

Appendix XX

Linux WLAN NIC Command Review

The N800 as well as the WRT54GL run off of the Linux operating system. It is important to becoming familiar with these commands as we will use them in the linux portion of our class and labs.

View information about your wireless [or wired] network interfaces:

NOTE: The kernel will assign a name to interfaces usually by their driver and/or chipset. Your wired interface is usually eth0 and can incrementally become eth1, eth2 depending on how many network cards are installed. The wireless interfaces that we will use in the class are ath0 (our atheros based ubiquity cards), wlan0 (for our external prism based card) and eth1 (internal intel wireless card).

ifconfig	← Equivalent of ipconfig /all in windows
ifconfig eth1	← list information about eth1 interface
iwconfig	← View wireless information about all wireless extensions including interface name, signal, AP, etc.
iwconfig eth1	← view wireless information of eth1
iwlist eth1 channel	← to view what channel the card is currently on

Change the state of the cards:

ifconfig eth1 up	← will turn eth1 on
ifconfig eth1 down	← will turn eth1 off

NOTE: When changing information about cards the most common reason why they don't stick is due to the card being "busy". It is good to bring the cards "down" before making any changes then bringing the card back "up" when you are finished configuring.

Change information regarding wireless cards:

NOTE: When you specify an access point by SSID in managed mode the card will then scan all channels looking for that access point and configure channel, MAC, etc, automatically. However knowing how to manually configure your wireless card is very important for this class.

iwconfig eth1 essid "HOTlabs"	← to change the ssid to "HOTlabs"
iwconfig eth1 channel 6	← to change eth1 to channel 6

```
dhcpcd eth1
```

← allow a DHCP address to be assigned to eth1

To change operating modes of your wireless cards:

By default your cards should be *Managed* however we will need to change that to *Monitor* quite often. A convenient script as been created to quickly change into the appropriate mode.

To switch your atheros based card into monitor mode type:

```
./ath_mon
```

To switch your prism based card into monitor mode type:

```
./airmon-ng start wlan0 <channel>
```

To quickly verify if your card is now in monitor mode type the command found above:

```
iwconfig
```

look for *Mode:Monitor* under the information of your wireless extension.

That is all the most common commands that we use. Below you will find a quick review to make sure you understand how to use these commands in combination with each other.

Commands to put ath0 into monitor mode listening on channel 11:

```
./ath_mon  
ifconfig ath0 down  
iwconfig ath0 channel 11  
ifconfig ath0 up
```

Commands to configure eth1 to associate with access point HOTlabs and obtain an IP address (assuming managed mode!):

```
iwconfig eth1 essid "HOTlabs"  
ifconfig eth1 up  
dhcpcd eth1
```