

# dig Cheatsheet

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Quick reference for querying DNS records, tracing resolution, and debugging name resolution with dig

The `dig` command queries DNS name servers and prints detailed records such as A, AAAA, MX, NS, TXT, and PTR. This cheatsheet covers basic lookups, record type queries, output control, reverse lookups, trace and DNSSEC checks, and quick troubleshooting.

## Basic Syntax

Core `dig` command forms.

<code>dig example.com</code>	Look up the A record using the default resolver
<code>dig example.com @8.8.8.8</code>	Query a specific name server
<code>dig example.com mx</code>	Query a specific record type
<code>dig -x 192.0.2.1</code>	Run a reverse DNS lookup
<code>dig example.com +short</code>	Print only the answer value

## Common Lookups

Quick checks for hostnames and addresses.

<code>dig example.com</code>	Look up A records using the default resolver
<code>dig example.com +short</code>	Print only the IP address
<code>dig www.example.com</code>	Check a hostname or subdomain
<code>dig example.com +noall +answer</code>	Show only the answer section
<code>dig -x 192.0.2.1 +short</code>	Reverse lookup, hostname only

## Record Types

Append the record type to query a specific record.

<code>dig example.com a</code>	Query IPv4 address records
<code>dig example.com aaaa</code>	Query IPv6 address records
<code>dig example.com mx</code>	Query mail exchanger records
<code>dig example.com ns</code>	Query authoritative name servers
<code>dig example.com txt</code>	Query TXT records
<code>dig example.com soa</code>	Query the SOA record
<code>dig www.example.com cname</code>	Check whether a hostname is an alias
<code>dig example.com any</code>	Request an <b>ANY</b> response; many servers return limited data

## Output Control

Trim the verbose default output.

<code>dig example.com +short</code>	Answer value only
<code>dig example.com +noall +answer</code>	Answer section only
<code>dig +nocmd example.com</code>	Drop the version and options header
<code>dig example.com +nocomments +nostats</code>	Hide comments and query stats
<code>dig example.com +ttlunits</code>	Show TTL values with units such as minutes or hours
<code>dig example.com +multiline</code>	Print records one field per line

## Specific DNS Servers

Compare answers from different resolvers.

<code>dig example.com @8.8.8.8</code>	Query Google Public DNS
<code>dig example.com @1.1.1.1</code>	Query Cloudflare DNS
<code>dig example.com @9.9.9.9</code>	Query Quad9
<code>dig example.com mx @8.8.8.8</code>	Query MX records from a specific resolver
<code>dig example.com txt @1.1.1.1</code>	Compare TXT answers between resolvers

## Trace, DNSSEC, and Bulk

Deeper debugging and batch queries.

<code>dig example.com +trace</code>	Trace resolution from the root servers down
<code>dig example.com +dnssec</code>	Request DNSSEC records; this does not validate them locally
<code>dig example.com @1.1.1.1 +dnssec   grep flags</code>	Check whether the resolver returned the <b>ad</b> validation flag
<code>dig example.com +tcp</code>	Force the query over TCP
<code>dig -f domains.txt +short</code>	Bulk query domains from a file
<code>dig -v</code>	Print the <b>dig</b> version

## Troubleshooting

Quick checks for common `dig` results.

<code>NXDOMAIN</code>	Domain does not exist; verify spelling and registration
<code>SERVFAIL</code>	Check DNSSEC, delegation, and authoritative-server availability; compare another resolver
<code>REFUSED</code>	The server policy rejected the query; verify recursion access or query the proper authoritative server
<code>connection timed out; no servers could be reached</code>	Check network and <code>/etc/resolv.conf</code> ; try <code>+tcp</code>
Truncated reply	<code>dig</code> normally retries over TCP; use <code>+tcp</code> to test TCP directly

## Related Guides

Use these guides for fuller DNS workflows.

<a href="#">dig Command in Linux</a>	Full <code>dig</code> guide with practical examples
<a href="#">nslookup Cheatsheet</a>	Simpler interactive DNS lookups
<a href="#">ping Cheatsheet</a>	Quick connectivity checks before DNS work
<a href="#">IP command cheatsheet</a>	Inspect interfaces, addresses, and routes
<a href="#">curl Cheatsheet</a>	Test HTTP reachability after DNS resolves