

# Linux Server

## Prerequisites

Running a home Linux Server on AREDN is pretty simple.

- Install [LinuxMint Xfce](#) on a cheap laptop or use a Raspberry Pi.
- Update and reboot it if necessary.
- Change the Linux hostname, which will identify the computer in various places on AREDN. I renamed mine to VA7FI-Linux:

```
sudo hostnamectl set-hostname VA7FI-Linux
```

- Install Apache:

```
sudo aptitude install curl apache2
```



If you're here because you're installing Mesh Chat, you can now go back to the [Mesh Chat Install page](#). The rest of this page is optional.

## Website

### The html Folder

The website folder is located here: `/var/www/html/` Anything you put in there (with the right permissions) will be visible to others on AREDN. Let's get a few things out of the way first.

- Create a link to your home folder for ease of access:

```
ln -s /var/www/html ~/
```

- Change the ownership of everything in that folder so you (the user) and the web process can access them easily. My username is aredn, which you should replace with your own username.

```
sudo chown aredn:www-data -R /var/www/html/
```

- Change the permissions:

```
sudo chmod 770 -R /var/www/html/
```

In general, those permissions are ok, but depending on what you're running as a web service, they could be too permissive. That being said, since you're not exposing your site to the open internet, you're probably ok with those.

## The index.html File

You're now ready to write our first webpage! You can delete the `index.html` file that's already in the webfolder and create one of your own. There's a simple [online html editor](#) that's very convenient to use for small pages: simply edit the text you want on the left, and copy the html code on the right into your `index.html` file.

Here's [VA7FI's page](#) as an example:

# 🔗 Welcome to the VA7FI-Linux Server

This site is only accessible on the West Coast AREDN network via [VA7FI-HAPac3-1](#). This node is connected to:

- [VA7FI-LDF5-1](#), which connects to [VE7NA-MT-BENSON-SE](#) on 5.8 GHz (Ch. 172 at 5 MHz).
- [VA7FI-LHG-1](#), which attempts to connect to [VE7NA-LOST-LAKE-NE](#) on 5.8 GHz (Ch. 178 at 10 MHz) but is currently not able to due to trees in the way.

It also tunnels to a few stations over the internet.

This server hosts the following services:

- [West Coast AREDN Static Wiki](#)
- [Nextcloud](#)
- [Mesh Chat](#)
- [Speed Test File](#) (Over **RF only**)

Patrick, [va7fi@rbox.me](mailto:va7fi@rbox.me)

`index.html`

```
<body style="background-color:#F0F0F0";>
```

```
<div style="margin-top: 0px; margin-left: auto; margin-right:auto;
text-align: left; max-width: 1000px; border: 1px solid grey;
padding:10px;">

<h1 style="text-align: center; margin-top: 0px;">

Welcome to the VA7FI-Linux Server
</h1>

<p>
This site is only accessible on the West Coast AREDN network via
<a href="http://va7fi-hapac3-1.local.mesh">VA7FI-HAPac3-1</a>.
This node is connected to:
<ul>
<li><a href="http://va7fi-ldf5-1.local.mesh">VA7FI-LDF5-1</a>,
which connects to <a href="http://ve7na-mt-benson-
se.local.mesh">VE7NA-MT-BENSON-SE</a>
on 5.8 GHz (Ch. 172 at 5 MHz).
<li><a href="http://va7fi-lhg-1.local.mesh">VA7FI-LHG-1</a>,
which attempts to connect to <a
href="http://ve7na-lost-lake-ne.local.mesh">VE7NA-LOST-LAKE-NE</a>
on 5.8 GHz (Ch. 178 at 10 MHz) but is currently not able to due to
trees in the way.
</ul>
It also tunnels to a few stations over the internet.
</p>

<p>
This server hosts the following services:
</p>

<ul>
<li><a href="http://va7fi-linux.local.mesh/wiki/">West Coast AREDN
Static Wiki</a></li>
<li><a href="http://va7fi-
linux.local.mesh/nextcloud/">Nextcloud</a></li>
<li><a href="http://va7fi-linux.local.mesh/meshchat/">Mesh
Chat</a></li>
<li><a href="http://va7fi-linux.local.mesh/100mb">Speed Test
File</a> (Over <span style="color: #ff0000;">RF only</span>)</li>
</ul>

<p style="text-align: right; margin-bottom: 0px;">
Patrick, <a href="mailto:va7fi@rbox.me">va7fi@rbox.me</a>
</p>
```

```
</div>
</body>
```



When you manually create new files in your web folder, you might have to correct the ownership and permissions using the lines with chown and chmod above. Often times, if you can't see a page, it's because the ownership or permissions are wrong.

- At this point, you should test that you can view your webpage locally on your Linux computer: <http://localhost/>
- You should also be able to see it from any computer on the same local area network (LAN) by typing your new server's LAN IP address in the address bar of your other computer. To find your server's IP address, type this command in your linux server's terminal:

```
ifconfig | grep 'inet '
```

## AREDN Node Configuration

Now that the site is working locally, we can share it on AREDN.

From the Port Forwarding, DHCP, and Services page:

1. Setup a DHCP Address Reservation for the Linux computer
2. Advertise the services
3. Forward WAN port 8080 to LAN port 80
4. Don't forget to Save Changes

The screenshot shows the AREDN configuration interface with the following sections:

- Navigation:** Node Status, Basic Setup, Port Forwarding, DHCP, and Services (active), Tunnel Server, Tunnel Client, Administration, Advanced Configuration.
- Buttons:** Help, Save Changes, Reset Values, Refresh.
- DHCP Address Reservations:**

Hostname	IP Address	MAC Address	Do Not Propagate	Del
VA7FI-Linux	10.153.73.109	7c: :c9	<input type="checkbox"/>	Del
- Current DHCP Leases:**

VA7FI-Linux	10.153.73.109	7c: :c9
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- Advertised Services:**

Name	Link	URL	Del
Primary hAP	<input type="checkbox"/>	http://VA7FI-HAP-1:8080	Del
Home Page	<input checked="" type="checkbox"/>	http://VA7FI-Linux:80	Del
Wiki	<input checked="" type="checkbox"/>	http://VA7FI-Linux:80/wiki	Del
- Port Forwarding:**

Interface	Type	Outside Port	LAN IP	LAN Port	Del
WAN	TCP	8080	VA7FI-Linux	80	Del
- DNS Aliases:**

Alias Name	IP Address	Add
	- IP Address -	Add

## About The Advertised Services Section

Here, I'm doing three different things:

- The first line with “Primary hAP” is an optional title that I'm displaying for my hAP and has nothing to do with the Linux server. Notice how this line doesn't have the Link checkbox marked because it's only a title, not a link.
- The second line is advertising the `/var/www/html/` web folder. By default, the `index.html` file gets read when opening a folder. “Home Page” is the title displayed, and everything that follows is how to link to it.
- The third line is advertising a `wiki/` folder that I have in the `/var/www/html/` folder, and its display name is “Wiki”.

Here's how that translates to the Node Status page:

Local Hosts	Services
VA7FI-HAP-1	Primary hAP
● VA7FI-Linux	<a href="#">Home Page</a>
	<a href="#">Wiki</a>

From:

<https://wcairedn.ca/> - **West Coast  
AREDN**

Permanent link:

<https://wcairedn.ca/services/linuxserver/home>

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