For IPV6, we need to configure both a client that is on the ipv6 network, and some services on the ipv6 network.

Start with the client, it is easy.
If you don't already have a gui linux or windows machine set up, you can clone mine.
jfrancom@desdemona:~$ city clonevm ubuntu_2018_gui
A template name, a machine name, RAM(MB) size, and VLAN (number) must be specified.
A CPU count may be specified.
Template names: ub_partitioned_2016 cgl-test ubuntu_2014 win_server_2012 it3100_ubuntu_1404 windows_10 it3100_windows_7 ubuntu_partitioned OpenVAS ubuntu_2016 it4100-resize IT4100-broken xenial_2017 ubuntu_2018_gui
jfrancom@desdemona:~$ echo "YOU can fill in the blanks above"
YOU can fill in the blanks above
jfrancom@desdemona:~$
joe@yavin:~$ echo "cituser/b1s0n_br00x"
cituser/b1s0n_br00x
joe@yavin:~$
Connection name: Wired connection 1

Method: Automatic

Addresses

<table>
<thead>
<tr>
<th>Address</th>
<th>Prefix</th>
<th>Gateway</th>
</tr>
</thead>
</table>

Additional DNS servers: 2001:4860:4860::8888

Additional search domains:

IPv6 privacy extensions: Disabled

Require IPv6 addressing for this connection to complete

Routes...

Cancel  Save  Close
cituser@ubuntu-clone:~$ ping6 2001:4860:4860::8888
PING 2001:4860:4860::8888(2001:4860:4860::8888) 56 data bytes
64 bytes from 2001:4860:4860::8888: icmp_seq=1 ttl=54 time=19.6 ms
^C
--- 2001:4860:4860::8888 ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 19.623/19.623/19.623/0.000 ms

cituser@ubuntu-clone:~$
cituser@ubuntu-clone:~$ echo "Can we ping by name?"
Can we ping by name?
cituser@ubuntu-clone:~$ ping6 www.google.com
PING www.google.com(lax17s34-in-x04.1e100.net) 56 data bytes
64 bytes from lax17s34-in-x04.1e100.net: icmp_seq=1 ttl=52 time=20.8 ms
^C
--- www.google.com ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 20.817/20.817/20.817/0.000 ms

cituser@ubuntu-clone:~$
joe@yavin:~$ echo "Seems like IPv6 is working correctly. Note that ipv4 will NOT work unless you configure it"
Seems like IPv6 is working correctly. Note that ipv4 will NOT work unless you configure it
joe@yavin:~$
joe@web:~$ echo "I need to also configure my webserver to listen on an ipv6 address"
I need to also configure my webserver to listen on an ipv6 address
joe@web:~$
joe@web:~$ cd /etc/network/
joe@web:/etc/network$ ls
if-down.d if-pre-up.d interfaces
if-post-down.d if-up.d interfaces.d
joe@web:/etc/network$ less interfaces
joe@web:/etc/network$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN
   group default qlen 1
   link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
   inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
   inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: ens3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
   link/ether 52:54:00:08:00:45 brd ff:ff:ff:ff:ff:ff
   inet 144.38.201.36/27 brd 144.38.201.63 scope global ens3
       valid_lft forever preferred_lft forever
       paddr dynamic
           valid_lft 25919777sec preferred_lft 6047777sec
   inet6 fe80::5054:ff:fe08:45/64 scope link
       valid_lft forever preferred_lft forever
joe@web:/etc/network$
What?? I already have an ipv6 address. Nice, I guess I don't need to do any network related stuff here.
I do need to configure a virtual host with that same IPv6 address.
```bash
joe@web:/etc/network$ cd /etc/apache2/sites-enabled/
joe@web:/etc/apache2/sites-enabled$ cat ipv6.mojojojo.ml.conf
 ServerName ipv6.mojojojo.ml
 DocumentRoot /var/www/html/ipv6.mojojojo.ml
</VirtualHost>
joe@web:/etc/apache2/sites-enabled$ echo "You can see my ip address there, which is the same one I got from the 'ip a' command"
You can see my ip address there, which is the same one I got from the 'ip a' command
joe@web:/etc/apache2/sites-enabled$ echo "Note that the last numbers are still port 80"
Note that the last numbers are still port 80
joe@web:/etc/apache2/sites-enabled$ 
```
Now I'm adding a AAAA record for that host.
```
$TTL 3600
@ IN SOA ns1.mojojojo.ml. root.ns1.mojojojo.ml. (2018032002 ; Serial
3600 ; Refresh
300 ; Retry
241920 ; Expire
60) ; Negative Cache TTL

@ IN NS ns1.mojojojo.ml.
@ IN NS ns2.mojojojo.ml.

A address records

@ IN A 144.38.201.34
ns1 IN A 144.38.201.34
ns2 IN A 144.38.201.35
www IN A 144.38.201.36
db IN A 144.38.201.37
mail IN A 144.38.201.37
dhcp IN A 144.38.201.38
logger IN A 144.38.201.39
client1 IN A 144.38.201.60
client2 IN A 144.38.201.61

```

"db.mojojojo.ml" 26L, 824C
Increment serial; restart

remember that was the ipv6 address of my new virtual host
Can this client visit the new website?
This is my ipv6 website

- My server address is 2001:1948:e10:2011:5054:ff:fe08:45
<?php

<h1>This is my ipv6 website</h1>
<ul>
<li>I am connecting from " . $_SERVER['REMOTE_ADDR'];</li>
<li>My server address is " . $_SERVER['SERVER_ADDR'];</li>
</ul>

?>

</body>
</html>

$ echo "Here is my php if you want it"
Here is my php if you want it