

Local Users Authentication via RADIUS

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This document applies to V2.8

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Summary

This document describes how to set local user authentication working via RADIUS server.

Description

MikroTik RouterOS has a built-in local user management facility which is sufficient for most cases. However, in situations where there are many routers and (or) users involved, there might arise a need for one centralised routers' user database. This may be achieved by maintaining such database on a RADIUS server and configuring RouterOS to use one for authentication.

Example

This manual discusses how to make two users **ex** and **ex2** which are members of different groups and are authenticated with RADIUS.

For the purposes of this manual we use Debian GNU/Linux system and FreeRADIUS RADIUS server. Both these products are free software.

- MikroTik Router Configuration
 - Configure the router with proper RADIUS server connection parameters.

```
[admin@MikroTik] radius> add service=login address=1.1.1.1 secret="xxx" disabled=no
[admin@MikroTik] radius> print detail
Flags: X - disabled
 0  service=login called-id="" domain="" address=1.1.1.1 secret="xxx"
    authentication-port=1812 accounting-port=1813 timeout=300ms
    accounting-backup=no
[admin@MikroTik] radius>
```

- Enable local user authorization service to use RADIUS server

```
[admin@MikroTik] user aaa> set use-radius=yes
[admin@MikroTik] user aaa> print
    use-radius: yes
    accounting: yes
    interim-update: 0s
    default-group: read
[admin@MikroTik] user aaa>
```

- FreeRADIUS Server Installation and Configuration

- Install FreeRADIUS server package

```
root@wildcat:/etc# apt-get install freeradius
Reading Package Lists... Done
Building Dependency Tree... Done
Suggested packages:
  freeradius-ldap freeradius-mysql freeradius-krb5 freeradius-iodbc
The following NEW packages will be installed:
  freeradius
0 upgraded, 1 newly installed, 0 to remove and 269 not upgraded.
Need to get 0B/1788kB of archives.
After unpacking 4362kB of additional disk space will be used.
Selecting previously deselected package freeradius.
(Reading database ... 60006 files and directories currently installed.)
Unpacking freeradius (from .../freeradius_0.9.3-1_i386.deb) ...
Setting up freeradius (0.9.3-1) ...
Group freerad does already exist as a system group. Exiting...
freerad : freerad shadow
Restarting FreeRADIUS daemon: Stopping FreeRADIUS daemon: freeradius.
Starting FreeRADIUS daemon: Tue Sep 14 10:50:30 2004 : Info: Starting
- reading configuration files ...
freeradius.
root@wildcat:/etc#
```

- Open the file **/etc/freeradius/clients.conf** and add the following record:

```
client 1.1.1.3 {
    secret = xxx
    shortname = xxx
}
```

This record represents reachable MT router's address (**src-address** of packets coming from MT router).

- Open the file **/etc/freeradius/users** and add the following line:

```
ex User-Password == "ex"
```

This adds user named **ex** which will belong to the default group specified under **/user aaa** submenu.

- To add a user which belongs to the group other than default, you need to supply **Group** attribute to the router. Open **/etc/freeradius/users** file once more and add second user named **ex2** which will be the member of group **full**.

```
ex2 User-Password == "ex2"
    Group = "full"
```

Do not forget to update FreeRADIUS dictionary with additional attributes! Open **/etc/freeradius/dictionary** file and add the following:

VENDOR	Mikrotik	14988		
ATTRIBUTE	Recv-Limit	1	integer	Mikrotik
ATTRIBUTE	Xmit-Limit	2	integer	Mikrotik
ATTRIBUTE	Group	3	string	Mikrotik
ATTRIBUTE	Wireless-Forward	4	integer	Mikrotik
ATTRIBUTE	Wireless-Skip-Dot1x	5	integer	Mikrotik
ATTRIBUTE	Wireless-Enc-Algo	6	integer	Mikrotik
ATTRIBUTE	Wireless-Enc-Key	7	string	Mikrotik
ATTRIBUTE	Rate-Limit	8	string	Mikrotik

- Restart FreeRADIUS server.

```
root@wildcat:/etc# /etc/init.d/freeradius restart
```

```
Restarting FreeRADIUS daemon: Stopping FreeRADIUS daemon: freeradius.  
Starting FreeRADIUS daemon: Tue Sep 14 12:02:05 2004 : Info: Starting  
- reading configuration files ...  
freeradius.  
root@wildcat:/etc#
```

- Configuration testing

To test the configuration log on to your router as whether **ex** or **ex2** user. Note, that user **ex** has only read permissions while on the contrary user **ex2** has full permissions, *exempli gratia* he can create new users.