

# BIND

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# Main Topics

- Configuration files
- Zone files
- MX records
- www records
- Common utilities for debugging DNS and BIND



**cPanel**

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# What is BIND?

- BIND stands for Berkley Internet Name Domain.
- BIND is an implementation of the Domain Name System(DNS) daemon.
- BIND was developed by the Internet Software Consortium(<http://isc.org/>)

# Configuration Files

- Linux
  - /etc/named.conf
- FreeBSD
  - /etc/namedb/named.conf

# Zone Files

- Linux
  - /var/named/
- FreeBSD
  - /etc/namedb/

# What is a Zone File?

- A zone file is a configuration file for BIND that translates a name to an IP address.
- It also holds other information such as SOA records, MX records etc.

# Basic Zone File

```
$TTL 14400
@ IN SOA FG.CPANEL.NET. (
20060606 ; serial
7200 ; retry
3600000 ; expire
86400 ; minimum
cpanel.net. IN A 69.90.250.18
cpanel.net. IN NS he.cpanel.net.
cpanel.net. IN NS c.cpanel.net.
cpanel.net. IN MX 10 cpanel.net.
cpanel.net. IN MX 20 mx2.cpanel.net.
www IN CNAME cpanel.net.
```

# SOA and NS

- The SOA and NS records are used to provide information about the DNS itself
- The NS indicated where information about a given zone can be found
  - ripe.net 7200 IN NS ns.ripe.net
- The SOA record provides information so the start of authority, i.e. The top of the zone, also called the APEX

# TTL

- TTL is a timer used in caches.
- An indication for how long the data may be reused

# Intermezzo: MX record

- SMTP ( simple mail transfer protocol) uses MX records to find the destination mail server.
- MX records contain mail relays with priority
  - The lower the number, the higher the priority.

# WWW Records

- WWW (world wide web) uses www and A records to find the destination web server.
- For example, <http://www.cpanel.net/> and <http://cpanel.net/>

# Common Programs for Debugging BIND

- host
- nslookup
- dig

# host

- host is simply a tool for looking up DNS records.

- host cpanel.net

cpanel.net has address 69.90.250.18

cpanel.net has address 69.90.250.19

cpanel.net mail is handled by 5

mx3.cpanel.net.

cpanel.net mail is handled by 0 mx1.cpanel.net

- host [www.cpanel.net](http://www.cpanel.net)

[www.cpanel.net](http://www.cpanel.net) has address 69.90.250.18

[www.cpanel.net](http://www.cpanel.net) has address 69.90.250.19

# nslookup

- nslookup has much of the same functionality as host, but the output is a little different.
  - nslookup [www.cpanel.net](http://www.cpanel.net)

Server: 69.90.250.18

Address: 69.90.250.18

Name: [www.cpanel.net](http://www.cpanel.net)

Address: 69.90.250.18

Name: [www.cpanel.net](http://www.cpanel.net)

Address: 69.90.250.19

# dig

- dig is another DNS lookup utility.
- dig is very verbose and flexible.
  - dig [www.cpanel.net](http://www.cpanel.net)
  - I've truncated the output do to it's length.

;; ANSWER SECTION:

```
www.cpanel.net.      300  IN A  69.90.250.18  
www.cpanel.net.      300  IN A  69.90.250.19
```

# Conclusion

- BIND is the most popular nameserver used on the internet and is also deployed in cPanel®.
- cPanel provides ease of administration of all of the things discussed previously.
- Question and answer