

Using any Debian box as a wireless access point

I just lost an hour trying to configure a Thinkpad T41 as a wireless access point. Most of that time was due to problems with the built-in wlan interface and a kernel recompile to use a prism54-based PCMCIA card. This is mostly a post to remind myself what to do, and how to do it on Debian. It's not the first time I create an access point, but I do it so infrequently that I always forget something.

The NIC

Make sure there's a Linux driver for your network interface card. Make sure the card can be run in master mode.

DHCP

The boxes that will connect need an IP. Install `dhcp3-server` and do something like this in `/etc/dhcp3/dhcpd.conf`:

```
[...]
option domain-name "192.168.6.0";
option domain-name-servers 192.168.6.1;
[...]
subnet 192.168.6.0 netmask 255.255.255.0 {
    range 192.168.6.10 192.168.6.15;
    option routers 192.168.6.1;
}
[...]
```

Configure the network

Configure the interface so that it can be started with `ifup`. Usually you want the connected boxes to have access to whatever internet connection the access point has, so I enable forwarding and masquerading in `/etc/network/interfaces`:

```
iface eth1 inet static
    address 192.168.6.1
    netmask 255.255.255.0
    network 192.168.6.0
    wireless-mode master
    wireless-essid debianftw
    wireless-key1 s:12345
    post-up /bin/echo 1 > /proc/sys/net/ipv4/ip_forward
    post-up /sbin/iptables -t nat -A POSTROUTING -o ppp0 -j MASQUERADE
    post-up /etc/init.d/dhcp3-server restart
```

12345 is the WEP password and the network will be called `debianftw`.

Optional: DNS

You may want to have name servers for the connected boxes. A quick solution is to take those from your `/etc/resolv.conf` and to put them in your `/etc/dhcp3/dhcpd.conf`. There are other solutions, like a caching only DNS server.

Security

WEP isn't a very good encryption but it's enough for me. You probably don't want to run this setup for a long time, it's really just some notes to get me started quickly. Maybe I'll add more about security in an update.

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2 comments



[Chris Arndt](#) wrote [this comment](#) on July 22, 2009, 9:34 p.m.

If you want DHCP and DNS, I'd install the "dnsmasq" package. This covers both services in one server and is much easier to configure than dhcp3 and bind.

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[nicolas](#) wrote [this comment](#) on July 25, 2009, 12:41 p.m.

Thanks for the suggestion! Configuring the Internet Software Consortium's dhcpdc is indeed not that easy and might confuse some people.

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