

Public recursive name server

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A **public recursive name server** (also called **public DNS resolver**) is a [name server](#) service that networked computers may use to query the [Domain Name System \(DNS\)](#), the decentralized Internet naming system, in place of (or in addition to) name servers operated by the local [Internet service provider \(ISP\)](#) to which the devices are connected. Reasons for using these services include:

- speed, compared to using ISP DNS services^[1]
- filtering (security, ad-blocking, porn-blocking, etc.)^[2]
- reporting^[3]
- avoiding censorship^[4]
- redundancy (smart caching)^[5]
- access to unofficial [alternative top level domains](#) not found in the official [DNS root zone](#)
- temporary unavailability of the ISP's name server

Public DNS resolver operators often cite increased privacy as an advantage of their services; critics of public DNS services have cited the possibility of mass data collection targeted at the public resolvers as a potential risk of using these services. Several services now support secure DNS lookup transport services such as [DNS over HTTPS \(DoH\)](#) and [DNS over TLS \(DoT\)](#).

Public DNS resolvers are operated either by commercial companies, offering their service for free use to the public, or by private enthusiasts to help spread new technologies and support non-profit communities.

List of public DNS service operators

Provider	Nodes	Privacy policy	DNS over UDP	DNSSEC	DNS over TLS	DNS over HTTPS	DNSCrypt	Hostnames	IPv4 addresses	IPv6 addresses	Filters	Remarks
AdGuard	12[6]	Yes[7]	Yes	Yes[8]	Yes	Yes[9]	Yes[10]	dns.adguard.com	94.140.14.14	2a10:50c0::ad1:ff	Default[11]	A free, privacy-oriented DNS resolution system that blocks tracking, ads and phishing.[12]
								dns-family.adguard.com	94.140.15.15	2a10:50c0::ad2:ff	Family[11]	
								dns-unfiltered.adguard.com	94.140.14.15	2a10:50c0::bad1:ff	None[11]	
CleanBrowsing	20	Yes[13]	Yes	Yes	Yes[14]	Yes[15]	Yes[16]	family-filter-dns.cleanbrowsing.org	94.140.15.16	2a10:50c0::bad2:ff	Family	Designed to be used on devices of kids under 13.
								adult-filter-dns.cleanbrowsing.org	185.228.168.168	2a0d:2a00:1::	Adult	
								security-filter-dns.cleanbrowsing.org	185.228.169.168	2a0d:2a00:2::	Security	
								one.one.one.one[22]	185.228.168.10	2a0d:2a00:1::1	None	
Cloudflare	200[17]	Yes[18]	Yes	Yes[19]	Yes[20]	Yes[21]	No	1dot1dot1dot1.cloudflare-dns.com	185.228.169.11	2a0d:2a00:2::1	None	Intended to be used with IPv6-only network. ^[23] See NAT64 and DNS64.
								dns64.cloudflare-dns.com	185.228.168.9	2a0d:2a00:1::2	None	
								security.cloudflare-dns.com	185.228.169.9	2a0d:2a00:2::2	Malware, Phishing	
Comodo		No	Yes	Yes	No	No	Yes	family.cloudflare-dns.com	1.1.1.1	2606:4700:4700::1111	Malware, Phishing, Adult content	
								ns1.recursive.dnsbycomodo.com	1.0.0.1	2606:4700:4700::1001		

Dyn	23[25]	Yes[24]	Yes	Yes	No	No	No	ns2.recursive.dnsbycomodo.com resolver1.dyndnsinternetguide.com resolver2.dyndnsinternetguide.com dns.google[28] google-public-dns-a.google.com google-public-dns-b.google.com	8.20.247.20 216.146.35.35 216.146.36.36 8.8.8.8 8.8.4.4	— 2001:4860:4860::8888 2001:4860:4860::8844	None	Shut down on May 31, 2022	
Google	23[25]	Yes[26]	Yes	Yes	Yes	Yes[27]	No	dns64.dns.google	— 64.6.64.6 64.6.65.6	2001:4860:4860::6464 2001:4860:4860::64 2620:74:1b::1:1 2620:74:1c::2:2	None	Intended to be used on networks with NAT64 gateway.[29]	
Neustar	31[32]	Yes[30]	Yes	Yes	No	No	No	156.154.70.1 156.154.71.1 156.154.70.2 156.154.71.2 156.154.70.3 156.154.71.3 156.154.70.4 156.154.71.4 156.154.70.5 156.154.71.5	2610:a1:1018::1 2610:a1:1019::1 2610:a1:1018::2 2610:a1:1019::2 2610:a1:1018::3 2610:a1:1019::3 2610:a1:1018::4 2610:a1:1019::4 2610:a1:1018::5 2610:a1:1019::5	Malware, ransomware, spyware, phishing Low security + gambling, pornography, violence, hate	Verisign transferred its public DNS (IPs starting in 64. or 2620:) to Neustar on Dec 3, 2020[31]		
OpenDNS	31[32]	Yes[33]	Yes	Yes[34]	Yes	Yes[35]	Yes[36]	dns.opendns.com familyshield.opendns.com sandbox.opendns.com	208.67.222.222 208.67.220.220 208.67.222.123 208.67.220.123 208.67.222.2 208.67.220.2	2620:119:35::35 2620:119:53::53 2620:119:35::123 2620:119:53::123 2620:0:ccc::2 2620:0:ccd::2	Basic Security filtering + user defined policies "FamilyShield": adult content	Sandbox addresses which provide no filtering	
OpenNIC	149[40]	Yes[37]	Yes	Yes	No	No	Partial[38]	Several [39]	185.121.177.177 169.239.202.202	2a05:dfc7:5::53 2a05:dfc7:5::5353		List of all OpenNIC Tier 2 DNS Resolvers	
Quad9	149[40]	Yes[41]	Yes	Yes[42]	Yes[43]	Yes[44]	Yes[45]	dns.quad9.net	9.9.9.9	2620:fe::fe	Malicious domains (phishing, malware, exploit)		

[Yandex](#)

Yes[47]	Yes	No[46]			Yes
		No	No	No	

rpz-public-resolver1.rrdns.pch.net	149.112.112.112	2620:fe::9	kit domains)
dns-nosec.quad9.net	9.9.9.10	2620:fe::10	None
	149.112.112.10	2620:fe::fe:10	
dns.yandex.ru	77.88.8.1	2a02:6b8::feed:0ff	None
secondary.dns.yandex.ru	77.88.8.8	2a02:6b8:0:1::feed:0ff	
safe.dns.yandex.ru	77.88.8.2	2a02:6b8::feed:bad	"Safe": fraudulent / infected / bot sites
secondary.safe.dns.yandex.ru	77.88.8.88	2a02:6b8:0:1::feed:bad	
family.dns.yandex.ru	77.88.8.3	2a02:6b8::feed:a11	"Family": fraudulent / infected / bot / adult sites
secondary.family.dns.yandex.ru	77.88.8.7	2a02:6b8:0:1::feed:a11	