

Install and Setup FreeRADIUS on Ubuntu Server 12.04

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Tutorial to setup and configure FreeRADIUS on Ubuntu 12.04:

Follow the instructions below to have your FreeRADIUS setup on Ubuntu ready to go.

```
sudo apt-get install build-essential libmysqlclient-dev libperl-dev libssl-dev  
sudo apt-get install mysql-client mysql-server  
sudo apt-get install freeradius freeradius-utils freeradius-mysql  
sudo apt-get install php5 php-pear php5-gd php-DB
```

Then :

```
service mysqld start  
mysql
```

or

```
mysql -uroot -p
```

Then enter your mysql root password for next step.

To create the database and grant all privileges to user in RADIUS:

```
mysql> CREATE DATABASE radius;
```

```
mysql> GRANT ALL PRIVILEGES ON radius.* TO radius@localhost IDENTIFIED BY "radpass";  
mysql> flush privileges;
```

In some situations you may need to grant remote access to mysql, For this follow :

<https://safesrv.net/setup-a-remote-connection-to-mysql/>

Now we have to import the tables for radius:

```
mysql> use radius;  
mysql> SOURCE /etc/freeradius/sql/mysql/schema.sql  
mysql> exit
```

Now open up **/etc/freeradius/sql.conf** and enter the mysql database details you just created, for example:

```
# Connection info:
```

```
server = "localhost"
#port = 1812
login = "radius"
password = "radpass"
```

```
# Database table configuration for everything except Oracle
radius_db = "radius"
```

In **/etc/freeradius/radiusd.conf** ensure that the line be as:

```
$INCLUDE sql.conf (it is uncommented.)
```

Edit **/etc/freeradius/sites-available/default** and uncomment the line containing **'sql'** in the **authorize{}** section and **'sql'** in the **accounting {}** section, also uncomment **'sql'** under **session {}**.

Additionally, edit **/etc/freeradius/sites-available/inner-tunnel** and uncomment the line containing **'sql'** under **"authorize {}"** and under **session {}**.

Open up **/etc/freeradius/clients.conf** set your secret to something a bit more random, example:

Change:

```
secret = testing123
```

To a secure secret like:

```
secret = 43abcy21345mfn67lem89dgr895fnghj67awm23
```

Now check to see if Radius is working properly:

```
service radiusd restart
service radiusd stop
```

To add clients (External VPN Servers) you would edit **/etc/freeradius/clients.conf** and exactly under this line:

```
# coa_server = coa
}
```

Add a block like this:

```
client VPN_SERVER_IP {
    secret = YOUR SECRET
    shortname= YOURVPN
    nastype = other
}
```

To allow external servers and software to authenticate off your FreeRADIUS, this has to be done every time you setup an external server to use this FreeRADIUS database.

The radius needs to be restart every time the config file has been changed. For

restating the RADIUS:

```
service radiusd restart
```

To adding a test user to the radius mysql database, first needs to login to the mysql radius database:

```
mysql -uroot -pyourrootpass
```

And then switch to the radius database:

```
mysql> use radius;
```

Then execute the below commands:

```
mysql> INSERT INTO `radcheck` (`id`, `username`, `attribute`, `op`, `value`) VALUES  
(1,'username','User-Password','=', 'password');
```

Then test the test user with radtest. The format command of radsec is:

```
radtest [user] [password] localhost [port (default is 1812)] testing123
```

The command should be:

```
radtest username password 127.0.0.1 0 mysecret
```

to add Clients:

```
sudo nano /etc/freeradius/clients.conf
```

Add in the last line :

```
client 192.168.1.30 {  
secret=network  
shortname=router  
nastype=cisco  
}
```

```
sudo service freeradius restart
```

(NOTES: *secret=pre-shared key, shortname=can be anything, nastype=other,cisco,livingston,etc*)

The respond “rad_recv: Access-Accept” shows the installation is working fine.

To debugging FreeRADIUS for helping to pinpoint any issues:

```
servie radiusd stop  
radiusd -X
```

The RADIUS activities are shown in real time. The authentication queries, access accepts or access rejects reports are reported in real time.



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