DNS Server (Bind)

Chapter 02

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大綱

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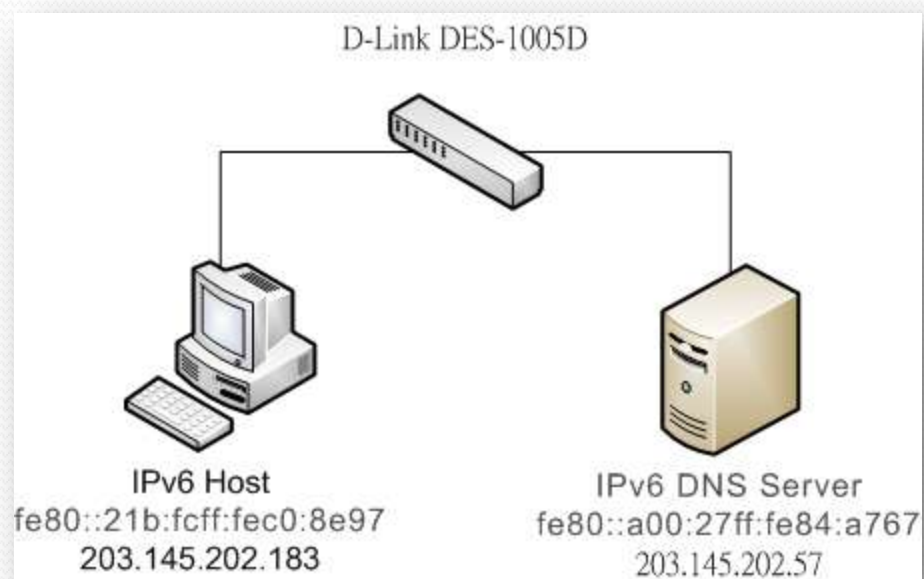- Bind IPv6 驗證
- 參考資料

Bind簡介

- Bind 是我們常用的 DNS Server，現在已經支援了 IPv6的位址解析。
- 本篇將介紹如何在 CentOS 安裝 DNS Server 並且能夠對 IPv6 做監聽。

系統環境

- 系統環境：
  - IPv6 DNS Server: CentOS 5.3
  - IPv6 Host: Windows XP
  - Switch：D-Link DES-1005D

- 系統架構圖：

D-Link DES-1005D

IPv6 Host
fe80::21b:fcff:fec0:8e97
203.145.202.183

IPv6 DNS Server
fe80::a00:27ff:fe84:a767
203.145.202.57

Bind 安裝

- 透過 yum 安裝 Bind 與其設定檔範本
  - #yum install bind system-config-bind

```
[root@localhost /]# yum install bind system-config-bind_
```

  - 安裝完成之畫面

```
Update          0 Package(s)
Remove          0 Package(s)

Total download size: 1.8 M
Is this ok [y/N]: y
Downloading Packages:
(1/3): bind-chroot-9.3.4-10.P1.el5_3.3.i386.rpm              :   42 kB     00:00
(2/3): bind-libs-9.3.4-10.P1.el5_3.3.i386.rpm               :  836 kB     00:00
(3/3): bind-9.3.4-10.P1.el5_3.3.i386.rpm                    :  954 kB     00:00
--------------------------------------------------------------------------------
Total                                          1.1 MB/s : 1.8 MB     00:01
Running rpm_check_debug
Running Transaction Test
Finished Transaction Test
Transaction Test Succeeded
Running Transaction
  Installing      : bind-libs                                        [1/3]
  Installing      : bind                                             [2/3]
  Installing      : bind-chroot                                      [3/3]

Installed: bind.i386 30:9.3.4-10.P1.el5_3.3 bind-chroot.i386 30:9.3.4-10.P1.el5_
3.3
Dependency Installed: bind-libs.i386 30:9.3.4-10.P1.el5_3.3
Complete!
[root@localhost ~]# _
```

Bind 設定檔

- 設定檔位置：/var/named/chroot/
  - 由於安全性考量，安裝完bind-chroot套件後，bind的設定檔位置會改到 /var/named/chroot 下
  - system-config-bind 套件則是安裝bind預設的設定檔，位置在 /usr/share/system-config-bind/profiles/default 下
- 設定檔放置步驟
  - 1. named.conf
    - 先到 /usr/share/system-config-bind/profiles/default 將named.conf 複製到 /var/named/chroot/etc 目錄底下
    - #cd /usr/share/system-conf-bind/profiles/default
    - #cp named.conf /var/named/chroot/etc/

```
[root@localhost ~]# cd /usr/share/system-config-bind/profiles/default/
[root@localhost default]# cp named.conf /var/named/chroot/etc/
[root@localhost default]# _
```

Bind 設定檔

- 2. 正反解檔案
  - 到 /usr/share/system-config-bind/profiles/default/named 去複製系統預設的正反解檔案(zone)
  - #cd /usr/share/system-config-bind/profiles/default/named
  - #cp *.* /var/named/chroot/var/named/

```
[root@localhost named]# cd /usr/share/system-config-bind/profiles/default/named
[root@localhost named]# ls
localdomain.zone   named.broadcast   named.local
localhost.zone     named.ip6.local   named.zero
[root@localhost named]# cp *.* /var/named/chroot/var/named/
[root@localhost named]# _
```

Bind 設定檔

- 3. named.root
  - /usr/share/doc/bind-9.3.4/sample/var/named 複製 named.root 到 /var/named/chroot/var/named/
  - #cd /usr/share/doc/bind-9.3.4/sample/var/named
  - cp named.root /var/named/chroot/var/named/

```
[root@localhost named]# cd /usr/share/doc/bind-9.3.4/sample/var/named/
[root@localhost named]# cp named.root /var/named/chroot/var/named/
[root@localhost named]# _
```

- 啟動 bind
  - /etc/init.d/named start

```
[root@localhost named]# /etc/init.d/named start
Starting named:                                              [  OK  ]
```

Bind 設定檔

- 增加 AAAA 記錄
  - IPv4 -> A 記錄
  - IPv6 -> AAAA 記錄
  - 編輯正解檔

```
ftp             IN AAAA 2001:e10:1440:ffff::150
ftp             IN A    203.145.207.150
admin           IN AAAA 2001:e10:1440:ffff::151
admin           IN A    203.145.207.151
pcroom1         IN AAAA 2001:e10:1440:ffff::153
pcroom1         IN A    203.145.207.153
pcroom2         IN AAAA 2001:e10:1440:ffff::154
pcroom2         IN A    203.145.207.154
```

  - 編輯反解檔

```
0.5.1.0.0.0.0.0.0.0.0.0.0.0.0.0 IN PTR        ftp.demo.rd.ipv6.org.tw.
150                             IN PTR        ftp.demo.rd.ipv6.org.tw.
1.5.1.0.0.0.0.0.0.0.0.0.0.0.0.0 IN PTR        admin.demo.rd.ipv6.org.tw.
151                             IN PTR        admin.demo.rd.ipv6.org.tw.
3.5.1.0.0.0.0.0.0.0.0.0.0.0.0.0 IN PTR        pcroom1.demo.rd.ipv6.org.tw.
153                             IN PTR        pcroom1.demo.rd.ipv6.org.tw.
4.5.1.0.0.0.0.0.0.0.0.0.0.0.0.0 IN PTR        pcroom2.demo.rd.ipv6.org.tw.
154                             IN PTR        pcroom2.demo.rd.ipv6.org.tw.
```
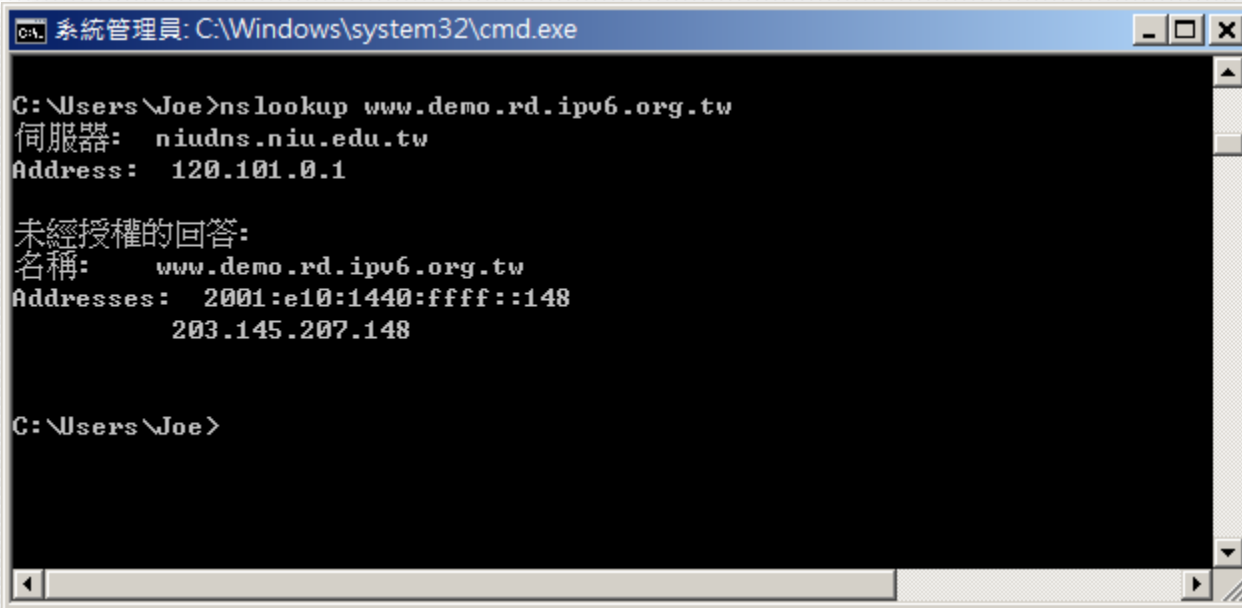
Bind IPv6 驗證

- 利用netstat 檢查 Bind 是否同時監聽 IPv4 與 IPv6 的 953 port
  - #netstat -antlp | grep :953
  - 可以看到已經啟動IPv4 和 IPv6的服務了

```
[root@localhost named]# netstat -antlp igrep 953
tcp        0        0 127.0.0.1:953              0.0.0.0:*                LIST
EN      9774/named
tcp        0        0 ::1:953                    :::*                    LIST
EN      9774/named
[root@localhost named]# _
```

Bind IPv6 驗證

- DN解析驗證


```
C:\Users\Joe>nslookup www.demo.rd.ipv6.org.tw
伺服器:   niudns.niu.edu.tw
Address:   120.101.0.1

未經授權的回答:
名稱:     www.demo.rd.ipv6.org.tw
Addresses:  2001:e10:1440:ffff::148
          203.145.207.148


C:\Users\Joe>
```

Bind IPv6 驗證

- 瀏覽網頁驗證

參考資料

- http://linux.vbird.org/linux_server/0350dns.php

END