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How Do I Update The Root Hints Data File for BIND Named Server?

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Q. My local nameserver root zone file is outdated. It has no information about IPv6 and recently changed root server IP address. How do I update my root hints data file under Debian and Red Hat Bind 9 server?

A. Besides your local information, the nameserver also needs to know where the nameservers for the root zone are.



[1]

You can retrieve root zone file by visiting <ftp://ftp.rs.internic.net>. Login as anonymous user and get db.cache file from domain subdirectory.

Sample Old Outdated Root Hints File

```
; <<>> DiG 9.2.3 <<>> ns . @a.root-servers.net.
;; global options: printcmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 18944
;; flags: qr aa rd; QUERY: 1, ANSWER: 13, AUTHORITY: 0, ADDITIONAL: 13

;; QUESTION SECTION:
;.                               IN      NS

;; ANSWER SECTION:
.           518400 IN      NS      A.ROOT-SERVERS.NET.
.           518400 IN      NS      B.ROOT-SERVERS.NET.
.           518400 IN      NS      C.ROOT-SERVERS.NET.
.           518400 IN      NS      D.ROOT-SERVERS.NET.
.           518400 IN      NS      E.ROOT-SERVERS.NET.
.           518400 IN      NS      F.ROOT-SERVERS.NET.
.           518400 IN      NS      G.ROOT-SERVERS.NET.
.           518400 IN      NS      H.ROOT-SERVERS.NET.
.           518400 IN      NS      I.ROOT-SERVERS.NET.
.           518400 IN      NS      J.ROOT-SERVERS.NET.
.           518400 IN      NS      K.ROOT-SERVERS.NET.
.           518400 IN      NS      L.ROOT-SERVERS.NET.
.           518400 IN      NS      M.ROOT-SERVERS.NET.

;; ADDITIONAL SECTION:
A.ROOT-SERVERS.NET. 3600000 IN      A       198.41.0.4
B.ROOT-SERVERS.NET. 3600000 IN      A       192.228.79.201
C.ROOT-SERVERS.NET. 3600000 IN      A       192.33.4.12
D.ROOT-SERVERS.NET. 3600000 IN      A       128.8.10.90
E.ROOT-SERVERS.NET. 3600000 IN      A       192.203.230.10
F.ROOT-SERVERS.NET. 3600000 IN      A       192.5.5.241
G.ROOT-SERVERS.NET. 3600000 IN      A       192.112.36.4
H.ROOT-SERVERS.NET. 3600000 IN      A       128.63.2.53
I.ROOT-SERVERS.NET. 3600000 IN      A       192.36.148.17
J.ROOT-SERVERS.NET. 3600000 IN      A       192.58.128.30
K.ROOT-SERVERS.NET. 3600000 IN      A       193.0.14.129
L.ROOT-SERVERS.NET. 3600000 IN      A       198.32.64.12
M.ROOT-SERVERS.NET. 3600000 IN      A       202.12.27.33

;; Query time: 81 msec
;; SERVER: 198.41.0.4#53(a.root-servers.net.)
;; WHEN: Sun Feb 1 11:27:14 2004
;; MSG SIZE rcvd: 436
```

Use [wget command to retrieve file](#) ^[2] and store to /etc/bind/db.root (Debian / Ubuntu Linux), enter:

```
# wget --user=ftp --password=ftp ftp://ftp.rs.internic.net/domain/db.cache -O
/etc/bind/db.root
```

Under Red Hat / CentOS / Fedora Linux, default location is /var/named/named.root, enter:

```
# wget --user=ftp --password=ftp ftp://ftp.rs.internic.net/domain/db.cache -O
/var/named/named.root
```

Reload rndc to update information, enter:

```
# rndc reload
```

Another option is run dig command to fetch information:

```
# dig +bufsize=1200 +norec NS . @a.root-servers.net > /var/named/named.root
```

The root zone's nameservers change over time, don't assume this list is current. Always download a new version of db.cache once or twice year is sufficient. You can also schedule cron job to update file. The best place to get update about this file is bind-users mailing list.

Sample updated root hints data file

```
;      This file holds the information on root name servers needed to
;      initialize cache of Internet domain name servers
;      (e.g. reference this file in the "cache . "
;      configuration file of BIND domain name servers).
;
;      This file is made available by InterNIC
;      under anonymous FTP as
;          file           /domain/db.cache
;          on server      FTP.INTERNIC.NET
;          -OR-          RS.INTERNIC.NET
;
;      last update:      Feb 04, 2008
;      related version of root zone:  2008020400
;
; formerly NS.INTERNIC.NET
;
.                3600000   IN      NS        A.ROOT-SERVERS.NET.
A.ROOT-SERVERS.NET. 3600000   A        198.41.0.4
A.ROOT-SERVERS.NET. 3600000   AAAA     2001:503:BA3E::2:30
;
; formerly NS1.ISI.EDU
;
.                3600000   NS       B.ROOT-SERVERS.NET.
B.ROOT-SERVERS.NET. 3600000   A        192.228.79.201
;
; formerly C.PSI.NET
;
.                3600000   NS       C.ROOT-SERVERS.NET.
C.ROOT-SERVERS.NET. 3600000   A        192.33.4.12
;
; formerly TERP.UMD.EDU
;
.                3600000   NS       D.ROOT-SERVERS.NET.
D.ROOT-SERVERS.NET. 3600000   A        128.8.10.90
;
; formerly NS.NASA.GOV
;
.                3600000   NS       E.ROOT-SERVERS.NET.
E.ROOT-SERVERS.NET. 3600000   A        192.203.230.10
;
; formerly NS.ISC.ORG
;
.                3600000   NS       F.ROOT-SERVERS.NET.
F.ROOT-SERVERS.NET. 3600000   A        192.5.5.241
```

```
F.ROOT-SERVERS.NET.      3600000      AAAA  2001:500:2f::f
;
; formerly NS.NIC.DDN.MIL
;
.                          3600000      NS    G.ROOT-SERVERS.NET.
G.ROOT-SERVERS.NET.      3600000      A     192.112.36.4
;
; formerly AOS.ARL.ARMY.MIL
;
.                          3600000      NS    H.ROOT-SERVERS.NET.
H.ROOT-SERVERS.NET.      3600000      A     128.63.2.53
H.ROOT-SERVERS.NET.      3600000      AAAA  2001:500:1::803f:235
;
; formerly NIC.NORDU.NET
;
.                          3600000      NS    I.ROOT-SERVERS.NET.
I.ROOT-SERVERS.NET.      3600000      A     192.36.148.17
;
; operated by VeriSign, Inc.
;
.                          3600000      NS    J.ROOT-SERVERS.NET.
J.ROOT-SERVERS.NET.      3600000      A     192.58.128.30
J.ROOT-SERVERS.NET.      3600000      AAAA  2001:503:C27::2:30
;
; operated by RIPE NCC
;
.                          3600000      NS    K.ROOT-SERVERS.NET.
K.ROOT-SERVERS.NET.      3600000      A     193.0.14.129
K.ROOT-SERVERS.NET.      3600000      AAAA  2001:7fd::1
;
; operated by ICANN
;
.                          3600000      NS    L.ROOT-SERVERS.NET.
L.ROOT-SERVERS.NET.      3600000      A     199.7.83.42
;
; operated by WIDE
;
.                          3600000      NS    M.ROOT-SERVERS.NET.
M.ROOT-SERVERS.NET.      3600000      A     202.12.27.33
M.ROOT-SERVERS.NET.      3600000      AAAA  2001:dc3::35
; End of File
```

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[1] Image: <http://www.cyberciti.biz/faq/faq/category/unix/>

[2] wget command to retrieve file: <http://www.cyberciti.biz/faq/wget-command-with-username-password/>