

AMINUL DATE 12-10-20

- **Preparing your system**

Open the terminal and run the following command

9 O p9oOhp5-common o o 9o99999999 c 9 php-mail

The following extra packages will be :

- apache2 apache2-bin apache2-config fonts-dejavu-core libapr1

libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap libfontconfig1 libgd3

libjpeg-turbo8 libjpeg8 libtiff5 libvpx1 libxpm4 php-auth-sasl

php-net-smtp php-net-socket php5 php5-cli php5-json php5-readline ssl-cert

Suggested packages:

apache2-doc apache2-suexec-pristine apache2-suexec-custom apache2-utils

libgd-tools php5-dev php5-user-cache openssl-blacklist

The following NEW packages will be installed:

apache2 apache2-bin fontconfig fonts-dejavu-core

libapache2-mod-php5 libapr1 libaprutil1 libaprutil1-dbd-sqlite3

libaprutil1-ldap libfontconfig1 libgd3 libjpeg-turbo8 libjpeg8

libtiff5 libvpx1 libxpm4 php-auth-sasl php-db php-mail php-net-smtp

php-net-socket php-pear php5 php5-cli php5-common php5-gd php5-json

php5-readline ssl-cert

0 upgraded, 31 newly installed, 0 to remove and 4 not upgraded.

Need to get 8842 kB of archives.

After this operation, 37.0 MB of additional disk space will be used.

Do you want to continue? [Y/n] y

apt-get install freeradius freeradius-mysql freeradius-utils

The following extra packages will be installed:

freeradius-common libdbi-perl libfreeradius2 libltdl7 libmysqlclient18
libperl5.18 mysql-common

Suggested packages:

freeradius-ldap freeradius-postgresql freeradius-krb5 libclone-perl
libmldbm-perl libnet-daemon-perl libplrpc-perl libsql-statement-perl

The following NEW packages will be installed:

freeradius freeradius-common freeradius-mysql freeradius-utils libdbi-perl
libfreeradius2 libltdl7 libmysqlclient18 libperl5.18 mysql-common

0 upgraded, 10 newly installed, 0 to remove and 4 not upgraded.

Need to get 2358 kB of archives.

After this operation, 9802 kB of additional disk space will be used.

Do you want to continue? [Y/n]

```
apt-get install mysql-server mysql-client mysql-common phpmyadmin
```

Preparing your system

Open the terminal and run the following command

```
sudo apt-get install php5-common php5-gd php-pear php-db libapache2-mod-php5  
php-mail
```

Install freeradius using the following command

```
sudo apt-get install freeradius freeradius-mysql freeradius-utils
```

You can download the Daloradius latest version from [here](#)

Once you downloaded the daloradius-0.9-9.tar.gz file you need to extract using the following command

```
$ tar xvfz daloradius-0.9-9.tar.gz
```

```
$ mv daloradius-0.9-9 billing
```

```
$ mv daloradius /var/www
```

Change Permissions

```
sudo chown www-data:www-data /var/www/daloradius -R
```

```
sudo chown www-data:www-data /var/www/billing -R
```

```
sudo chmod 644 /var/www/daloradius/library/daloradius.conf.php
```

```
sudo chmod 644 /var/www/billing/library/daloradius.conf.php
```

Mysql database need to setup for daloradius.We need to do is to import the daloradius scheme into our existing radius database.

```
$ cd /var/www/daloradius/contrib/db
```

```
sudo mysql -u root -p radius < mysql-daloradius.sql configure the following daloradius setting.
```

```
sudo vi /var/www/daloradius/library/daloradius.conf.php Change the database password
```

```
$configValues['CONFIG_DB_PASS'] = 'password'; Save and exit the file Now you need to configure daloradius website under /etc/apache2/sites-available
```

```
sudo vi /etc/apache2/sites-available/daloradius.conf
```

add the following lines

```
Alias /bpdb /var/www/bpdb/
```

```
< Directory /var/www/bpdb/>
```

Options None

Order allow,deny

allow from all

< /Directory>

Save and exit the file

Enable daloradius website using the following command

```
sudo a2ensite daloradius
```

Enabling site daloradius.

To activate the new configuration, you need to run:

```
sudo service apache2 reload
```

Daloradius Web GUI

you can access daloradius GUI using <http://server-ip/daloradius> and the login screen as follows

3. `mysql -uroot -p`

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

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

```
mysql> GRANT ALL PRIVILEGES ON radius.* TO radius@'%' IDENTIFIED BY "radpass";
```

```
mysql> flush privileges;
```

```
mysql> use radius;
```

```
mysql> SOURCE /etc/raddb/sql/mysql/schema.sql
```

```
mysql> SOURCE /etc/raddb/sql/mysql/cui.sql
```

```
mysql> SOURCE /etc/raddb/sql/mysql/ippool.sql
```

```
mysql> SOURCE /etc/raddb/sql/mysql/nas.sql
```

```
mysql> SOURCE /etc/raddb/sql/mysql/wimax.sql
```

4. check `/etc/raddb/sql.conf`

Connection info:

server = "localhost"

#port = 3306

login = "radius"

password = "radpass"

service mysqld start; chkconfig mysqld on

Database table configuration for everything except Oracle

radius_db = "radius"

5. s table read client information database using sql in na

vi /etc/raddb/radiusd.conf

\$INCLUDE sql.conf

#\$INCLUDE clients.conf

vi /etc/raddb/sql.conf

readclients = yes

6. vi /etc/raddb/sites-available/default

#line 170

#files

#line 177

sql

#line 396

#radutmp

line 397

sradutmp

#line 406

sql

#line 450

#radutmp

line 454

sql

line 475

sql

line 563

sql

vi /etc/raddb/sites-available/inner-tunnel

#line 124

#files

#line 131

sql

#line 251

#radutmp

#line 255

sql

line 277

sql

line 301

sql

7. Install DaloRADIUS for web management:

```
yum -y install php-mysql php php-gd php-pear-DB httpd
tar zxvf daloradius-0.9-9.tar.gz
mysql -uroot -p
mysql> use radius;
mysql> SOURCE /tmp/daloradius-0.9-9/contrib/db/fr2-mysql-daloradius-and-freeradius.sql
```

```
vi /tmp/daloradius-0.9-9/library/daloradius.conf.php
$configValues['DALORADIUS_VERSION'] = '0.9-9';
$configValues['FREERADIUS_VERSION'] = '2';
$configValues['CONFIG_DB_ENGINE'] = 'mysql';
$configValues['CONFIG_DB_HOST'] = 'localhost';
$configValues['CONFIG_DB_USER'] = 'radius';
$configValues['CONFIG_DB_PASS'] = 'radpass';
$configValues['CONFIG_DB_NAME'] = 'radius';
$configValues['CONFIG_FILE_RADIUS_PROXY'] = '/etc/raddb/proxy.conf';
$configValues['CONFIG_PATH_RADIUS_DICT'] = '/etc/raddb';
$configValues['CONFIG_PATH_DALO_VARIABLE_DATA'] = '/var/www/html/daloradius/var';
$configValues['CONFIG_LOG_FILE'] = '/var/www/html/daloradius/var/daloradius.log';
```

```
mv /tmp/daloradius-0.9-9 /var/www/html/daloradius
touch /var/www/html/daloradius/var/daloradius.log
chown -R apache:apache /var/www/html/daloradius
chown www-data:www-data /var/www/billing
```

To fix log file permissions on daloradius:

```
vi /etc/raddb/radiusd.conf
    #file = ${logdir}/radius.log
```

```
file = /var/log/radius.log
```

```
chmod 644 /var/log/messages
```

```
vi /var/www/billing/library/exten-radius_log.php
```

```
vi /var/www/html/daloradius/library/exten-radius_log.php
```

```
$logfile_loc = array();
```

```
$logfile_loc[1] = '/var/log/freeradius/radius.log';
```

```
$logfile_loc[2] = '/usr/local/var/log/radius/radius.log';
```

```
$logfile_loc[3] = '/var/log/radius/radius.log';
```

```
$logfile_loc[4] = '/var/log/radius.log';
```

8. Limiting a user's simultaneous sessions to only one, new user must be added to Users group

```
vi /etc/raddb/sql/mysql/dialup.conf
```

Find simul_count_query the 279-282 line comments removed >>>> Find simul_count_query
remove the 279-282 line comments

```
mysql -uroot -p
```

```
mysql> use radius;
```

```
mysql> INSERT INTO radgroupcheck ( id , GroupName , Attribute , op , Value ) VALUES (NULL  
, 'users', 'Simultaneous-Use', ':=', '1');
```

```
vi /etc/httpd/conf/httpd.conf
```

```
ServerName x.x.x.x:80
```

```
vi /etc/hosts
```

```
x.x.x.x HOST-NAME
```

```
service httpd start; chkconfig httpd on
```



```
service radiusd start; chkconfig radiusd on  
chmod 644 /var/log/radius.log
```

http://ip-address-or-hostname/daloradius

Username: administrator

Password: radius

9. using daloradius web to create users and nas

```
# insert into radcheck ( id , username , attribute , op , value ) VALUES ( NULL , 'test',  
'Cleartext-Password', '=:', 'test');
```

```
# insert into radusergroup ( username , groupname , priority ) VALUES ( 'test', 'users', '0' );
```

```
# insert into nas ( id , nasname , shortname , ports , type , secret ) VALUES ( NULL , '127.0.0.1',  
'localhost', '0', 'other', 'testing');
```

```
# insert into nas ( id , nasname , shortname , ports , type , secret ) VALUES ( NULL , '0.0.0.0/0',  
'all', '0', 'other', 'testing');
```

The screenshot shows the Daloradius web interface. The top navigation bar includes 'Home', 'Management', 'Reports', 'Accounting', 'Billing', 'GIS', 'Graphs', 'Config', and 'Help'. The 'Management' tab is selected. Below the navigation bar, there are sub-tabs for 'Users', 'Batch Users', 'Hotspots', 'Nas', 'User-Groups', 'Profiles', 'HuntGroups', 'Attributes', 'Realms/Proxys', and 'IP-Pool'. The 'Users' sub-tab is active. The main content area is titled 'Users Listing'. It features a table with columns for ID, Name, Username, Password, and Groups. A single user entry is visible: ID 1, Name test, Username test, Password test, and Groups users. The table is highlighted with a red box. The interface also includes a search bar, a 'Welcome, administrator' message, and a 'Logout' link.

you must restart radiusd service after you create nas clients:

The screenshot shows the dalo RADIUS web interface. The top navigation bar includes 'Home', 'Management', 'Reports', 'Accounting', 'Billing', 'GIS', 'Graphs', 'Config', and 'Help'. The 'Management' menu is expanded, showing 'Users', 'Batch Users', 'Hotspots', 'Nas', 'User-Groups', 'Profiles', 'HuntGroups', 'Attributes', 'Realms/Proxys', and 'IP-Pool'. The 'Nas' option is selected. The sidebar on the left shows 'Management' with a sub-menu 'NAS Management' containing 'List NAS', 'New NAS', 'Edit NAS', and 'Remove NAS'. The main content area is titled 'NAS Listing in Database' and features a table with the following data:

NAS ID	NAS IP/Host	NAS Shortname	NAS Type	NAS Ports	NAS Secret
<input type="checkbox"/> 1	127.0.0.1	localhost	other	0	testing
<input type="checkbox"/> 2	0.0.0.0/0	all	other	0	testing

Below the table, it indicates 'PAGE 1 OF 1'. Above the table, there is a 'SELECT: ALL NONE' dropdown and a 'Delete' button.

service radiusd restart

10. on freeradius server, do a testing

radtest test test 127.0.0.1 0 testing

Limiting a user's daily total usage time and login time:

vi /etc/raddb/radiusd.conf

line 713

\$INCLUDE sql/mysql/counter.conf

vi /etc/raddb/sql/mysql/counter.conf

60 # query = "SELECT SUM(acctsessiontime - \

61 # GREATEST((%b - UNIX_TIMESTAMP(acctstarttime)), 0)) \

62 # FROM radacct WHERE username = '%{%k}' AND \

63 # UNIX_TIMESTAMP(acctstarttime) + acctsessiontime > '%b'"

64

65 query = "SELECT IFNULL(SUM(acctsessiontime - \

66 GREATEST((%b - UNIX_TIMESTAMP(acctstarttime)), 0)),0) \

```
67         FROM radacct WHERE username = '%{%k}' AND \  
68         UNIX_TIMESTAMP(acctstarttime) + acctsessiontime > '%b'"
```

```
vi /etc/raddb/sites-available/default
```

```
authorize {  
    ...  
# line 192  
#daily  
# line 193 add  
dailycounter  
# line 461  
post-auth {  
    if(control:Auth-Type =~ /.*AP/){  
        update reply {  
            Reply-Message := "Hello %{User-Name} !"  
            Reply-Message := "Regex match for %{0}"  
        }  
    }  
}
```

```
vi /etc/raddb/dictionary
```

```
# add at the bottom
```

```
ATTRIBUTE Daily-Session-Time 3000 integer
```

```
ATTRIBUTE Max-Daily-Session 3001 integer
```

```
mysql -uroot -p
```

```
mysql> use radius;
```

```
mysql> delete from radacct;
```

```
mysql> INSERT INTO radgroupcheck ( id , GroupName , Attribute , op , Value ) VALUES (NULL , 'users', 'Max-Daily-Session', ':=', '28800'); # 28800 is seconds = 8h
```

```
mysql> INSERT INTO radgroupcheck ( id , GroupName , Attribute , op , Value ) VALUES (NULL , 'users', 'Login-Time', ':=', 'A10001-2359');
```

#A day is Mo, Tu, We, Th, Fr, Sa or Su, or Wk for Mo-Fr. "Any" or "A1" means all days, for example 'Wk2305-0855,Sa,Su2305-1655'

```
service radiusd restart
```

```
radtest test test 127.0.0.1 0 testing
```

Limiting a user's daily and monthly data usage and account expiration

```
vi /etc/raddb/sql/mysql/counter.conf
```

```
# add at the bottom
```

```
sqlcounter dailytrafficcounter {  
    counter-name = Daily-Traffic  
    check-name = Max-Daily-Traffic  
    reply-name = Daily-Traffic-Limit  
    sqlmod-inst = sql  
    key = User-Name  
    reset = daily  
    query = "SELECT (SUM(AcctInputOctets + AcctOutputOctets)) FROM radacct WHERE  
    UserName='%{%k}' AND UNIX_TIMESTAMP(AcctStartTime) > '%b'"  
}
```

```
sqlcounter monthlytrafficcounter {  
    counter-name = Monthly-Traffic
```

check-name = Max-Monthly-Traffic

reply-name = Monthly-Traffic-Limit

sqlmod-inst = sql

key = User-Name

reset = monthly

query = "SELECT (SUM(AcctInputOctets + AcctOutputOctets)) FROM radacct WHERE
UserName='%{%k}' AND UNIX_TIMESTAMP(AcctStartTime) > '%b'"

}

vi /etc/raddb/dictionary

ATTRIBUTE Max-Daily-Traffic 3002 integer

ATTRIBUTE Daily-Traffic-Limit 3003 integer

ATTRIBUTE Max-Monthly-Traffic 3004 integer

ATTRIBUTE Monthly-Traffic-Limit 3005 integer

vi /etc/raddb/sites-available/default

authorize {

...

daily

dailycounter

dailytrafficcounter

monthlytrafficcounter

mysql -uroot -p

mysql> use radius;

mysql> delete from radacct;

```
mysql> INSERT INTO radgroupcheck (id, GroupName, Attribute, op, Value) VALUES (NULL, 'users', 'Max-Monthly-Traffic', ': =', '1073741824'); # 1073741824 bytes = 1024 * 1024 * 1024 bytes = 1 Gbyte, when filling in byte units
```

```
mysql> INSERT INTO radgroupcheck (id, GroupName, Attribute, op, Value) VALUES (NULL, 'users', 'Max-Daily-Traffic', ': =', '104857600'); # 104857600 bytes = 100 * 1024 * 1024 = 100 Mbyte
```

```
mysql> INSERT INTO radgroupcheck (id, GroupName, Attribute, op, Value) VALUES (NULL, 'users', 'Expiration', ': =', '1 Oct 2014'); # setting account expiration
```

```
service radiusd restart
```

```
radtest test test 127.0.0.1 0 testing
```

Using FreeRADIUS to authenticate PPTP/L2TP

On PPTP/L2TP Servers:

```
rpm -i radiusclient-0.3.2-0.2.el5.rf.x86_64.rpm
```

```
echo -e
```

```
"YOUR_RADIUS_SERVER_HOSTNAME_OR_IP\!\!\!\!\!\!YOUR_VPN_SERVER_SECRET" >>  
/etc/radiusclient/servers
```

```
vi /etc/radiusclient/radiusclient.conf
```

```
authserver    RADIUS_SERVER_IP_OR_HOSTNAME
```

```
acctserver    RADIUS_SERVER_IP_OR_HOSTNAME
```

for Freeradius server failover, just add more freeradius server:

```
/etc/radiusclient/radiusclient.conf
```

```
authserver 123.123.123.123, 123.123.123.124, 123.123.123.125
```

```
# RADIUS server to use for accounting requests. All that I
```

```
# said for authserver applies, too.
```

```
#
```

```
acctserver 123.123.123.123, 123.123.123.124, 123.123.123.125
```

```
/etc/radiusclient/servers
```

```
123.123.123.123 mysecret
```

```
123.123.123.124 mysecret
```

```
123.123.123.125 mysecret
```

```
# copy dictionary.microsoft to /etc/radiusclient
```

```
vi /etc/radiusclient/dictionary
```

```
INCLUDE /etc/radiusclient/dictionary.microsoft
```

```
echo 'plugin /usr/lib64/pppd/2.4.5/radius.so'>> /etc/ppp/options.pptpd
```

```
echo 'plugin /usr/lib64/pppd/2.4.5/radattr.so'>> /etc/ppp/options.pptpd
```

```
# for L2TP
```

```
echo 'plugin /usr/lib64/pppd/2.4.5/radius.so'>> /etc/ppp/options.xl2tpd
```

```
echo 'plugin /usr/lib64/pppd/2.4.5/radattr.so'>> /etc/ppp/options.xl2tpd
```

```
#remove any accounts from /etc/ppp/chap-secrets
```

```
service pptpd restart
```

```
# for L2TP
```

```
service xl2tpd restart
```

On FreeRadius Server:

using daltoradius web to create nas client

```
#vi /etc/raddb/clients.conf
```

```
# each vpn server should have its definition
```

```
#client VPN_SERVER_IP {
```

```
#    secret      = YOUR_VPN_SERVER_SECRET
```

```
#    shortname   = yourVPN
```

```
#    nastype     = other
```

```
#}
```

```
#or
```

```
# this is for all vpn servers
```

```
#client 0.0.0.0/0 {
```

```
#    secret      = YOUR_VPN_SERVER_SECRET
```

```
#    shortname   = all-vpn
```

```
#    nastype     = other
```

```
#}
```

```
service radiusd restart
```

Convert the database engine InnoDB:

```
mysqldump -q -uroot -p radius > radius.sql
```

```
service mysqld stop
```



```
vi /etc/my.cnf
```

```
default_storage_engine=InnoDB
```

```
vi radius.sql
```

```
# replace all MyISAM with InnoDB
```

```
%s/MyISAM/InnoDB/g
```

```
service mysqld start
```

```
mysql -uroot -p
```

```
mysql> drop database radius;
```

```
mysql> create database radius;
```

```
mysql -uroot -p radius < radius.sql
```

Database Backup:

```
[mysqld]
```

```
log-bin=mysql-bin
```

```
expire_logs_days=10
```

```
max_binlog_size=100M
```

1. Backup

full backup:

```
mysqldump -q -uroot -ppassword --single-transaction --flush-logs --master-data=2  
--delete-master-logs radius > backup.sql
```

incremental backup:

do changes on database

```
mysqladmin -uroot -ppassword flush-logs  
copy the second latest mysql-bin.x to safe place
```

2. Restore

full restore:

```
mysql -uroot -ppassword radius < backup.sql
```

incremental restore:

```
mysqlbinlog mysql-bin.000002 mysql-bin.00000X ...(expect the latest mysql-bin.x)| mysql -uroot  
-ppassword
```

```
mysql -uroot -ppassword
```

```
mysql> flush privileges;
```

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文章评论

[1楼]  [ATiRadeon](#) [回复](#)

2015-06-26 21:08:08

真的是很详细，在网上找了许多，最后才想起51cto真是不应该，很喜欢博主的这篇文章！实在是帮了大忙，上头非要弄个Linux的3A认证用来替代ACS，正愁这事呢，就找到了这篇文章，很不错还有WEB前端管理，真的是很好很好~

[2楼] [ATiRadeon](#) 回复

2015-07-02 13:59:14

第八步, 最后启动radiusd的时候, 报错, 目前没有很好地解决方法, 不知博主能否解决?

Error: /etc/raddb/sites-enabled/default[177]: Failed to load module "sql".

Error: /etc/raddb/sites-enabled/default[69]: Errors parsing authorize section.

Error: Failed to load virtual server <default>

Recommended jobs

linux operation and maintenance engineer

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Operation and Maintenance Engineer

Cloud platform operation and maintenance manager

Systems Engineer Ops

Docker Systems Engineer (Senior Lecturer)

Operation and Maintenance Engineer

Senior Operations Engineer

Junior Operation and Maintenance Engineer

System operation and maintenance engineer

Article Comments

[1 F] ATiRadeon Reply

2015-06-26 21:08:08

Really is very detailed, the Internet looking for a long time, and finally remembered 51cto really should not, like bloggers this article!

It is a big help, on top of Linux have to get hold of the 3A certification to replace ACS, Zhengchou these things, you find this article, as well as very good WEB front-end management, is really very, very good ~

[2nd Floor] ATiRadeon Reply

2015-07-02 13:59:14

The eighth step, the final start radiusd when being given, there is no good solution, I do not know bloggers can be resolved?

Error: / etc / raddb / sites-enabled / default [177]: Failed to load module "sql".

Error: / etc / raddb / sites-enabled / default [69]: Errors parsing authorize section.

Error: Failed to load virtual server <default>

AMINUL VVI

```
cd /etc/ssl/certs
```

```
ln -s ca-certificates.crt ca.pem
```

...looks like they changed the name of the concatenated certificate file containing the certificate authorities with this update. Time will tell if my ca.pem symlink gets obliterated with a later update...