How to Set Up a Wireless Router in a Dorm



A wireless router plugs into an Ethernet jack and creates a hub to connect to a network through both wired and wireless connections. This allows you to cut down on the number of wires running through a room, which can be both a inconvenience and an eyesore. This can be very convenient in a dorm room environment where space is already limited and being attached to a wire all the time can be a hassle, as it can be easily tangled around furniture.

The built in Wi-Fi in many of the dorms is only available in the lounges, so the next best option is to install your own wireless router in your dorm room. In addition to this the dorm rooms only have two ethernet jacks and with many students bringing game consoles with them to school this forces you to choose what will be hooked up to the internet. To make it even worse many devices that students use today do not have an ethernet jack and must connect to the internet through a wireless router.

There are special security concerns when setting up a router in such an environment that need to be taken into consideration to protect your privacy and security. This guide will cover how to set up a router in one of Virginia Tech's on campus dorms in a secure manner, all the way from plugging in and setting up the router itself to connecting to the network once it is set up and it will allow you to do so in a secure manner so that only you and those you give permission will be able to use your network.

## Glossary

WiFi- A technology used to create a wireless network between one or more devices.

Ethernet- A standard for wired connection between devices and networks.

Encryption- A method of protecting data from being intercepted when it is transmitted.

Network- A way of connecting devices together.

WEP- Wired Equivalent Privacy, a security protocol for wireless communications, easily circumvented..

WPA- WiFi Protected Access, a security protocol for wireless communications, more secure than WEP.

Wireless Router- A device that uses WiFi and Ethernet to create and manage a network between devices.

1. Plug in the power for your router, and connect an ethernet cable from the ethernet jack located in your dorm room to the appropriate ethernet jack in the router, this will be noted in your manual for the router, on most routers such as this one it is next to the power jack.



2. Now you will need to log into you routers online setup page by following the instructions in your router's manual for doing so. once you do so you should a prompt such as this enter the information for the two fields that will be located either on a sticker on your router or in its manual.

Authentication	Required	×	
The server http://1 password. The serv	92.168.11.1:80 requires a username and ver says: DD-WRT.		
User Name: Password:			
Password.			
	Log In Cancel		
	0		

Now once you login in successfully you should see a page that resembles this one somewhat.

BUFFALD POWERED BY DD-WRT	Time: 07:20:26	Firmware: <b>DD-WRT v24SP2-MULTI (07/09/12) std</b> up 9 days, 13:39, load average: 0.07, 0.05, 0.05 WAN IP: 68.57.57.28
Setup Wireless Servic	es Security Access Restrictions NAT / QoS Adm	inistration Status
Basic Setup DDNS MAC Address	Clone Advanced Routing Networking EoIP Tunnel	
Setup		Help more
Setup Card		Setup Assistant: The setup assistant guides you through the basic setup steps to
Click on any information in the	Setup Card to edit it.	configure your router.
SSID	333TUCKERS	Automatic Configuration - DHCP: This setting is most commonly used
Wireless Passphrase (WPA2-PSK)	51718066	by cable operators.
IP Address	192.168.11.1	Hostname: Enter the hostname provided by your ISP.
Username	admin	Domain Name:
Password	imnathaniel2010	Enter the domain name provided by your ISP.
Run Setup Assistant	Print Setup Card Print Guest Card Apply Changes	Local IP Address: This is the LAN-side IP address of the router.
WAN Setup		Subnet Mask: This is the subnet mask of the router.
WAN Connection Type Connection Type	Automatic Configuration - DHCP 🔻	DHCP Server: Allows the router to manage your IP addresses.
Optional Settings		Start IP Address:
Router Name Hostname	DD-WRT	The address you would like to start with.
Domain Name		Maximum DHCP Users:
MTU	Auto   1500	You may limit the number of addresses your router hands out. 0 means only predefined static leases will be handed out.
STP	Enable      Disable	Time Settings:
Network Setup		Choose the time you are in an summer time (DST) period. The router can use local time or UTC time.
Router IP	192. 168. 11. 1	uiite.

3. What you do next will depend on what type of wireless security your router comes set to use from the factory. If it is set to use WEP you will need to change it as there are many programs that malicious people can download that can bypass WEP security easily, and you will want to change it to WPA a much more secure type of encryption. If your router comes set with any type of WPA you can skip this step. If it does not you will need to follow your routers instructions to get to the security page on its online setup page and change its security to anything beginning with WPA, then you will need to choose your password/key it may be called either one or the other depending on your routers manufacturer.

				vare: <b>DD-WRT v24SP2-MULTI (07/09/12) std</b> rs, 13:12, load average: 0.06, 0.05, 0.04 WAN IP: 68.57.57.28		
Setup Wireless Service	es Security Access Restriction	ons NAT / QoS	Administration	Status		
Basic Settings Wireless Security AOSS / WPS MAC Filter WDS						
Wireless Security ath0					more	
Physical Interface ath0 SSID [333TUCKERS] HWAddr [10:6F:3F:63:13:CB]         Security Mode       WPA2-PSK         WPA Algorithms       TKIP + AES         WPA Shared Key       •••••••         Key Renewal Interval (in seconds)       3600         (Default: 3600, Range: 0 - 99999)				Security Mode: You may choose from Disable, WEP, WPA Personal, WPA Enterprise, or RADIUS. All devices on your network must use the same security mode. With N-Mode you must use WPA2/AES.		
	Save Apply Settings					

For added security you may also want to disable the SSID broadcast option in your router's setup page if it has the option, once you have done all this you will want to click the apply button to save your changes

Firmware: DD-WRT v24SP2-MULTI (07/09/12) sto BIDE FAIL POWERED BY DD-WRT WAN IP: 68.57.57.28						
Setup Wireless Services	Security	Access Restrictions	NAT / QoS	Administration	Status	
Basic Settings Wireless Security Ad	DSS / WPS MAC	: Filter WDS				
Wireless Physical Interface ath	) [2.4 GHz]				Help	more
Physical Interface ath0 - SSID [333TUCKERS] HWAddr [10:6F:3F:63:13:CB]         Wireless Mode       AP         Wireless Network Mode       Mixed         Channel Width       Full (20 MHz) ▼         Wireless Channel       Auto         Wireless Network Name (SSID)       333TUCKERS         Wireless SSID Broadcast       Enable					Wireless Network Mode: If you wish to exclude Wireless-G clients, choose <i>B-Only</i> mode. If you would like to disable wireless access, choose <i>Disable</i> . Note : when changing wireless mode, some advanced parameters are succeptible to be modified ("Afterburner", "Basic Rate" or "Frame Burst"). Sensitivity Range: Adjusts the ACK timing. 0 disables ack timing completely for Broadcom firmwares. On Atheros based firmware, 0 enables auto ACK	
Virtual Interfaces					timing mode.	
Save	Ad Apply Setting					

4. Now you are ready to connect your network is setup and you are ready to connect your various devices to your new wireless network. Regardless of the device you should see a prompt with fields similar to this one, from windows 7, that you can fill out to connect to your new network. Your network is now set up and ready to use!

🚱 📲 Manually connect to a wireless network							
Enter information for the wireless network you want to add							
Network name:	333TUCKERS						
Security type:	WPA2-Personal						
Encryption type:	AES						
Security Key:	•••••	✓ Hide characters					
_							
	<ul> <li>Start this connection automatically</li> <li>Connect even if the network is not broadcasting</li> </ul>						
Warning: If you select this option, your computer's privacy might be at risk.							
		Next Cancel					