WIRELESS NETWORKING IN LINUX

In order to hack a wireless card, we have another utility called iwconfig. It works similar to ifconfig, but it has lots of additional features that are bonded to wireless cards. If we are using a wireless network with static IP, we can attach our wireless card interface to a network as follows:

```
iwconfig wlan0 essid slynux
```

…or:

```
iwconfig wlan0 essid slynux key 8c140b2037
```

…where ‘slynux’ is the ESSID (that is, the name of the wireless network) and ‘8c140b2037’ is the security key. Of course, you need to replace these variables with the values that hold good in your network. You can also scan and check the availability of wireless network(s) in your vicinity using the iwlist command as follows:

```
[root@gnuxbox~]# iwlist wlan0 scan

wlan0  Scan completed :

          Cell 01 - Address: 00:08:5C:52:E9:83

                    ESSID:”slynux”

                    Mode:Master

                    Channel:11

                    Frequency:2.462 GHz (Channel 11)
```

```
                    Quality=92/100  Signal level:-39 dBm  Noise level=-78
dBm

                    Encryption key:off

                    Bit Rates:1 Mb/s; 2 Mb/s; 5.5 Mb/s; 11 Mb/s; 18 Mb/s

                              24 Mb/s; 36 Mb/s; 54 Mb/s; 6 Mb/s; 9 Mb/s

                              12 Mb/s; 48 Mb/s

                    Extra:tsf=00000000fc021187
```

The above command will list out the various wireless networks available with a number of properties.
Then we can set the IP for the interface card using the ifconfig command itself:

```
ifconfig wlan0 192.168.0.5
```

If you are using dynamic addressing, you can obtain the IP address as follows:

```
dhclient wlan0
```

The settings that you've configured with the ifconfig tool are available until the system reboot. But it's a waste of time if you need to configure it on every system start. And hence we take the aid of network configuration scripts. On an Ubuntu (or any other Debian-based) system, this file is located at /etc/networks/interfaces, and contains data similar to the following:

```
auto lo

iface lo inet loopback
```

```
iface eth0 inet static

address 164.164.32.101

netmask 255.255.255.240

gateway 164.164.32.97
```

It is necessary to learn this scripting in order to play with your network. The syntax for these are as follows:

1. Add the following lines if you want to configure eth0 as the DHCP:

```
2. auto eth0
```

```
  iface eth0 inet dhcp
```

3. Add the following files if you want to configure static IP:

```
4. auto eth0

5. iface eth0 inet static

6. address <ip_address>

7. netmask <netmask>
```

```
  gateway <gateway_ip>
```

8. If it is a wireless network, add the following lines along with the above lines:

```
9. wireless-essid <network_name>
```

```
   wireless-key <key>
```

Now, to restart the network daemon, execute the following as the root:

```
/etc/init.d/network restart
```

Source : http://www.opensourceforu.com/2009/02/recipes-for-networking/