

# Systemd-resolved

Systemd-resolved provides resolver services for Domain Name System (DNS).

## Status

To check the DNS currently in use by systemd-resolved, run resolvectl status.

```
# resolvectl status
-----
Global
    Protocols: +LLMNR +mDNS -DNSOverTLS DNSSEC=no/unsupported
resolv.conf mode: stub

Link 2 (eth0)
    Current Scopes: DNS LLMNR/IPv4 LLMNR/IPv6
        Protocols: +DefaultRoute +LLMNR -mDNS -DNSOverTLS
DNSSEC=no/unsupported
    Current DNS Server: fdाa:66:67:a::1
        DNS Servers: fdाa:66:67:a::1
-----
```

## Query

```
# resolvectl query www.oscardegroot.nl
-----
www.oscardegroot.nl: 2001:1c00:2e16:720a:2ff:b1ff:feaa:1202 -- link: eth0
                      84.31.73.82           -- link: eth0
                      (oscardegroot.nl)

-- Information acquired via protocol DNS in 3.5ms.
-- Data is authenticated: no; Data was acquired via local or encrypted
transport: no
-- Data from: network
-----
```

## Configure

### Supporting /etc/resolv.conf

To provide domain name resolution for software that reads /etc/resolv.conf directly, such as web

browsers, systemd-resolved has four different modes for handling the file—stub, static, uplink and foreign. They are described in `systemd-resolved(8)`. The recommended mode, is the stub mode which uses `/run/systemd/resolve/stub-resolv.conf`. `/run/systemd/resolve/stub-resolv.conf` contains the local stub 127.0.0.53 as the only DNS server and a list of search domains. This is the recommended mode of operation that propagates the `systemd-resolved` managed configuration to all clients.

```
# ls -al resolv.conf
lrwxrwxrwx 1 root root 37 aug 13 07:27 resolv.conf ->
/run/systemd/resolve/stub-resolv.conf
# cat /run/systemd/resolve/stub-resolv.conf
nameserver 127.0.0.53
options edns0 trust-ad
search .
```

## Automatically

`systemd-resolved` will work out of the box with a network manager using `/etc/resolv.conf`. No particular configuration is required since `systemd-resolved` will be detected by following the `/etc/resolv.conf` symlink.

## Manually

The resolver can be configured by editing `/etc/systemd/resolved.conf` and/or drop-in `.conf` files in `/etc/systemd/resolved.conf.d/`

## Links

- <https://wiki.archlinux.org/title/systemd-resolved>

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