Setting Up Web Filtering & Shielding for Home Computing

Cisco Umbrella, formerly OpenDNS
As of 2/4/2026

Web shielding & filtering typically operate outside your computer (and even outside your network) to protect your computer from accessing harmful Internet sites. They work by checking the sites your computers try to reach and intercept those requests when it's necessary.

For years, we've recommended OpenDNS, which is now owned by Cisco and is a free-for-home-use version of the Web-shielding product they sell to businesses. This is not software you install on your computer, per se. Instead, it's a setting you add either to your router or to the computer's own network stack.

Brief note: The terms “router,” “firewall,” and “access point” are sometimes used interchangeably. Regardless of what it’s called, the term “router” is used below to refer to the device that distributes Internet connectivity in your home.

Configuring and Managing OpenDNS on Home Router

OpenDNS is not the only such product that’s available, but it is one that offers some management functions for home users and is free for them. Here’s how to get it set up for yourself:

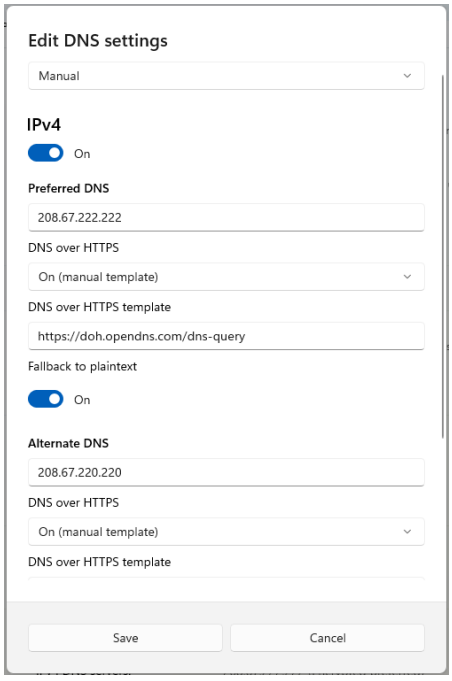
1. Configure your home router to distribute OpenDNS’s DNS server settings to any devices that connect to your network; these are LAN and/or DHCP settings in the router’s configuration interface
2. OpenDNS’s DNS settings are: 208.67.222.222 (primary) and 208.67.220.220 (secondary)
3. It’s possible to use only one of these sets of numbers, but Internet-connected devices generally work better if they have both
4. You can set computers manually and individually to use OpenDNS (more on that below); but it’s best to configure it in your router, so that all devices that connect to your network use it, without having to do anything special on any of them
5. How you go about this depends on your make and model of router; each brand and product line has its own style of interface for entering these settings
6. Find the local IP address of your router by hitting Windows-X, click “Terminal” or “Command Prompt,” then in the box that opens, type “ipconfig” (no quotes), then hit Enter, look for a specific item called “Default Gateway”; that value is your router address
7. Unfortunately, the OpenDNS tech support site no longer has information about how to work with various routers
8. Here is a ChatGPT session you can use instead; at the bottom, there’s an option to ask about your specific make and model of router: https://chatgpt.com/share/691893f0-9e04-800a-8804-d20fd2ad2d81
9. Here’s a Copilot session that offers the same information: https://copilot.microsoft.com/shares/sfPj9bY8mShc3ybE3wxni
10. If you’re able to configure your router to distribute OpenDNS to all devices, you should be all set. Just restart your computers and phones
11. You’ll also want to flush their local DNS caches

12. Do that on a Windows PC by hitting Windows-X, then click “Terminal (Admin)” or “Command Prompt (Admin),” then type “ipconfig /flushdns” (no quotes, and include the space before the slash) and hit Enter

Configuring OpenDNS on Computers, Individually

If you wish, you can set your computer manually to use OpenDNS settings. To do this, assuming you have Windows 11:

1. Hit Windows-X, then click “Network Connections”
2. In the window that comes up, click on your network type, which will be “Ethernet,” “Wired,” or “LAN” (for a wired network) or “Wi-Fi” or “Wi-Fi” (for wireless)
3. Scroll down a bit to “DNS Server Assignment” and click the “Edit” button to the right of it
4. At the top of the new small window that comes up, click on the picklist immediately under “Edit DNS Settings” then click “Manual”
5. In the “IPv4” section, set “Preferred DNS” to 208.67.222.222
6. Set “DNS over HTTPS” to “On (manual template)”
7. In “DNS over HTTPS template” enter: “https://doh.opendns.com/dns-query” (no quotes)
8. “Fallback to plaintext” should be “On”
9. Set “Alternate DNS” to 208.67.220.220
10. All the DNS over HTTPS options should be the same as above
11. It should look similar to this:



12. In the “IPv6” section (scroll down to get to it), set it to “On” with “Preferred DNS” to 2620:119:35::35
13. Set “Alternate DNS” to 2620:119:53::53

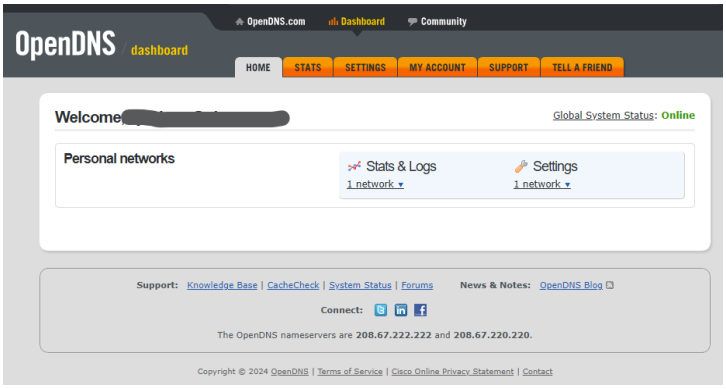
14. For each of these, set the “DNS over HTTPS” settings the same as you did above
15. That’s with it being “On (manual template)” and with “DNS over HTTPS template” set with “https://doh.opendns.com/dns-query” (no quotes) and “Fallback to plaintext” set as “On”
16. Click “Save” button at the bottom of this settings pane when done
17. See steps 11 and 12 in the “Configuring and Managing OpenDNS on Home Router” section above, to flush the local DNS cache now that you’re using OpenDNS

Making the Most of OpenDNS

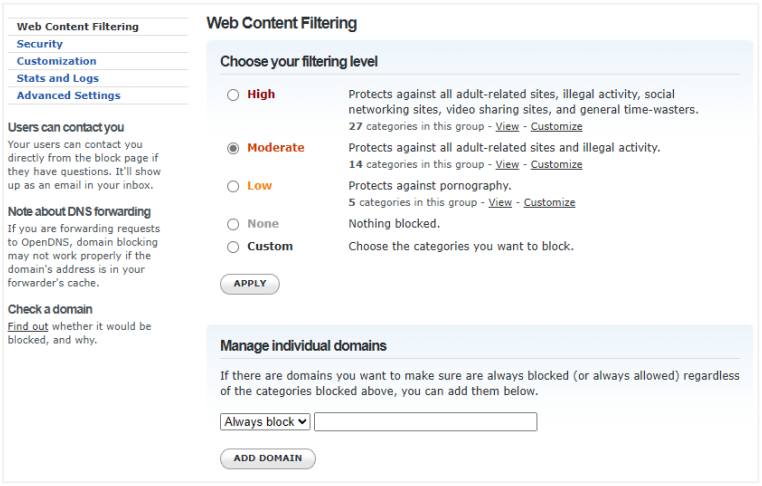
However, you have set your computer (or computers, assuming you configured DHCP in your router to distribute OpenDNS server settings to all devices), the next step is to register with OpenDNS and configure at least one computer on your network to update the service regularly with your external (or WAN) IP address.

This allows the OpenDNS service to know which network belongs to you, and you’ll then be able to use it to manage Web filtering. To do so:

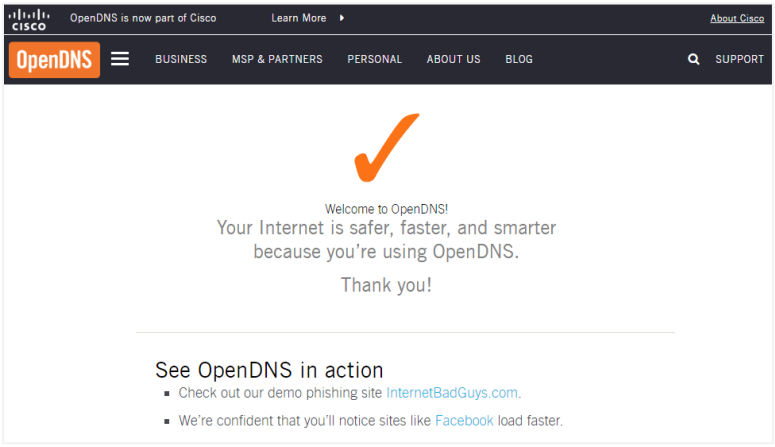
1. Go to this website: https://support.opendns.com/hc/en-us/articles/227987867-What-is-the-OpenDNS-Dynamic-IP-updater-client
2. Download the installer for your computer (there’s a Windows and Mac OS installer for the OpenDNS updater)
3. Run the installer (don’t worry, it’s quick)
4. At the end of installation, it will ask you for your email address and password to connect with the OpenDNS management service
5. You don’t have those credentials yet, so click the link to create an account
6. Follow directions at the OpenDNS site to set up your account
7. Once you’ve created credentials, add them to the updater and allow it to log in
8. It will show that it has updated OpenDNS with your current external IP address
9. This is necessary since home Internet modems are “dynamic” and your IP address will change from time to time, perhaps as often as daily, or up to 2 weeks, or however long your ISP has set your service up
10. Go to the OpenDNS dashboard for your account, at https://dashboard.opendns.com/
11. It should look something like this, once you’ve logged in:



12. The “Settings” tab is where you can set up protection for your network, so click it, then select your just-configured network from the picklist; you should see something like this:



13. Here, you can set a general level of protection (you’re probably going to want the default “Moderate,” but feel free to set it to something else and see how it works for you)
14. No matter which level of protection you choose, click the “Customize” links for each filtering level to change the categories that it allows or blocks
15. At the bottom, the “Manage individual domains” section lets you add specific domains you want to always block, or never block
16. Any domains you specify in this list will either be blocked or made available, without regard to your chosen Filtering Level or any category selections you’ve made in it
17. Confirm OpenDNS is working by going to this URL: https://welcome.opendns.com/
18. You should see this:



19. One common site many folks in Connecticut add as a “Never block” domain is the Connecticut Lottery (ctlottery.org). It’s classified as a “Gambling” site in OpenDNS, so under the default “Moderate” setting and with no other changes, it’ll be blocked

20. You can find out what's been blocked or allowed in the "Stats" tab
21. Manage your OpenDNS account in the "Account" tab, etc.

Alternatives to OpenDNS

There are free alternatives to OpenDNS. None of the following free offerings provides an online management tool like OpenDNS, but all will block at least the worst Internet sites, and one offers an option to filter out adult content as well as malware sites.

Using Cloudflare DNS

Cloudflare offers free DNS filtering with two options, based on very broad, predefined (not customizable) categories you'd like blocked. These options are called "1.1.1.1 for Families." Here's how to use them:

1. Follow directions above (as for OpenDNS) to set it up on your home router, or individually on one or more computers
2. In place of the OpenDNS server settings (each beginning with 208.67) use these numbers instead:
    a. To block malware, use 1.1.1.2 and 1.0.0.2
    b. To block malware and adult content, use 1.1.1.3 and 1.0.0.3
3. For Windows 11 computers you've configured manually to use Cloudflare DNS, set the "DNS over HTTPS template" based on your choice of what to block:
    a. For malware blocking only, the template is: "https://security.cloudflare-dns.com/dns-query" (no quotes)
    b. For malware and adult content, the template is "https://family.cloudflare-dns.com/dns-query" (no quotes)
4. To test and see if Web filtering is working:
    a. For malware blocking functions, go to https://malware.testcategory.com/
    b. For malware and adult content blocking, go to https://nudity.testcategory.com/

The selection of either malware blocking or malware and adult content blocking is the only way to select the type of coverage you're getting in Cloudflare DNS. And that's done based solely on the DNS server settings you enter in your router or computer.

Find more information on Cloudflare DNS go here:
https://developers.cloudflare.com/1.1.1.1/setup/#1111-for-families

Using Quad9 DNS

Quad9 offers a service similar to Cloudflare DNS's malware-blocking-only level. To set that up:

1. Follow directions above to set it up on your home router, or individually on one or more computers
2. In place of the OpenDNS server settings (each beginning with 208.67) use these numbers instead:
    a. 9.9.9.9 (Primary DNS)

   b. 149.112.112.112 (Secondary DNS)
3. For individual-computer manual setups, the "DNS over HTTPS template" is "https://dns.quad9.net/dns-query" (no quotes)
4. Interestingly, for Android devices only, Quad9 offers an app that will configure your smartphone or tablet to use their service for DNS. See it at https://play.google.com/store/apps/details?id=com.quad9.aegis&pcampaignid=pcampaignidMKT-Other-global-all-co-prtnr-py-PartBadge-Mar2515-1
5. To test and see if Quad9 is active, go to https://on.quad9.net/

For more information on using Quad9 and how to set it up for specific computers and devices, go to https://www.quad9.net/support/set-up-guides

A Note About Browsers and Secure DNS

Modern browsers, including Microsoft Edge, Google Chrome, Mozilla Firefox, Brave Browser, and more, all have built-in capabilities to override your computer system's DNS settings and use a secure DNS service of their own.

If you've set up OpenDNS on your computer, either by configuring it from your router or by manually setting DNS, you may find your browser using something else. You'll need to ensure it's using the system-wide settings you've specified. Alternatively, you can specify that your browser explicitly uses secure OpenDNS as its own embedded option. Directions for all the major browsers are below.

Google Chrome

1. Click the three-dot menu button in the browser's upper right, then click "Settings"
2. Click "Privacy and security" on the left, then "Security"
3. Scroll down and click "Use secure DNS" to enable this feature if it's not already on
4. Change the "Select DNS provider" dropdown to "OS default" (to use your system-wide setting) or "OpenDNS"

Mozilla Firefox

1. Click the three-line menu button in the browser's upper right, then click "Settings"
2. Click "Privacy and Security" on the left, then scroll down to the "DNS over HTTPS" section
3. Under "Enable DNS over HTTPS using," do either of the following:
   a. Change the "Choose provider" dropdown to "Custom", then add "https://doh.opendns.com/dns-query" (no quotes) in the box below that
   b. Change the overall selection to "Off" in order to use your system-wide setting

Microsoft Edge

1. Click the three-dot menu button in the browser's upper right, then click "Settings"
2. Click "Privacy, search and services" on the left, then "Security" in the middle
3. Scroll down and click "Use secure DNS" to enable this feature if it's not already on
4. Click in the box below "Choose a service provider" then do either of the following:

a. Click “OpenDNS” which will change its contents to the OpenDNS DoH template URL
b. Click “Use current service provider” to use your system-wide setting

Brave Browser

1. Click the three-line menu button in the browser’s upper right, then click “Settings”
2. Click “Privacy and security” on the left, then “Security” in the middle
3. Click “Use secure DNS” to enable this feature if it’s not already on, then do either of the following:
4. Click the “Select DNS provider” dropdown and set it to “OS default” (to use your system-wide setting)
5. Change the “Select DNS provider” dropdown to “OS default” (to use your system-wide setting) or “OpenDNS”

Vivaldi Browser

1. Click the “V” menu button in the upper left of the browser window, then click “Settings”
2. Click “Network” on the left
3. Click the “Enable DNS Lookup Over HTTPS” checkbox to enable it
4. Change the dropdown immediately below that to “OS default” (to use your system-wide setting) or “OpenDNS”