

-DNS SERVER USING POWERDNS

Erfan Hooman
November 21, 2024

SETUP CACHE ONLY NAMESERVER

- **Install Powerdns**

```
$ sudo dnf install epel-release
```

```
$ sudo dnf install pdns-recursor
```

- **Open Configuration file**

```
$ sudo vi /etc/pdns-recursor/recursor.conf
```

- **Edit this line**

```
local-address=0.0.0.0
```

- **Start and Enable the Service**

```
$ sudo systemctl start pdns-recursor
```

```
$ sudo systemctl enable pdns-recursor
```

- **Check Service Status**

```
$ sudo systemctl status pdns-recursor
```

- **Find IP address**

```
$ ip a
```

- **Test Nameserver**

```
$ dig www.anisa.co.ir @192.168.31.213
```

- **Test Again**

```
$ dig www.anisa.co.ir @192.168.31.213
```



SETUP AUTHORITATIVE MASTER-SLAVE NAME SERVER

Configure Master Server

- **Install PowerDNS Authoritative Server**

```
$ sudo dnf install pdns pdns-backend-sqlite
```

- **Open Configuration file**

```
$ sudo vi /etc/pdns-recursor/recursor.conf
```

- **Edit this line**

```
launch=gsqlite3
gsqlite3-database=/var/lib/powerdns/pdns.db
master=yes
```

- **Create the SQLite database**

```
$ sudo sqlite3 /var/lib/powerdns/pdns.db < /usr/share/doc/pdns/schema.sqlite3.sql
```

- **Add Slave Zone to Master**

```
INSERT INTO domains (name, type) VALUES ('lpic2.co', 'MASTER');
INSERT INTO records (domain_id, name, type, content, ttl) VALUES
((SELECT id FROM domains WHERE name='lpic2.co'), 'lpic2.co', 'SOA', 'ns1.lpic2.co hostmaster.lpic2.co 1 3600 1800 1209600 3600', 3600),
((SELECT id FROM domains WHERE name='lpic2.co'), 'example.com', 'NS', 'ns1.lpic2.co', 3600),
((SELECT id FROM domains WHERE name='lpic2.co'), 'lpic2.co', 'NS', 'ns2.lpic2.co', 3600),
((SELECT id FROM domains WHERE name='example.com'), 'www.lpic2.co', 'A', '192.168.31.66', 3600);

.quit
```

'192.168.31.66' : is the IP of the slave server

- **Restart the PowerDNS**

```
$ sudo systemctl restart pdns
```



Configure Slave Server

- **Install PowerDNS Authoritative Server for the Slave server too**

```
$ sudo dnf install pdns pdns-backend-sqlite
```

- **Open Configuration file**

```
$ sudo vi /etc/pdns-recursor/recursor.conf
```

- **Edit this line**

```
launch=gsqlite3
```

```
gsqlite3-database=/var/lib/powerdns/pdns.db
```

```
slave=yes
```

- **Create the SQLite database**

```
$ sudo sqlite3 /var/lib/powerdns/pdns.db < /usr/share/doc/pdns/schema.sqlite3.sql
```

- **Insert Zone Data**

```
INSERT INTO domains (name, type, master) VALUES ('lpic2.co', 'SLAVE', '192.168.31.213');
```

```
.quit
```

'192.168.31.213' : is the IP of the master server

- **Restart the PowerDNS**

```
$ sudo systemctl restart pdns
```



CONFIGURE A FORWARDER SERVER USING POWERDNS

Configure Master Server

- Open Configuration file

```
$ sudo vi /etc/pdns-recursor/recursor.conf
```

- Edit this line

```
forward-zones=lpic2.co=192.168.31.213,192.168.31.66
```

- Restart the PowerDNS

```
$ sudo systemctl restart pdns-recursor
```

CREATE REVERSE ZONE

- Insert Zone

```
$ sqlite3 /var/lib/powerdns/pdns.db
```

- Add Reverse Zone

```
INSERT INTO domains (name, type) VALUES ('1.168.192.in-addr.arpa', 'MASTER');
```

- Add Reverse Record

```
INSERT INTO records (domain_id, name, type, content, ttl) VALUES  
((SELECT id FROM domains WHERE name='1.168.192.in-addr.arpa'), '100.1.168.192.in-addr.arpa', 'PTR',  
'host.lpir.org.', 3600),  
((SELECT id FROM domains WHERE name='1.168.192.in-addr.arpa'), '201.1.168.192.in-addr.arpa', 'PTR',  
'mail.lpir.org.', 3600);
```

- Restart the PowerDNS

```
$ sudo systemctl restart pdns-recursor
```

