

Date
12/07/2021

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Hitesh

SDS

Page No.

Date

Linux Practical No 7

Aim: Install DHCP Server in Ubuntu 16.04

- DHCP, abbreviation of Dynamic Host Control Protocol, is a network protocol that assigns IP address automatically to client system in the network.
- This reduces the tedious task of manual assigning IP addresses in a large network that has hundreds of systems. We can define the IP range (Scopes) in the DHCP server, and distribute them across the network.
- The client system in the network will automatically get the IP address.

Steps

- 1) Open Terminal and run the following command to install DHCP server:
`sudo apt-get install isc-dhcp-server`
- 2) To configure dhcp, we need to open dhcp.conf file.
`sudo nano /etc/dhcp/dhcp.conf`

To exit nano editor, Ctrl+X then press Y

- The default configuration file of DHCP server is /etc/default/isc-dhcp-server. We need to edit and modify it as per our requirements.
- If you have more than one Network interface

card in your DHCP server, you need to mention on which interface should the server serve DHCP request.

- As I have only one NIC in my server, I assigned 'ens33' as the listening interface. Here ens33 is network card's name.

- To do so edit /etc/default/isc-dhcp-server configuration file

`sudo nano /etc/dhcp/dhcp.conf`

- Assign the network interface: /etc/default/isc-dhcp-server
`INTERFACES="ens33"`

- If you have more than one interfaces, mention them with spaces, for example "eth0 eth1"

- Save and close the file
- Then, edit dhcpd.conf file,

`sudo nano /etc/dhcp/dhcpd.conf`

- Modify it as shown below. Replace the domain name with your own value
- Enter the domain name and domain-name-servers:

option definitions common to all supported networks...
option domain-name "ubuntu";
option domain-name-servers 10.0.0.1;

- To make this server as official DHCP for your clients, find and uncomment the following line:

naghaadine

To exit from nano editor: Ctrl + x then enter y (yes)

sudo /etc/init.d/isc-dhcp-server start

sudo /etc/init.d/isc-dhcp-server status

Machine View

Terminal

onworks@onworks-Standard-PC-I440FX-PIIX-1996: ~

GNU nano 2.5.3 File: /etc/default/isc-dhcp-server Modified

```
# Path to dhcpd's PID file (default: /var/run/dhcpd.pid).
#DHCPD_PID=/var/run/dhcpd.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".
INTERFACES="ens33"
```

AG Get Help AO Write Out AW Where Is AK Cut Text AJ Justify AC Cur Pos
AX Exit AR Read File AL Replace AU Uncut Text AT To Spell AO Go To Line

Open Session Save Session

Remove Ads Load my files Save my files

Machine

View

Terminal

onworks@onworks-Standard-PC-i440FX-PIIX-1996: /etc/dhcp

onworks@onworks-Standard-PC-i440FX-PIIX-1996:~\$ sudo apt-get install isc-dhcp-server

[sudo] password for onworks:

Reading package lists... Done

Building dependency tree

Reading state information... Done

The following packages were automatically installed and are no longer required:

linux-headers-4.15.0-45 linux-headers-4.15.0-45-generic

linux-image-4.15.0-45-generic linux-modules-4.15.0-45-generic

linux-modules-extra-4.15.0-45-generic

Use 'sudo apt autoremove' to remove them.

The following additional packages will be installed:

liblrs-export141 libiscfg-export140

Suggested packages:

isc-dhcp-server-ldap polycoreutils

The following NEW packages will be installed:

isc-dhcp-server liblrs-export141 libiscfg-export140

0 upgraded, 3 newly installed, 0 to remove and 395 not upgraded.

Need to get 501 kB of archives.

After this operation, 1.789 kB of additional disk space will be used.

Do you want to continue? [Y/n] y

Get:1 http://de.archive.ubuntu.com/ubuntu xenial-updates/main i386 libiscfg-export140 i386 1:9.10.3.dfsg.P4-8ubuntu1.19 [38,3 kB]

Get:2 http://de.archive.ubuntu.com/ubuntu xenial-updates/main i386 liblrs-export141 i386 1:9.10.3.dfsg.P4-8ubuntu1.19 [18,7 kB]

Get:3 http://de.archive.ubuntu.com/ubuntu xenial-updates/main i386 isc-dhcp-server i386 4.3.3-Subuntu12.10 [444 kB]

Fetched 501 kB in 0s (2.771 kB/s)

Preconfiguring packages ...

Selecting previously unselected package libiscfg-export140.

(Reading database ... 248087 files and directories currently installed.)

Preparing to unpack .../libiscfg-export140_1%3a9.10.3.dfsg.P4-8ubuntu1.19_i386.deb ...

Unpacking libiscfg-export140 (1:9.10.3.dfsg.P4-8ubuntu1.19) ...

Selecting previously unselected package liblrs-export141.

Preparing to unpack .../liblrs-export141_1%3a9.10.3.dfsg.P4-8ubuntu1.19_i386.deb ...

Unpacking liblrs-export141 (1:9.10.3.dfsg.P4-8ubuntu1.19) ...

Selecting previously unselected package isc-dhcp-server.

Preparing to unpack .../isc-dhcp-server_4.3.3-Subuntu12.10_i386.deb ...

Unpacking isc-dhcp-server (4.3.3-Subuntu12.10) ...

Remove Ads

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Save my files

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Machine

View

Terminal

onworks@onworks-Standard-PC-i440FX-PIIX-1996: /etc/dhcp

RX packets:196819 errors:194 dropped:0 overruns:0 frame:194
TX packets:33566 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:291082197 (291.0 MB) TX bytes:2072247 (2.0 MB)

lo

Link encap:Local Loopback
inet addr:127.0.0.1 Mask:255.0.0.0
inet6 addr: ::1/128 Scope:Host
UP LOOPBACK RUNNING MTU:65536 Metric:1
RX packets:344 errors:0 dropped:0 overruns:0 frame:0
TX packets:344 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:30905 (30.9 KB) TX bytes:30905 (30.9 KB)

onworks@onworks-Standard-PC-i440FX-PIIX-1996: /etc/dhcp\$ sudo nano /etc/dhcp/dhcpd.conf

onworks@onworks-Standard-PC-i440FX-PIIX-1996: /etc/dhcp\$ sudo nano /etc/dhcp/dhcpd.conf

onworks@onworks-Standard-PC-i440FX-PIIX-1996: /etc/dhcp\$ sudo systemctl start isc-dhcp-server

onworks@onworks-Standard-PC-i440FX-PIIX-1996: /etc/dhcp\$ sudo systemctl status isc-dhcp-server

● isc-dhcp-server.service - ISC DHCP IPv4 server
Loaded: loaded (/lib/systemd/system/isc-dhcp-server.service; enabled; vendor Active: failed (Result: exit-code) since Mo 2021-07-12 16:43:58 CEST; 22s ago Docs: man:dhcpd(8)
Process: 25729 ExecStart=/bin/sh -ec CONFIG_FILE=/etc/dhcp/dhcpd.conf; Main PID: 25729 (code=exited, status=1/FAILURE)

Jul 12 16:43:58 onworks-Standard-PC-i440FX-PIIX-1996 sh[25729]: Not configured t

Jul 12 16:43:58 onworks-Standard-PC-i440FX-PIIX-1996 sh[25729]: If you think you

Jul 12 16:43:58 onworks-Standard-PC-i440FX-PIIX-1996 sh[25729]: than a configura

Jul 12 16:43:58 onworks-Standard-PC-i440FX-PIIX-1996 sh[25729]: bugs on either o

Jul 12 16:43:58 onworks-Standard-PC-i440FX-PIIX-1996 sh[25729]: before submittin

Jul 12 16:43:58 onworks-Standard-PC-i440FX-PIIX-1996 sh[25729]: process and the

Jul 12 16:43:58 onworks-Standard-PC-i440FX-PIIX-1996 sh[25729]: exiting.

Jul 12 16:43:58 onworks-Standard-PC-i440FX-PIIX-1996 systemd[1]: isc-dhcp-server

Jul 12 16:43:58 onworks-Standard-PC-i440FX-PIIX-1996 systemd[1]: isc-dhcp-server

Jul 12 16:43:58 onworks-Standard-PC-i440FX-PIIX-1996 systemd[1]: isc-dhcp-server

...skipping...

● isc-dhcp-server.service - ISC DHCP IPv4 server

Open Session

Save Session

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Machine View

Terminal

```
onworks@onworks-Standard-PC-i440FX-PIIX-1996: /etc/dhcp
Processing triggers for systemd (229-4ubuntu21.21) ...
Processing triggers for ureadahead (0.100.0-19) ...
onworks@onworks-Standard-PC-i440FX-PIIX-1996:~$ sudo nano /etc/dhcp/dhcp.conf
sudo: nano /etc/dhcp/dhcp.conf: command not found
onworks@onworks-Standard-PC-i440FX-PIIX-1996:~$ sudo nano /etc/dhcp/dhcp.conf
onworks@onworks-Standard-PC-i440FX-PIIX-1996:~$ cd /etc/dhcp
bash: cd: /etc/dhcp: No such file or directory
onworks@onworks-Standard-PC-i440FX-PIIX-1996:~$ cd /etc/dhcp
onworks@onworks-Standard-PC-i440FX-PIIX-1996:~$ ls
ddns-keys  dhclient.conf  dhclient-exit-hooks.d  dhcpd.conf
onworks@onworks-Standard-PC-i440FX-PIIX-1996:~$ cd /etc/dhcp
onworks@onworks-Standard-PC-i440FX-PIIX-1996:~$ sudo nano /etc/dhcp/dhcp
.conf
onworks@onworks-Standard-PC-i440FX-PIIX-1996:~$ ifconfig
ens3
Link encap:Ethernet HWaddr 52:54:00:12:34:56
inet addr:10.0.2.15 Bcast:10.0.2.255 Mask:255.255.255.0
inet6 addr: fe80::ae8:44ad:baf7:10fd/64 Scope:Link
inet6 addr: fec0::794a:6ae2:1411:54a5/64 Scope:Site
inet6 addr: fec0::e319:1b8b:5ce5:c3e1/64 Scope:Site
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
RX packets:196019 errors:194 dropped:0 overruns:0 frame:194
TX packets:33566 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:291082197 (291.0 MB) TX bytes:2072247 (2.0 MB)

lo
Link encap:Local Loopback
inet addr:127.0.0.1 Mask:255.0.0.0
inet6 addr: ::1/128 Scope:Host
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RX packets:344 errors:0 dropped:0 overruns:0 frame:0
TX packets:344 errors:0 dropped:0 overruns:0 carrier:0
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RX bytes:30905 (30.9 KB) TX bytes:30905 (30.9 KB)

onworks@onworks-Standard-PC-i440FX-PIIX-1996:~$ sudo nano /etc/dhcp/dhcp
d.conf
onworks@onworks-Standard-PC-i440FX-PIIX-1996:~$ sudo nano /etc/dhcp/dhcp
d.conf
onworks@onworks-Standard-PC-i440FX-PIIX-1996:~$ sudo systemctl start is
c-dhcp-server
onworks@onworks-Standard-PC-i440FX-PIIX-1996:~$ sudo systemctl status i
```

Remove Ads

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