


How DNS Works

@Rapid_API 

DNS stands for Domain Name System

DNS is the system that translates domain names into IP addresses.



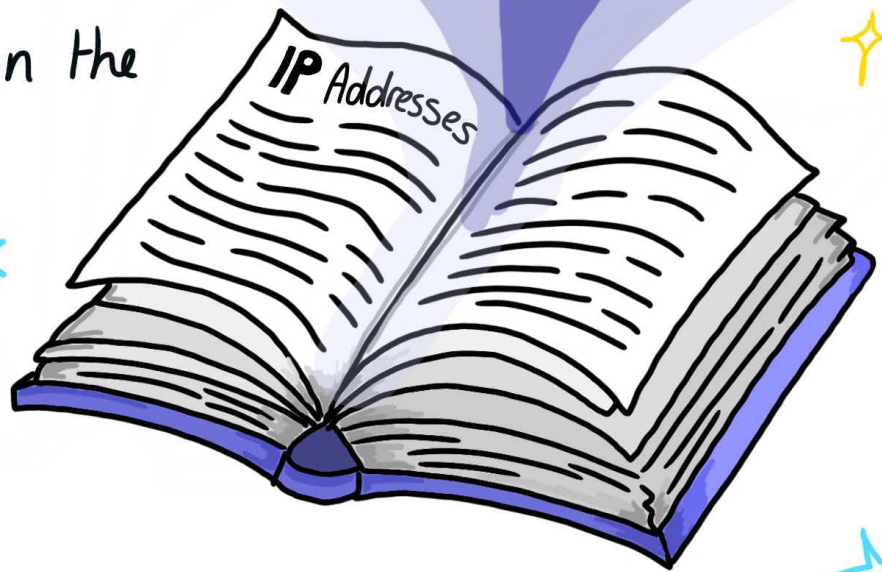
rapidapi.com



2606:4700:3108::ac42:2918

Computers and servers use IP addresses to identify websites and direct your browser to the correct one.

You can think
of DNS acting like
an address book for ✨
every website on the
Internet. ✨



There are **5**
basic Steps in the
DNS System:

Step 1

DNS Cache

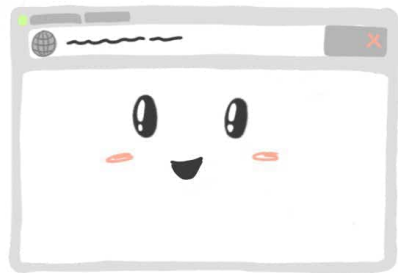
@Rapid_API 

User searches for a site



I'll just check my cache
to see if I already know
this site...

Your browser

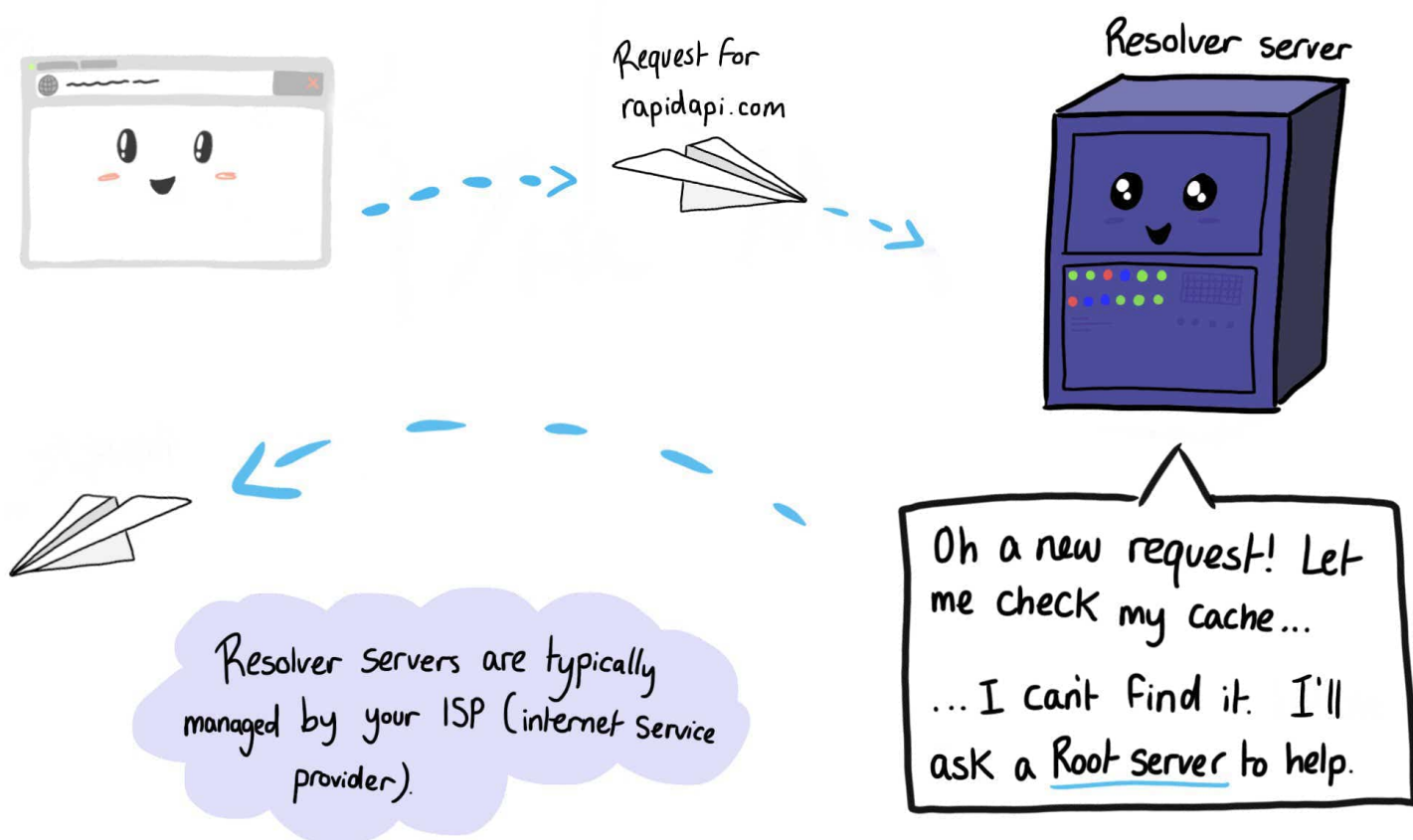


Nope! I don't
know this one.
Let me send
it to a
Resolver.

If the website is cached, it will
be loaded and the DNS system stops
here.

Step 2

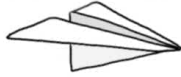
Resolver Server



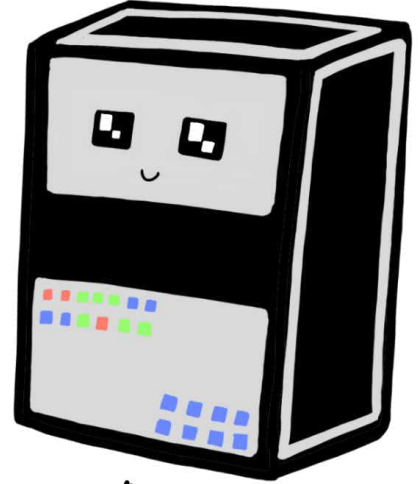
Step 3

Root Server

rapidapi.com

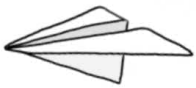


Root Server



Root servers sit at the top of the DNS hierarchy. They redirect Resolver servers to another type of server called TLD servers.

I don't know this site, but I can redirect you to the .COM TLD server!

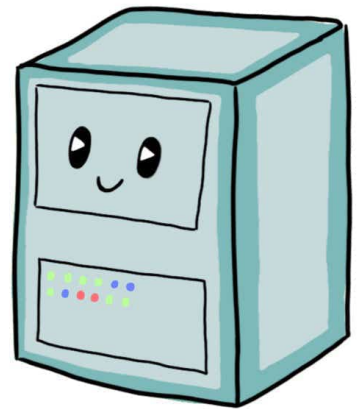


Step 4

TLD Server

There are TLD servers for domain endings (.com/.org/.net etc), as well as country codes, like .de for Germany, or .in for India.

.COM TLD server



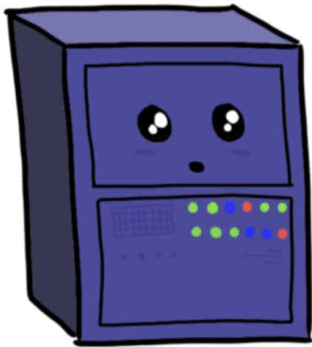
I don't know the IP address for rapidapi.com, but I can redirect the Resolver to the correct Authoritative Name Server.

Step 5

Authoritative Name Server

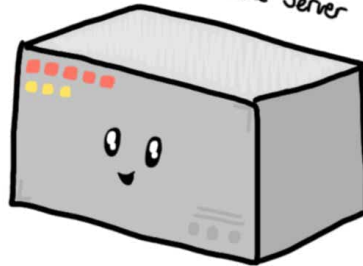
I'm looking for rapidapi.com.

Resolver Server



Got it! Here is the IP address for rapidapi.com.
2606:4700:3108::ac42:2918

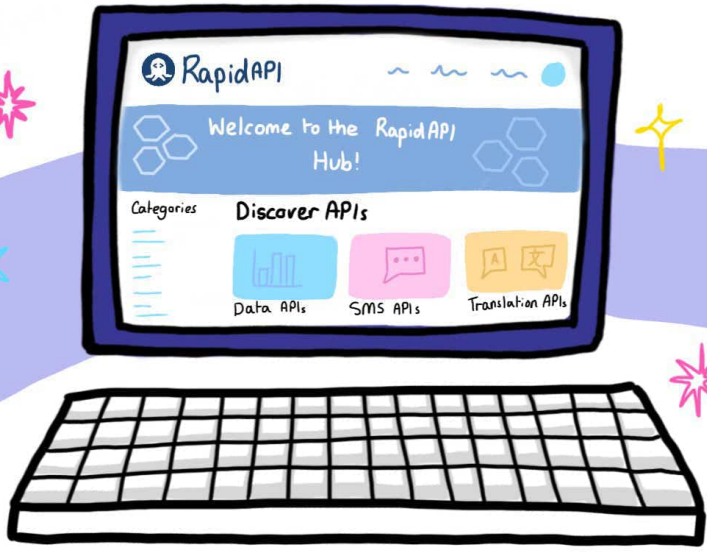
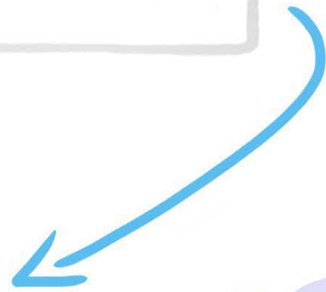
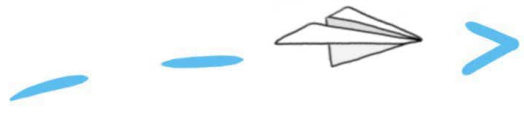
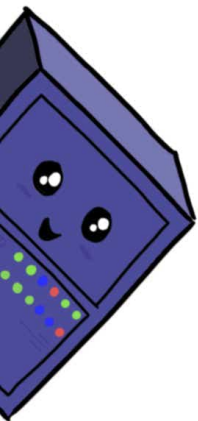
Authoritative Name Server



Authoritative Name Servers are responsible for knowing everything about the domain.

The Resolver can now send the IP address back to the client.

Here's the IP address for rapidapi.com!



The website is loaded in the browser! All of this happens within a few milliseconds. That's the end of the DNS system!

