How To: Enable BIND - Mac OS X's Built-in DNS Server

From MacShadows KB

This tutorial gives a beginner's introduction on how to configure and enable BIND (https://www.isc.org/software/bind) , the built-in DNS server on Mac OS X. *Note: I am using Leopard (10.5), so these instructions may not work on older versions of Mac OS*.

Advantages to running a local DNS server:

- DNS cache will make your internet connections respond more quickly since your remote DNS servers need not be contacted for every name lookup.
- Web developers and network engineers can finally have more control over local domains than is allowed by the /etc/hosts file (i.e. wildcards).

Contents

Step 1: Configure rndc

Create a new config file and secret key

rndc is the DNS server configuration utility. Enter the following commands into terminal to generate a new

secret key and configuration for rndc:

```
sudo -s
rndc-confgen -b 256 > /etc/rndc.conf
head -n5 /etc/rndc.conf | tail -n4 > /etc/rndc.key
```

Watch out!

The **rndc-confgen** utility is extremely handy for generating new rndc configuration files, but it may set a different default port than named. You can use the following commands to ensure that the port number is the same in both configurations:

```
more /etc/named.conf | grep 'inet.*\?port'
more /etc/rndc.conf | grep '\-port'
```

If both ports are not the same, it's best to change one before starting BIND.

Step 2: Enable BIND

Configure to Launch at Startup

This should set-up BIND to load up when your computer starts up:

```
launchctl load -w /System/Library/LaunchDaemons/org.isc.named.plist
echo "launchctl start org.isc.named" >> /etc/launchd.conf
```

Older versions of Mac OS X can try this command:

```
echo "DNSSERVER=-YES-" >> /etc/hostconfig
```

Start BIND

```
/usr/bin/named
```

Or you can start it more gracefully through launchctl:

```
launchctl start org.isc.named
```

Step 3: Configure named

This step may require a little research if you have special needs, but I will go over a couple sample configurations for you. We will be dealing mainly with zone files, located in */var/named/* by default.

Senario A: Top-Level Domain

Let's say that you want to have an entire top-level domain default to localhost (*Note: this can be extremely useful when combined with Apache Virtual Hosts*). For the sake of this tutorial, I'll assume you want that top-level domain to be *.local*. If you want yours to be something different, make sure you update both the zone file and the named.conf file.

First create the zone file. In Terminal, type:

```
vi /var/named/local.zone
```

Press i to engage INSERT mode

Copy and paste the following configuration, replacing *user.domain.com* with your e-mail address (changing the @ to a period as shown).

```
$TTL    86400
$ORIGIN local.
@       IN      SOA     localhost.      user.domain.com. (
                                        42              ; serial
                                        3H              ; refresh
                                        15M             ; retry
                                        1W              ; expiry
                                        1D )            ; minimum

                        1D IN NS        @
                        1D IN A         127.0.0.1

* IN A 127.0.0.1
```

Be sure that the final line is **empty**.

Press ESC then type :wq and hit ENTER to save and quit

Next, we need to update the */etc/named.conf* file to tell BIND about our new zone.

```
vi /etc/named.conf
```

Insert the following lines after the existing zone configurations (remember to press i before pasting):

```
zone "local" IN {
        type master;
        file "local.zone";
       allow-update { none; };
};
```

Press ESC then type :wq and hit ENTER to save and quit

Step 4: Reload Configuration

Whenever you happen to make changes to these files, you may need to reload the DNS configuration and zone files.

```
rndc reload
```

If you receive an error, try first using

```
rndc stop
```

You can also flush the DNS cache by using this command:

```
rndc flush
```

Reference

Handy Websites

- Domain Name System (Wikipedia) (http://en.wikipedia.org/wiki/Domain_Name_System)
- DNSStuff.com (http://www.dnsstuff.com/)
- RedHat BIND Reference (http://www.redhat.com/docs/manuals/linux/RHL-9-Manual/ref-guide/ch-bind.html)
- BIND Zone File Creator (http://pgl.yoyo.org/adservers/bind-zone-file-creator.php)

Handy Commands

As many things in *nix environments tend to be, managing your DNS server may seem just a bit more complicated than necessary.

- **rndc** is the DNS control utility, used to reload your DNS configuration or restart your DNS server
- **launchctl** enables you to launch services such as DNS as a daemon.

See Also

- How To Speed Up DNS Lookups (http://macosx.com/forums/howto-faqs/6323-howto-speed-up-dns-lookups-osx.html)
- Starting and Stopping Daemons in OS X (http://wiki.hiit.fi/display/it/Starting+and+stopping+daemons+in+OS+X)

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