inclined to install Linux on it as well what follows is a rather simple tutorial on how to accomplish that!

First off you need to be aware that the possibility exists that you will turn your router into a brick, only be to be revived by the use of a JTAG connector. If you call Linksys for warranty service and tell them you bricked the router trying to install 3rd party firmware, they will most likely laugh at you! The only effects on your router I hold responsibility over are when you're running Linux instead of the crappy VXworks firmware. I am not however responsible if you turn your router into a brick.

Also, **ONLY** do this on a **WIRED** Ethernet connection, do not attempt to do this over a wireless connection. This is a somewhat delicate operation anyways, you don't need wireless' inherit packet loss to make it more delicate.

I didn't come up with this method first, so I must pay credit to who did, see the original article here!

Well now with that out of the way let's begin. First off you will need some files.

- vxworks_prep_v03.zip
- vxworks_killer_g_v06.zip
- DD-WRT micro generic - V24RC6.2
- Linksys TFTP transfer tool
- VXWorks Killer Image Tool

Now if you are upgrading a GS you will need some different files, download these instead of the first two.

- vxworks_prep_gs_v03.zip
- vxworks_killer_gs_v08.zip

Okay, the vxworks_killer_g_v06.zip, vxworks_killer_gs_v08.zip and the VXWorks Killer image tool, are interchangeable you need to get one of them not necessarily both. The vxworks_killer_g

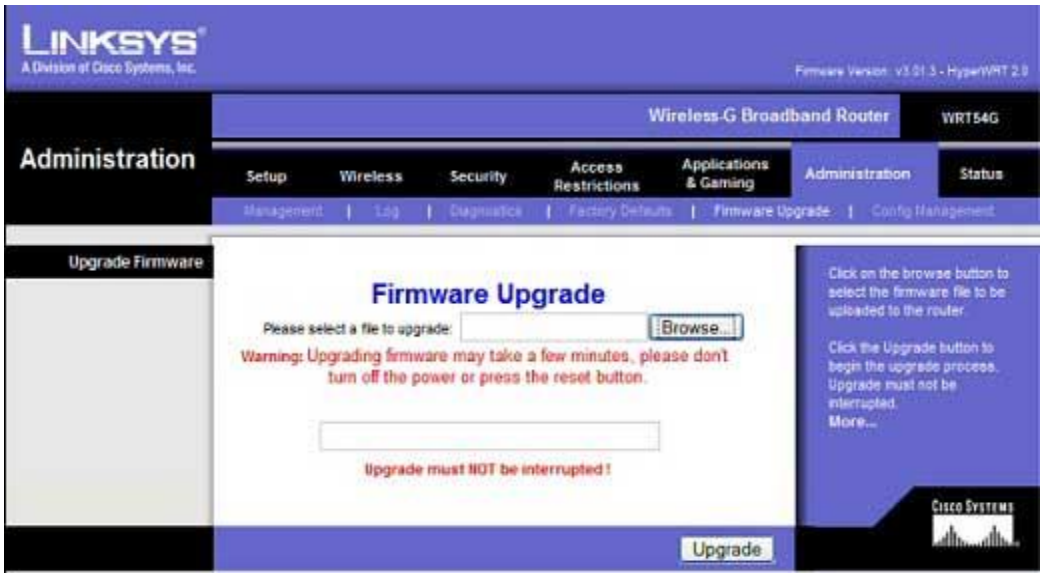
and gs file has a generic MAC address in it and the VXWorks Killer image tool allows you to create a VXworks killer image with your mac address embedded in it. Also, you may want to check the DD-WRT website to see if there is anything newer than V24RC6.2. When downloading off the DD-WRT website be sure to download **ONLY** the micro generic version.

After you have all the files, we need to extract them to a temporary location. Then you need to point your web browser to http://192.168.1.1 to access your routers web-admin page.

From there we need to access the Administration tab.

When you get to the Administration tab, we need to access the Firmware upgrade tab

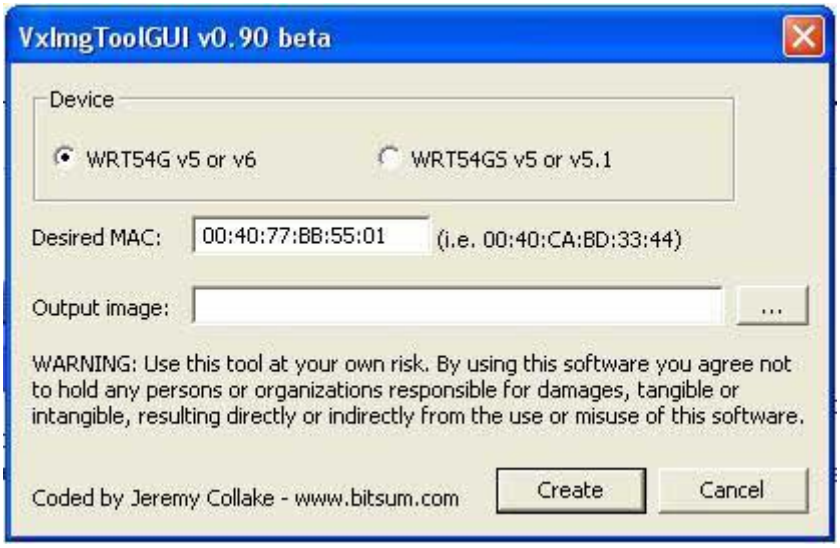
Then finally we arrive here.



We then need to hit browse, and then browse to the location in which you extracted all the files you downloaded earlier. Then select the vxworks_prep_v03.bin file. After that press the upgrade button on the web interface. After a few minutes your web browsers screen will go blank. At this point unplug the router from its power source and plug it back in, this is called power cycling. When I refer to power cycle the router in the future you will know what to do.

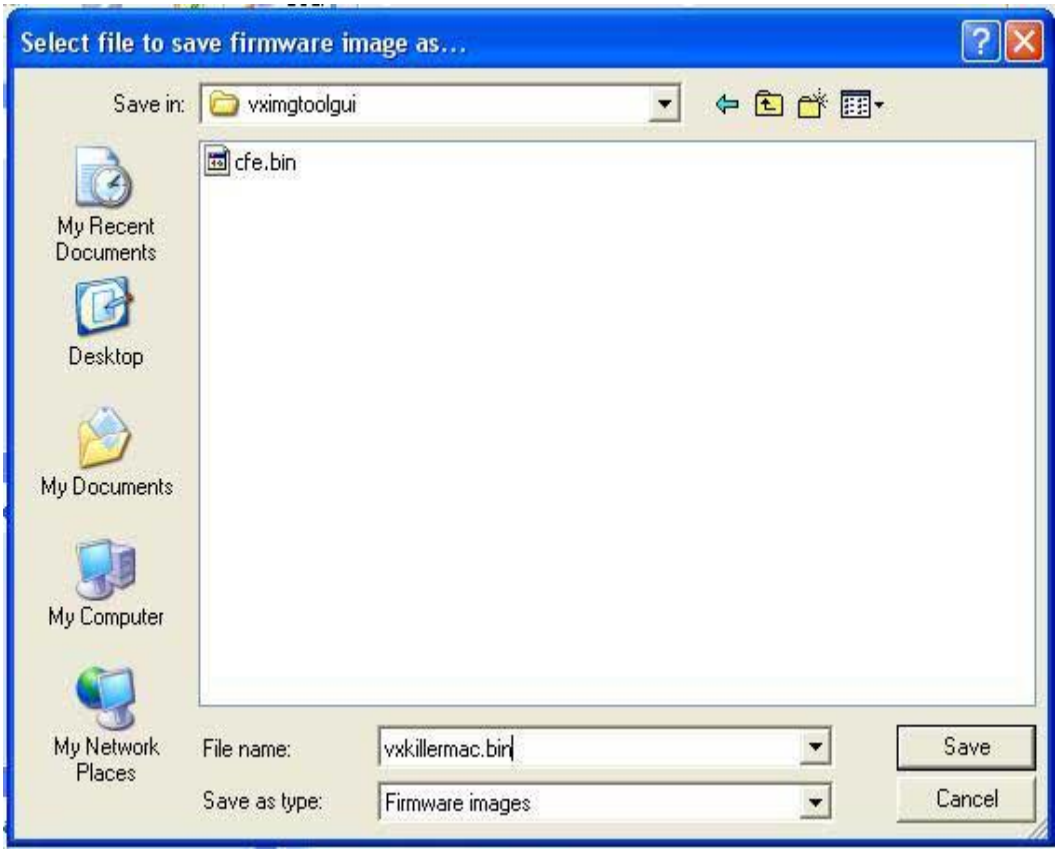
On the next page we will upload the VXworks Killer, and I will show you how to use the VXworks killer image tool.

Well now that we have waited a little bit and the router should be rebooted we need to go about creating the VXworks killer image to upload to the router. We will be using the VXWorks Killer image tool that you downloaded earlier. So navigate on your PC to where you extracted the zip earlier and launch the vximgtoolgui.exe and we are presented with a screen like this:



We need to fill out the desired MAC field. The original MAC address can be found on the bottom of your router like in this picture:

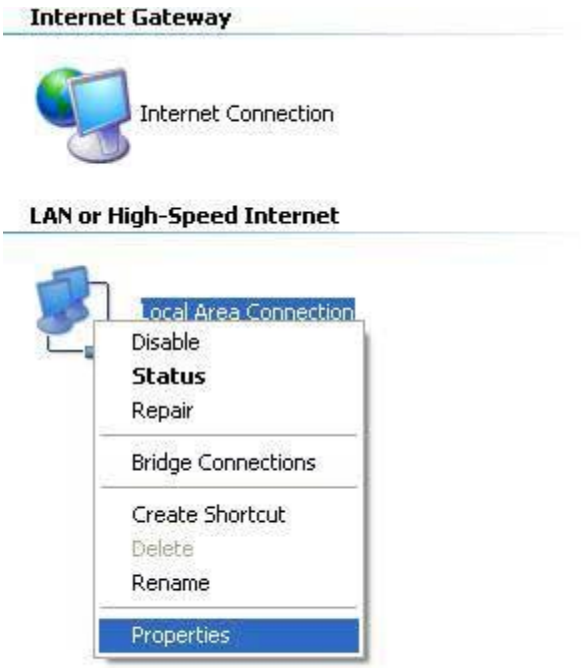
It will be in the form 1A:2B:3C:4D:5E:6F once you have acquired this information insert it onto the vximgtool program and select a place to save it to with the ... button next to the output image field. You will be presented with a browse dialog like this:



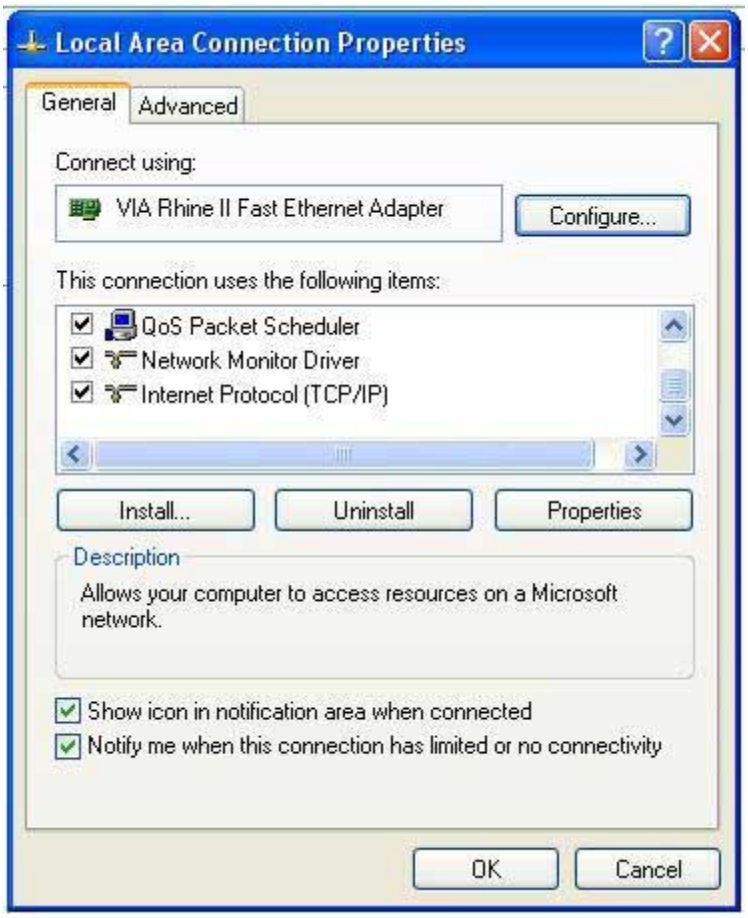
I chose to save it as vxkillermac.bin so I wouldn't have any problems distinguishing it from the generic VXkiller bin. Then hit create. Then we need to point our web browser back to the WRT54G at http://192.168.1.1 and we will get a new screen it will look something like this:

Now that we are at the management mode screen click Browse... and navigate to the file we created in the vximgtool. Once you have it in the filename field click Apply. Now we wait for the word Success! to appear on the screen. After this has occurred we need to power cycle the router again. After the router comes back on the Power light should be blinking, this is expected and actually good. On the next page I will show you how to manually assign your computer an IP address because after you hit apply the DHCP server on the router is inactive and won't assign you an IP.

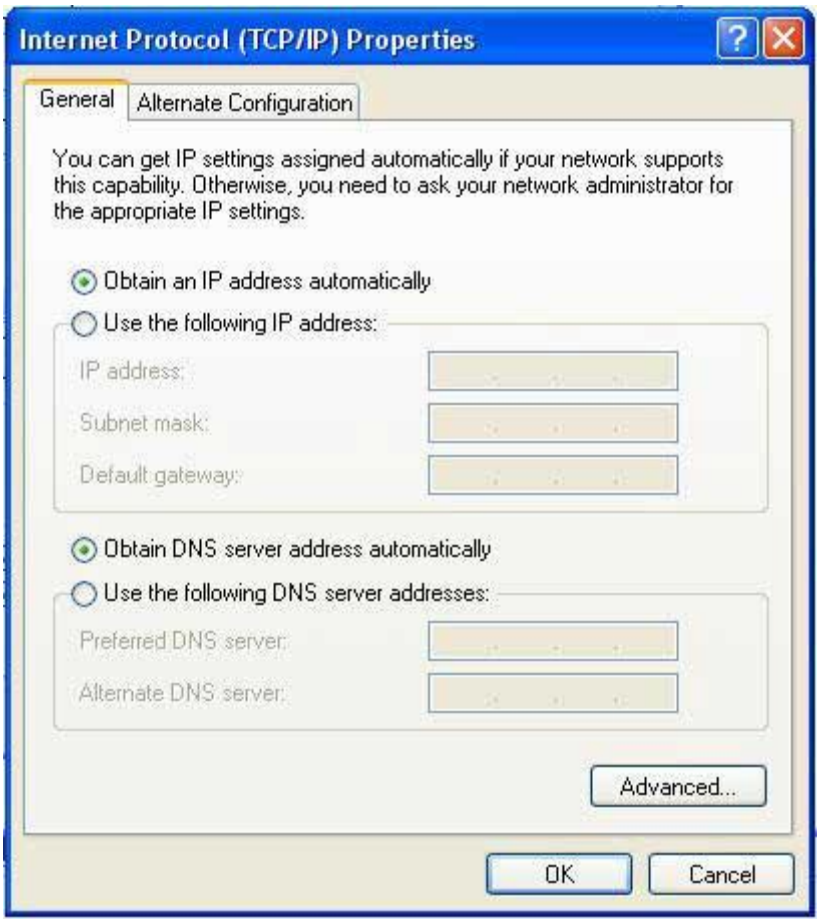
Well now that we are all done with uploading the custom vxkiller to the router we need to assign our computer an IP address so that we can TFTP the DD-WRT firmware to the router. First off we need to go to Start and then go to Control Panel. Once in the Control Panel we need to open the Network Connections Panel. There you should have at least one connection. One of them should be under the LAN or High-Speed internet category. We need to right click on the one that connects to the router. It should look something like this:



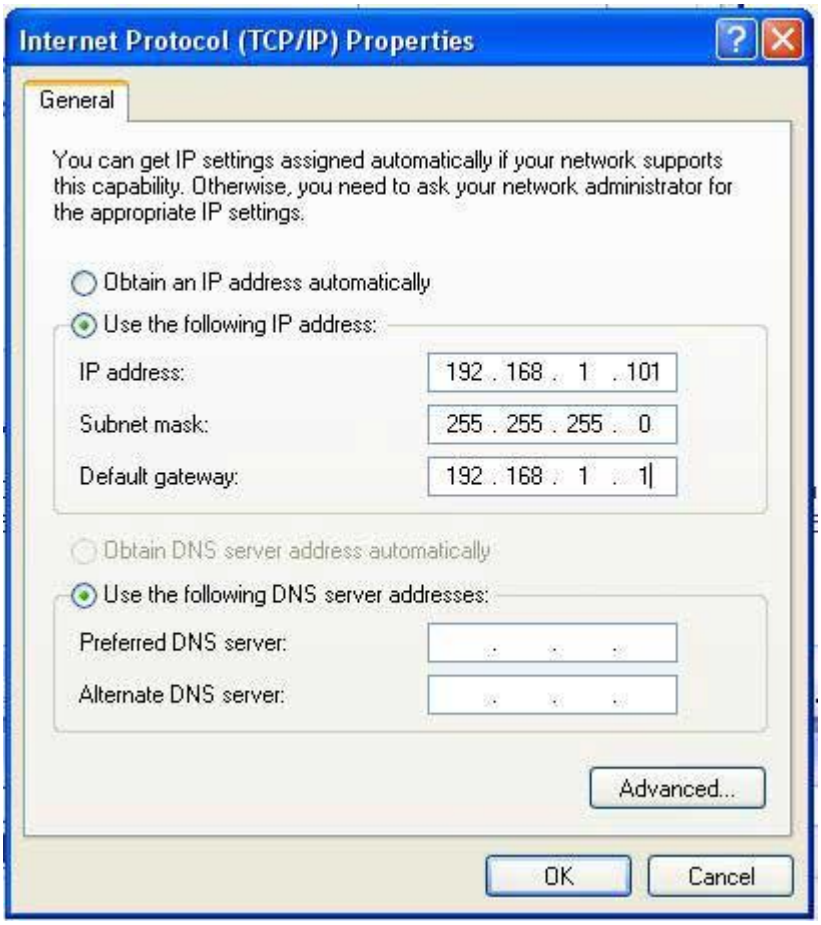
Then select Properties from the right click menu. You will get a screen that looks like this:



From there we need to double click on the Internet Protocol (TCP/IP) entry, it will bring up a screen like this:

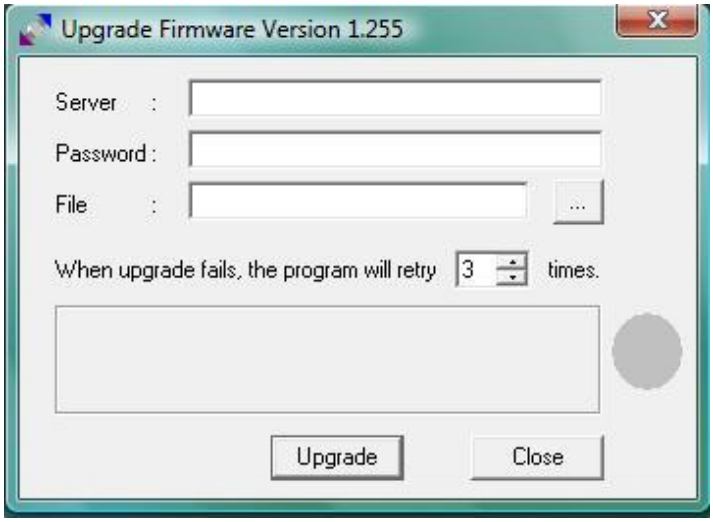


Now we need to change Obtain an IP address automatically to Use the following IP address. Then in the IP address field enter 192.168.1.101 and in the subnet field if it doesn't automatically enter it, put 255.255.255.0. In the default gateway enter 192.168.1.1. So when you're all done it should look like this:

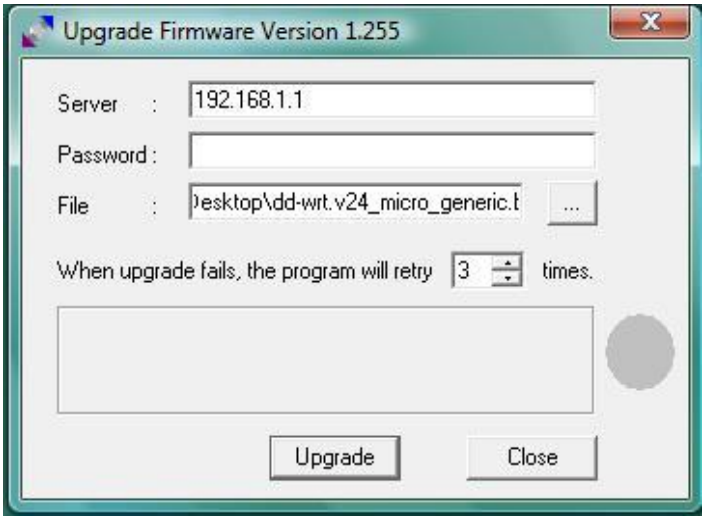


You don't really need to enter a DNS server, but if you wish 192.168.1.1 will work. Now click OK at the bottom of the Internet Protocol (TCP/IP) Properties page, and click OK at the bottom of the Local Area Connection Properties page and if will take a few seconds but your PC will change you IP address to 192.168.1.101. Well finally on the next page we can get to TFTPing the new image to your router.

Well now that we have a set IP we can TFTP the DD-WRT image to the router. To do this we need to open the Linksys TFTP tool we downloaded earlier. When you open it you will be presented with this:



We need to enter the Server name as 192.168.1.1 and the password will be blank. The file is the dd-wrt.v24_micro_generic.bin that we downloaded earlier, or the update micro generic version you downloaded from the DD-WRT website. Go ahead and leave the retry to 3 times, when you have all the info in it should look like this:



With that all in go ahead and click upgrade. **DO NOT REBOOT OR POWER CYCLE THE ROUTER.** It will do so itself after it has upgraded. It will take anywhere from 1-10 minutes to

complete the flashing process. If the power is interrupted before the router reboots itself, you've got a 60 dollar paperweight. After the router reboots itself, you will have access to the DD-WRT interface at http://192.168.1.1. The default login and password for DD-WRT is User : root and Password : admin . After doing this procedure you can update to future versions of DD-WRT with the DD-WRT web gui, much the same way we uploaded the first file in the Linksys web gui. At this point you should revert your IP address settings we changed earlier to Obtain an IP address automatically. Well, have fun with your new Linux running Linksys WRT54G!