Instalar Isc DHCP Server

1. Instalación

- Primero nos aseguramos de tener las interfaces de red bien configuradas en el archivo `/etc/network/interfaces`
- Instalamos el servidor DHCP `apt install isc-dhcp-server`

> Nos saldrá un error de inicialización del servicio, pero eso es porque no lo hemos configurado.

2. Configuración

Configuramos las interfaces a las que va a dar servicio el DHCP en el siguiente archivo `/etc/default/isc-dhcp-server`

```
# Defaults for isc-dhcp-server (sourced by /etc/init.d/isc-dhcp-server)

# Path to dhcpd's config file (default: /etc/dhcp/dhcpd.conf).
#DHCPDv4_CONF=/etc/dhcp/dhcpd.conf
#DHCPDv6_CONF=/etc/dhcp/dhcpd6.conf

# Path to dhcpd's PID file (default: /var/run/dhcpd.pid).
#DHCPDv4_PID=/var/run/dhcpd.pid
#DHCPDv6_PID=/var/run/dhcpd6.pid

# Additional options to start dhcpd with.
#       Don't use options -cf or -pf here; use DHCPD_CONF/ DHCPD_PID instead
#OPTIONS=""

# On what interfaces should the DHCP server (dhcpd) serve DHCP requests?
#       Separate multiple interfaces with spaces, e.g. "eth0 eth1".
INTERFACESv4="ens19"
INTERFACESv6=""
```

En este caso la interfáz se llama `ens19`

Configuramos los parametros del DHCP en el siguiente archivo: `/etc/dhcp/dhcpd.conf`

- El dominio por defecto:

```
option domain-name "aragon.local";
```

- El tiempo predeterminado que se le va a dar las IPs a los hosts:

```
default-lease-time 10080;                // En segundos 7 días
max-lease-time 20160;                    // 14 días
```

- DNS predeterminados:

```
option domain-name-servers 8.8.8.8, 8.8.4.4;
```

- Configuración de rango:

```
subnet 192.168.30.0 netmask 255.255.255.0 {
range 192.168.30.11 192.168.30.20;
range 192.168.30.31 192.168.30.40;
option routers 192.168.30.1;
option domain-name-servers 192.168.30.5;
default-lease-time 1440;                // En segundos 1 día
max-lease-time 2880;                    // 2 días
}
```

- Reserva de IP:

```
host mailserver {
hardware ethernet 32:0d:92:ba:50:d5;
fixed-address 192.168.30.6;
}
```

Archivo completo:

```
# dhcpd.conf
#
# Sample configuration file for ISC dhcpd
#

# option definitions common to all supported networks...
option domain-name "example.org";
option domain-name-servers 8.8.8.8, 8.8.4.4;

default-lease-time 10080;
max-lease-time 20160;

# The ddns-updates-style parameter controls whether or not the server will
# attempt to do a DNS update when a lease is confirmed. We default to the
# behavior of the version 2 packages ('none', since DHCP v2 didn't
# have support for DDNS.)
ddns-update-style none;

# If this DHCP server is the official DHCP server for the local
# network, the authoritative directive should be uncommented.
#authoritative;

# Use this to send dhcp log messages to a different log file (you also
# have to hack syslog.conf to complete the redirection).
#log-facility local7;

# No service will be given on this subnet, but declaring it helps the
# DHCP server to understand the network topology.

#subnet 10.152.187.0 netmask 255.255.255.0 {
#}
# This is a very basic subnet declaration.

subnet 192.168.30.0 netmask 255.255.255.0 {
  range 192.168.30.11 192.168.30.20;
  range 192.168.30.31 192.168.30.40;
  option routers 192.168.30.1;
  option domain-name-servers 192.168.30.5;
  default-lease-time 1440;
  max-lease-time 2880;
}

host mailserver {
  hardware ethernet 32:0d:92:ba:50:d5;
  fixed-address 192.168.30.6;
}

# This declaration allows BOOTP clients to get dynamic addresses,
# which we don't really recommend.
```

```
#subnet 10.254.239.32 netmask 255.255.255.224 {
#  range dynamic-bootp 10.254.239.40 10.254.239.60;
#  option broadcast-address 10.254.239.31;
#  option routers rtr-239-32-1.example.org;
#}

# A slightly different configuration for an internal subnet.
#subnet 10.5.5.0 netmask 255.255.255.224 {
#  range 10.5.5.26 10.5.5.30;
#  option domain-name-servers ns1.internal.example.org;
#  option domain-name "internal.example.org";
#  option routers 10.5.5.1;
#  option broadcast-address 10.5.5.31;
#  default-lease-time 600;
#  max-lease-time 7200;
#}

# Hosts which require special configuration options can be listed in
# host statements.   If no address is specified, the address will be
# allocated dynamically (if possible), but the host-specific information
# will still come from the host declaration.

#host passacaglia {
#  hardware ethernet 0:0:c0:5d:bd:95;
#  filename "vmunix.passacaglia";
#  server-name "toccata.example.com";
#}

# Fixed IP addresses can also be specified for hosts.   These addresses
# should not also be listed as being available for dynamic assignment.
# Hosts for which fixed IP addresses have been specified can boot using
# BOOTP or DHCP.   Hosts for which no fixed address is specified can only
# be booted with DHCP, unless there is an address range on the subnet
# to which a BOOTP client is connected which has the dynamic-bootp flag
# set.
#host fantasia {
#  hardware ethernet 08:00:07:26:c0:a5;
#  fixed-address fantasia.example.com;
#}

# You can declare a class of clients and then do address allocation
# based on that.   The example below shows a case where all clients
# in a certain class get addresses on the 10.17.224/24 subnet, and all
# other clients get addresses on the 10.0.29/24 subnet.

#class "foo" {
#  match if substring (option vendor-class-identifier, 0, 4) = "SUNW";
#}

#shared-network 224-29 {
#  subnet 10.17.224.0 netmask 255.255.255.0 {
```

```
#    option routers rtr-224.example.org;
#  }
#  subnet 10.0.29.0 netmask 255.255.255.0 {
#    option routers rtr-29.example.org;
#  }
#  pool {
#    allow members of "foo";
#    range 10.17.224.10 10.17.224.250;
#  }
#  pool {
#    deny members of "foo";
#    range 10.0.29.10 10.0.29.230;
#  }
#}
```

3. Iniciamos el servicio DHCP

```
/etc/init.d/isc-dhcp-server restart

systemctl restart isc-dhcp-server.service

service isc-dhcp-server restart
```

4. Comprobación de errores

Verificar el log del sistema:

```
cat /var/log/syslog
```

Verificar que el proceso está en ejecución:

```
ps -ef | grep dhcp
```

Comprobar que el servidor escucha por el puerto 67 y 68:

```
netstat -putona | grep :67
netstat -putona | grep :68
```

Consultar el fichero de concesiones para comprobar que todavía no existe ninguna concesión:

```
cat /var/lib/dhcp/dhcpd.leases
```