

DNS 主服务器架設

实验环境: RHEL 5.4

DNS 主服务器 IP 192.168.1.200

1.使用 yum 安裝 bind 和 caching-nameserver 软件包;

```
[root@localhost ~]# yum install -y bind*
Loaded plugins: rhnplugin, security
This system is not registered with RHN.
RHN support will be disabled.
Sever | 1.1 kB | 00:00
Sever/primary | 813 kB | 00:00
Sever | 2292/2292
Setting up Install Process
Resolving Dependencies
--> Running transaction check
---> Package bind.i386 30:9.3.6-4.P1.el5 set to be updated
---> Package bind-chroot.i386 30:9.3.6-4.P1.el5 set to be updated
---> Package bind-devel.i386 30:9.3.6-4.P1.el5 set to be updated
---> Package bind-libbind-devel.i386 30:9.3.6-4.P1.el5 set to be updated
---> Package bind-libs.i386 30:9.3.6-4.P1.el5 set to be updated
---> Package bind-sdb.i386 30:9.3.6-4.P1.el5 set to be updated
---> Package bind-utils.i386 30:9.3.6-4.P1.el5 set to be updated
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package Arch Version Repository Size
=====
Installing:
bind i386 30:9.3.6-4.P1.el5 Sever 978 k
bind-chroot i386 30:9.3.6-4.P1.el5 Sever 44 k
bind-devel i386 30:9.3.6-4.P1.el5 Sever 2.8 M
bind-libbind-devel i386 30:9.3.6-4.P1.el5 Sever 440 k
bind-libs i386 30:9.3.6-4.P1.el5 Sever 857 k
bind-sdb i386 30:9.3.6-4.P1.el5 Sever 228 k
bind-utils i386 30:9.3.6-4.P1.el5 Sever 170 k

Transaction Summary
=====
Install 7 Package(s)
Update 0 Package(s)
Remove 0 Package(s)

Total download size: 5.4 M
Downloading Packages:
(1/7): bind-chroot-9.3.6-4.P1.el5.i386.rpm | 44 kB | 00:00
(2/7): bind-utils-9.3.6-4.P1.el5.i386.rpm | 170 kB | 00:00
(3/7): bind-sdb-9.3.6-4.P1.el5.i386.rpm | 228 kB | 00:00
(4/7): bind-libbind-devel-9.3.6-4.P1.el5.i386.rpm | 440 kB | 00:00
(5/7): bind-libs-9.3.6-4.P1.el5.i386.rpm | 857 kB | 00:00
(6/7): bind-9.3.6-4.P1.el5.i386.rpm | 978 kB | 00:00
(7/7): bind-devel-9.3.6-4.P1.el5.i386.rpm | 2.8 MB | 00:00
```

```

Total                                     4.8 MB/s | 5.4 MB      00:01
Running rpm_check_debug
Running Transaction Test
Finished Transaction Test
Transaction Test Succeeded
Running Transaction
  Installing      : bind-libs                               1/7
  Installing      : bind                                   2/7
  Installing      : bind-utils                             3/7
  Installing      : bind-sdb                               4/7
  Installing      : bind-libbind-devel                    5/7
  Installing      : bind-devel                             6/7
  Installing      : bind-chroot                            7/7

```

```

Installed:
  bind.i386 30:9.3.6-4.P1.el5      bind-chroot.i386 30:9.3.6-4.P1.el5
  bind-devel.i386 30:9.3.6-4.P1.el5  bind-libbind-devel.i386 30:9.3.6-4.P1.el5
  bind-libs.i386 30:9.3.6-4.P1.el5  bind-sdb.i386 30:9.3.6-4.P1.el5
  bind-utils.i386 30:9.3.6-4.P1.el5

```

Complete!

```

[root@localhost ~]# yum install -y caching*
Loaded plugins: rhnplugin, security
This system is not registered with RHN.
RHN support will be disabled.
Setting up Install Process
Resolving Dependencies
--> Running transaction check
---> Package caching-nameserver.i386 30:9.3.6-4.P1.el5 set to be updated
--> Finished Dependency Resolution

```

Dependencies Resolved

Package	Arch	Version	Repository	Size
Installing:				
caching-nameserver	i386	30:9.3.6-4.P1.el5	Sever	60 k

Transaction Summary

```

-----
Install      1 Package(s)
Update       0 Package(s)
Remove       0 Package(s)

```

```

Total download size: 60 k
Downloading Packages:
caching-nameserver-9.3.6-4.P1.el5.i386.rpm | 60 kB      00:00
Running rpm_check_debug
Running Transaction Test
Finished Transaction Test
Transaction Test Succeeded
Running Transaction
  Installing      : caching-nameserver                       1/1

```

```

Installed:
  caching-nameserver.i386 30:9.3.6-4.P1.el5

```

Complete!

2.进入/var/named/chroot/etc 目录;

named.caching-server.conf 为配置文件模板

named.rfc1912.zones 定义了各个区域的信息

```
[root@localhost ~]# cd /var/named/chroot/etc/
[root@localhost etc]# ls
localtime  named.caching-nameserver.conf  named.rfc1912.zones  rndc.key
```

3.将 named.caching-server.conf 复制为 named.conf 并修改此文件;

```
[root@localhost etc]# cp -ap named.caching-nameserver.conf named.conf
[root@localhost etc]# vim named.conf
```

修改以下几处地方(将 local host 改为 any)

1)

```
options {
    listen-on port 53 { any; };
```

2)

```
allow-query { any; };
allow-query-cache { any; };
```

3)

```
view localhost_resolver {
    match-clients { any; };
    match-destinations { any; };
    recursion yes;
    include "/etc/named.rfc1912.zones";
```

4.在 named.rfc1912.zones 中定义一个新区域 china.com;

```
[root@localhost etc]# vim named.rfc1912.zones
```

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

5.进入/var/named/chroot/var/named 目录(该目录存放区域数据库文件);

named.local 为区域解析数据库文件模板

```
[root@localhost ~]# cd /var/named/chroot/var/named/
[root@localhost named]# ls
data          localhost.zone  named.ca      named.local  slaves
localdomain.zone  named.broadcast  named.ip6.local  named.zero
```

6.将 named.local 复制为 china.com.zone(文件名和第 4 步相对应)并编辑该文件

```

$TTL      86400
@         IN      SOA    china.com. root.china.com. (
                                20120927 ; Serial
                                28800   ; Refresh
                                14400   ; Retry
                                3600000 ; Expire
                                86400   ) ; Minimum

         IN      NS     c

         IN      A      192.168.1.200
www      IN      A      192.168.1.1

```

7. 将 DNS 服务器地址指向本机

```

[root@localhost named]# vim /etc/resolv.conf
nameserver 192.168.1.200

```

8. 重启 named 服务

```

[root@localhost named]# service named restart
Stopping named: [ OK ]
Starting named: - [ OK ]

```

9. 测试正向区域解析

```

[root@localhost named]# nslookup
> www.china.com
Server:          192.168.1.200
Address:         192.168.1.200#53

Name:   www.china.com
Address: 192.168.1.1

```

10. 在 named.rfc1912.zones 中定义 china.com 的反向解析区域

```

[root@localhost etc]# vim named.rfc1912.zones
zone "1.168.192.in-addr.arpa" IN {
    type master;
    file "192.168.1.arpa";
    allow-update { none; };
};

```

11. 将 named.local 复制为 192.168.1.arpa 并编辑该文件

```

[root@localhost ~]# cd /var/named/chroot/var/named/
[root@localhost named]# cp -ap named.local 192.168.1.arpa
[root@localhost named]# vim 192.168.1.arpa █

```

```

$TTL      86400
@         IN      SOA    china.com. root.china.com. (
                                20120927 ; Serial
                                28800   ; Refresh
                                14400   ; Retry
                                3600000  ; Expire
                                86400   ) ; Minimum

                IN      NS      @
200         IN      PTR      @
1          IN      PTR      www.china.com

```

12. 重启 named 服务

```

[root@localhost named]# service named restart
Stopping named: [ OK ]
Starting named: [ OK ]
-
```

13. 测试反向区域解析

```

[root@localhost named]# nslookup
> 192.168.1.1
Server:          192.168.1.200
Address:         192.168.1.200#53

1.1.168.192.in-addr.arpa      name = www.china.com.

```

DNS 辅助服务器架設

实验环境: RHEL 5.4

DNS 主服务器 IP 192.168.1.200

DNS 辅助服务器 IP 192.168.1.120

- 1.使用 yum 安装 bind 和 caching-nameserver 软件包;
- 2.进入/var/named/chroot/etc 目录;
- 3.将 named.caching-server.conf 复制为 named.conf 并修改此文件;
- 4.在 named.rfc1912.zones 中定义一个新区域 china.com;

```
zone "china.com" IN {
    type slave;
    file "slaves/china.com.zone";
    masters { 192.168.1.200; };
};
```

- 5.在主服务器上修改 named.rfc1912.zones 文件;

```
zone "china.com" IN {
    type master;
    file "china.com.zone";
    allow-update { none; };
    allow-transfer { 192.168.1.120; };
};
```

- 6.将 DNS 辅助服务器的首选 DNS 指向自己;

```
[root@localhost etc]# cat /etc/resolv.conf
nameserver 192.168.1.120
```

- 7.分别重启主从 DNS 服务器上的 named 服务;

- 8.查看系统日志,可以看到区域数据库文件已从主服务区上复制过来;

```
Oct  8 03:20:48 localhost named[44251]: zone china.com/IN/localhost_resolver: loaded serial 20120927
```

```
[root@localhost etc]# ls /var/named/chroot/var/named/slaves/
china.com.zone
```

- 9.测试正向区域解析

```
[root@localhost etc]# nslookup
> www.china.com
Server:          192.168.1.120
Address:         192.168.1.120#53

Name:   www.china.com
Address: 192.168.1.1
```

10.在 named.rfc1912.zones 中定义 china.com 的反向区域;

```
zone "1.168.192.in-addr.arpa" IN {
    type slave;
    file "slaves/192.168.1.arpa";
    masters { 192.168.1.200; };
};
```

11.在主服务器上修改 named.rfc1912.zones 文件;

```
zone "1.168.192.in-addr.arpa" {
    type master;
    file "192.168.1.arpa";
    allow-update { none; };
    allow-transfer { 192.168.1.120; };
};
```

12.分别重启主从 DNS 服务器上的 named 服务;

13.查看系统日志,可以看到区域数据库文件已从主服务区上复制过来

```
Oct 8 03:48:50 localhost named[5445]: zone 1.168.192.in-addr.arpa/IN/localhost_
resolver: Transfer started.
Oct 8 03:48:50 localhost named[5445]: transfer of '1.168.192.in-addr.arpa/IN' f
rom 192.168.1.200#53: connected using 192.168.1.120#60372
Oct 8 03:48:50 localhost named[5445]: zone 1.168.192.in-addr.arpa/IN/localhost_
resolver: transferred serial 20120927
Oct 8 03:48:50 localhost named[5445]: transfer of '1.168.192.in-addr.arpa/IN' f
rom 192.168.1.200#53: end of transfer
Oct 8 03:48:50 localhost named[5445]: zone 1.168.192.in-addr.arpa/IN/localhost_
resolver: sending notifies (serial 20120927)
```

```
[root@localhost etc]# ls /var/named/chroot/var/named/slaves/
192.168.1.arpa  china.com.zone
```

14.测试反向区域解析;

```
[root@localhost etc]# nslookup
> 192.168.1.1
Server:          192.168.1.120
Address:         192.168.1.120#53

1.1.168.192.in-addr.arpa      name = www.china.com.
```

DNS 转发服务器架設

实验环境: RHEL 5.4

DNS 服务器 IP 192.168.1.200

DNS 转发服务器 IP 192.168.1.130

- 1.使用 yum 安装 bind 和 caching-nameserver 软件包;
- 2.进入/var/named/chroot/etc 目录;
- 3.将 named.caching-server.conf 复制为 named.conf 并修改此文件;

```
options {
    listen-on port 53 { any; };
    listen-on-v6 port 53 { ::1; };
    forwarders { 192.168.1.200; };
    directory "/var/named";
    dump-file "/var/named/data/cache_dump.db";
    statistics-file "/var/named/data/named_stats.txt";
    memstatistics-file "/var/named/data/named_mem_stats.txt";
```

- 4.重启 named 服务;
- 5.将首选 DNS 服务器指向 192.168.1.130;

```
[root@localhost etc]# cat /etc/resolv.conf
nameserver 192.168.1.130
```

- 6.测试正向解析和反向解析;

```
[root@localhost etc]# nslookup
> www.china.com
Server:          192.168.1.130
Address:         192.168.1.130#53

Non-authoritative answer:
Name:   www.china.com
Address: 192.168.1.1
> 192.168.1.1
Server:          192.168.1.130
Address:         192.168.1.130#53

Non-authoritative answer:
1.1.168.192.in-addr.arpa      name = www.china.com.

Authoritative answers can be found from:
1.168.192.in-addr.arpa nameserver = 1.168.192.in-addr.arpa.
```