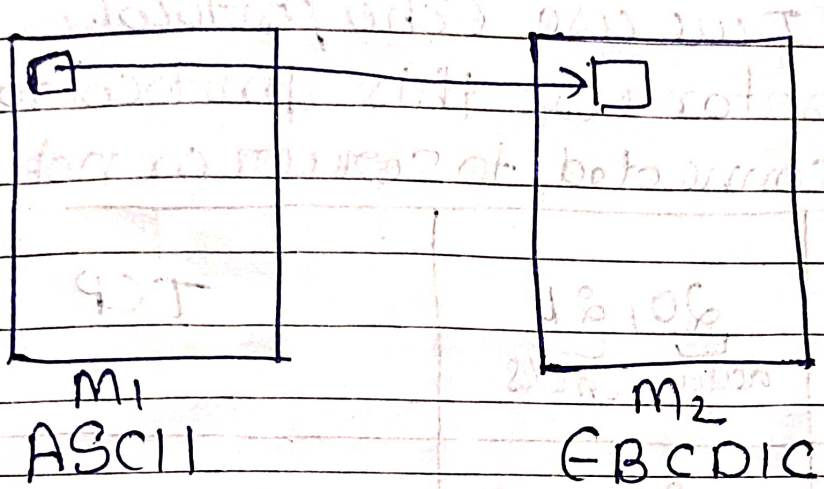
# Presentation Layer.

1. Code Conversion (formatting)




if one machine is work on ASCII code and other on EBCDIC and if they want to communicate the ASCII code should convert it to EBCDIC code and vice versa.

2. Encryption/Decryption.

if a machine send data to other node in network there is a possibility that the data may get hacked but if data is encrypted strongly then hacker cannot read the data hence it is useless and decryption is used at receiver's side to read data.

3. Compression :-

Some times some data are redundant sowe can compress it.

→ Presentation layer is not responsibility of Operating system.

# Important Pariotocols:

| Protocol Name | Full form | Port No. | Transport Protoco |
|---|---|---|---|
| Echo | — | 7 | TCP/UDP |

when client request server and server responds this total time is called round trip time RTT. So to calculate RTT we use Echo protocol. Network Administator use this protocol to check wether we are connected to server or not

| | | | |
|---|---|---|---|
| FTP | File transfer protocol | 20, 21 (20: data, 21: cmds) | TCP |
| SSH | Secure Shell | 22 | TCP |

it is need when we need security.

| | | | |
|---|---|---|---|
| Telnet | — | 23 | TCP |

used to remote Logen

| | | | |
|---|---|---|---|
| SMTP | Simple mail transfer protocol | 25 | TCP |
| DNS | Domain Name System | 53 | UDP |
| DHCP | Dynamic Host Control protocol | 67/68 | UDP |

used to assign IP addresses dynamically

| | | | |
|---|---|---|---|
| TFTP | Trivial file transfer protocol | ~~67/68~~ 69 | UDP |

used when we doesnot care about the data loss.

| | | | |
|---|---|---|---|
| HTTP | Hyper text Transfer protocol | 80 | TCP |

Webpages transfers with the help of HTTP.

| | | | |
|---|---|---|---|
| POP | post office protocol | 110 | TCP |

it is to pop the mail from the server to your system. SMTP is use to push the mail to server

| | | | |
|---|---|---|---|
| NTP | Network time protocol | 123 | UDP |

used to synchronise client and server time

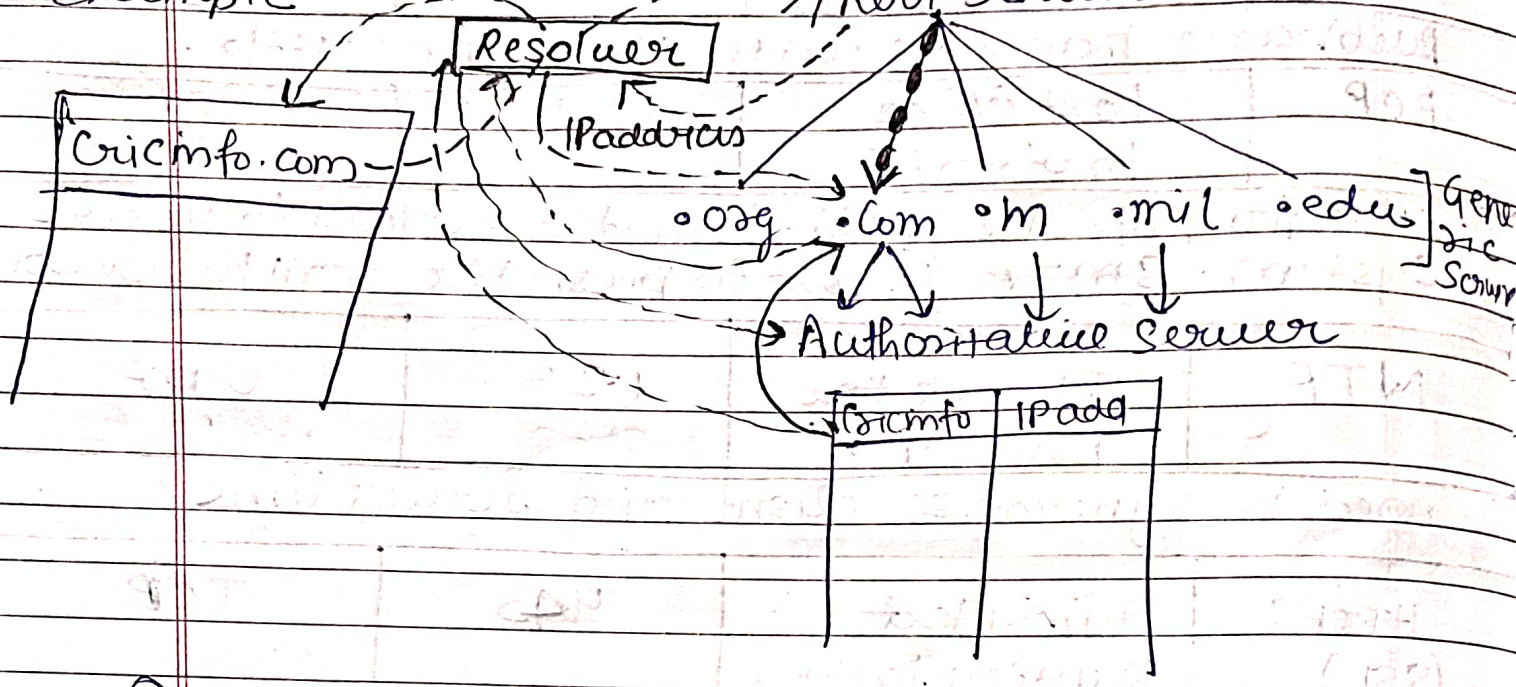
| | | | |
|---|---|---|---|
| HTTPS (SSL) secure Socket layer | Hyper text transfer protocol secure | 443 | TCP |
| RIP | Routing information protocol. | 520 | UDP |

# Domain Name System –

→ To map domain name with IP addresses.

→ IP addresses are dynamic so it is not possible to remember. so we use domain name

Example




① When we search domain name on Google then request is sent to resolver to get the IP address.

② Resolver go to the Root Server request the IP, Root server send generic server to the resolver.

③ Then Resolver requests that generic server for IP then Generic server send the link of Authoritative server to resolver.

④ Then Resolver go to that authoritative server and authoritative server sends the IP address to Resolver.

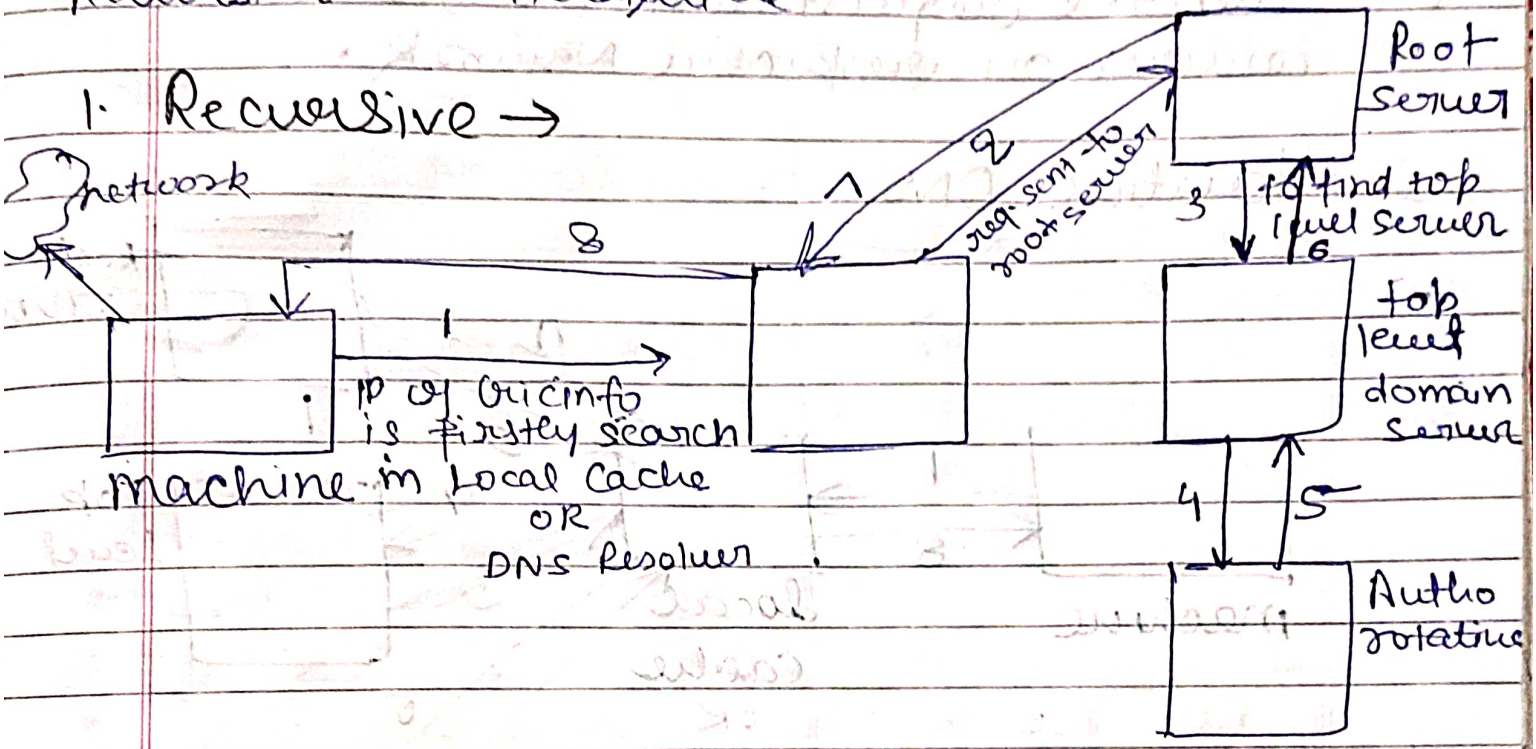
5. Now IP address is known by the Resolver and it sends it to client

6. Then request for data is send to that particular address. and then server go sends the data

Types of DNS

Recursive  Iterative:

1. Recursive →




(1) IP address of domain name is firstly searched in local cache if it is present then it will return IP address immediately. (it is best case)

(2) If IP address is not present in local cache then the request is sent from local cache to Root server. ~~then Ro~~

(3) Root server sent the request to Generic server

(4) Generic server send the request to Authorata

the server.

(5) Authoritative server return the IP address to Generic server.

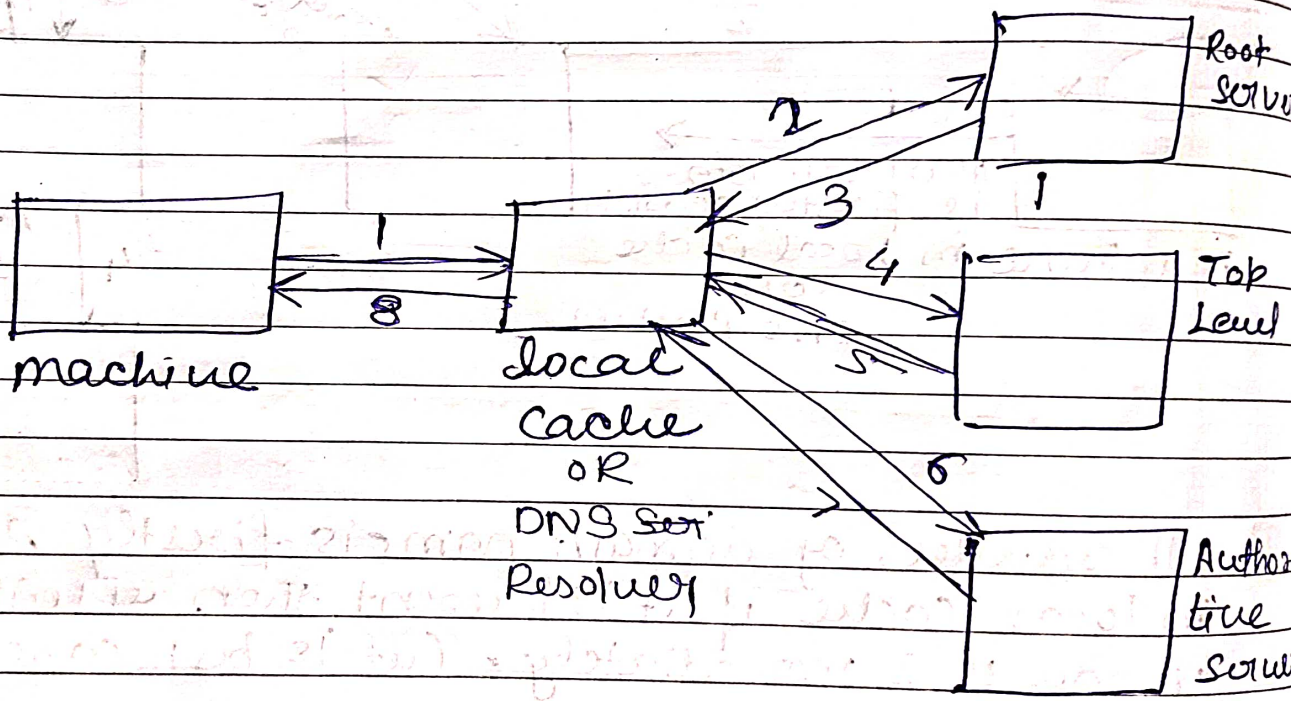
(6) Generic server return IP to Root Server.

(7) Root server return IP to Local cache.

(8) IP address stored in Local cache and return it to machine.

(9) then the request will forword to that IP address on respective Network.

2- Iterative DNS




→ DNS uses UDP protocol.