

# FreeRADIUS Install and Configuration using mysql as database backend for users information storage

Frank A. Kuse  
31/05/2011

Additional Material

# Installing

- We are going to install freeradius with a mysql backend storing users information.
- Installing mysql version 4.1 from port with instructions as below
- `cd /usr/ports/databases/mysql41-server/`  
`make install clean`
- Install freeradius with mysql support using instructions below
- `cd /usr/ports/net/freeradius-mysql/`  
`make install` ( N.B: Don't make install clean since we need to setup the mysql database structure for freeradius from the work directory )
- Configure mysql database and install the tables for freeradius
- `Vi /etc/rc.conf`  
`mysql_enable="YES"`
- Start mysql server by running
- `/usr/local/etc/rc.d/mysql-server start`

# Configuring – Part 1

- The freeRADIUS installation files are located in various subdirs of /usr/local and has its configuration files in /usr/local/etc/raddb directory
- Enable freeradius in /etc/rc.conf to enable automatic startup during boot time.
- radiusd\_enable="YES"
- Create the freeradius database in mysql and import the needed freeradius mysql tables.
- Mysql -uroot
- > create database radius;
- >GRANT ALL ON radius.\* TO radius@localhost IDENTIFIED BY "afnog12";
- >exit
- cd /usr/ports/net/freeradius-mysql/
- find work/ -name \*.sql
- Mysql -uroot radius < work/freeradius-1.1.8/doc/examples/mysql.sql

# Configuring – Part 2

- Now edit your `/usr/local/etc/raddb/sql.conf` configuration file
- Reset the user/password/database parameters to reflect the changes ( Eg. Radius/afnog12/radius);
- To turn the NAS management from MySQL, search for the keyword `readclients` and uncomment for it to reflect changes below
- `Readclients = yes`
- Edit the file `/usr/local/etc/raddb/radius.conf` and add a line saying 'sql' to the `authorize{}` section
- Also add a line saying 'sql' to the `accounting {}` section to tell freeradius to store accounting records in SQL as well.
- In case you want to log all authentication attempt to SQL as well as do simultaneous -Use detection then you should add 'sql' to the `post-auth{}` and `session{}` sections.

# Configuring – Part 3

- Here is the authorize section after configuration:

- Authorize {

```
    preprocess
```

```
    chap
```

```
    mschap
```

```
    suffix
```

```
    eap
```

```
    sql
```

```
    pap
```

```
}
```

- And the accounting section:

```
accounting {
```

```
    detail
```

```
    sql
```

```
}
```

.

# Configuring – Part 4

- To insert a test user in the database, go to the MySQL shell and run this:
- `Mysql -uroot`
- `Mysql> use database radius;`
- `Mysql> INSERT INTO radcheck (UserName, Attribute, Value) VALUES ('afnogtest', 'Password', 'afnog');`
- `mysql>select * from radcheck where UserName='afnogtest';`
- `mysql>exit`

# Configuring – Part 5

- Note, radius is a complex service, while there is copious documentation some of it is only present in the config files themselves which require careful reading.
- One of the most important tools in understanding how config changes affect the radius server is this ability to run it by hand in debug mode. Debug mode is enabled by running: `radiusd -x`
- Freeeradius should now be started

# Configuring – Part 6

- If you run `radiusd -x` it should indicate if you missed any files you need. If not it should indicate that it's ready to process requests.



# Configuring – Part 7

- Lets test the radius server as it is now to see if it will respond to us.
- In another window type:
  - `radtest afnogtest afnog12 localhost 0 testing123`
- You should see the server receive the access-request and respond with an access-reject.
- Now try it with a user name and password that is valid on your machine.
- `Radtest afnogtest afnog localhost 0 testing123`

# Configuring – Part 8

- Note, that the shared secret we've been using testing123 is not very secret, so lets change it.
- edit  
`/usr/local/etc/raddb/clients.conf`  
note that the client that is currently configured is  
`127.0.0.1 (localhost)`
- A secret can be up to 31 characters in length.
- For monitoring purposes, we need the same secret on all the machine and that is “afnog”.

# Configuring - Part 9

- Now run `radtest` again, using a local username and password and your new secret.

# Making radiusd start with FreeBSD

- look at the rc file for radiusd which is located in `/usr/local/etc/rc.d/`
- Notice at the top that it provides instructions.
- Follow them...
- Then kill your current radiusd and start a new one by running
- `/usr/local/etc/rc.d/radiusd start`

# What more could we do?

- Manage the users database on the mysql database using a variety of application with example being phpmysqladmin, dal or radius etc....
- Integration with pam modules for other authentication based application such as imap, pop3, smtp-auth, vsftp etc...
- Generate accounting data, so that we could bill for timed access to resources (at a wireless hotspot or a hotel for example).