

Partner

如何設定 FreeRADIUS syslog

V003

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前言

本文件描述 N-Reporter 使用者，在 Linux 使用 Rsyslog 方式設定 FreeRADIUS syslog。

此文件適用於 CentOS / Debian / Ubuntu

FreeRADIUS Logging: <https://wiki.freeradius.org/config/Logging>

FreeRADIUS Syslog HOWTO: <https://wiki.freeradius.org/guide/Syslog-HOWTO>

註：本文件僅做為如何將日誌吐出的設定參考，建議您仍應聯繫設備或是軟體原廠尋求日誌輸出方式之協助。

1. CentOS

1.1 CentOS 6

1.1.1 編輯 FreeRADIUS 設定檔

(1) 查看 FreeRADIUS 版本

```
# radiusd -v
```

```
[root@centos6 ~]# radiusd -v
radiusd: FreeRADIUS Version 2.2.6, for host x86_64-redhat-linux-gnu, built on Jul 18 2017 at 12:13:14
Copyright (C) 1999-2013 The FreeRADIUS server project and contributors.
There is NO warranty; not even for MERCHANTABILITY or FITNESS FOR A
PARTICULAR PURPOSE.
You may redistribute copies of FreeRADIUS under the terms of the
GNU General Public License.
For more information about these matters, see the file named COPYRIGHT.
```

(2) 編輯 FreeRADIUS 設定檔

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

```
[root@centos6 ~]# vi /etc/raddb/radiusd.conf
```

(3) 啟用身份驗證請求記錄

```
auth = yes
```

```
# Log authentication requests to the log file.
#
# allowed values: {no, yes}
#
auth = yes
```

(4) 重啟 FreeRADIUS 服務和確認 FreeRADIUS 服務狀態

```
# service radiusd restart && service radiusd status
```

```
[root@centos6 ~]# service radiusd restart && service radiusd status
Stopping radiusd: [ OK ]
Starting radiusd: [ OK ]
radiusd (pid 6959) is running...
```

1.1.2 更新 Rsyslog 版本

(1) 檢查 rsyslog 版本

```
# rsyslogd -version
```

```
[root@CentOS6 ~]# rsyslogd -version
rsyslogd 5.8.10, compiled with:
  FEATURE_REGEX:                Yes
  FEATURE_LARGEFILE:             No
  GSSAPI Kerberos 5 support:     Yes
  FEATURE_DEBUG (debug build, slow code): No
  32bit Atomic operations supported: Yes
  64bit Atomic operations supported: Yes
  Runtime Instrumentation (slow code): No

See http://www.rsyslog.com for more information.
```

(2) 進入 yum shell 模式

```
# yum shell
```

```
[root@centos6 ~]# yum shell
Loaded plugins: fastestmirror
Setting up Yum Shell
>
```

(3) 安裝 rsyslog 7 版本和移除 rsyslog 5 版本

```
> install rsyslog7
```

```
> remove rsyslog
```

```
> install rsyslog7
Setting up Install Process
Loading mirror speeds from cached hostfile
* base: ftp.ksu.edu.tw
* epel: fedora.cs.nctu.edu.tw
* extras: ftp.ksu.edu.tw
* updates: ftp.ksu.edu.tw
> remove rsyslog
Setting up Remove Process
>
```

(4) 執行安裝

```
> run
```

```
[y/N]: y
```

```
> run
Running transaction check
--> Package rsyslog.x86_64 0:5.8.10-12.e16 will be erased
--> Package rsyslog7.x86_64 0:7.4.10-7.e16 will be installed
--> Processing Dependency: libjson-c.so.2()(64bit) for package: rsyslog7-7.4.10-7.e16.x86_64
--> Processing Dependency: libestr.so.0()(64bit) for package: rsyslog7-7.4.10-7.e16.x86_64
--> Running transaction check
--> Package json-c.x86_64 0:0.11-13.e16 will be installed
--> Package libestr.x86_64 0:0.1.9-2.e16 will be installed
--> Finished Dependency Resolution

=====
Package Arch Version Repository Size
=====
Installing:
rsyslog7 x86_64 7.4.10-7.e16 base 1.8 M
Removing:
rsyslog x86_64 5.8.10-12.e16 @anaconda-CentOS-201806291108.x86_64/6.10 2.1 M
Installing for dependencies:
json-c x86_64 0.11-13.e16 base 27 k
libestr x86_64 0.1.9-2.e16 base 19 k
=====
Transaction Summary
-----
Install 3 Package(s)
Remove 1 Package(s)
Total download size: 1.8 M
Is this ok [y/N]: y
Downloading Packages:
(1/3): json-c-0.11-13.e16.x86_64.rpm | 27 kB 00:00
(2/3): libestr-0.1.9-2.e16.x86_64.rpm | 19 kB 00:00
(3/3): rsyslog7-7.4.10-7.e16.x86_64.rpm | 1.8 MB 00:00
-----
Total | 4.7 MB/s | 1.8 MB 00:00
Running rpm_check_debug
Running Transaction Test
Transaction Test Succeeded
Running Transaction
  Installing : json-c-0.11-13.e16.x86_64 1/4
  Installing : libestr-0.1.9-2.e16.x86_64 2/4
  Installing : rsyslog7-7.4.10-7.e16.x86_64 3/4
  Erasing : rsyslog-5.8.10-12.e16.x86_64 4/4
  Verifying : libestr-0.1.9-2.e16.x86_64 1/4
  Verifying : json-c-0.11-13.e16.x86_64 2/4
  Verifying : rsyslog7-7.4.10-7.e16.x86_64 3/4
  Verifying : rsyslog-5.8.10-12.e16.x86_64 4/4

Removed:
rsyslog.x86_64 0:5.8.10-12.e16

Installed:
rsyslog7.x86_64 0:7.4.10-7.e16

Dependency Installed:
json-c.x86_64 0:0.11-13.e16 libestr.x86_64 0:0.1.9-2.e16

Finished Transaction
```

(5) 離開 yum shell 模式

```
> quit
```

```
> quit
Leaving Shell
[root@centos6 ~]#
```

(6) 檢查 rsyslog 版本

```
# rsyslogd -version
```

```
[root@centos6 ~]# rsyslogd -version
rsyslogd 7.4.10, compiled with:
  FEATURE_REGEXP: Yes
  FEATURE_LARGEFILE: No
  GSSAPI Kerberos 5 support: Yes
  FEATURE_DEBUG (debug build, slow code): No
  32bit Atomic operations supported: Yes
  64bit Atomic operations supported: Yes
  Runtime Instrumentation (slow code): No
  uid support: Yes

See http://www.rsyslog.com for more information.
```

1.1.3 設定 Rsyslog 轉發 FreeRADIUS log

(1) 編輯 rsyslog 設定檔

```
# vi /etc/rsyslog.conf  
[root@centos6 ~]# vi /etc/rsyslog.conf
```

(2) 加載 imfile 輸入模組

```
$ModLoad imfile # provides support for file logging  
$ModLoad imuxsock # provides support for local system logging (e.g. via logger command)  
$ModLoad imklog # provides kernel logging support (previously done by rklogd)  
#ModLoad immark # provides --MARK-- message capability  
$ModLoad imfile # provides support for file logging
```

(3) 設定轉發 FreeRADIUS log

```
# FreeRADIUS log  
$InputFileName /var/log/radius/radius.log  
$InputFileTag radius  
$InputFileStateFile radius.log  
$InputFileFacility local6  
$InputRunFileMonitor  
# Send FreeRADIUS log to N-Reporter  
if $programname == 'radius' then action (type="omfwd" Target="192.168.2.69" Port="514" Protocol="udp")  
  
# FreeRADIUS log  
$InputFileName /var/log/radius/radius.log  
$InputFileTag radius  
$InputFileStateFile radius.log  
$InputFileFacility local6  
$InputRunFileMonitor  
# Send FreeRADIUS log to N-Reporter  
if $programname == 'radius' then action (type="omfwd" Target="192.168.2.69" Port="514" Protocol="udp")
```

紅色文字部位請輸入 N-Reporter 系統 IP address

```
Target="192.168.2.69"
```

紅色文字請輸入 FreeRADIUS 日誌路徑檔案

```
$InputFileName /var/log/radius/radius.log
```

(4) 重啟 Rsyslog 服務和確認 Rsyslog 服務正常

```
# service rsyslog restart && service rsyslog status  
[root@centos6 ~]# service rsyslog restart && service rsyslog status  
Shutting down system logger: [ OK ]  
Starting system logger: [ OK ]  
rsyslogd (pid 1867) is running...  
[root@centos6 ~]#
```


1.2 CentOS 7

1.2.1 編輯 FreeRADIUS 設定檔

(1) 查看 FreeRADIUS 版本

```
# radiusd -v
```

```
[root@centos7 ~]# radiusd -v
radiusd: FreeRADIUS Version 3.0.13, for host x86_64-redhat-linux-gnu, built on May 16 2018 at 06:33:35
FreeRADIUS Version 3.0.13
Copyright (C) 1999-2017 The FreeRADIUS server project and contributors
There is NO warranty; not even for MERCHANTABILITY or FITNESS FOR A
PARTICULAR PURPOSE
You may redistribute copies of FreeRADIUS under the terms of the
GNU General Public License
For more information about these matters, see the file named COPYRIGHT
```

(2) 編輯 FreeRADIUS 設定檔

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

```
[root@centos7 ~]# vi /etc/raddb/radiusd.conf
```

(3) 啟用身份驗證請求記錄

```
auth = yes
```

```
# Log authentication requests to the log file.
#
# allowed values: {no, yes}
#
auth = yes
```

(4) 重啟 FreeRADIUS 服務和確認 FreeRADIUS 服務狀態

```
# systemctl restart radiusd && systemctl status radiusd
```

```
[root@centos7 ~]# systemctl restart radiusd && systemctl status radiusd
● radiusd.service - FreeRADIUS high performance RADIUS server.
   Loaded: loaded (/usr/lib/systemd/system/radiusd.service; disabled; vendor preset: disabled)
   Active: active (running) since Fri 2019-03-22 14:25:26 CST; 29ms ago
     Process: 5575 ExecStart=/usr/sbin/radiusd -d /etc/raddb (code=exited, status=0/SUCCESS)
     Process: 5571 ExecStartPre=/usr/sbin/radiusd -C (code=exited, status=0/SUCCESS)
     Process: 5567 ExecStartPre=/bin/chown -R radiusd.radiusd /var/run/radiusd (code=exited, status=0/SUCCESS)
    Main PID: 5578 (radiusd)
      CGroup: /system.slice/radiusd.service
              └─5578 /usr/sbin/radiusd -d /etc/raddb

Mar 22 14:25:26 centos7 systemd[1]: Starting FreeRADIUS high performance RADIUS server...
Mar 22 14:25:26 centos7 systemd[1]: Started FreeRADIUS high performance RADIUS server..
```

1.2.2 設定 Rsyslog 轉發 FreeRADIUS log

(1) 查看 Rsyslog 版本

```
# rsyslogd -v
```

```
[root@CentOS7 ~]# rsyslogd -v
rsyslogd 8.24.0-57.e17_9, compiled with:
PLATFORM:                               x86_64-redhat-linux-gnu
PLATFORM (lsb_release -d):
FEATURE_REGEXP:                           Yes
GSSAPI Kerberos 5 support:                Yes
FEATURE_DEBUG (debug build, slow code):  No
32bit Atomic operations supported:        Yes
64bit Atomic operations supported:        Yes
memory allocator:                         system default
Runtime Instrumentation (slow code):      No
uuid support:                              Yes
Number of Bits in RainerScript integers:  64

See http://www.rsyslog.com for more information.
```

(2) 編輯 rsyslog 設定檔

```
# vi /etc/rsyslog.conf
```

```
[root@centos7 ~]# vi /etc/rsyslog.conf
```

(3) 加載 imfile 輸入模組

```
$ModLoad imfile # provides support for file logging
```

```
# The imjournal module bellow is now used as a message source instead of imuxsock.
$ModLoad imuxsock # provides support for local system logging (e.g. via logger command)
$ModLoad imjournal # provides access to the systemd journal
#$ModLoad imklog # reads kernel messages (the same are read from journald)
#$ModLoad immark # provides --MARK-- message capability
$ModLoad imfile # provides support for file logging
```

(4) 設定轉發 FreeRADIUS log

```
# Send FreeRADIUS log to N-Reporter
input(type="imfile" File="/var/log/radius/radius.log" Tag="radius" Facility="local6" Ruleset="nreporter")
ruleset(name="nreporter"){action(type="omfwd" Target="192.168.2.69" Port="514" Protocol="udp")}
```

```
# Send FreeRADIUS log to N-Reporter
input(type="imfile" File="/var/log/radius/radius.log" Tag="radius" Facility="local6" Ruleset="nreporter")
ruleset(name="nreporter"){action(type="omfwd" Target="192.168.2.69" Port="514" Protocol="udp")}
```

紅色文字部位請輸入 N-Reporter 系統 IP address

```
Target="192.168.2.69"
```

紅色文字請輸入 FreeRADIUS 日誌路徑檔案

```
File="/var/log/radius/radius.log"
```

(5) 重啟 Rsyslog 服務和確認 Rsyslog 服務正常

```
# systemctl restart rsyslog && systemctl status rsyslog
```

```
[root@centos7 ~]# systemctl restart rsyslog && systemctl status rsyslog
● rsyslog.service - System Logging Service
   Loaded: loaded (/usr/lib/systemd/system/rsyslog.service; enabled; vendor preset: enabled)
   Active: active (running) since Mon 2019-03-04 14:00:12 CST; 4ms ago
     Docs: man:rsyslogd(8)
           http://www.rsyslog.com/doc/
   Main PID: 5907 (rsyslogd)
   CGroup: /system.slice/rsyslog.service
           └─5907 /usr/sbin/rsyslogd -n

Mar 04 14:00:12 centos7 systemd[1]: Stopped System Logging Service.
Mar 04 14:00:12 centos7 systemd[1]: Starting System Logging Service...
Mar 04 14:00:12 centos7 rsyslogd[5907]: [origin software="rsyslogd" swVersion="8.24.0-34.e17" x-pid="5907" x-info="http://www.rsyslog.com"] start
Mar 04 14:00:12 centos7 systemd[1]: Started System Logging Service.
```

2. Debian

2.1 Debian 8

2.1.1 編輯 FreeRADIUS 設定檔

(1) 查看 FreeRADIUS 版本

```
# freeradius -v
```

```
root@debian8:~# freeradius -v
freeradius: FreeRADIUS Version 2.2.5, for host x86_64-pc-linux-gnu, built on Aug 10 2017 at 07:25:15
Copyright (C) 1999-2013 The FreeRADIUS server project and contributors.
There is NO warranty; not even for MERCHANTABILITY or FITNESS FOR A
PARTICULAR PURPOSE.
You may redistribute copies of FreeRADIUS under the terms of the
GNU General Public License.
For more information about these matters, see the file named COPYRIGHT.
```

(2) 編輯 FreeRADIUS 設定檔

```
# vi /etc/freeradius/radiusd.conf
```

```
root@debian8:~# vi /etc/freeradius/radiusd.conf
```

(3) 啟用身份驗證請求記錄

```
auth = yes
```

```
# Log authentication requests to the log file.
#
# allowed values: {no, yes}
#
auth = yes
```

(3) 重啟 FreeRADIUS 服務和確認 FreeRADIUS 服務狀態

```
# systemctl restart freeradius && systemctl status freeradius
```

```
root@debian8:~# systemctl restart freeradius && systemctl status freeradius
● freeradius.service - LSB: Radius Daemon
   Loaded: loaded (/etc/init.d/freeradius)
   Active: active (running) since Fri 2019-03-22 04:20:45 EDT; 2ms ago
     Process: 9572 ExecStop=/etc/init.d/freeradius stop (code=exited, status=0/SUCCESS)
     Process: 9576 ExecStart=/etc/init.d/freeradius start (code=exited, status=0/SUCCESS)
    CGroup: /system.slice/freeradius.service
            └─9579 /usr/sbin/freeradius

Mar 22 04:20:45 debian8 freeradius[9576]: Starting FreeRADIUS daemon: freeradius.
Mar 22 04:20:45 debian8 systemd[1]: Started LSB: Radius Daemon.
```

2.1.2 設定 Rsyslog 轉發 FreeRADIUS log

(1) 查看 Rsyslog 版本

```
# rsyslogd -v
```

```
root@debian8:~# rsyslogd -v
rsyslogd 8.4.2, compiled with:
  FEATURE_REGEXP: Yes
  GSSAPI Kerberos 5 support: Yes
  FEATURE_DEBUG (debug build, slow code): No
  32bit Atomic operations supported: Yes
  64bit Atomic operations supported: Yes
  memory allocator: system default
  Runtime Instrumentation (slow code): No
  uuid support: Yes
  Number of Bits in RainerScript integers: 64

See http://www.rsyslog.com for more information.
```

(2) 編輯 rsyslog 設定檔

```
# vi /etc/rsyslog.conf
```

```
root@debian8:~# vi /etc/rsyslog.conf
```

(3) 加載 imfile 輸入模組

```
$ModLoad imfile # provides support for file logging
```

```
$ModLoad imuxsock # provides support for local system logging
$ModLoad imklog # provides kernel logging support
#$ModLoad immark # provides --MARK-- message capability
$ModLoad imfile # provides support for file logging
```

(4) 設定轉發 FreeRADIUS log

```
# FreeRADIUS log
$InputFileName /var/log/freeradius/radius.log
$InputFileTag radius
$InputFileStateFile radius.log
$InputFileFacility local6
$InputRunFileMonitor
# Send FreeRADIUS log to N-Reporter
if $programname == 'radius' then action (type="omfwd" Target="192.168.2.69" Port="514" Protocol="udp")
```

```
# FreeRADIUS log
$InputFileName /var/log/freeradius/radius.log
$InputFileTag radius
$InputFileStateFile radius.log
$InputFileFacility local6
$InputRunFileMonitor
# Send FreeRADIUS log to N-Reporter
if $programname == 'radius' then action (type="omfwd" Target="192.168.2.69" Port="514" Protocol="udp")
```

紅色文字部位請輸入 N-Reporter 系統 IP address

```
Target="192.168.2.69"
```

紅色文字請輸入 FreeRADIUS 日誌路徑檔案

```
$InputFileName /var/log/freeradius/radius.log
```

(5) 重啟 Rsyslog 服務和確認 Rsyslog 服務正常

```
# systemctl restart rsyslog && systemctl status rsyslog
```

```
root@debian8:~# systemctl restart rsyslog && systemctl status rsyslog
● rsyslog.service - System Logging Service
   Loaded: loaded (/lib/systemd/system/rsyslog.service; enabled)
   Active: active (running) since Fri 2019-03-22 04:24:36 EDT; 2ms ago
     Docs: man:rsyslogd(8)
           http://www.rsyslog.com/doc/
  Main PID: 9626 (rsyslogd)
    CGroup: /system.slice/rsyslog.service
            └─9626 /usr/sbin/rsyslogd -n

Mar 22 04:24:36 debian8 systemd[1]: Started System Logging Service.
```

2.2 Debian 9

2.2.1 編輯 FreeRADIUS 設定檔

(1) 查看 FreeRADIUS 版本

```
# freeradius -v
```

```
root@debian9:~# freeradius -v
radiusd: FreeRADIUS Version 3.0.12, for host x86_64-pc-linux-gnu, built on Aug 10 2017 at 07:05:06
FreeRADIUS Version 3.0.12
Copyright (C) 1999-2016 The FreeRADIUS server project and contributors
There is NO warranty; not even for MERCHANTABILITY or FITNESS FOR A
PARTICULAR PURPOSE
You may redistribute copies of FreeRADIUS under the terms of the
GNU General Public License
For more information about these matters, see the file named COPYRIGHT
```

(2) 編輯 FreeRADIUS 設定檔

```
# vi /etc/freeradius/3.0/radiusd.conf
```

(3) 啟用身份驗證請求記錄

```
auth = yes
```

```
# Log authentication requests to the log file.
#
# allowed values: {no, yes}
#
auth = yes
```

(4) 重啟 FreeRADIUS 服務和確認 FreeRADIUS 服務狀態

```
# systemctl restart freeradius && systemctl status freeradius
```

```
root@debian9:~# systemctl restart freeradius && systemctl status freeradius
● freeradius.service - FreeRADIUS multi-protocol policy server
   Loaded: loaded (/lib/systemd/system/freeradius.service; disabled; vendor preset: enabled)
   Active: active (running) since Fri 2019-03-22 04:58:52 EDT; 5ms ago
     Docs: man:radiusd(8)
           man:radiusd.conf(5)
           http://wiki.freeradius.org/
           http://networkradius.com/doc/
   Process: 11836 ExecStart=/usr/sbin/freeradius $FREERADIUS_OPTIONS (code=exited, status=0/SUCCESS)
   Process: 11833 ExecStartPre=/usr/sbin/freeradius $FREERADIUS_OPTIONS -Cxm -lstdout (code=exited, status=0/SUCCESS)
  Main PID: 11840 (freeradius)
    Tasks: 7 (limit: 4915)
   CGroup: /system.slice/freeradius.service
           └─11840 /usr/sbin/freeradius
```


2.2.2 設定 Rsyslog 轉發 FreeRADIUS log

(1) 查看 Rsyslog 版本

```
# rsyslogd -v
root@debian9:~# rsyslogd -v
rsyslogd 8.24.0, compiled with:
  PLATFORM:                                x86_64-pc-linux-gnu
  PLATFORM (lsb_release -d):
  FEATURE_REGEX:                            Yes
  GSSAPI Kerberos 5 support:                 Yes
  FEATURE_DEBUG (debug build, slow code):    No
  32bit Atomic operations supported:         Yes
  64bit Atomic operations supported:         Yes
  memory allocator:                          system default
  Runtime Instrumentation (slow code):        No
  uuid support:                               Yes
  Number of Bits in RainerScript integers: 64

See http://www.rsyslog.com for more information.
```

(2) 編輯 rsyslog 設定檔

```
# vi /etc/rsyslog.conf
root@debian9:~# vi /etc/rsyslog.conf
```

(3) 加載 imfile 輸入模組

```
module(load="imfile") # provides support for file logging
module(load="imuxsock") # provides support for local system logging
module(load="imklog") # provides kernel logging support
#module(load="immark") # provides --MARK-- message capability
module(load="imfile") # provides support for file logging
```

(4) 設定轉發 FreeRADIUS log

```
# Send FreeRADIUS log to N-Reporter
input(type="imfile" File="/var/log/freeradius/radius.log" Tag="radius" Facility="local6" Ruleset="nreporter")
ruleset(name="nreporter"){action(type="omfwd" Target="192.168.2.69" Port="514" Protocol="udp")}

# Send FreeRADIUS log to N-Reporter
input(type="imfile" File="/var/log/freeradius/radius.log" Tag="radius" Facility="local6" Ruleset="nreporter")
ruleset(name="nreporter"){action(type="omfwd" Target="192.168.2.69" Port="514" Protocol="udp")}
```

紅色文字部位請輸入 N-Reporter 系統 IP address

```
Target="192.168.2.69"
```

紅色文字請輸入 FreeRADIUS 日誌路徑檔案

```
File="/var/log/freeradius/radius.log"
```


(5) 重啟 Rsyslog 服務和確認 Rsyslog 服務正常

```
# systemctl restart rsyslog && systemctl status rsyslog
```

```
root@debian9:~# systemctl restart rsyslog && systemctl status rsyslog
● rsyslog.service - System Logging Service
   Loaded: loaded (/lib/systemd/system/rsyslog.service; enabled; vendor preset: enabled)
   Active: active (running) since Fri 2019-03-22 05:05:08 EDT; 8ms ago
     Docs: man:rsyslogd(8)
           http://www.rsyslog.com/doc/
   Main PID: 11868 (rsyslogd)
     Tasks: 5 (limit: 4915)
    CGroup: /system.slice/rsyslog.service
            └─11868 /usr/sbin/rsyslogd -n

Mar 22 05:05:08 debian9 systemd[1]: Stopped System Logging Service.
Mar 22 05:05:08 debian9 liblogging-stdlog[11868]: [origin software="rsyslogd" swVersion="8.24.0" x-pid="11868" x-info="http://www.rsyslog.com"] start
Mar 22 05:05:08 debian9 systemd[1]: Starting System Logging Service...
Mar 22 05:05:08 debian9 systemd[1]: Started System Logging Service.
```

3. Ubuntu

3.1 Ubuntu 16

3.1.1 編輯 FreeRADIUS 設定檔

(1) 查看 FreeRADIUS 版本

```
# freeradius -v
root@ubuntu16:~# freeradius -v
freeradius: FreeRADIUS Version 2.2.8, for host x86_64-pc-linux-gnu, built on Jul 26 2017 at 15:27:21
Copyright (C) 1999-2015 The FreeRADIUS server project and contributors.
There is NO warranty; not even for MERCHANTABILITY or FITNESS FOR A
PARTICULAR PURPOSE.
You may redistribute copies of FreeRADIUS under the terms of the
GNU General Public License.
For more information about these matters, see the file named COPYRIGHT.
```

(2) 編輯 FreeRADIUS 設定檔

```
# vi /etc/freeradius/radiusd.conf
root@ubuntu16:~# vi /etc/freeradius/radiusd.conf
```

(3) 啟用身份驗證請求記錄

```
auth = yes
# Log authentication requests to the log file.
#
# allowed values: {no, yes}
#
auth = yes
```

(4) 重啟 FreeRADIUS 服務和確認 FreeRADIUS 服務狀態

```
# systemctl restart freeradius && systemctl status freeradius
root@ubuntu16:~# systemctl restart freeradius && systemctl status freeradius
● freeradius.service - LSB: Radius Daemon
   Loaded: loaded (/etc/init.d/freeradius; bad; vendor preset: enabled)
   Active: active (running) since Fri 2021-05-28 14:56:45 CST; 2ms ago
     Docs: man:systemd-sysv-generator(8)
   Process: 2663 ExecStop=/etc/init.d/freeradius stop (code=exited, status=0/SUCCESS)
   Process: 2672 ExecStart=/etc/init.d/freeradius start (code=exited, status=0/SUCCESS)
    Tasks: 8
   Memory: 3.4M
     CPU: 116ms
   CGroup: /system.slice/freeradius.service
           └─2679 /usr/sbin/freeradius

May 28 14:56:45 ubuntu16 systemd[1]: Starting LSB: Radius Daemon...
May 28 14:56:45 ubuntu16 freeradius[2672]: * Starting FreeRADIUS daemon freeradius
May 28 14:56:45 ubuntu16 freeradius[2672]: ...done.
May 28 14:56:45 ubuntu16 systemd[1]: Started LSB: Radius Daemon.
```

3.1.2 設定 Rsyslog 轉發 FreeRADIUS log

(1) 查看 rsyslog 版本

```
# rsyslogd -v
```

```
root@ubuntu16:~# rsyslogd -v
rsyslogd 8.16.0, compiled with:
  PLATFORM:                               x86_64-pc-linux-gnu
  PLATFORM (lsb_release -d):
  FEATURE_REGEX:                           Yes
  GSSAPI Kerberos 5 support:                Yes
  FEATURE_DEBUG (debug build, slow code):  No
  32bit Atomic operations supported:        Yes
  64bit Atomic operations supported:        Yes
  memory allocator:                         system default
  Runtime Instrumentation (slow code):      No
  uuid support:                              Yes
  Number of Bits in RainerScript integers: 64

See http://www.rsyslog.com for more information.
```

(2) 編輯 rsyslog 設定檔

```
# vi /etc/rsyslog.conf
```

```
root@ubuntu16:~# vi /etc/rsyslog.conf
```

(3) 加載 imfile 輸入模組

```
module(load="imfile") # provides support for file logging
```

```
module(load="imuxsock") # provides support for local system logging
module(load="imklog") # provides kernel logging support
#module(load="immark") # provides --MARK-- message capability
module(load="imfile") # provides support for file logging
```

(4) 新增 rsyslog 的 110-freeradius.conf 設定檔

```
# vi /etc/rsyslog.d/110-freeradius.conf
```

```
root@ubuntu16:~# vi /etc/rsyslog.d/110-freeradius.conf
```

(5) 設定轉發 FreeRADIUS log

```
# FreeRADIUS log
$InputFileName /var/log/freeradius/radius.log
$InputFileTag radius
$InputFileStateFile radius.log
$InputFileFacility local6
$InputRunFileMonitor
# Send FreeRADIUS log to N-Reporter
if $programname == 'freeradius' then action (type="omfwd" Target="192.168.3.51" Port="514" Protocol="udp")

# FreeRADIUS log
$InputFileName /var/log/freeradius/radius.log
$InputFileTag radius
$InputFileStateFile radius.log
$InputFileFacility local6
$InputRunFileMonitor
# Send FreeRADIUS log to N-Reporter
if $programname == 'freeradius' then action (type="omfwd" Target="192.168.3.51" Port="514" Protocol="udp")
```

紅色文字部位請輸入 N-Reporter 系統 IP address

```
Target="192.168.3.51"
```

紅色文字請輸入 FreeRADIUS 日誌路徑檔案

```
$InputFileName /var/log/freeradius/radius.log
```

(6) 重啟 Rsyslog 服務和確認 Rsyslog 服務正常

```
# systemctl restart rsyslog && systemctl status rsyslog

root@ubuntu16:~# systemctl restart rsyslog && systemctl status rsyslog
● rsyslog.service - System Logging Service
   Loaded: loaded (/lib/systemd/system/rsyslog.service; enabled; vendor preset: enabled)
   Active: active (running) since Fri 2021-05-28 15:11:02 CST; 8ms ago
     Docs: man:rsyslogd(8)
           http://www.rsyslog.com/doc/
  Main PID: 2774 (rsyslogd)
    Tasks: 5
   Memory: 620.0K
      CPU: 2ms
   CGroup: /system.slice/rsyslog.service
           └─2774 /usr/sbin/rsyslogd -n

May 28 15:11:02 ubuntu16 systemd[1]: Starting System Logging Service...
May 28 15:11:02 ubuntu16 systemd[1]: Started System Logging Service.
```

3.2 Ubuntu 18

3.2.1 編輯 FreeRADIUS 設定檔

(1) 查看 FreeRADIUS 版本

```
# freeradius -v
```

```
root@ubuntu18:~# freeradius -v
radiusd: FreeRADIUS Version 3.0.16, for host x86_64-pc-linux-gnu, built on Apr 17 2019 at 12:59:55
FreeRADIUS Version 3.0.16
Copyright (C) 1999-2017 The FreeRADIUS server project and contributors
There is NO warranty; not even for MERCHANTABILITY or FITNESS FOR A
PARTICULAR PURPOSE
You may redistribute copies of FreeRADIUS under the terms of the
GNU General Public License
For more information about these matters, see the file named COPYRIGHT
```

(2) 編輯 FreeRADIUS 設定檔和新增 auth log 設定

```
# vi /etc/freeradius/3.0/radiusd.conf
```

```
root@ubuntu18:~# vi /etc/freeradius/3.0/radiusd.conf
```

(3) 啟用身份驗證請求記錄

```
auth = yes
```

```
# Log authentication requests to the log file.
#
# allowed values: {no, yes}
#
auth = yes
```

(4) 重啟 FreeRADIUS 服務和確認 FreeRADIUS 服務狀態

```
# systemctl restart freeradius && systemctl status freeradius
```

```
root@ubuntu18:~# systemctl restart freeradius && systemctl status freeradius
● freeradius.service - FreeRADIUS multi-protocol policy server
   Loaded: loaded (/lib/systemd/system/freeradius.service; disabled; vendor preset: enabled)
   Active: active (running) since Fri 2021-05-28 08:22:01 UTC; 6ms ago
     Docs: man:radiusd(8)
           man:radiusd.conf(5)
           http://wiki.freeradius.org/
           http://networkradius.com/doc/
   Process: 3553 ExecStart=/usr/sbin/freeradius $FREERADIUS_OPTIONS (code=exited, status=0/SUCCESS)
   Process: 3539 ExecStartPre=/usr/sbin/freeradius $FREERADIUS_OPTIONS -Cxm -lstdout (code=exited, status=0/SUCCESS)
  Main PID: 3564 (freeradius)
    Tasks: 6 (limit: 4658)
   CGroup: /system.slice/freeradius.service
           └─3564 /usr/sbin/freeradius

May 28 08:22:01 ubuntu18 freeradius[3539]: rlm_cache (cache_eap): Driver rlm_cache_rbtree (module rlm_cache_rbtree) loaded and linked
May 28 08:22:01 ubuntu18 freeradius[3539]: tls: Using cached TLS configuration from previous invocation
May 28 08:22:01 ubuntu18 freeradius[3539]: tls: Using cached TLS configuration from previous invocation
May 28 08:22:01 ubuntu18 freeradius[3539]: rlm_mschap (mschap): using internal authentication
May 28 08:22:01 ubuntu18 freeradius[3539]: Ignoring "sql" (see raddb/mods-available/README.rst)
May 28 08:22:01 ubuntu18 freeradius[3539]: Ignoring "ldap" (see raddb/mods-available/README.rst)
May 28 08:22:01 ubuntu18 freeradius[3539]: # Skipping contents of 'if' as it is always 'false' -- /etc/freeradius/3.0/sites-enabled/inner-tunnel:331
May 28 08:22:01 ubuntu18 freeradius[3539]: radiusd: ##### Skipping IP addresses and Ports #####
May 28 08:22:01 ubuntu18 freeradius[3539]: Configuration appears to be OK
May 28 08:22:01 ubuntu18 systemd[1]: Started FreeRADIUS multi-protocol policy server.
```

3.2.2 設定 Rsyslog 轉發 FreeRADIUS log

(1) 查看 rsyslog 版本

```
# rsyslogd -v
```

```
root@ubuntu18:~# rsyslogd -v
rsyslogd 8.32.0, compiled with:
  PLATFORM:                               x86_64-pc-linux-gnu
  PLATFORM (lsb_release -d):
  FEATURE_REGEXP:                           Yes
  GSSAPI Kerberos 5 support:                 Yes
  FEATURE_DEBUG (debug build, slow code):   No
  32bit Atomic operations supported:         Yes
  64bit Atomic operations supported:         Yes
  memory allocator:                          system default
  Runtime Instrumentation (slow code):       No
  uuid support:                              Yes
  systemd support:                           Yes
  Number of Bits in RainerScript integers: 64

See http://www.rsyslog.com for more information.
```

(2) 編輯 rsyslog 設定檔

```
# vi /etc/rsyslog.conf
```

```
root@ubuntu18:~# vi /etc/rsyslog.conf
```

(3) 加載 imfile 輸入模組

```
# provides support for file logging
```

```
module(load="imfile")
```

```
#####
#### MODULES ####
#####
```

```
module(load="imuxsock") # provides support for local system logging
#module(load="immark") # provides --MARK-- message capability
```

```
# provides UDP syslog reception
#module(load="imudp")
#input(type="imudp" port="514")
```

```
# provides TCP syslog reception
#module(load="imtcp")
#input(type="imtcp" port="514")
```

```
# provides kernel logging support and enable non-kernel klog messages
module(load="imklog" permitnonkernelfacility="on")
```

```
# provides support for file logging
module(load="imfile")
```


(4) 新增 rsyslog 的 110-freeradius.conf 設定檔

```
# vi /etc/rsyslog.d/110-freeradius.conf
```

```
root@ubuntu18:~# vi /etc/rsyslog.d/110-freeradius.conf
```

(5) 設定轉發 FreeRADIUS log

```
# Send FreeRADIUS log to N-Reporter
```

```
input(type="imfile" File="/var/log/freeradius/radius.log" Tag="radius" Facility="local6" Ruleset="nreporter")
ruleset(name="nreporter"){action(type="omfwd" Target="192.168.3.51" Port="514" Protocol="udp")}
```

```
# Send FreeRADIUS log to N-Reporter
```

```
input(type="imfile" File="/var/log/freeradius/radius.log" Tag="radius" Facility="local6" Ruleset="nreporter")
ruleset(name="nreporter"){action(type="omfwd" Target="192.168.3.51" Port="514" Protocol="udp")}
```

紅色文字部位請輸入 N-Reporter 系統 IP address

```
Target="192.168.3.51"
```

紅色文字請輸入 FreeRADIUS 日誌路徑檔案

```
File="/var/log/freeradius/radius.log"
```

(6) 重啟 Rsyslog 服務和確認 Rsyslog 服務正常

```
# systemctl restart rsyslog && systemctl status rsyslog
```

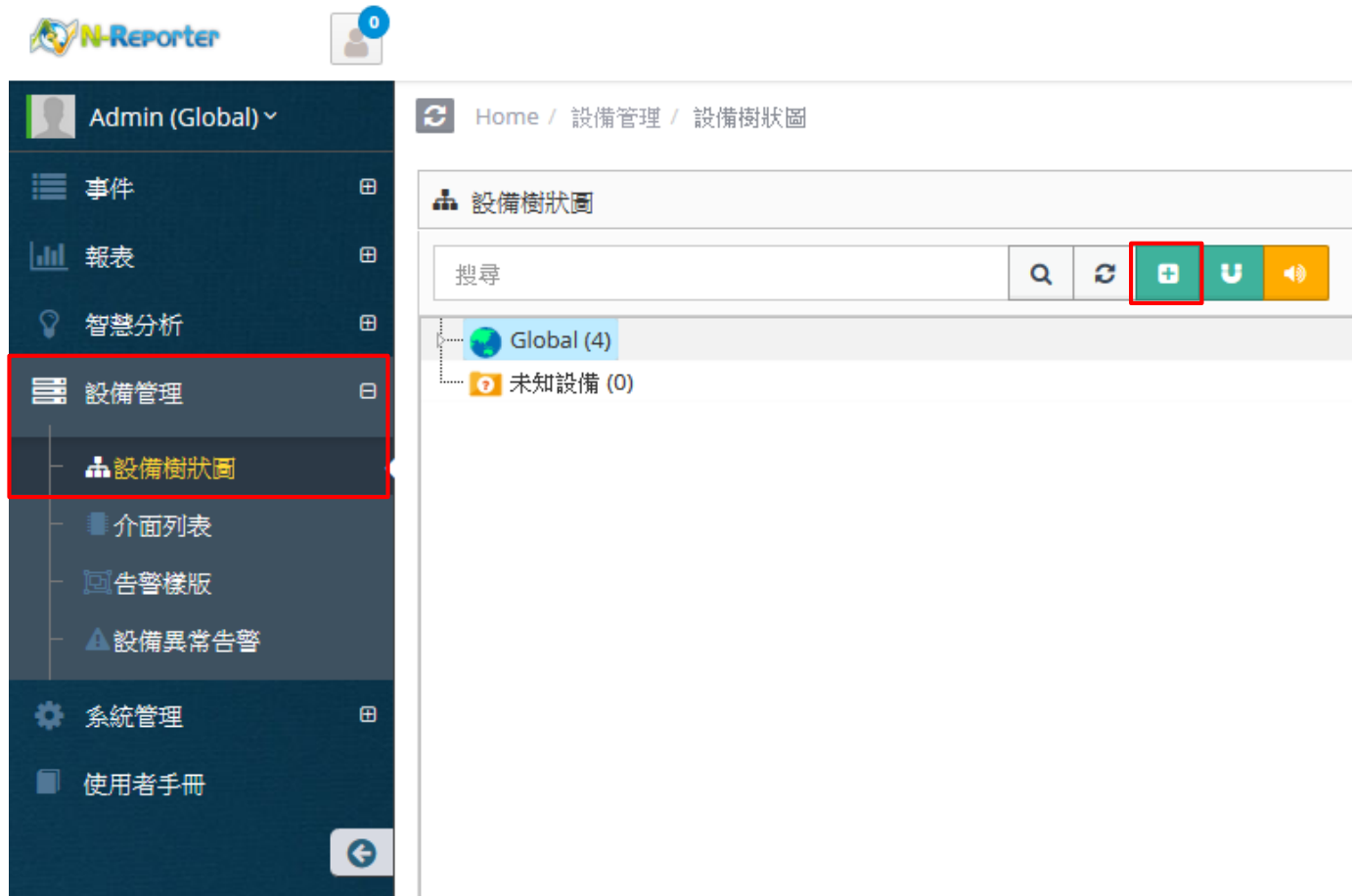
```
root@ubuntu18:~# systemctl restart rsyslog && systemctl status rsyslog
● rsyslog.service - System Logging Service
   Loaded: loaded (/lib/systemd/system/rsyslog.service; enabled; vendor preset: enabled)
   Active: active (running) since Fri 2021-05-28 08:29:19 UTC; 5ms ago
     Docs: man:rsyslogd(8)
           http://www.rsyslog.com/doc/
   Main PID: 3692 (rsyslogd)
     Tasks: 5 (limit: 4658)
    CGroup: /system.slice/rsyslog.service
            └─3692 /usr/sbin/rsyslogd -n

May 28 08:29:19 ubuntu18 systemd[1]: Starting System Logging Service...
May 28 08:29:19 ubuntu18 systemd[1]: Started System Logging Service.
May 28 08:29:19 ubuntu18 rsyslogd[3692]: imuxsock: Acquired UNIX socket '/run/systemd/journal/syslog' (fd 3) from systemd. [v8.32.0]
May 28 08:29:19 ubuntu18 rsyslogd[3692]: rsyslogd's groupid changed to 106
May 28 08:29:19 ubuntu18 rsyslogd[3692]: rsyslogd's userid changed to 102
May 28 08:29:19 ubuntu18 rsyslogd[3692]: [origin software="rsyslogd" swVersion="8.32.0" x-pid="3692" x-info="http://www.rsyslog.com"] start
```

4. N-Reporter

(1) 新增 FreeRADIUS 設備

[設備管理] -> [設備樹狀圖] -> 點選 [新增]



The screenshot displays the N-Reporter web application interface. On the left is a dark blue sidebar menu with the following items: 'Admin (Global) v', '事件', '報表', '智慧分析', '設備管理' (highlighted with a red box), '設備樹狀圖' (highlighted with a red box), '介面列表', '告警樣版', '設備異常告警', '系統管理', and '使用者手冊'. The main content area shows the breadcrumb 'Home / 設備管理 / 設備樹狀圖' and the title '設備樹狀圖'. Below the title is a search bar with a search icon, a refresh icon, a green '+ Add' button (highlighted with a red box), a green 'U' button, and a yellow speaker icon. The main content area lists 'Global (4)' and '未知設備 (0)'.

(2) 設定 FreeRADIUS 設備的資料格式

輸入 **名稱** 和 **IP** -> 勾選設備種類: [Syslog] -> 選擇資料格式: [Linux Radius] 和 Facility: [(22) local use 6 (local6)]
和 設備 Icon: [icon-host] -> 點選接收狀態: [啟用] -> 按下 [確定]

新增設備

設備基本設定

名稱
FreeRADIUS-192.168.2.217

IP
192.168.2.217

設備種類
 Syslog Flow SNMP

Syslog 相關設定

資料格式
Linux Radius

Facility
(22) local use 6 (local6)

編碼方式
UTF-8

設備進階設定

ICMP 告警樣板
N/A

設備 Icon
icon-host

Login Account

Login Password

接收狀態
 啟用 停用

暫無資料告警
 啟用 Syslog/Flow 暫無資料告警

資料保留天數

確定 **取消**

5. 問題排除

5.1 Rsyslog 沒有送出 FreeRADIUS log

5.1.1 編輯 FreeRADIUS 設定檔

請參考前言的 [FreeRADIUS Syslog HOWTO 連結](#)

(1) 查看 FreeRADIUS 版本

```
# radiusd -v
```

```
[root@centos7 ~]# radiusd -v
radiusd: FreeRADIUS Version 3.0.13, for host x86_64-redhat-linux-gnu, built on May 16 2018 at 06:33:35
FreeRADIUS Version 3.0.13
Copyright (C) 1999-2017 The FreeRADIUS server project and contributors
There is NO warranty; not even for MERCHANTABILITY or FITNESS FOR A
PARTICULAR PURPOSE
You may redistribute copies of FreeRADIUS under the terms of the
GNU General Public License
For more information about these matters, see the file named COPYRIGHT
```

(2) 編輯 FreeRADIUS 設定檔

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

```
[root@centos7 ~]# vi /etc/raddb/radiusd.conf
```

(3) 註解 destination = files 及新增 destination = syslog

```
# destination = files
destination = syslog
```

```
#
# Destination for log messages. This can be one of:
#
# files - log to "file", as defined below.
# syslog - to syslog (see also the "syslog_facility", below.
# stdout - standard output
# stderr - standard error.
#
# The command-line option "-X" over-rides this option, and forces
# logging to go to stdout.
#
#destination = files
destination = syslog
```

(4) 註解 `syslog_facility = daemon` 及新增 `syslog_facility = local6`

```
# destination = files  
destination = syslog
```

```
#  
# Which syslog facility to use, if ${destination} == "syslog"  
#  
# The exact values permitted here are OS-dependent. You probably  
# don't want to change this.  
#  
#syslog_facility = daemon  
syslog_facility = local6
```

(5) 啟用身份驗證請求記錄

```
auth = yes
```

```
# Log authentication requests to the log file.  
#  
# allowed values: {no, yes}  
#  
auth = yes
```

(6) 重啟 FreeRADIUS 服務和確認 FreeRADIUS 服務狀態

```
# systemctl restart radiusd && systemctl status radiusd
```

```
[root@centos7 ~]# systemctl restart radiusd && systemctl status radiusd  
● radiusd.service - FreeRADIUS high performance RADIUS server.  
  Loaded: loaded (/usr/lib/systemd/system/radiusd.service; disabled; vendor preset: disabled)  
  Active: active (running) since Fri 2019-03-22 14:25:26 CST; 29ms ago  
  Process: 5575 ExecStart=/usr/sbin/radiusd -d /etc/raddb (code=exited, status=0/SUCCESS)  
  Process: 5571 ExecStartPre=/usr/sbin/radiusd -C (code=exited, status=0/SUCCESS)  
  Process: 5567 ExecStartPre=/bin/chown -R radiusd.radiusd /var/run/radiusd (code=exited, status=0/SUCCESS)  
  Main PID: 5578 (radiusd)  
  CGroup: /system.slice/radiusd.service  
          └─5578 /usr/sbin/radiusd -d /etc/raddb  
  
Mar 22 14:25:26 centos7 systemd[1]: Starting FreeRADIUS high performance RADIUS server...  
Mar 22 14:25:26 centos7 systemd[1]: Started FreeRADIUS high performance RADIUS server..
```

5.1.2 設定 Rsyslog 轉發 FreeRADIUS log

(1) 查看 Rsyslog 版本

```
# rsyslogd -v
```

```
[root@centos7 ~]# rsyslogd -v
rsyslogd 8.24.0-34.e17, compiled with:
  PLATFORM:                               x86_64-redhat-linux-gnu
  PLATFORM (lsb_release -d):
  FEATURE_REGEXP:                          Yes
  GSSAPI Kerberos 5 support:               Yes
  FEATURE_DEBUG (debug build, slow code):  No
  32bit Atomic operations supported:        Yes
  64bit Atomic operations supported:        Yes
  memory allocator:                        system default
  Runtime Instrumentation (slow code):     No
  uuid support:                             Yes
  Number of Bits in RainerScript integers: 64

See http://www.rsyslog.com for more information.
```

(2) 編輯 rsyslog 設定檔

```
# vi /etc/rsyslog.conf
```

```
[root@centos7 ~]# vi /etc/rsyslog.conf
```

(3) 設定轉發 FreeRADIUS log

```
# Send FreeRADIUS log to N-Reporter
```

```
local6.* @192.168.3.51
```

```
# Send FreeRADIUS log to N-Reporter
```

```
local6.* @192.168.3.51
```

紅色文字部位請輸入 N-Reporter 系統 IP address

(4) 重啟 Rsyslog 服務和確認 Rsyslog 服務正常

```
# systemctl restart rsyslog && systemctl status rsyslog
```

```
[root@centos7 ~]# systemctl restart rsyslog && systemctl status rsyslog
● rsyslog.service - System Logging Service
   Loaded: loaded (/usr/lib/systemd/system/rsyslog.service; enabled; vendor preset: enabled)
   Active: active (running) since Mon 2019-03-04 14:00:12 CST; 4ms ago
     Docs: man:rsyslogd(8)
           http://www.rsyslog.com/doc/
  Main PID: 5907 (rsyslogd)
    CGroup: /system.slice/rsyslog.service
            └─5907 /usr/sbin/rsyslogd -n

Mar 04 14:00:12 centos7 systemd[1]: Stopped System Logging Service.
Mar 04 14:00:12 centos7 systemd[1]: Starting System Logging Service...
Mar 04 14:00:12 centos7 rsyslogd[5907]: [origin software="rsyslogd" swVersion="8.24.0-34.e17" x-pid="5907" x-info="http://www.rsyslog.com"] start
Mar 04 14:00:12 centos7 systemd[1]: Started System Logging Service.
```



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