

How To: Turn Your Linux Box Into a WiFi Hotspot

Have you ever wanted to use your Linux computer as a wireless hotspot? It's actually pretty easy. This article will get you started and it really isn't all that difficult. We will actually be cribbing a bit of this article from the software's homepage, but with some more information given.

Make a Linux WiFi Hotspot

For many years, I used my own router that I had made. It was built on Linux. The preceding version ran on BSD, but that's not important right now. Today, you can get a NUC or Pi for dirt cheap and so making a new router is back on my list of things to do.

All of the varied software and hardware components are already there, but I want to enable wireless connectivity and that's what we're going to look at today. The tool we're going to use is called 'linux-wifi-hotspot' which is a great tool, complete with GUI if wanted, written by lakinduakash. It has only been around for a few years, but it's spoken of very highly and it just works and works well.

The software is easy enough to install. If you're using Debian/Ubuntu, just add the PPA and install the software. To add the PPA, you just run:

```
[code]sudo add-apt-repository ppa:lakinduakash/lwh[/code]
```

On a modern OS, you shouldn't need to do this, but you might want to go ahead and run a quick update with:

```
[code]sudo apt update[/code]
```

Then you can install the software. To do that, it's just:

```
[code]sudo apt install linux-wifi-hotspot[/code]
```

If you want, you can visit the link above, click on releases, and download the .deb file for the current release and just install it with gdebi.

If you're using Arch (or Arch based distros) it looks like you can just go ahead and install it with:

```
[code]yay -S linux-wifi-hotspot[/code]
```

It should be noted that I did not actually test that very well. I gave it a quick test in Manjaro and it said it couldn't find all the required packages. Manjaro is not Arch, but based on it. I don't have an Arch VM configured without doing some serious digging through my backups, so I am unable to confirm it.

Then, you can go ahead and start it. You can also go ahead and make it start at boot, which would be prudent if you intended to use this to make your own router. It's really self-explanatory and without specific questions for using it, I'm just going to refer you to the man page and the information at the project page.

But, before you can even do all of this, you need to know that your wireless adapter actually supports doing this. To find out, you need to know if your wireless adapter supports "AP" mode. AP obviously meaning 'Access Point'.

To check this, you need to run the following command:

```
[code]iw list | grep AP[/code]
```

The project page is noticeably silent with this, but it's a necessary step. See, you need to know if your hardware actually supports it before you even bother trying. Come to think of it, I probably should have put this closer to the top of the page! I ain't editing that!

Anyhow, the output should contain one or both of the following lines:

Device supports AP scan.

And/Or:

Driver supports full state transitions for AP/GO clients.

So long as you see one or both of those, you should be all set to proceed. If you don't see either of them, there's no software solution and you'll need to get hardware that supports AP mode. In many cases, that'll mean doing a bunch of research and may even mean contacting the vendor or OEM.

Nobody appears to have compiled a list of hardware that supports AP mode and I don't think I've ever bought wireless adapters that explicitly stated they do on the box. As near as I can tell, more modern adapters support it just fine, so you'll probably be alright.

Alright, there's your article for the day. I have no idea if you want to make a WiFi hotspot for your Linux box, but now you know how. Thanks for reading and don't forget to sign up for the newsletter. Also, if you rate the articles I'll be able to see the kind of content you prefer. That'd probably be beneficial.

Realtek RTL8192EU and Linux: It works!

Probably because I was scouring AskUbuntu and reading a number

of complaints about getting their wireless device working, I decided to see exactly how difficult it was.

I have a computer that I use for testing and I mostly access it by VNC. It has an unused wireless dongle and I figured now was a good time to see if I can make it work.

The first step was to turn it on. Believe it or not, it worked. It had a very, very weak signal even though it's within a few feet of the router. So, I cracked open my terminal and entered:

```
inxi -Fc 0
```

Sure enough, I found this:

```
Device-2: Realtek RTL8192EU 802.11b/g/n WLAN Adapter type: USB
```

So, I turned to a search engine and entered:

```
Realtek RTL8192EU +Linux driver
```

I scanned the results and noticed that there was fairly recent (mid-2018) GitHub page here. So, I headed there to read what the author had to say.

Rather than playing around, I made sure I'd followed their directions:

```
sudo apt -y install linux-headers-generic build-essential dkms  
git
```

Except that's not necessarily going to work, so I simply removed the `-y`.

```
sudo apt install linux-headers-generic build-essential dkms  
git
```

There. That'll work. I mashed the enter button, entered my password, and I downloaded the `.zip` file from the top of the

page while it installed. I didn't really see any need to build it myself, nor did I want the git hurdles (even though I'd just installed it). So, I just downloaded it to /Downloads and then extracted it into its own folder.

Once that was all done, I entered the newly created directory and ran:

```
sudo ./install_wifi.sh
```

The sudo elevates my permission, the ./ tells it that I want the file in the directory I'm in, and the install_wifi.sh is the name of the script that will install the drivers automatically. It will take a few minutes, even on modern hardware, but it's not a difficult task. If anything, it's straightforward and intuitive.

I followed that up with a reboot and, sure enough, I was then able to use the driver and my signal strength was significantly higher. That's it. That's all it took. Does it seem hard? Probably. Once you've done it a few times, you'll be used to it. Working in the terminal is one of the greatest things you can do with Linux. There's no reason to be afraid of it. Just know what the commands are going to do before you go ahead and do them.