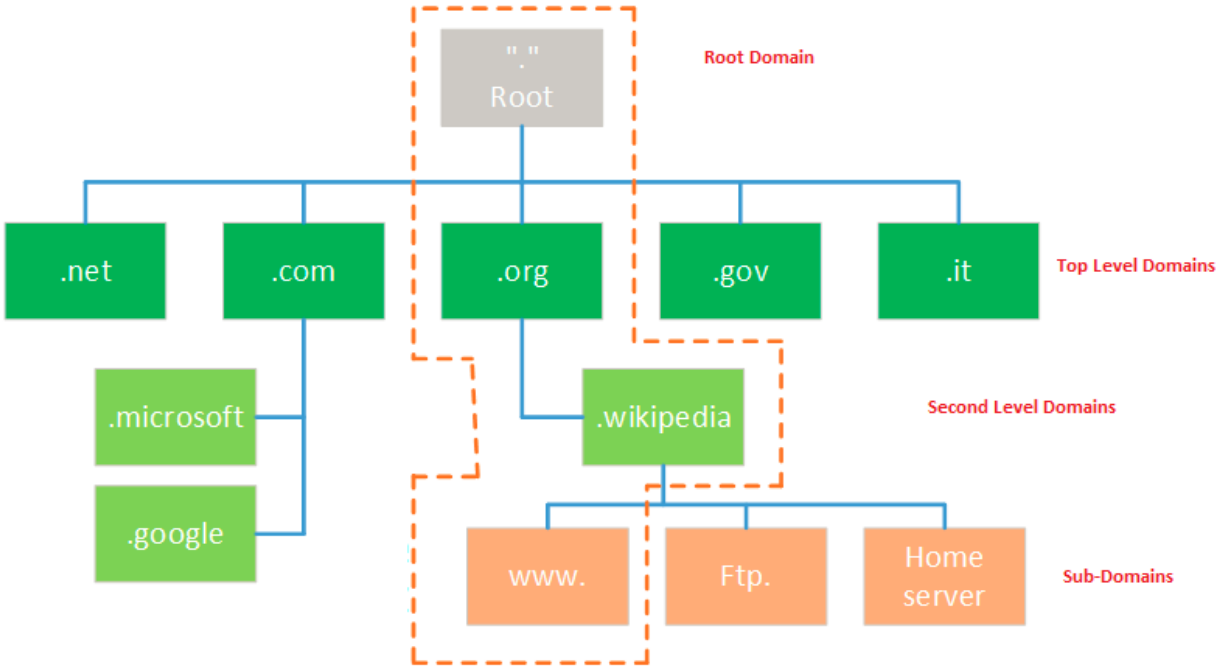
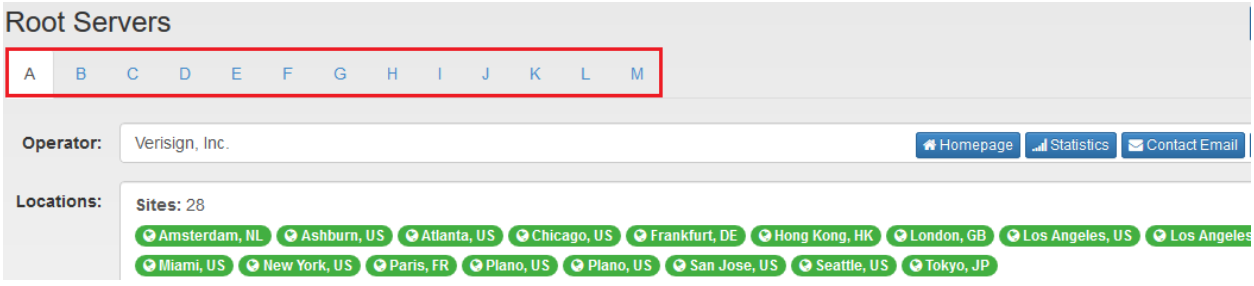
DNS Server:

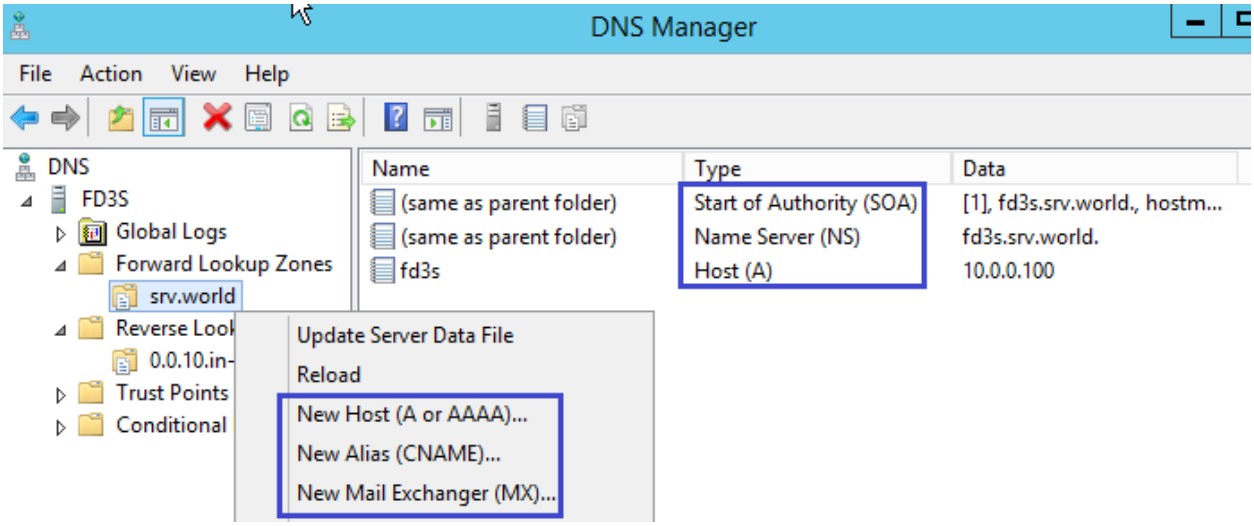
- DNS Stands for Domain Name System or Domain Name Server.
- DNS is a large database, which resides on various computers in world.
- DNS contains names & IP addresses of hosts on Internet & various domains.
- DNS servers match domain names to their associated IP addresses.
- The Domain Name Systems (DNS) is the phonebook of the Internet.
- DNS convert IP Address to domain name & domain name into IP address.
- DNS names are assigned through the Internet Registries by the IANA.
- There are 13 root name servers from a.root-server.net to m.root-server.net.
- 13 DNS root name servers can be check on this link http://www.root-servers.org.
- DNS primarily uses User Datagram Protocol on port number 53 to serve requests.
- Domain name system of the Internet works in an inverted tree structure.
- The TLD is the letters immediately following the final dot in an Internet address.
- In Internet address, http://mail.google.com, com is the top-level domain name.
- Google is the second-level domain name and mail is a subdomain name.
- Altogether, http://mail.google.com is fully qualified domain name (FQDN).
- Addition of HTTP:// makes a fully qualified domain name FQDN complete URL.





DNS Records:

- There are several different types of resource records used by DNS.
- The **A** record specifies IP address Internet Protocol (IPv4) for given host.
- **A**, records are used for conversion of domain names to correspond IP addresses.
- The **AAAA** record specifies Internet Protocol (IPv6) address for given host name.
- Domain name system also allows us to name single device but give it multiple names.
- Give it nickname or secondary name it has called Canonical Name record, or **CNAME**.
- **CNAME** records in the DNS Server are used for creating aliases of domain names.
- **CNAME** records are truly useful when want to alias domain to an external domain.
- The **MX** resource record specifies a Mail Exchange server for a DNS domain name.
- SMTP use MX resource record to route emails to proper hosts uses the information.
- PTR stand for Pointer Record, this is opposite of an address record (A or AAAA).
- An address record took a name and provided you with an IP address IPV4 or IPV6.
- A Pointer record in DNS Server took IP address and come up with a name.
- Name Server (**NS**) The NS record specifies who the DNS servers are for the zone.
- Start of Authority (**SOA**) The SOA record stores the settings for the DNS zone.



Configure DNS in Router
R1# configure terminal R1(config)# ip dns server R1(config)# ip domain-lookup
R1(config)# ip name-server 8.8.8.8
R1(config)# ip host ftpserver 1.1.1.1
R1# ping ftpserver