

William Prado
04-29-2025

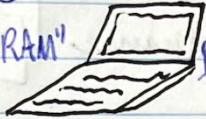
Thursday will go to the federal reserve.

youtube
Power
cert.

How a DNS Server Works?

DNS 53

Cache "RAM"



NAMES MAPPS

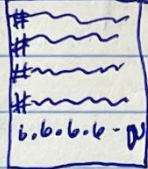
www.google.com + can't find
1st cache

2nd host file

3rd DNS



C:\Windows\system32\drivers\etc\hosts



www.google.com

Root servers - 13

youtube
IBM
Cloud

What is DNS?

DNS → Domain

Name

System.

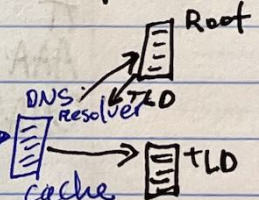
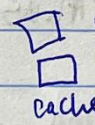
Domain?
abc.com

IP?

172.25.43.128

DNS Resolver → phone book

DNS Look up



youtube
Sunny
Larrock

DNS Recursive query vs. Iterative query.

Host file

DNS Server

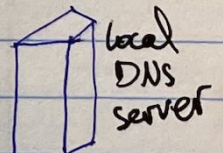
Resolver

Root

TLD

Authoritative

Client DNS.



Maps Name ↔ IP address;
Name resolution.

windows

ipconfig /displaydns

Recursive → Client → local DNS

windows:

ipconfig /displaydns

iterative "refer"

6.5

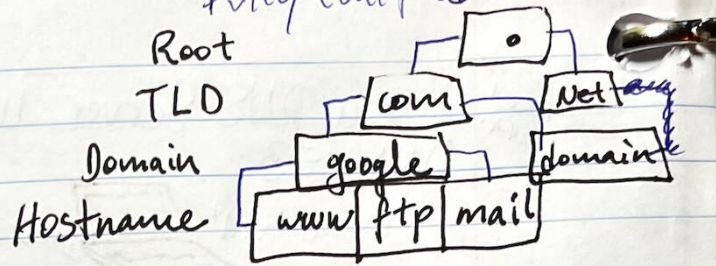
• dot means root.

Fully Qualified Domain Name (FQDN)

FQDN = Host name + Domain name

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Fully Qualified Domain Name



Youtube DNS Records explained
Type A records

* Time to Live (TTL)

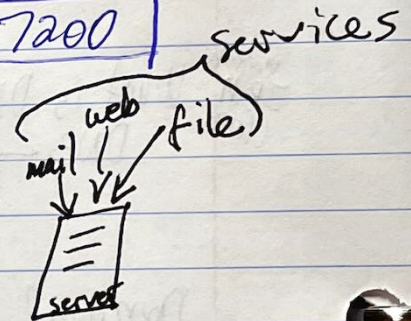
DNS Records

Type	Name	IP Address	TTL
A	example.com	12.34.56.78	7200

* Records

A IPv4
AAAA IPv6
CNAME "Alias"

Host
ftp.cor.org
www.cor.org
smtp.cor.org



Mx - Email

SOA - Start of authority Admin info.

NS - Name Server

SRV - service record.

mysql - 3306

PTR - Reverse DNS.

TXT - Comments

Youtube
IBM

DNS Zones & Records
IANA.ORG

Working w/ DNS Zone & records in Windows Server.

Reverse lookup zones, test

DNS Manager - windows

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04/29-2025

Forward lookup zones
Domain -> IP address

Reverse lookup zones
IP-address -> Domain

mail exchange Create "A" record first then... MX Email.

note Types DNS server.
DNS server + query types explained w/ examples.
Resolver
Resolver system/resolver computer

- DNS queries
- DNS -> gives me name -> & IP address
- Non recursive query.
- A cache only DNS server
- Forwarding DNS server
- Primary or Master authoritative only server
- Secondary or slave

Thursday - leave here at 9 a.m. Federal Reserve.

Troubleshoot DNS

> dig
> nslookup