You are here: Home / Other OS / Ubuntu / Set permanent DNS nameservers on Ubuntu/Debian with resolv.conf

Jun 9 20:49

richie@richie-VirtualBox: ~

GNU nano 4.8   /etc/resolv.conf
Dynamic resolv.conf(5) file for glibc resolver(3) generated by resolvconf(8)
DO NOT EDIT THIS FILE BY HAND -- YOUR CHANGES WILL BE OVERWRITTEN
127.0.0.53 is the systemd-resolved stub resolver.
run "systemd-resolve --status" to see details about the actual nameservers.
nameserver 8.8.8.8
nameserver 8.8.4.4
nameserver 127.0.0.53
search localdomain

[Read 8 lines]
^G Get Help   ^O Write Out ^W Where Is   ^K Cut Text   ^J Justify   ^C Cur Pos
^X Exit   ^R Read File ^\ Replace   ^U Paste Text ^T To Spell   ^ Go To Line

Set permanent DNS nameservers on Ubuntu/Debian with

resolv.conf

June 11, 2020 by Richie — 6 Comments

Setting **custom DNS servers on Linux** can increase performance, security and even thwart some websites using Geo-blocking via DNS. There are several ways to do this including **Network Manager** GUI that's included in many Linux distros like Debian, Ubuntu and derivatives, Netplan which is now included as standard in Ubuntu 20.04; or using `resolv.conf` (not directly, but via the **head** file). This guide will use resolv.conf, see my other guide for setting custom DNS servers using Network Manager or Netplan.

FYI: The `resolv.conf` file is overwritten on each boot so we can't edit this file directly. Instead, we edit one of the two files used to create the `resolv.conf` file, those being the `head` and `base` files. We'll be editing the `head` file so that each boot-up, `resolv.conf` gets written with our custom DNS servers at the top.

Free DNS providers

Before changing DNS servers, you'll need to find a third-party DNS provider, there are plenty of good (and free) services available. I recommend Google DNS which is what I use and have never had an issue. I will list here the most popular DNS providers:

- **GOOGLE**
- Primary IPv4: **8.8.8.8**
- Secondary IPv4: **8.8.4.4**
- Preferred IPv6: **2001:4860:4860::8888**
- Alternate IPv6: **2001:4860:4860::8844**
- **OPENDNS**
- Primary: **208.67.222.222**
- Secondary: **208.67.220.220**
- Preferred IPv6: **2620:0:ccc::2**
- Alternate IPv6: **2620:0:ccd::2**
- **DNS.WATCH**
- Primary: **84.200.69.80**
- Secondary: **84.200.70.40**
- **LEVEL3**
- Primary: **209.244.0.3**
- Secondary: **209.244.0.4**
- **NORTON**
- Primary: **199.85.126.10**
- Secondary: **199.85.127.10**
- **COMMODO**
- Primary: **8.26.56.26**
- Secondary: **8.20.247.20**
- **VERISIGN**
- Primary: **64.6.64.6**
- Secondary: **64.6.65.6**
- **MORE SERVERS...**
- See: Free and Public DNS Servers
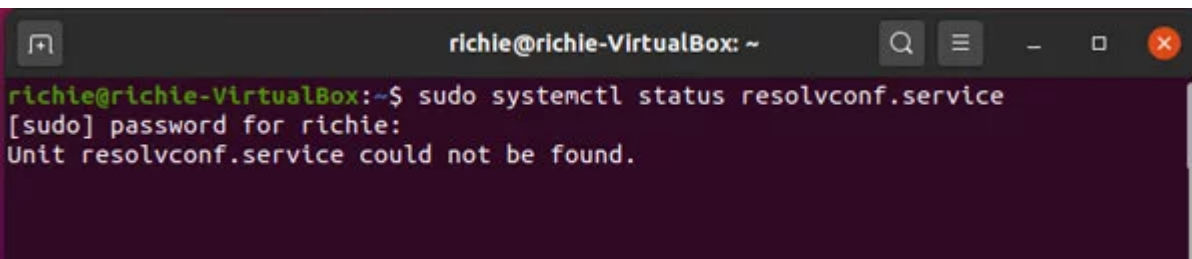- See: Public DNS Server List (extensive)

1. Installing resolvconf package

Depending on which version of Ubuntu/Debian you're using, resolvconf may or may not be installed, so let's check before we continue.

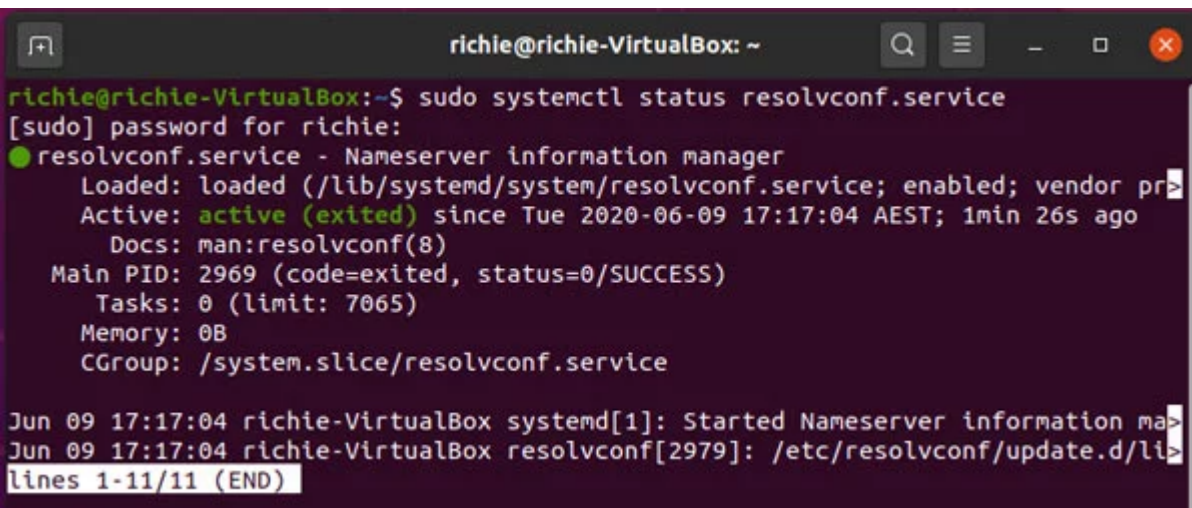Open up a Terminal window and enter the following code:

```
sudo systemctl status resolvconf.service
```

If you get the following message "Unit: resolvconf.service could not be found" then skip ahead and install resolvconf.

If you get this message "Active: active (exited)" then resolvconf is already installed. Skip to step 2.

Let's install the resolvconf package. Enter the following code:

```
sudo apt update
sudo apt install resolvconf
```

Let's make sure resolvconf was successfully installed and is running:

```
sudo systemctl status resolvconf.service
```

You should see "Active: active (exited)" message as show below:

If you see a message "Active: inactive (dead)" you'll need to enable and start the service.

To enable and start the resolvconf service, enter the following code:

```
sudo systemctl enable resolvconf.service
sudo systemctl start resolvconf.service
sudo systemctl status resolvconf.service
```

After the last command, you should see the "Active: active (exited)" message:
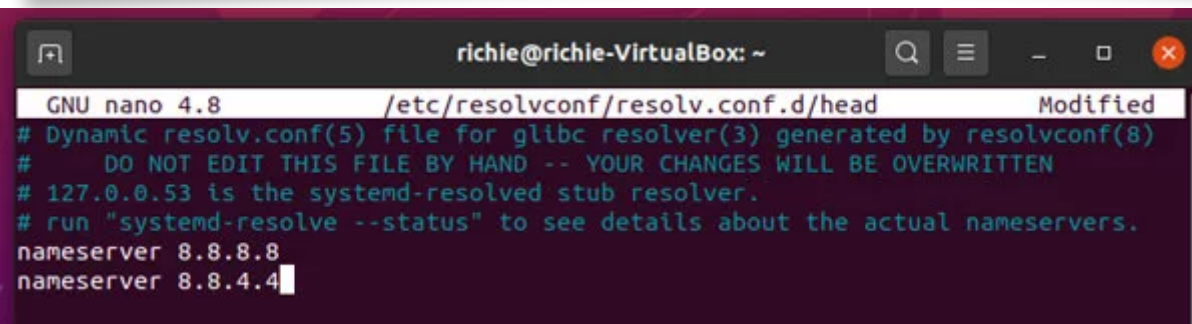

2. Set DNS servers in resolv.conf using head file

Now we get to the meat of this article. Let's open the head file:

```
sudo nano /etc/resolvconf/resolv.conf.d/head
```

Enter your nameservers below the comments (I'm using Google's DNS servers).

```
nameserver 8.8.8.8
nameserver 8.8.4.4
```


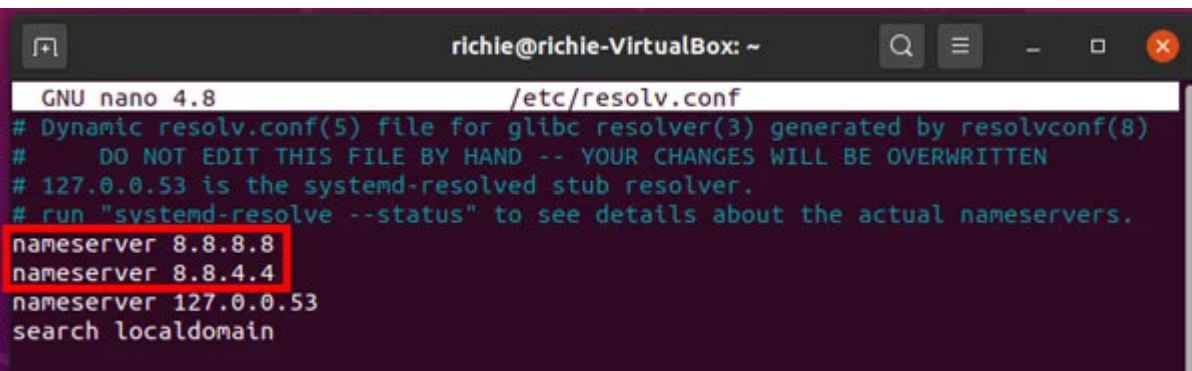Now save `Ctrl+o` and exit `Ctrl+x`

We need to update resolv.conf to use the new nameservers. Enter the following code:

```
sudo resolvconf --enable-updates
sudo resolvconf -u
```

Now open resolv.conf to confirm our nameservers have been written to it.

```
sudo nano /etc/resolv.conf
```

You should see the following:

Video Guide

Summary

I hope this guide helped you to set your custom (and permanent) DNS servers for your Ubuntu or Debian machine. If you had any trouble or just want to say hi, leave a comment and I'll help you out.

Links & Resources

- Ubuntu (official)
- Ask Ubuntu (official Ubuntu Q & A)
- Debian (official)
- Debian Admin Handbook – Domain Name Servers (DNS)
- How To Flush Linux / UNIX DNS Cache
- Linux Network Manager at Wikipedia.org
- Linux Network Manager at Archlinux.org

Filed Under: Debian, Linux, Networking, Other OS, Ubuntu

Tagged With: Custom DNS, Debian, DNS, Name Server, Nameserver, resolv.conf, resolvconf, Ubuntu

Comments

Saurabh says

Hi,

I have follow all the process and set DNS, but the issue is this after some days content written in resolv.conf is being reset automaticall and it became blank. Is there any solution for this??

Log in to Reply

Richie says
June 24, 2020 at 10:47 am

Hi, are you editing /etc/resolv.conf directly or /etc/resolvconf/resolv.conf.d/head file?

cheers
Rich

Log in to Reply

James says
July 15, 2020 at 3:55 pm

Thanks Rich, very helpful!

Log in to Reply

Richie says
July 15, 2020 at 6:30 pm

no worries James 🙂

Log in to Reply

Joshua says
July 26, 2020 at 7:47 am

I have run through this a couple of times, but the outcome is always the same. Everything works perfectly as described until I run the

'sudo resolvconf -u' command and I get the following error:

/etc/resolvconf/update.d/libc: Warning: /etc/resolv.conf is not a symbolic link to /run/resolvconf/resolv.conf

Checking the resolv.conf file it just shows what it did previously.

Log in to Reply

Richie says
July 26, 2020 at 11:49 am

Hi Joshua, that issue can usually be resolved buy reconfiguring resolve.conf, enter the following code: sudo dpkg-reconfigure resolvconf and say yes to "prepare /etc/resolve.conf for dynamic updates?" and reboot.

let me know how you go mate.
cheers
Rich

Log in to Reply

Leave a Reply

You must be logged in to post a comment.