

Configuring IPv6

A bit

Static setup

As with IPv4, there are ways of building infrastructure that will support automatic configuration of IPv6 addresses, but for a first go, it's simpler not to bother.

Things you need:

- An address allocation
- A default gateway/router

Things you might want:

- DNS entries

A minor digression into allocation sizes

In practice all IPv6 networks use 64 bits for the network and 64 bits for the node.

So allocation sizes are about how many networks you can have:

- /64 - it's a network
- /56 - allows 256 networks, and is the normal recommended size for an 'edge' deployment (e.g. one house, one university dept., etc.)
- /48 - Allows 256 edge allocations. Might suit a small University, and (used to be?) Janet's default.
- /44 - Allows 4096 edge allocations. Probably covers most institutions (several of us, Oxford included, have these now).

So, in our case.....

- Our address allocation is 2001:630:441:900::

- Which is a good allocation - it allows us 256 full networks.

- I've chosen to put our statically configured test systems in 2001:630:441:905::

- So this system is '163.1.5.253', so its IPv6 address will be 2001:630:441:905::FD

Config files:

Add the gateway:

In `'/etc/sysconfig/network'`:

```
IPV6_DEFAULTGW=fe80::a64c:11ff:fe16:e200
```

```
IPV6_DEFAULTDEV=eth0
```

And the address:

In `'/etc/sysconfig/network-scripts/ifcfg-eth0'`

```
IPV6INIT=yes
```

```
IPV6ADDR=2001:630:441:905::fd
```

And restart networking.

...and that's it.