Creating NTP+DNS Nodes on linode.com

version 1.0.1

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This document is the instructions to creating **powerdns** and **ntp services** on the **linode.com exchange services.** It covers both the primary node as well as basis of sub-nodes for **DNS + NTP services** on Ubuntu Server.

Table of Contents

Creating the DNS Primary Service

This is the primary dns service ie. william.snails.email / hostmaster.snails.email + 0.ntp.snails.email – first propagate your Ubuntu Node to the specifications you need and want to provide for the primary service!

Run the following on the shell:

```
$ apt-get install tasksel ntp git nano -y
```

After they have install run ‘tasksel’ and install LAMP services (Do not install DNS Services).

Now run the following on the shell:

```
$ apt-get install pdns-server pdns-backend-mysql -y

$ unlink /etc/powerdns/pdns.d/bind.conf
```

Change `local-address` as well as `local-address-ipv6` in `/etc/powerdns/pdns.conf` to the public IP Address for the DNS. As well as Answer Any tc=0 to true and supported!

Check the wiki for any other help references:
https://github.com/Chronolabs-Cooperative/Zones-API-PHP/wiki

Installing Zones-API-PHP Library

Say we want the REST API on http://zones.william.snails.email then this is where the example is going to be placed.

Firstly goto the shell and execute the following command

```
$ git clone https://github.com/Chronolabs-Cooperative/Zones-API-PHP.git
/var/www/zones.william.snails.email
```

Now we have to configure apache 2 for the site execute the following command

```
$ nano /etc/apache2/sites-available/zones.william.snails.email.conf
```

and now insert the following configuration

```
<VirtualHost *:80>
      ServerName zones.william.snails.email
      ServerAdmin simon@snails.email
      DocumentRoot /var/www/zones.william.snails.email
      ErrorLog ${APACHE_LOG_DIR}/zones.william.snails.email-error.log
      CustomLog ${APACHE_LOG_DIR}/zones.william.snails.email-access.log
combined
      <Directory /var/www/zones.william.snails.email>
               Options Indexes FollowSymLinks MultiViews
               AllowOverride All
               Require all granted
     </Directory>
</VirtualHost>
```

Now execute the following commands at the shell:

```
$ a2ensite zones.william.snails.email
$ service apache2 reload
```

You may want to make a username rather than use root all the time with mysql; but the target database is ‘pdns’ always! You want to now goto http://zones.william.snails.email and run the install into the target database.

Cronjobs to Set on the Primary DNS Service

Editing the crontabs file allows for commands to be executed on scheduled times like restarting services. Now we have to configure apache 2 for the site execute the following command

```
$ crontab -e
```

Add the following lines to the crontab

```
*/41 */3 * * * service ntp restart
*/11 */7 * * * sh /var/replace-ntp.conf.sh
*/13 */13 * * * service pdns restart
## MySQL Host Address: localhost – User: root – Password: PuppyD0ggy
*/15 * * * * mysqldump --add-drop-database --add-locks --single-
transaction --extended-insert --host=localhost -uroot -pPuppyD0ggy --
result-file=/var/www/zones.william.snails.email/pdns.sql pdns
```

Start-on-boot to Set on the Primary DNS Service

Editing the rc.local file allows for commands to be executed on boot like starting services. Now we have to configure apache 2 for the site execute the following command

```
$ nano /etc/rc.local
```

Edit the following two lines into rc.local

```
service pdns start
service ntp start
```

SH Shell Batch Scripts to Create on Primary DNS Service

Editing the replace-ntp.conf.sh file allows for commands to be executed in a script. Now we have to create and edit the file *.sh script; execute the following command

```
$ nano /var/replace-ntp.conf.sh
```

Now insert the following lines and save and exit

```
cd /tmp
rm -vf ntp.conf
wget http://ntp.snails.email:80/v1/ntp.conf
if [ -s "/tmp/ntp.conf" ]
then
   rm -vf /etc/ntp.conf
   mv /tmp/ntp.conf /etc
   chmod -fv 0644 /etc/ntp.conf
else
   echo " ntp.conf was returned empty or not existing! "
fi
## End Script
```

SuperMaster's to Set on the Primary DNS Service

You will require several open dns as super master DNS Services, to enter these goto http://zones.william.snails.email and log into generate an 'authkey' now go back to the Zones API Forms and refresh the page so the 'authkey' populates in the form from the PHP Session Variables; now goto the SuperMaster section and enter the following Ipv4 or your own if you have some:-

- **8.8.8.8**
- **8.8.4.4**
- **7.235.1.174**
- **64.81.79.2**
- **61.9.211.34**
- **61.9.211.21**
- **4.2.2.6**
- **4.2.2.5**
- **4.2.2.4**
- **4.2.2.3**
- **4.2.2.2**
- **4.2.2.1**
- **216.158.234.243**
- **216.158.228.164**
- **212.71.253.5**
- **212.71.252.5**
- **199.231.191.75**

Creating the DNS Secondary Service

This is the seondary and further dns service ie. jester.snails.email + 1.ntp.snails.email – first propagate your Ubuntu Node to the specifications you need and want to provide for the primary service!

Run the following on the shell:

```
$ apt-get install ntp nano -y
```

Now run the following on the shell:

```
$ apt-get install pdns-server pdns-backend-mysql -y

$ unlink /etc/powerdns/pdns.d/bind.conf
```

Change `local-address` as well as `local-address-ipv6` in `/etc/powerdns/pdns.conf` to the public IP Address for the DNS. As well as Answer Any tc=0 to true and supported!

Check the wiki for any other help references:
https://github.com/Chronolabs-Cooperative/Zones-API-PHP/wiki

Cronjobs to Set on the Secondary DNS Service

Editing the crontabs file allows for commands to be executed on scheduled times like restarting services. Now we have to configure apache 2 for the site execute the following command

```
$ crontab -e
```

Add the following lines to the crontab

```
*/41 */3 * * * service ntp restart
*/11 */7 * * * sh /var/replace-ntp.conf.sh
*/15 * * * * sh /var/replace-db-pdns.sh
*/13 */13 * * * service pdns restart
```

Start-on-boot to Set on the Secondary DNS Service

Editing the rc.local file allows for commands to be executed on boot like starting services. Now we have to configure apache 2 for the site execute the following command

```
$ nano /etc/rc.local
```

Edit the following two lines into rc.local

```
service pdns start
service ntp start
```

SH Shell Batch Scripts to Create on Secondary DNS Service

Editing the **replace-ntp.conf.sh** file allows for commands to be executed in a script. Now we have to create and edit the file *.sh script; execute the following command

```
$ nano /var/replace-ntp.conf.sh
```

Now insert the following lines and save and exit

```
## Start Script
cd /tmp
rm -vf ntp.conf
wget http://ntp.snails.email:80/v1/ntp.conf
if [ -s "/tmp/ntp.conf" ]
then
   rm -vf /etc/ntp.conf
   mv /tmp/ntp.conf /etc
   chmod -fv 0644 /etc/ntp.conf
else
   echo " ntp.conf was returned empty or not existing! "
fi
## End Script
```

Editing the **replace-db-pdns.sh** file allows for commands to be executed in a script. Now we have to create and edit the file *.sh script; execute the following command

```
$ nano /var/replace-db-pdns.sh
```

Now insert the following lines and save and exit

```
## Start Script
##
## MySQL Host Address: localhost – User: root – Password: PuppyD0ggy
##
cd /tmp
rm -vf pdns.sql
wget http://zones.william.snails.email:80/pdns.sql
if [ -s "/tmp/pdns.sql" ]
then
      mysql –-database=pdns --host=localhost -uroot -pPuppyD0ggy <
/tmp/pdns.sql
else
   echo " pdns.sql was returned empty or not existing! "
fi
## End Script
```