

# Domains, DNS, IPs

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# Domain Names

- Domain names are human-friendly names for locations / servers on a network or the internet as a whole
- Would be horrible if we had to memorize the IP addresses of the websites we wanted to use
- Analogy: [yellowpages.com](https://www.yellowpages.com)

# Domain Name System

- The Domain Name System (DNS) is a service for networks that “translates” domain names to locations (IP addresses)
- Modern web browsing relies heavily on this!
- Can look up IP for domain name via command line:
  - **nslookup**

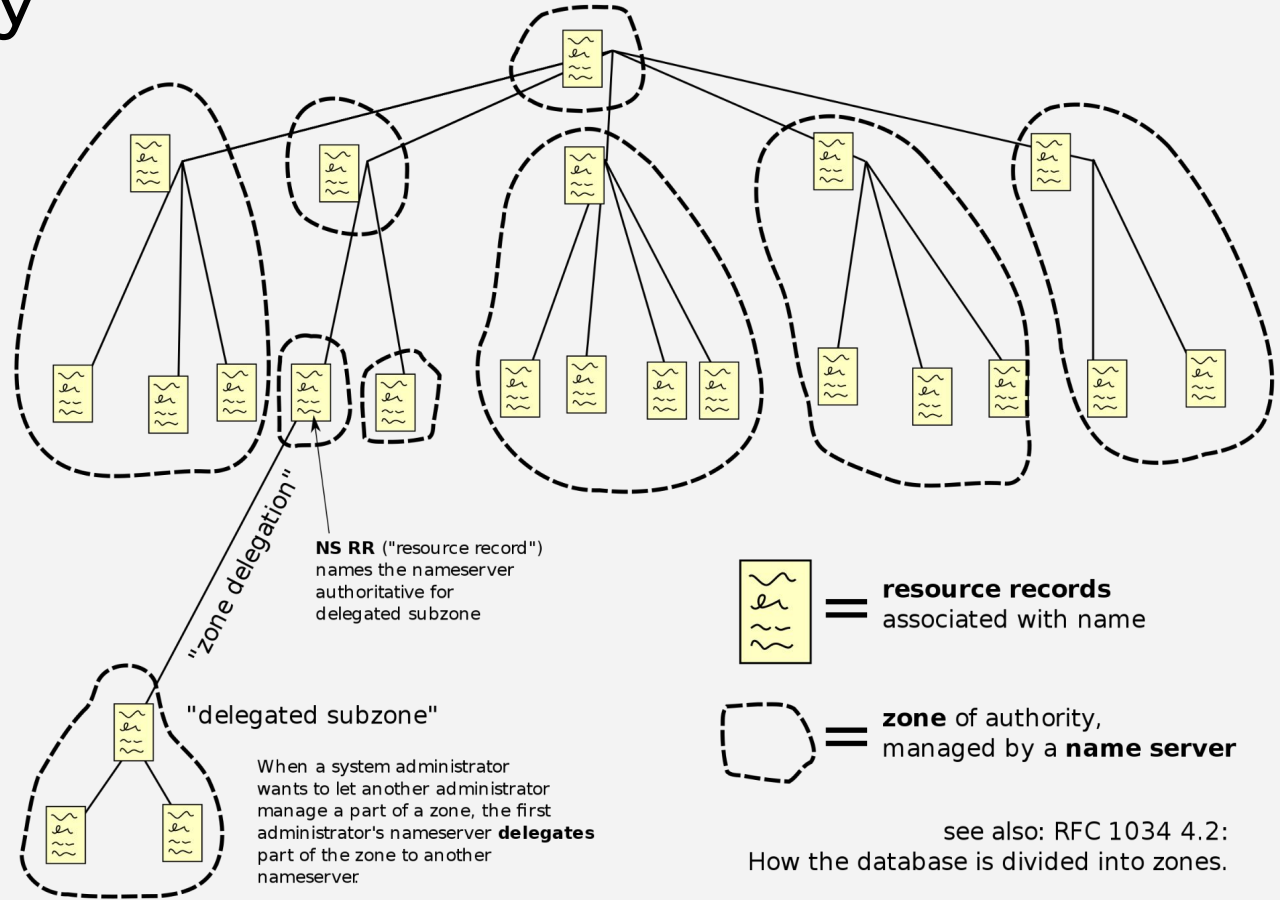
# Who manages DNS?

- Organized by ICANN
- 13 top-level DNS servers that are the ultimate authority on which domains map to which addresses
- More level 2 servers run by companies such as Google, DigitalOcean, etc that cache information from these primary ones

<https://superuser.com/questions/472695/who-controls-the-dns-servers/472729>

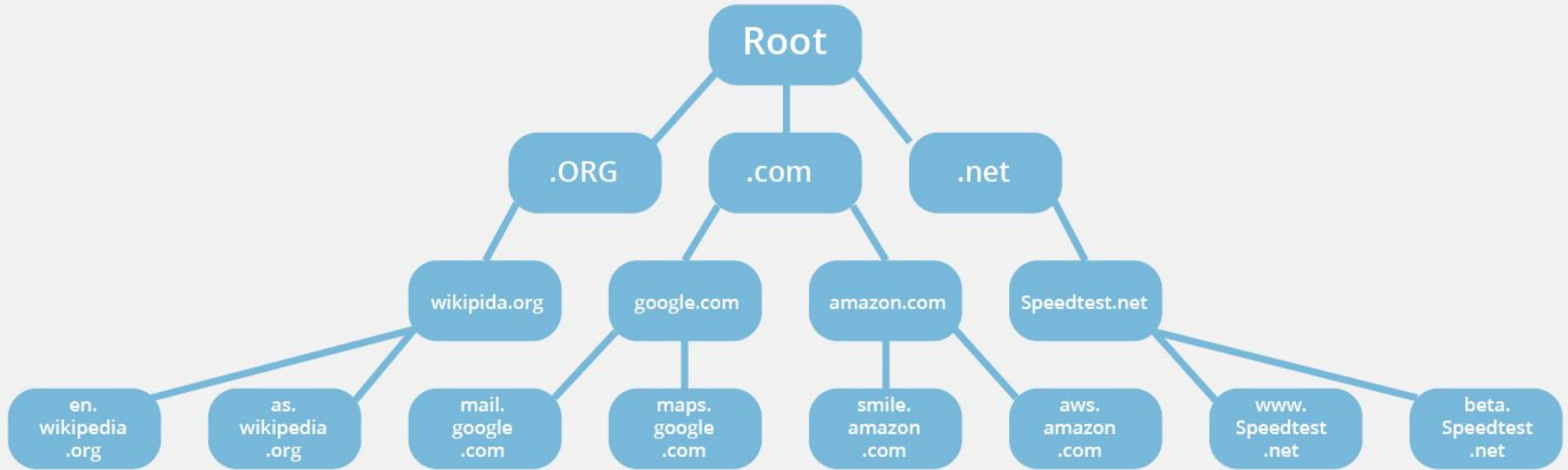
# DNS Hierarchy

## Domain Name Space



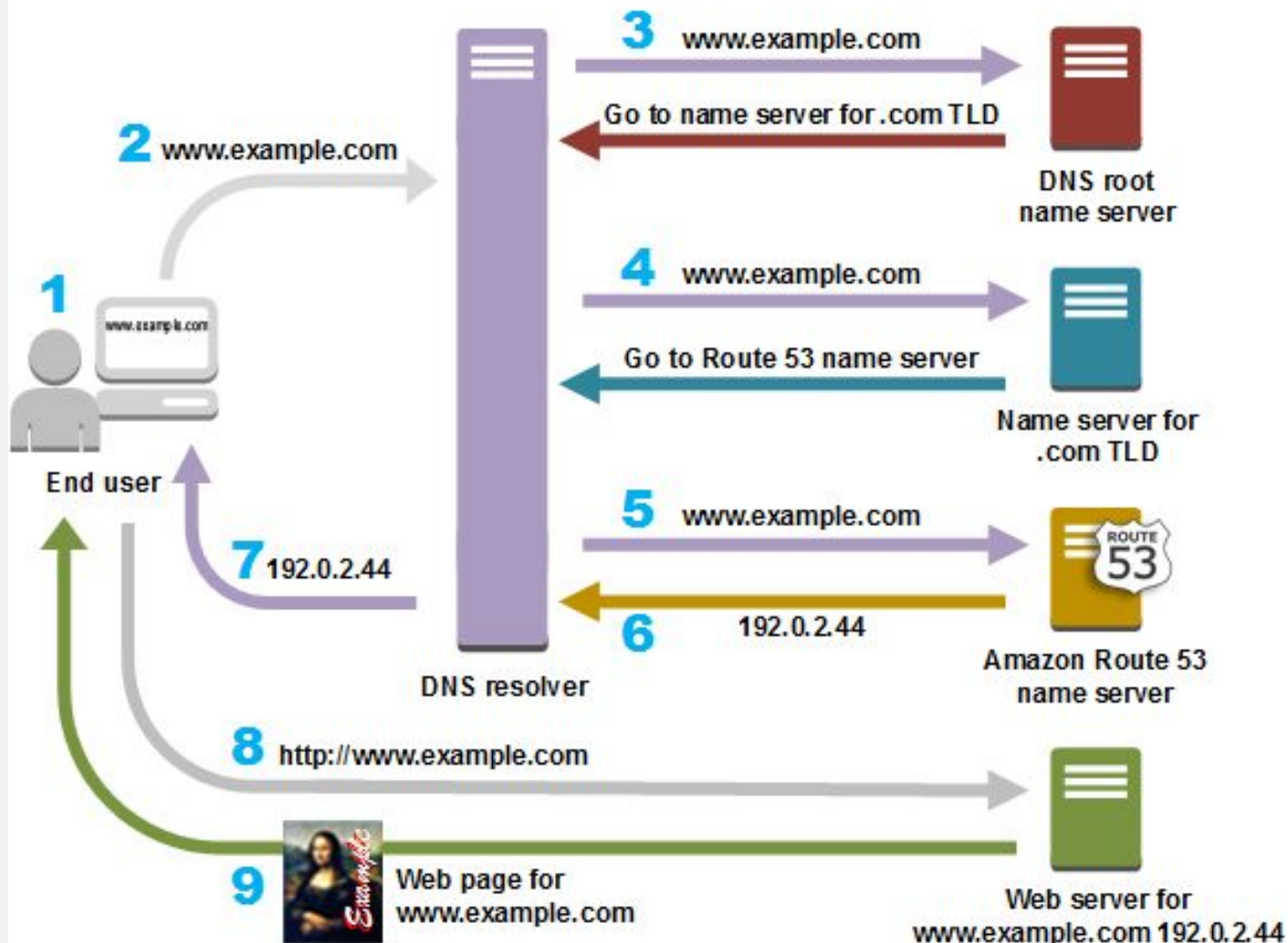
From Wikipedia

# DNS Hierarchy



<https://www.cloudflare.com/learning/dns/glossary/dns-root-server/>

# DNS Lookup



# Register a Domain Name

- Due to this organization, you cannot just use any domain name you want, must first register
- Use a site such as namecheap.com, name.com, etc



# Domain Name Setup

Set up with Digitalocean and namecheap:

<https://ron.sh/how-to-connect-a-namecheap-domain-with-digitalocean/>