N-Partner

如何設定 Apache

V003

2019/12/23

版權聲明

商標

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前言

本文件描述如何使用 N-Reporter 接收 Apache syslog

測試環境為 Red Hat / CentOS / Debian / Ubuntu / SUSE / Solaris 和 Windows 安裝 Apache 套件

LogFormat Options: https://httpd.apache.org/docs/current/mod/mod_log_config.html

ErrorLogFormat Options: https://httpd.apache.org/docs/current/mod/core.html

1. Red Hat 7

1.1 編輯 Apache 設定檔

(1) 編輯 Apache 設定檔

vi /etc/httpd/conf/httpd.conf

```
[root@rhel7 ~]# vi /etc/httpd/conf/httpd.conf
```

(2) 新增 log 設定

ErrorLogFormat "[%{u}t] [%-m:%l] [pid %P:tid %T] %7F: %E: [client\ %a] %M% ,\ referer\ %{Referer}i"

<IfModule logio_module>

LogFormat "%h %l %u %t \"%r\" %>s %O %I %T %b \"%{Referer}i\" \"%{User-Agent}i\"" nreporter

</IfModule>

CustomLog "logs/access-NReporter_log" nreporter

```
#
# ErrorLog: The location of the error log file.
# If you do not specify an ErrorLog directive within a <VirtualHost>
# container, error messages relating to that virtual host will be
# logged here.  If you *do* define an error logfile for a <VirtualHost>
# container, that host's errors will be logged there and not here.
#
ErrorLog "logs/error_log"

#
# LogLevel: Control the number of messages logged to the error_log.
# Possible values include: debug, info, notice, warn, error, crit,
# alert, emerg.
#
LogLevel warn

<IfModule log_config_module>
    #
    # The following directives define some format nicknames for use with
    # a CustomLog directive (see below).
    #
    LogFormat "%h %l %u %t \"%r\" %>s %b \"%{Referer}i\" \"%{User-Agent}i\"" combined
    LogFormat "%h %l %u %t \"%r\" %>s %b" common

    ErrorLogFormat "[%{u}t] [%-m:%l] [pid %P:tid %T] %7F: %E: [client\ %a] %M% ,\ referer\ %{Referer}i"

    <IfModule logio_module>
      # You need to enable mod_logio.c to use %I and %O
      LogFormat "%h %l %u %t \"%r\" %>s %b \"%{Referer}i\" \"%{User-Agent}i\" %I %O" combinedio
      LogFormat "%h %l %u %t \"%r\" %>s %O %I %T %b \"%{Referer}i\" \"%{User-Agent}i\"" nreporter
    </IfModule>

    #
    # The location and format of the access logfile (Common Logfile Format).
    # If you do not define any access logfiles within a <VirtualHost>
    # container, they will be logged here.  Contrariwise, if you *do*
    # define per-<VirtualHost> access logfiles, transactions will be
    # logged therein and *not* in this file.
    #
    #CustomLog "logs/access_log" common

    #
    # If you prefer a logfile with access, agent, and referer information
    # (Combined Logfile Format) you can use the following directive.
    #
    CustomLog "logs/access_log" combined
    CustomLog "logs/access-NReporter_log" nreporter
</IfModule>
```

(3) 重啟 Apache 服務和確認 Apache 服務狀態

systemctl restart httpd && systemctl status httpd

```
[root@rhel7 ~]# systemctl restart httpd && systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; vendor preset: disabled)
   Active: active (running) since Mon 2019-03-04 11:56:25 CST; 188ms ago
     Docs: man:httpd(8)
           man:apachectl(8)
  Process: 29603 ExecStop=/bin/kill -WINCH ${MAINPID} (code=exited, status=0/SUCCESS)
  Process: 28308 ExecReload=/usr/sbin/httpd $OPTIONS -k graceful (code=exited, status=0/SUCCESS)
 Main PID: 29607 (httpd)
   Status: "Processing requests..."
   CGroup: /system.slice/httpd.service
           ├─29607 /usr/sbin/httpd -DFOREGROUND
           ├─29608 /usr/sbin/httpd -DFOREGROUND
           ├─29609 /usr/sbin/httpd -DFOREGROUND
           ├─29610 /usr/sbin/httpd -DFOREGROUND
           ├─29611 /usr/sbin/httpd -DFOREGROUND
           └─29612 /usr/sbin/httpd -DFOREGROUND

Mar 04 11:56:24 rhel7.npartner.local systemd[1]: Starting The Apache HTTP Server...
Mar 04 11:56:25 rhel7.npartner.local systemd[1]: Started The Apache HTTP Server.
```

1.2 設定 Rsyslog 轉發 Apache log

(1) 編輯 rsyslog 設定檔

vi /etc/rsyslog.conf

```
[root@rhel7 ~]# vi /etc/rsyslog.conf
```

$ModLoad imfile # provides support for file logging

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

# 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
```

(2) 設定轉發 Apache log

Send Apache log to N-Reporter

input(type="imfile" File="/var/log/httpd/access-NReporter_log" Tag="apache" Severity="info" Facility="local6"

Ruleset="nreporter")

input(type="imfile" File="/var/log/httpd/error_log" Tag="apache" Severity="warning" Facility="local6"

Ruleset="nreporter")

ruleset(name="nreporter"){action(type="omfwd" Target="192.168.2.69" Port="514" Protocol="udp")}

```
# Send Apache log to N-Reporter
input(type="imfile" File="/var/log/httpd/access-NReporter_log" Tag="apache" Severity="info" Facility="local6" Ruleset="nreporter")
input(type="imfile" File="/var/log/httpd/error_log" Tag="apache" Severity="warning" 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 Apache 日誌路徑檔案

File="/var/log/httpd/access-NReporter_log"

File="/var/log/httpd/error_log"

(3) 重啟 Rsyslog 服務和確認 Rsyslog 服務正常

systemctl restart rsyslog && systemctl status rsyslog

```
[root@rhel7 ~]# 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 13:40:27 CST; 69ms ago
     Docs: man:rsyslogd(8)
           http://www.rsyslog.com/doc/
 Main PID: 29673 (rsyslogd)
   CGroup: /system.slice/rsyslog.service
           └─29673 /usr/sbin/rsyslogd -n

Mar 04 13:40:26 rhel7.npartner.local systemd[1]: Starting System Logging Service...
Mar 04 13:40:27 rhel7.npartner.local rsyslogd[29673]:  [origin software="rsyslogd" swVersion="8.24.0-34.el7" x-pid="29673" x-info="http://www.rsyslog.com"] start
Mar 04 13:40:27 rhel7.npartner.local systemd[1]: Started System Logging Service.
```

2. CentOS

2.1 CentOS 6

2.1.1 編輯 Apache 設定檔

(1) 查看 Apache 版本

httpd -v

```
[root@centos6 ~]# httpd -v
Server version: Apache/2.4.34 (Red Hat)
Server built:   Nov 16 2018 12:58:22
```

(2) 編輯 Apache 設定檔

vi /opt/rh/httpd24/root/etc/httpd/conf/httpd.conf

```
[root@centos6 ~]# vi /opt/rh/httpd24/root/etc/httpd/conf/httpd.conf
```

(3) 新增 log 設定

ErrorLogFormat "[%{u}t] [%-m:%l] [pid %P:tid %T] %7F: %E: [client\ %a] %M% ,\ referer\ %{Referer}i"

<IfModule logio_module>

LogFormat "%h %l %u %t \"%r\" %>s %O %I %T %b \"%{Referer}i\" \"%{User-Agent}i\"" nreporter

</IfModule>

CustomLog "logs/access-NReporter_log" nreporter

```
#
# ErrorLog: The location of the error log file.
# If you do not specify an ErrorLog directive within a <VirtualHost>
# container, error messages relating to that virtual host will be
# logged here.  If you *do* define an error logfile for a <VirtualHost>
# container, that host's errors will be logged there and not here.
#
ErrorLog "logs/error_log"

#
# LogLevel: Control the number of messages logged to the error_log.
# Possible values include: debug, info, notice, warn, error, crit,
# alert, emerg.
#
LogLevel warn

<IfModule log_config_module>
    #
    # The following directives define some format nicknames for use with
    # a CustomLog directive (see below).
    #
    LogFormat "%h %l %u %t \"%r\" %>s %b \"%{Referer}i\" \"%{User-Agent}i\"" combined
    LogFormat "%h %l %u %t \"%r\" %>s %b" common

    ErrorLogFormat "[%{u}t] [%-m:%l] [pid %P:tid %T] %7F: %E: [client\ %a] %M% ,\ referer\ %{Referer}i"

    <IfModule logio_module>
      # You need to enable mod_logio.c to use %I and %O
      LogFormat "%h %l %u %t \"%r\" %>s %b \"%{Referer}i\" \"%{User-Agent}i\" %I %O" combinedio
      LogFormat "%h %l %u %t \"%r\" %>s %O %I %T %b \"%{Referer}i\" \"%{User-Agent}i\"" nreporter
    </IfModule>

    #
    # The location and format of the access logfile (Common Logfile Format).
    # If you do not define any access logfiles within a <VirtualHost>
    # container, they will be logged here.  Contrariwise, if you *do*
    # define per-<VirtualHost> access logfiles, transactions will be
    # logged therein and *not* in this file.
    #
    #CustomLog "logs/access_log" common

    #
    # If you prefer a logfile with access, agent, and referer information
    # (Combined Logfile Format) you can use the following directive.
    #
    CustomLog "logs/access_log" combined
    CustomLog "logs/access-NReporter_log" nreporter
</IfModule>
```

(4) 重啟 Apache 服務和確認 Apache 服務狀態

service httpd restart && service httpd status

```
[root@centos6 ~]# service httpd restart && service httpd status
Stopping httpd:                                            [  OK  ]
Starting httpd:                                            [  OK  ]
httpd (pid  1698) is running...
```

2.1.2 更新 Rsyslog 版本

yum shell

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

> 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
>
```

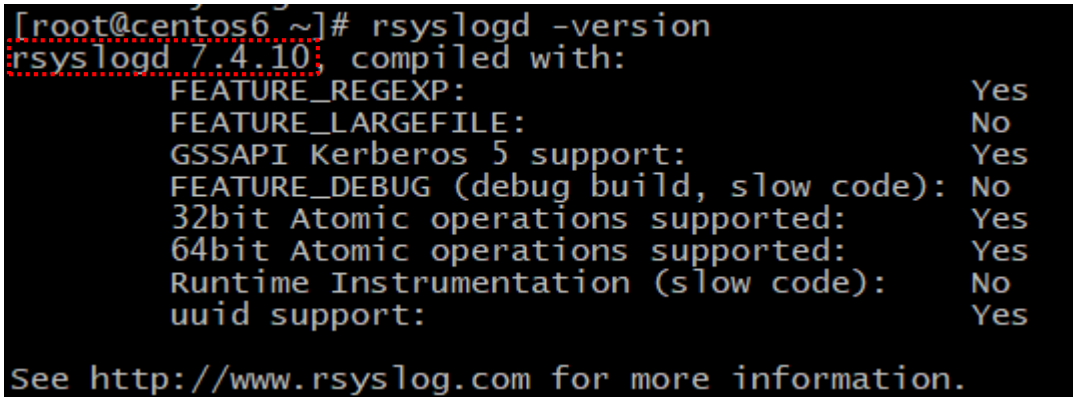
> run -> y

```
> run
--> Running transaction check
---> Package rsyslog.x86_64 0:5.8.10-12.el6 will be erased
---> Package rsyslog7.x86_64 0:7.4.10-7.el6 will be installed
--> Processing Dependency: libjson-c.so.2()(64bit) for package: rsyslog7-7.4.10-7.el6.x86_64
--> Processing Dependency: libestr.so.0()(64bit) for package: rsyslog7-7.4.10-7.el6.x86_64
--> Running transaction check
---> Package json-c.x86_64 0:0.11-13.el6 will be installed
---> Package libestr.x86_64 0:0.1.9-2.el6 will be installed
--> Finished Dependency Resolution

================================================================================
 Package          Arch          Version                 Repository          Size
================================================================================
Installing:
 rsyslog7         x86_64        7.4.10-7.el6            base               1.8 M
Removing:
 rsyslog          x86_64        5.8.10-12.el6           @anaconda-CentOS-201806291108.x86_64/6.10
                                                                            2.1 M
Installing for dependencies:
 json-c           x86_64        0.11-13.el6             base                27 k
 libestr          x86_64        0.1.9-2.el6             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.el6.x86_64.rpm                     |  27 kB     00:00
(2/3): libestr-0.1.9-2.el6.x86_64.rpm                    |  19 kB     00:00
(3/3): rsyslog7-7.4.10-7.el6.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.el6.x86_64                                   1/4
  Installing : libestr-0.1.9-2.el6.x86_64                                  2/4
  Installing : rsyslog7-7.4.10-7.el6.x86_64                                3/4
  Erasing    : rsyslog-5.8.10-12.el6.x86_64                                4/4
  Verifying  : libestr-0.1.9-2.el6.x86_64                                  1/4
  Verifying  : json-c-0.11-13.el6.x86_64                                   2/4
  Verifying  : rsyslog7-7.4.10-7.el6.x86_64                                3/4
  Verifying  : rsyslog-5.8.10-12.el6.x86_64                                4/4

Removed:
  rsyslog.x86_64 0:5.8.10-12.el6

Installed:
  rsyslog7.x86_64 0:7.4.10-7.el6

Dependency Installed:
  json-c.x86_64 0:0.11-13.el6                libestr.x86_64 0:0.1.9-2.el6

Finished Transaction
>
```

> quit

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

rsyslogd -version



2.1.3 設定 Rsyslog 轉發 Apache log

(1) 編輯 rsyslog 設定檔

vi /etc/rsyslog.conf

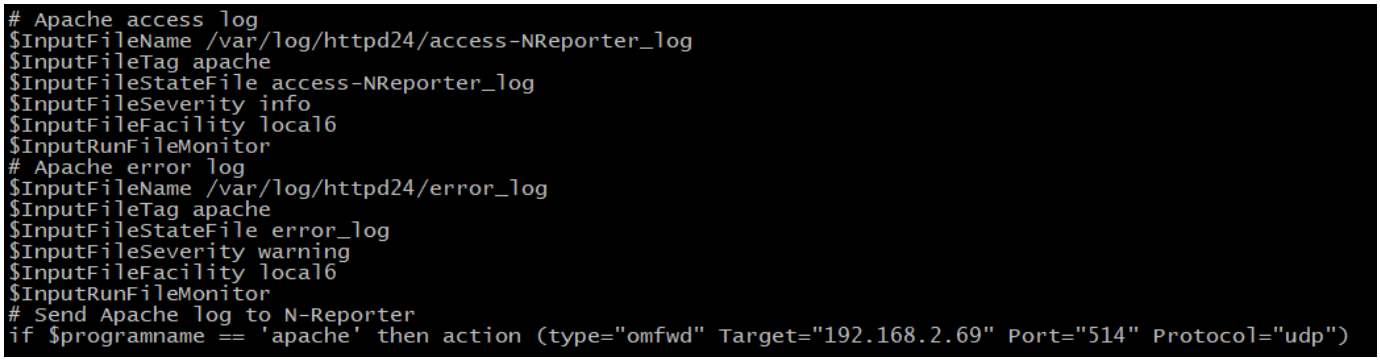
```
[root@centos6 ~]# vi /etc/rsyslog.conf
```

$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
```

(2) 設定轉發 Apache log

```
# Apache access log
$InputFileName /var/log/httpd24/access-NReporter_log
$InputFileTag apache
$InputFileStateFile access-NReporter_log
$InputFileSeverity info
$InputFileFacility local6
$InputRunFileMonitor
# Apache error log
$InputFileName /var/log/httpd24/error_log
$InputFileTag apache
$InputFileStateFile error_log
$InputFileSeverity warning
$InputFileFacility local6
$InputRunFileMonitor
# Send Apache log to N-Reporter
if $programname == 'apache' 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"

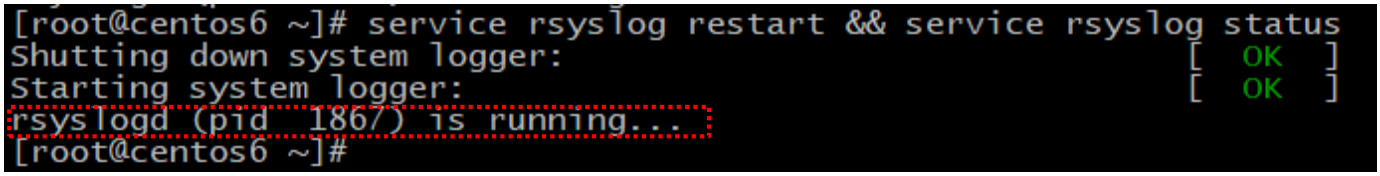
紅色文字請輸入 Apache 日誌路徑檔案

$InputFileName /var/log/httpd24/access-NReporter_log

$InputFileName /var/log/httpd24/error_log

(3) 重啟 Rsyslog 服務和確認 Rsyslog 服務正常

service rsyslog restart && service rsyslog status



2.2 CentOS 7

2.2.1 編輯 Apache 設定檔

(1) 編輯 Apache 設定檔

vi /etc/httpd/conf/httpd.conf

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

(2) 新增 log 設定

ErrorLogFormat "[%{u}t] [%-m:%l] [pid %P:tid %T] %7F: %E: [client\ %a] %M% ,\ referer\ %{Referer}i"

<IfModule logio_module>

LogFormat "%h %l %u %t \"%r\" %>s %O %I %T %b \"%{Referer}i\" \"%{User-Agent}i\"" nreporter

</IfModule>

CustomLog "logs/access-NReporter_log" nreporter

```
#
# ErrorLog: The location of the error log file.
# If you do not specify an ErrorLog directive within a <VirtualHost>
# container, error messages relating to that virtual host will be
# logged here.  If you *do* define an error logfile for a <VirtualHost>
# container, that host's errors will be logged there and not here.
#
ErrorLog "logs/error_log"

#
# LogLevel: Control the number of messages logged to the error_log.
# Possible values include: debug, info, notice, warn, error, crit,
# alert, emerg.
#
LogLevel warn

<IfModule log_config_module>
    #
    # The following directives define some format nicknames for use with
    # a CustomLog directive (see below).
    #
    LogFormat "%h %l %u %t \"%r\" %>s %b \"%{Referer}i\" \"%{User-Agent}i\"" combined
    LogFormat "%h %l %u %t \"%r\" %>s %b" common

    ErrorLogFormat "[%{u}t] [%-m:%l] [pid %P:tid %T] %7F: %E: [client\ %a] %M% ,\ referer\ %{Referer}i"

    <IfModule logio_module>
      # You need to enable mod_logio.c to use %I and %O
      LogFormat "%h %l %u %t \"%r\" %>s %b \"%{Referer}i\" \"%{User-Agent}i\" %I %O" combinedio
      LogFormat "%h %l %u %t \"%r\" %>s %O %I %T %b \"%{Referer}i\" \"%{User-Agent}i\"" nreporter
    </IfModule>

    #
    # The location and format of the access logfile (Common Logfile Format).
    # If you do not define any access logfiles within a <VirtualHost>
    # container, they will be logged here.  Contrariwise, if you *do*
    # define per-<VirtualHost> access logfiles, transactions will be
    # logged therein and *not* in this file.
    #
    #CustomLog "logs/access_log" common

    #
    # If you prefer a logfile with access, agent, and referer information
    # (Combined Logfile Format) you can use the following directive.
    #
    CustomLog "logs/access_log" combined
    CustomLog "logs/access-NReporter_log" nreporter
</IfModule>
```

(3) 重啟 Apache 服務和確認 Apache 服務狀態

systemctl restart httpd && systemctl status httpd

```
[root@centos7 ~]# systemctl restart httpd && systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor preset: disabled)
   Active: active (running) since Mon 2019-03-04 13:57:19 CST; 6ms ago
     Docs: man:httpd(8)
           man:apachectl(8)
  Process: 5886 ExecStop=/bin/kill -WINCH ${MAINPID} (code=exited, status=0/SUCCESS)
 Main PID: 5891 (httpd)
   Status: "Processing requests..."
   CGroup: /system.slice/httpd.service
           ├─5891 /usr/sbin/httpd -DFOREGROUND
           ├─5892 /usr/sbin/httpd -DFOREGROUND
           ├─5893 /usr/sbin/httpd -DFOREGROUND
           ├─5894 /usr/sbin/httpd -DFOREGROUND
           ├─5895 /usr/sbin/httpd -DFOREGROUND
           └─5896 /usr/sbin/httpd -DFOREGROUND

Mar 04 13:57:19 centos7 systemd[1]: Stopped The Apache HTTP Server.
Mar 04 13:57:19 centos7 systemd[1]: Starting The Apache HTTP Server...
Mar 04 13:57:19 centos7 systemd[1]: Started The Apache HTTP Server.
```

2.2.2 設定 rsyslog 轉發 Apache log

(1) 編輯 rsyslog 設定檔

vi /etc/rsyslog.conf

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

$ModLoad imfile # provides support for file logging

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

# 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
```

(2) 設定轉發 Apache log

Send Apache log to N-Reporter

input(type="imfile" File="/var/log/httpd/access-NReporter_log" Tag="apache" Severity="info" Facility="local6"

Ruleset="nreporter")

input(type="imfile" File="/var/log/httpd/error_log" Tag="apache" Severity="warning" Facility="local6"

Ruleset="nreporter")

ruleset(name="nreporter"){action(type="omfwd" Target="192.168.2.69" Port="514" Protocol="udp")}

```
# Send Apache log to N-Reporter
input(type="imfile" File="/var/log/httpd/access-NReporter_log" Tag="apache" Severity="info" Facility="local6" Ruleset="nreporter")
input(type="imfile" File="/var/log/httpd/error_log" Tag="apache" Severity="warning" 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 Apache 日誌路徑檔案

File="/var/log/httpd/access-NReporter_log"

File="/var/log/httpd/error_log"

(3) 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.el7" x-pid="5907" x-info="http://www.rsyslog.com"] start
Mar 04 14:00:12 centos7 systemd[1]: Started System Logging Service.
```

3. Debian 9

3.1 編輯 Apache 設定檔

(1) 編輯 Apache2 設定檔

vi /etc/apache2/apache2.conf

```
root@debian9:~# vi /etc/apache2/apache2.conf
```

(2) 新增 log 設定

LogFormat "%h %l %u %t \"%r\" %>s %O %I %T %b \"%{Referer}i\" \"%{User-Agent}i\"" nreporter

ErrorLogFormat "[%{u}t] [%-m:%l] [pid %P:tid %T] %7F: %E: [client\ %a] %M% ,\ referer\ %{Referer}i"

```
#
# The following directives define some format nicknames for use with
# a CustomLog directive.
#
# These deviate from the Common Log Format definitions in that they use %O
# (the actual bytes sent including headers) instead of %b (the size of the
# requested file), because the latter makes it impossible to detect partial
# requests.
#
# Note that the use of %{X-Forwarded-For}i instead of %h is not recommended.
# Use mod_remoteip instead.
#
LogFormat "%v:%p %h %l %u %t \"%r\" %>s %O \"%{Referer}i\" \"%{User-Agent}i\"" vhost_combined
LogFormat "%h %l %u %t \"%r\" %>s %O \"%{Referer}i\" \"%{User-Agent}i\"" combined
LogFormat "%h %l %u %t \"%r\" %>s %O" common
LogFormat "%{Referer}i -> %U" referer
LogFormat "%{User-agent}i" agent
LogFormat "%h %l %u %t \"%r\" %>s %O %I %T %b \"%{Referer}i\" \"%{User-Agent}i\"" nreporter

ErrorLogFormat "[%{u}t] [%-m:%l] [pid %P:tid %T] %7F: %E: [client\ %a] %M% ,\ referer\ %{Referer}i"
```

(3) 編輯 000-default 設定檔

vi /etc/apache2/sites-enabled/000-default.conf

```
root@debian9:~# vi /etc/apache2/sites-enabled/000-default.conf
```

(4) 新增 CustomLog 設定

CustomLog ${APACHE_LOG_DIR}/access-NReporter.log nreporter

```
ErrorLog ${APACHE_LOG_DIR}/error.log
CustomLog ${APACHE_LOG_DIR}/access.log combined
CustomLog ${APACHE_LOG_DIR}/access-NReporter.log nreporter
```

(5) 重啟 Apache 服務和確認 Apache 服務狀態

systemctl restart apache2 && systemctl status apache2

```
root@debian9:~# systemctl restart apache2 && systemctl status apache2
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
   Active: active (running) since Mon 2019-03-04 01:10:56 EST; 14ms ago
  Process: 5954 ExecStop=/usr/sbin/apachectl stop (code=exited, status=0/SUCCESS)
  Process: 5330 ExecReload=/usr/sbin/apachectl graceful (code=exited, status=0/SUCCESS)
  Process: 5962 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
 Main PID: 5966 (apache2)
    Tasks: 59 (limit: 4915)
   CGroup: /system.slice/apache2.service
           ├─5966 /usr/sbin/apache2 -k start
           ├─5967 /usr/sbin/apache2 -k start
           └─5968 /usr/sbin/apache2 -k start

Mar 04 01:10:56 debian9 systemd[1]: Starting The Apache HTTP Server...
Mar 04 01:10:56 debian9 systemd[1]: Started The Apache HTTP Server.
```

3.2 設定 Rsyslog 轉發 Apache log

(1) 編輯 rsyslog 設定檔

vi /etc/rsyslog.conf

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

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

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

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
```

(2) 設定轉發 Apache log

Send Apache log to N-Reporter

input(type="imfile" File="/var/log/httpd/access-NReporter_log" Tag="apache" Severity="info" Facility="local6"

Ruleset="nreporter")

input(type="imfile" File="/var/log/httpd/error_log" Tag="apache" Severity="warning" Facility="local6"

Ruleset="nreporter")

ruleset(name="nreporter"){action(type="omfwd" Target="192.168.2.69" Port="514" Protocol="udp")}

```
# Send Apache log to N-Reporter
input(type="imfile" File="/var/log/apache2/access-NReporter.log" Tag="apache" Severity="info" Facility="local6" Ruleset="nreporter")
input(type="imfile" File="/var/log/apache2/error.log" Tag="apache" Severity="warning" 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 Apache 日誌路徑檔案

File="/var/log/httpd/access-NReporter_log"

File="/var/log/httpd/error_log"

(3) 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 Mon 2019-03-04 01:16:23 EST; 31ms ago
     Docs: man:rsyslogd(8)
           http://www.rsyslog.com/doc/
 Main PID: 6046 (rsyslogd)
    Tasks: 5 (limit: 4915)
   CGroup: /system.slice/rsyslog.service
           └─6046 /usr/sbin/rsyslogd -n

Mar 04 01:16:23 debian9 systemd[1]: Starting System Logging Service...
Mar 04 01:16:23 debian9 liblogging-stdlog[6046]:  [origin software="rsyslogd" swVersion="8.24.0" x-pid="6046" x-info="http://www.rsyslog.com"] start
Mar 04 01:16:23 debian9 systemd[1]: Started System Logging Service.
```

4. Ubuntu 18

4.1 編輯 Apache 設定檔

(1) 編輯 Apache2 設定檔

vi /etc/apache2/apache2.conf

```
root@ubuntu18:~# vi /etc/apache2/apache2.conf
```

(2) 新增 log 設定

LogFormat "%h %l %u %t \"%r\" %>s %O %I %T %b \"%{Referer}i\" \"%{User-Agent}i\"" nreporter

ErrorLogFormat "[%{u}t] [%-m:%l] [pid %P:tid %T] %7F: %E: [client\ %a] %M% ,\ referer\ %{Referer}i"

```
#
# The following directives define some format nicknames for use with
# a CustomLog directive.
#
# These deviate from the Common Log Format definitions in that they use %O
# (the actual bytes sent including headers) instead of %b (the size of the
# requested file), because the latter makes it impossible to detect partial
# requests.
#
# Note that the use of %{X-Forwarded-For}i instead of %h is not recommended.
# Use mod_remoteip instead.
#
LogFormat "%v:%p %h %l %u %t \"%r\" %>s %O \"%{Referer}i\" \"%{User-Agent}i\"" vhost_combined
LogFormat "%h %l %u %t \"%r\" %>s %O \"%{Referer}i\" \"%{User-Agent}i\"" combined
LogFormat "%h %l %u %t \"%r\" %>s %O" common
LogFormat "%{Referer}i -> %U" referer
LogFormat "%{User-agent}i" agent
LogFormat "%h %l %u %t \"%r\" %>s %O %I %T %b \"%{Referer}i\" \"%{User-Agent}i\"" nreporter

ErrorLogFormat "[%{u}t] [%-m:%l] [pid %P:tid %T] %7F: %E: [client\ %a] %M% ,\ referer\ %{Referer}i"
```

(3) 編輯 000-default 設定檔

vi /etc/apache2/sites-enabled/000-default.conf

```
root@ubuntu18:~# vi /etc/apache2/sites-enabled/000-default.conf
```

(4) 新增 CustomLog 設定

CustomLog ${APACHE_LOG_DIR}/access-NReporter.log nreporter

```
ErrorLog ${APACHE_LOG_DIR}/error.log
CustomLog ${APACHE_LOG_DIR}/access.log combined
CustomLog ${APACHE_LOG_DIR}/access-NReporter.log nreporter
```

(5) 重啟 Apache 服務和確認 Apache 服務狀態

systemctl restart apache2 && systemctl status apache2

```
root@ubuntu18:~# systemctl restart apache2 && systemctl status apache2
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
  Drop-In: /lib/systemd/system/apache2.service.d
           └─apache2-systemd.conf
   Active: active (running) since Mon 2019-03-04 06:25:32 UTC; 15ms ago
  Process: 9258 ExecStop=/usr/sbin/apachectl stop (code=exited, status=0/SUCCESS)
  Process: 9179 ExecReload=/usr/sbin/apachectl graceful (code=exited, status=0/SUCCESS)
  Process: 9263 ExecStart=/usr/sbin/apachectl start (code=exited, status=0/SUCCESS)
 Main PID: 9279 (apache2)
    Tasks: 1 (limit: 2320)
   CGroup: /system.slice/apache2.service
           └─9279 /usr/sbin/apache2 -k start

Mar 04 06:25:32 ubuntu18 systemd[1]: Starting The Apache HTTP Server...
```

4.2 設定 Rsyslog 轉發 Apache log

(1) 編輯 rsyslog 設定檔

vi /etc/rsyslog.conf

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

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")
```

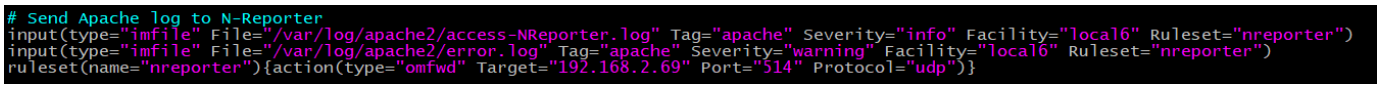
(2) 編輯 50-default 設定檔

vi /etc/rsyslog.d/50-default.conf

```
root@ubuntu18:~# vi /etc/rsyslog.d/50-default.conf
```

(3) 設定轉發 Apache log

```
# Send Apache log to N-Reporter
input(type="imfile" File="/var/log/httpd/access-NReporter_log" Tag="apache" Severity="info" Facility="local6"
Ruleset="nreporter")
input(type="imfile" File="/var/log/httpd/error_log" Tag="apache" Severity="warning" 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"

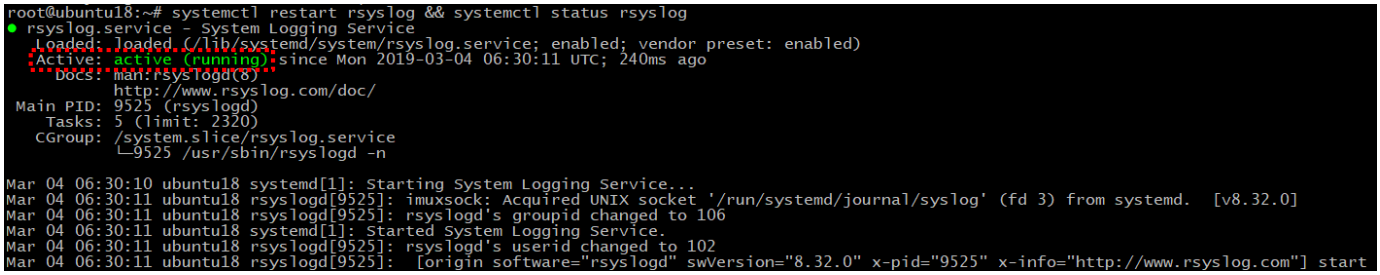
紅色文字請輸入 Apache 日誌路徑檔案

File="/var/log/httpd/access-NReporter_log"

File="/var/log/httpd/error_log"

(4) 重啟 Rsyslog 服務和確認 Rsyslog 服務正常

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



5. SUSE

5.2 SUSE 10

5.2.1 編輯 Apache 設定檔

(1) 編輯 mod_log_config 設定檔

vim /etc/apache2/mod_log_config.conf

```
suse10:~ # vim /etc/apache2/mod_log_config.conf
```

(2) 新增 log 設定

LogFormat "%h %l %u %t \"%r\" %>s %O \

\%I %T %b \"%{Referer}i\" \"%{User-Agent}i\"" nreporter

```
# To use %I and %O, you need to enable mod_logio
<IfModule mod_logio.c>
LogFormat "%h %l %u %t \"%r\" %>s %b \
\"%{Referer}i\" \"%{User-Agent}i\" %I %O"  combinedio
LogFormat "%h %l %u %t \"%r\" %>s %O \
\%I %T %b \"%{Referer}i\" \"%{User-Agent}i\""  nreporter
</IfModule>
```

(3) 編輯 loadmodule 設定檔

vim /etc/apache2/sysconfig.d/loadmodule.conf

```
suse10:~ # vim /etc/apache2/sysconfig.d/loadmodule.conf
```

(4) 新增 logio_module 設定

LoadModule logio_module /usr/lib64/apache2-prefork/mod_logio.so

```
# as listed in APACHE_MODULES (/etc/sysconfig/apache2)

LoadModule actions_module               /usr/lib/apache2-prefork/mod_actions.so
LoadModule alias_module                 /usr/lib/apache2-prefork/mod_alias.so
LoadModule auth_basic_module            /usr/lib/apache2-prefork/mod_auth_basic.so
LoadModule authn_file_module            /usr/lib/apache2-prefork/mod_authn_file.so
LoadModule authz_host_module            /usr/lib/apache2-prefork/mod_authz_host.so
LoadModule authz_groupfile_module       /usr/lib/apache2-prefork/mod_authz_groupfile.so
LoadModule authz_default_module         /usr/lib/apache2-prefork/mod_authz_default.so
LoadModule authz_user_module            /usr/lib/apache2-prefork/mod_authz_user.so
LoadModule authn_dbm_module             /usr/lib/apache2-prefork/mod_authn_dbm.so
LoadModule autoindex_module             /usr/lib/apache2-prefork/mod_autoindex.so
LoadModule cgi_module                   /usr/lib/apache2-prefork/mod_cgi.so
LoadModule dir_module                   /usr/lib/apache2-prefork/mod_dir.so
LoadModule env_module                   /usr/lib/apache2-prefork/mod_env.so
LoadModule expires_module               /usr/lib/apache2-prefork/mod_expires.so
LoadModule include_module               /usr/lib/apache2-prefork/mod_include.so
LoadModule log_config_module            /usr/lib/apache2-prefork/mod_log_config.so
LoadModule mime_module                  /usr/lib/apache2-prefork/mod_mime.so
LoadModule negotiation_module           /usr/lib/apache2-prefork/mod_negotiation.so
LoadModule setenvif_module              /usr/lib/apache2-prefork/mod_setenvif.so
LoadModule ssl_module                   /usr/lib/apache2-prefork/mod_ssl.so
LoadModule suexec_module                /usr/lib/apache2-prefork/mod_suexec.so
LoadModule userdir_module               /usr/lib/apache2-prefork/mod_userdir.so
LoadModule logio_module                 /usr/lib64/apache2-prefork/mod_logio.so
#
```

(5) 編輯 apache2 設定檔

vim /etc/sysconfig/apache2

```
suse10:~ # vim /etc/sysconfig/apache2
```

(6) 新增 logio 模組

APACHE_MODULES="actions alias auth_basic authn_core authn_file authz_host authz_groupfile authz_core authz_user autoindex cgi dir env expires include log_config mime negotiation setenvif ssl socache_shmcb userdir reqtimeout logio"

```
# * if your server certificate is protected by a passphrase you should increase the
#   APACHE_START_TIMEOUT (see above)
#
# * modules listed here will be ignored if they are not installed
#
#
# EXAMPLES:
#
# fairly minimal
# APACHE_MODULES="authz_host alias auth dir log_config mime setenvif"
#
# apache's default installation
# APACHE_MODULES="authz_host actions alias asis auth autoindex cgi dir imap include log_confi
g mime negotiation setenvif status userdir"
# your settings
APACHE_MODULES="actions alias auth_basic authn_file authz_host authz_groupfile authz_default
authz_user authn_dbm autoindex cgi dir env expires include log_config mime negotiation setenv
if ssl suexec userdir php5 logio"
```

(7) 編輯 httpd 設定檔

vim /etc/apache2/httpd.conf

```
suse10:~ # vim /etc/apache2/httpd.conf
```

(8) 設定 CostomLog 和 ErrorLog

ErrorLog /var/log/apache2/error_log

ErrorLog "|/bin/logger -t apache -p local6.error"

CustomLog /var/log/apache2/access-NReporter_log nreporter

CustomLog "|/bin/logger -t apache -p local6.info" nreporter

```
# ErrorLog: The location of the error log file.
# If you do not specify an ErrorLog directive within a <VirtualHost>
# container, error messages relating to that virtual host will be
# logged here.  If you *do* define an error logfile for a <VirtualHost>
# container, that host's errors will be logged there and not here.
ErrorLog /var/log/apache2/error_log
ErrorLog "|/bin/logger -t apache -p local6.error"

CustomLog /var/log/apache2/access-NReporter_log nreporter
CustomLog "|/bin/logger -t apache -p local6.info" nreporter
```

(9) 重啟 Apache 服務和確認 Apache 服務狀態

service apache2 restart && service apache2 status

```
suse10:~ # service apache2 restart && service apache2 status
Syntax OK
Shutting down httpd2 (waiting for all children to terminate)           done
Starting httpd2 (prefork)                                              done
Checking for httpd2:                                                   running
suse10:~ #
```

5.2.2 設定 syslog-ng 轉發 Apache log

(1) 編輯 syslog-ng 設定檔

vim /etc/syslog-ng/syslog-ng.conf

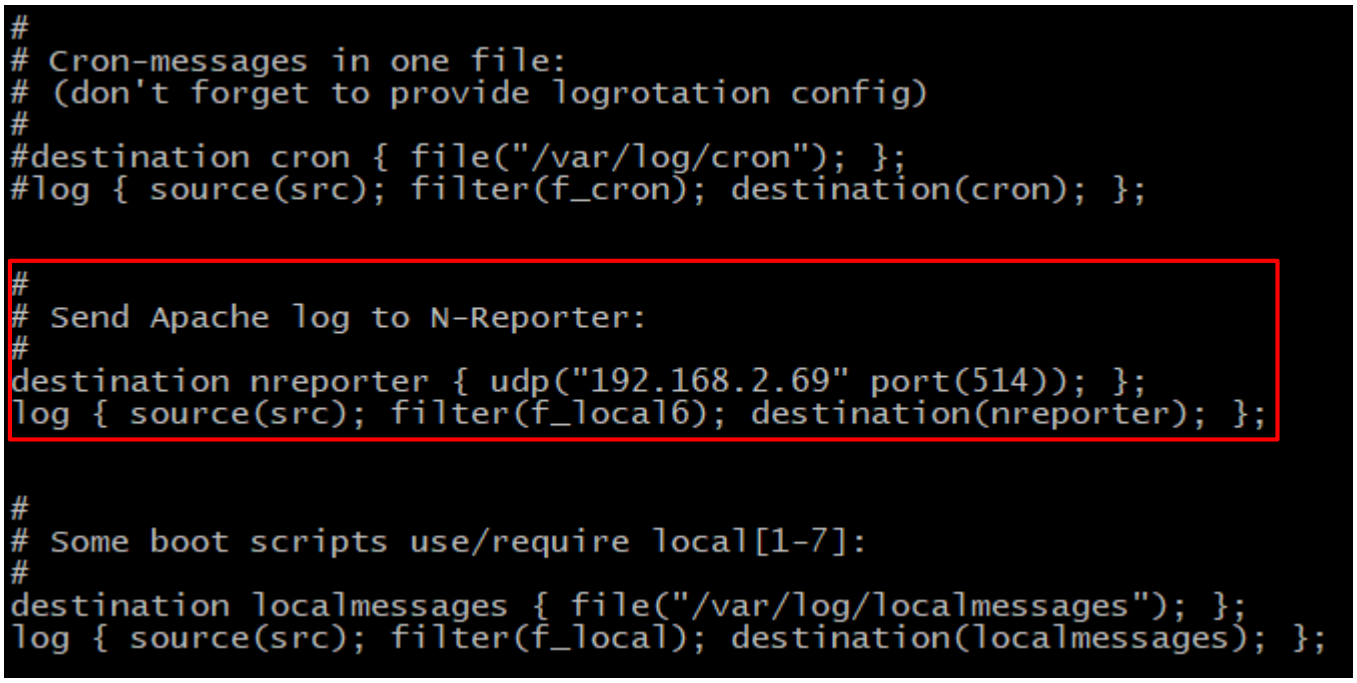
```
suse10:~ # vim /etc/syslog-ng/syslog-ng.conf
```

filter f_local6 { facility(local6); };

```
#
# Filter definitions
#
filter f_iptables   { facility(kern) and match("IN=") and match("OUT="); };

filter f_console    { level(warn) and facility(kern) and not filter(f_iptables)
                      or level(err) and not facility(authpriv); };

filter f_newsnotice { level(notice) and facility(news); };
filter f_newscrit   { level(crit)   and facility(news); };
filter f_newserr    { level(err)    and facility(news); };
filter f_news       { facility(news); };

filter f_mailinfo   { level(info)      and facility(mail); };
filter f_mailwarn   { level(warn)      and facility(mail); };
filter f_mailerr    { level(err, crit) and facility(mail); };
filter f_mail       { facility(mail); };

filter f_cron       { facility(cron); };

filter f_local6     { facility(local6); };

filter f_local      { facility(local0, local1, local2, local3,
                               local4, local5, local6, local7); };

filter f_acpid      { match('^\[acpid\]:'); };
filter f_netmgm     { match('^NetworkManager:'); };

filter f_messages   { not facility(news, mail) and not filter(f_iptables); };
filter f_warn       { level(warn, err, crit) and not filter(f_iptables); };
filter f_alert      { level(alert); };
```

(2) 設定轉發 Apache log

```
#
# Send Apache log to N-Reporter:
#
destination nreporter { udp("192.168.2.69" port(514)); };
log { source(src); filter(f_local6); destination(nreporter); };
```

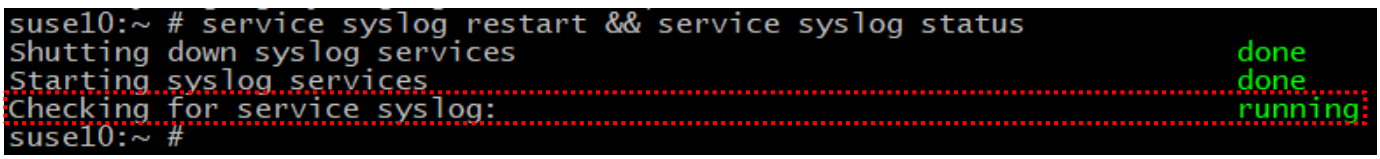


紅色文字部位請輸入 N-Reporter 系統 IP address

udp("192.168.2.69" port(514)

(3) 重啟 Syslog-ng 服務和確認 Syslog-ng 服務正常

service syslog restart && service syslog status



5.1 SUSE 15

5.1.1 編輯 Apache 設定檔

(1) 編輯 mod_log_config 設定檔

vi /etc/apache2/mod_log_config.conf

```
suse15:~ # vi /etc/apache2/mod_log_config.conf
```

(2) 新增 log 設定

ErrorLogFormat "[%{u}t] [%-m:%l] [pid %P:tid %T] %7F: %E: [client\ %a] %M% ,\ referer\ %{Referer}i"

<IfModule logio_module>

LogFormat "%h %l %u %t \"%r\" %>s %O %I %T %b \"%{Referer}i\" \"%{User-Agent}i\"" nreporter

</IfModule>

```
#
#         Format string:                                Nickname:
#
LogFormat "%h %l %u %t \"%r\" %>s %b"                   common
LogFormat "%v %h %l %u %t \"%r\" %>s %b"                vhost_common
LogFormat "%{Referer}i -> %U"                           referer
LogFormat "%{User-agent}i"                              agent
LogFormat "%h %l %u %t \"%r\" %>s %b \
\"%{Referer}i\" \"%{User-Agent}i\""                     combined
LogFormat "%v %h %l %u %t \"%r\" %>s %b \
\"%{Referer}i\" \"%{User-Agent}i\""                     vhost_combined

ErrorLogFormat "[%{u}t] [%-m:%l] [pid %P:tid %T] %7F: %E: [client\ %a] %M% ,\ referer\ %{Referer}i"

# To use %I and %O, you need to enable mod_logio
<IfModule mod_logio.c>
LogFormat "%h %l %u %t \"%r\" %>s %b \
\"%{Referer}i\" \"%{User-Agent}i\" %I %O"               combinedio

LogFormat "%h %l %u %t \"%r\" %>s %O %I %T %b \"%{Referer}i\" \"%{User-Agent}i\"" nreporter
</IfModule>
```

(3) 編輯 loadmodule 設定檔

vi /etc/apache2/loadmodule.conf

```
suse15:~ # vi /etc/apache2/loadmodule.conf
```

(4) 新增 logio_module 設定

LoadModule logio_module /usr/lib64/apache2-prefork/mod_logio.so

```
LoadModule actions_module              /usr/lib64/apache2-prefork/mod_actions.so
LoadModule alias_module                /usr/lib64/apache2-prefork/mod_alias.so
LoadModule auth_basic_module           /usr/lib64/apache2-prefork/mod_auth_basic.so
LoadModule authn_file_module           /usr/lib64/apache2-prefork/mod_authn_file.so
LoadModule authz_host_module           /usr/lib64/apache2-prefork/mod_authz_host.so
LoadModule authz_groupfile_module      /usr/lib64/apache2-prefork/mod_authz_groupfile.so
LoadModule authz_user_module           /usr/lib64/apache2-prefork/mod_authz_user.so
LoadModule autoindex_module            /usr/lib64/apache2-prefork/mod_autoindex.so
LoadModule cgi_module                  /usr/lib64/apache2-prefork/mod_cgi.so
LoadModule dir_module                  /usr/lib64/apache2-prefork/mod_dir.so
LoadModule env_module                  /usr/lib64/apache2-prefork/mod_env.so
LoadModule expires_module              /usr/lib64/apache2-prefork/mod_expires.so
LoadModule include_module              /usr/lib64/apache2-prefork/mod_include.so
LoadModule log_config_module           /usr/lib64/apache2-prefork/mod_log_config.so
LoadModule mime_module                 /usr/lib64/apache2-prefork/mod_mime.so
LoadModule negotiation_module          /usr/lib64/apache2-prefork/mod_negotiation.so
LoadModule setenvif_module             /usr/lib64/apache2-prefork/mod_setenvif.so
LoadModule ssl_module                  /usr/lib64/apache2-prefork/mod_ssl.so
LoadModule socache_shmcb_module        /usr/lib64/apache2-prefork/mod_socache_shmcb.so
LoadModule userdir_module              /usr/lib64/apache2-prefork/mod_userdir.so
LoadModule reqtimeout_module           /usr/lib64/apache2-prefork/mod_reqtimeout.so
LoadModule authn_core_module           /usr/lib64/apache2-prefork/mod_authn_core.so
LoadModule authz_core_module           /usr/lib64/apache2-prefork/mod_authz_core.so
LoadModule logio_module                /usr/lib64/apache2-prefork/mod_logio.so
~
~
~
```

(5) 編輯 apache2 設定檔

vi /etc/sysconfig/apache2

```
suse15:~ # vi /etc/sysconfig/apache2
```

(6) 新增 logio 模組

APACHE_MODULES="actions alias auth_basic authn_core authn_file authz_host authz_groupfile authz_core authz_user autoindex cgi dir env expires include log_config mime negotiation setenvif ssl socache_shmcb userdir reqtimeout logio"

```
#
# apache's default installation
# APACHE_MODULES="authz_host actions alias asis auth autoindex cgi dir imap include log_co
nfig mime negotiation setenvif status userdir"
# your settings
APACHE_MODULES="actions alias auth_basic authn_core authn_file authz_host authz_groupfile
authz_core authz_user autoindex cgi dir env expires include log_config mime negotiation se
tenvif ssl socache_shmcb userdir reqtimeout logio"
```

(7) 編輯 httpd 設定檔

vi /etc/apache2/httpd.conf

```
suse15:~ # vi /etc/apache2/httpd.conf
```

(8) 設定 CostomLog

CustomLog /var/log/apache2/access-NReporter_log nreporter

```
# ErrorLog: The location of the error log file.
# If you do not specify an ErrorLog directive within a <VirtualHost>
# container, error messages relating to that virtual host will be
# logged here.  If you *do* define an error logfile for a <VirtualHost>
# container, that host's errors will be logged there and not here.
ErrorLog /var/log/apache2/error_log
CustomLog /var/log/apache2/access-NReporter_log nreporter
```

(9) 重啟 Apache 服務和確認 Apache 服務狀態

systemctl restart httpd && systemctl status httpd

```
suse15:~ # systemctl restart httpd && systemctl status httpd
● apache2.service - The Apache Webserver
   Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; vendor preset: disabled)
   Active: active (running) since Mon 2019-03-04 14:51:13 CST; 6ms ago
  Process: 11499 ExecStop=/usr/sbin/start_apache2 -DSYSTEMD -DFOREGROUND -k graceful-stop (code=exited, status=0/SUCCESS)
 Main PID: 11507 (httpd-prefork)
   Status: "Processing requests..."
    Tasks: 6
   CGroup: /system.slice/apache2.service
           ├─11507 /usr/sbin/httpd-prefork -DSYSCONFIG -C PidFile /var/run/httpd.pid -C Include /etc/apache2/sysconfig.d//loadmodule.conf -C Include /etc/apache2/sysconfig.d//global.conf -
           ├─11514 /usr/sbin/httpd-prefork -DSYSCONFIG -C PidFile /var/run/httpd.pid -C Include /etc/apache2/sysconfig.d//loadmodule.conf -C Include /etc/apache2/sysconfig.d//global.conf -
           ├─11515 /usr/sbin/httpd-prefork -DSYSCONFIG -C PidFile /var/run/httpd.pid -C Include /etc/apache2/sysconfig.d//loadmodule.conf -C Include /etc/apache2/sysconfig.d//global.conf -
           ├─11516 /usr/sbin/httpd-prefork -DSYSCONFIG -C PidFile /var/run/httpd.pid -C Include /etc/apache2/sysconfig.d//loadmodule.conf -C Include /etc/apache2/sysconfig.d//global.conf -
           ├─11517 /usr/sbin/httpd-prefork -DSYSCONFIG -C PidFile /var/run/httpd.pid -C Include /etc/apache2/sysconfig.d//loadmodule.conf -C Include /etc/apache2/sysconfig.d//global.conf -
           └─11518 /usr/sbin/httpd-prefork -DSYSCONFIG -C PidFile /var/run/httpd.pid -C Include /etc/apache2/sysconfig.d//loadmodule.conf -C Include /etc/apache2/sysconfig.d//global.conf -

Mar 04 14:51:13 suse15 systemd[1]: Starting The Apache Webserver...
Mar 04 14:51:13 suse15 systemd[1]: Started The Apache Webserver.
```

5.1.2 設定 Rsyslog 轉發 Apache log

(1) 編輯 rsyslog 設定檔

vi /etc/rsyslog.conf

```
suse15:~ # vi /etc/rsyslog.conf
```

provides support for file logging

$ModLoad imfile

```
# since rsyslog v3: load input modules
# If you do not load inputs, nothing happens!

# provides --MARK-- message capability (every 1 hour)
$ModLoad immark.so
$MarkMessagePeriod      3600

# provides support for local system logging (e.g. via logger command)
$ModLoad imuxsock.so

# reduce dupplicate log messages (last message repeated n times)
$RepeatedMsgReduction   on

# kernel logging (may be also provided by /sbin/klogd)
# see also http://www.rsyslog.com/doc-imklog.html.
$ModLoad imklog.so
# set log level 1 (same as in /etc/sysconfig/syslog).
$klogConsoleLogLevel    1

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

(2) 設定轉發 Apache log

```
# Send Apache log to N-Reporter
input(type="imfile" File="/var/log/httpd/access-NReporter_log" Tag="apache" Severity="info" Facility="local6"
Ruleset="nreporter")
input(type="imfile" File="/var/log/httpd/error_log" Tag="apache" Severity="warning" Facility="local6"
Ruleset="nreporter")
ruleset(name="nreporter"){action(type="omfwd" Target="192.168.2.69" Port="514" Protocol="udp")}
```

```
# Send Apache log to N-Reporter
input(type="imfile" File="/var/log/apache2/access-NReporter_log" Tag="apache" Severity="info" Facility="local6" Ruleset="nreporter")
input(type="imfile" File="/var/log/apache2/error_log" Tag="apache" Severity="warning" 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 Apache 日誌路徑檔案

File="/var/log/httpd/access-NReporter_log"

File="/var/log/httpd/error_log"

(3) 重啟 Rsyslog 服務和確認 Rsyslog 服務正常

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

```
suse15:~ # 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 14:55:24 CST; 138ms ago
     Docs: man:rsyslogd(8)
           http://www.rsyslog.com/doc/
  Process: 11541 ExecStartPre=/usr/sbin/rsyslog-service-prepare (code=exited, status=0/SUCCESS)
 Main PID: 11543 (rsyslogd)
    Tasks: 6 (limit: 4915)
   CGroup: /system.slice/rsyslog.service
           └─11543 /usr/sbin/rsyslogd -n -iNONE

Mar 04 14:55:24 suse15 systemd[1]: Starting System Logging Service...
Mar 04 14:55:24 suse15 rsyslogd[11543]: environment variable TZ is not set, auto correcting this to TZ=/etc/localtime  [v8.33.1 try http://www.rsyslog.com/e/2442 ]
Mar 04 14:55:24 suse15 rsyslogd[11543]: imuxsock: Acquired UNIX socket '/run/systemd/journal/syslog' (fd 3) from systemd.  [v8.33.1]
Mar 04 14:55:24 suse15 systemd[1]: Started System Logging Service.
Mar 04 14:55:24 suse15 rsyslogd[11543]:  [origin software="rsyslogd" swVersion="8.33.1" x-pid="11543" x-info="http://www.rsyslog.com"] start
```

6. Solaris 11

6.1 編輯 Apache 設定檔

(1) 編輯 httpd 設定檔

vim /etc/apache2/2.4/httpd.conf

```
root@solaris11:~# vim /etc/apache2/2.4/httpd.conf
```

(2) 新增 logio_module 設定

LoadModule logio_module libexec/mod_logio.so

```
LoadModule log_config_module libexec/mod_log_config.so
#LoadModule log_debug_module libexec/mod_log_debug.so
#LoadModule log_forensic_module libexec/mod_log_forensic.so
LoadModule logio_module libexec/mod_logio.so
#LoadModule lua_module libexec/mod_lua.so
LoadModule env_module libexec/mod_env.so
```

(3) 設定 CostomLog 和 ErrorLog

#ErrorLog "/var/apache2/2.4/logs/error_log"

ErrorLog "|/usr/bin/logger -t apache -p local6.error"

ErrorLogFormat "[%{u}t] [%-m:%l] [pid %P:tid %T] %7F: %E: [client\ %a] %M% ,\ referer\ %{Referer}i"

<IfModule logio_module>

LogFormat "%h %l %u %t \"%r\" %>s %O %I %T %b \"%{Referer}i\" \"%{User-Agent}i\"" nreporter

</IfModule>

CustomLog "|/usr/bin/logger -t apache -p local6.info" nreporter

```
#
# ErrorLog: The location of the error log file.
# If you do not specify an ErrorLog directive within a <VirtualHost>
# container, error messages relating to that virtual host will be
# logged here.  If you *do* define an error logfile for a <VirtualHost>
# container, that host's errors will be logged there and not here.
#
#ErrorLog "/var/apache2/2.4/logs/error_log"
ErrorLog "|/usr/bin/logger -t apache -p local6.error"

#
# LogLevel: Control the number of messages logged to the error_log.
# Possible values include: debug, info, notice, warn, error, crit,
# alert, emerg.
#
LogLevel warn

<IfModule log_config_module>
    #
    # The following directives define some format nicknames for use with
    # a CustomLog directive (see below).
    #
    LogFormat "%h %l %u %t \"%r\" %>s %b \"%{Referer}i\" \"%{User-Agent}i\"" combined
    LogFormat "%h %l %u %t \"%r\" %>s %b" common

    ErrorLogFormat "[%{u}t] [%-m:%l] [pid %P:tid %T] %7F: %E: [client\ %a] %M% ,\ referer\ %{Referer}i"

    <IfModule logio_module>
      # You need to enable mod_logio.c to use %I and %O
      LogFormat "%h %l %u %t \"%r\" %>s %b \"%{Referer}i\" \"%{User-Agent}i\" %I %O" combinedio
      LogFormat "%h %l %u %t \"%r\" %>s %O %I %T %b \"%{Referer}i\" \"%{User-Agent}i\"" nreporter
    </IfModule>

    #
    # The location and format of the access logfile (Common Logfile Format).
    # If you do not define any access logfiles within a <VirtualHost>
    # container, they will be logged here.  Contrariwise, if you *do*
    # define per-<VirtualHost> access logfiles, transactions will be
    # logged therein and *not* in this file.
    #
    CustomLog "/var/apache2/2.4/logs/access_log" common
    CustomLog "|/usr/bin/logger -t apache -p local6.info" nreporter

    #
    # If you prefer a logfile with access, agent, and referer information
    # (Combined Logfile Format) you can use the following directive.
    #
    #CustomLog "/var/apache2/2.4/logs/access_log" combined
</IfModule>
```

(4) 啟用 Apache 服務和重啟 Apache 服務和確認 Apache 服務狀態

svcadm -v enable http:apache24

svcadm -v restart http:apache24

svcs -a | grep apache

```
root@solaris11:/etc/apache2/2.4# svcadm -v enable http:apache24
svc:/network/http:apache24 enabled.
root@solaris11:/etc/apache2/2.4# svcadm -v restart http:apache24
Action restart set for svc:/network/http:apache24.
root@solaris11:/etc/apache2/2.4# svcs -a | grep apache
disabled       18:17:13 svc:/system/apache-stats-24:default
online         19:04:15 svc:/network/http:apache24
```

6.2 設定 Rsyslog 轉發 Apache log

(1) 編輯 rsyslog 設定檔

vim /etc/rsyslog.conf

```
root@solaris11:/etc# vim /etc/rsyslog.conf
```

(2) 設定轉發 Apache log

Send Apache log to N-Reporter

local6.* @192.168.2.69:514

```
# Send Apache log to N-Reporter
local6.*                                        @192.168.2.69:514
```

紅色文字部位請輸入 N-Reporter 系統 IP address

@192.168.2.69:514

(3) 停用 system-log:default 和啟用 system-log:rsyslog 和重啟 system-log:rsyslog 和確認 system-log 狀態

svcadm -v disable system-log:default

svcadm -v enable system-log:rsyslog

svcadm -v restart system-log:rsyslog

svcs -a | grep system-log

```
root@solaris11:~# svcadm -v disable system-log:default
svc:/system/system-log:default disabled.
root@solaris11:~# svcadm -v enable system-log:rsyslog
svc:/system/system-log:rsyslog enabled.
root@solaris11:~# svcadm -v restart system-log:rsyslog
Action restart set for svc:/system/system-log:rsyslog.
root@solaris11:~# svcs -a | grep system-log
disabled       18:43:58 svc:/system/system-log:default
online         18:44:18 svc:/system/system-log:rsyslog
```

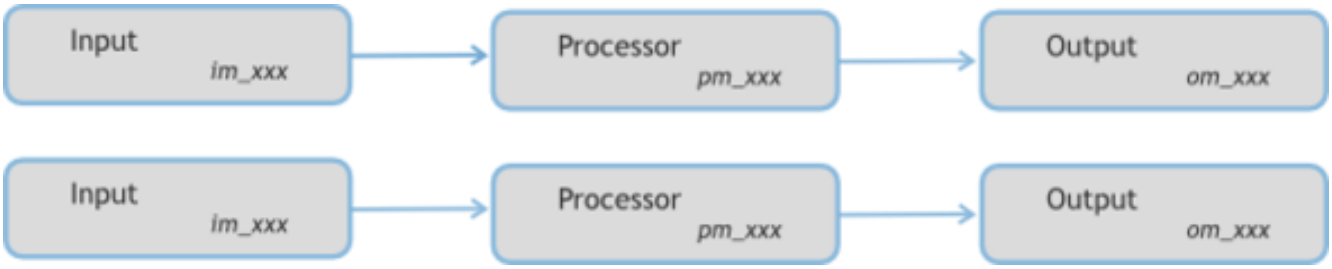
7. Windows 2016

7.1 NXLog

7.1.1 NXLog 架構

NXLog 的 plugin 架構允許任何類型的輸入讀取資料，解析和轉換訊息的格式，然後將其發送到任何類型的輸出。可以同時使用不同的輸入，處理和輸出模組來滿足事件記錄。

https://nxlog.co/documentation/nxlog-user-guide#modules-im

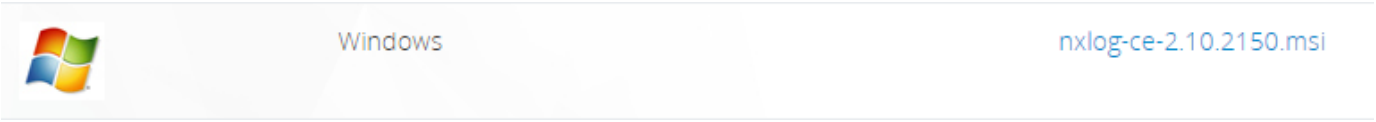


7.1.2 NXLog 安裝

(1) 下載 NXLog

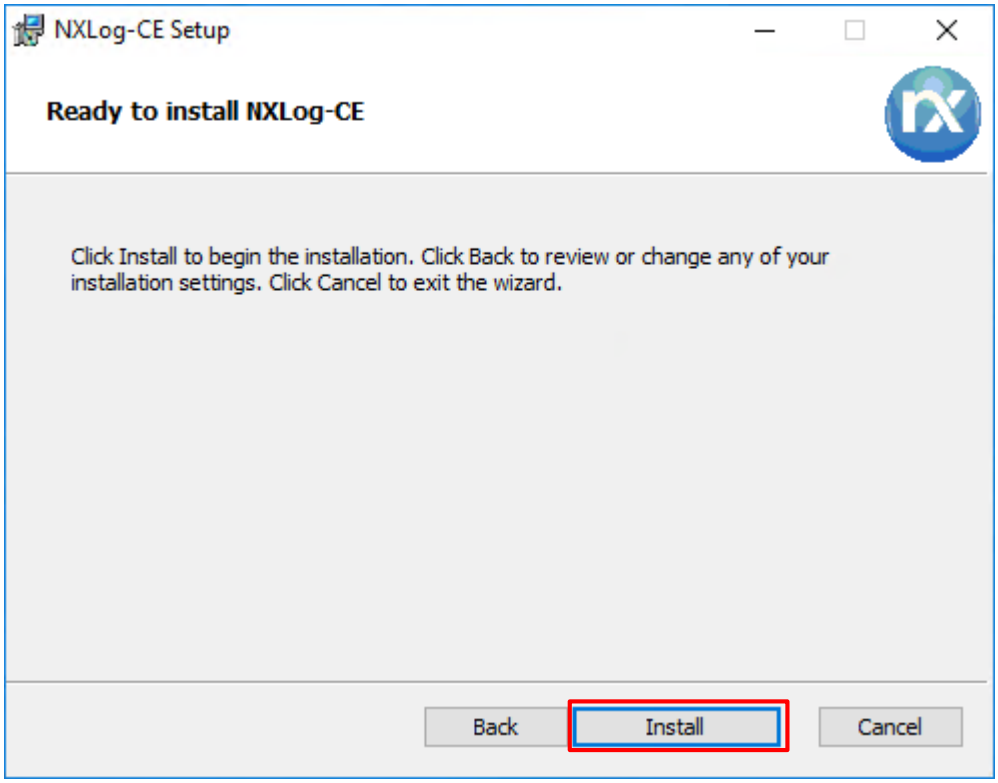
前往網址 https://nxlog.co/products/nxlog-community-edition/download

下載網址最新版 nxlog-ce-x.x.xxxx.msi，範例: nxlog-ce-2.10.2150.msi



(2) 安裝 NXLog

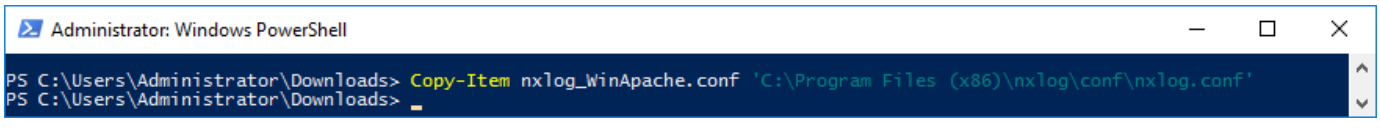
點擊 [nxlog-ce-2.10.2150.msi] -> 按 [Install] 到 [Finish]



(3) 下載並覆蓋 NXLog 設定檔

下載連結 https://www.npartnertech.com/download/tech/nxlog_WinApache.conf ->

覆蓋 NXLog 設定檔 Copy-Item nxlog_WinApache.conf 'C:\Program Files (x86)\nxlog\conf\nxlog.conf'



7.1.3 NXLog 設定檔

```
## Please set the ROOT to the folder your nxlog was installed into, otherwise it will not start.
define NCloud     192.168.2.69
define BASEDIR    C:\Apache24\logs
define ROOT       C:\Program Files (x86)\nxlog

Moduledir %ROOT%\modules
CacheDir    %ROOT%\data
Pidfile     %ROOT%\data\nxlog.pid
SpoolDir    %ROOT%\data
LogFile     %ROOT%\data\nxlog.log

Moduledir %ROOT%\modules
CacheDir    %ROOT%\data
Pidfile     %ROOT%\data\nxlog.pid
SpoolDir    %ROOT%\data

## Load the modules needed by the outputs
<Extension syslog>
   Module       xm_syslog
</Extension>

## For Apache access log file use the following:
<Input in_accesslog>
    Module           im_file
    File             '%BASEDIR%\access-NReporter.log'
    Exec             $SyslogSeverityValue = 6;
    SavePos          True
    ReadFromLast True
</Input>

## For Apache error log file use the following:
<Input in_errorlog>
    Module           im_file
    File             '%BASEDIR%\error.log'
    Exec             $SyslogSeverityValue = 3;
    SavePos          True
    ReadFromLast True
</Input>

<Output out_apachelog>
      Module    om_udp
      Host      %NCloud%
      Port      514
      Exec      $SyslogFacilityValue = 22;
      Exec      $SourceName = 'apache';
      Exec      to_syslog_bsd();
</Output>

<Route apachelog>
      Path      in_accesslog, in_errorlog => out_apachelog
</Route>
```

藍色文字部位請輸入 N-Reporter 系統 IP address

```
define NCloud      192.168.2.69
```

藍色文字部位請輸入 Apache log 記錄檔資料夾路徑

```
define BASEDIR    C:\Apache24\logs
```

藍色文字部位請輸入 Apache access 記錄檔名稱

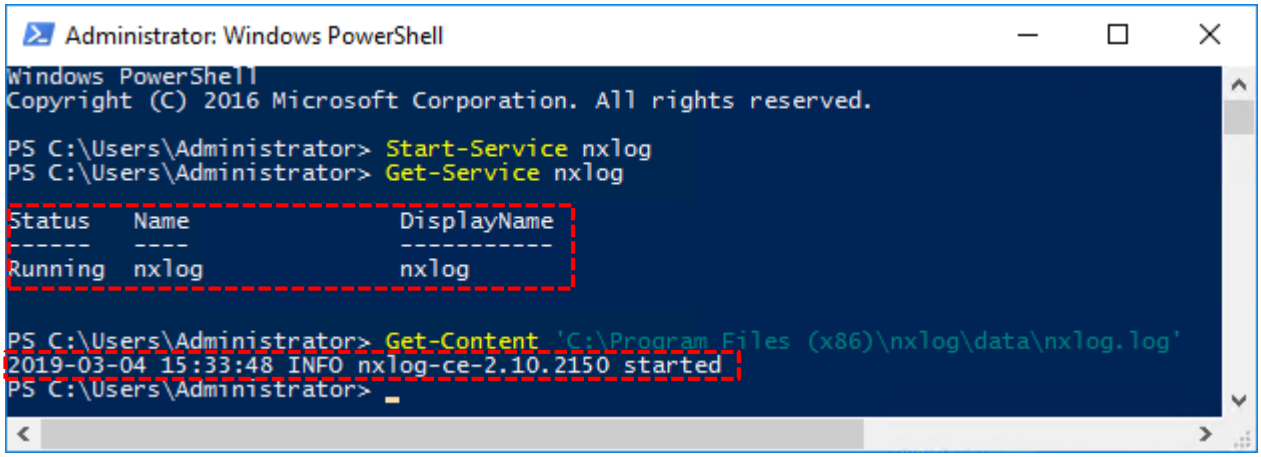
```
File                '%BASEDIR%\access-NReporter.log'
```

藍色文字部位請輸入 Apache error 記錄檔名稱

```
File                '%BASEDIR%\error.log'
```

7.1.4 NXLog 啟動服務

開啟 [Windows PowerShell] -> 輸入 Start-Service nxlog 啟動 nxlog 服務和 Get-Service nxlog 查看 nxlog 服務狀態 -> Get-Content 'C:\Program Files (x86)\nxlog\data\nxlog.log' 確認沒有錯誤訊息。

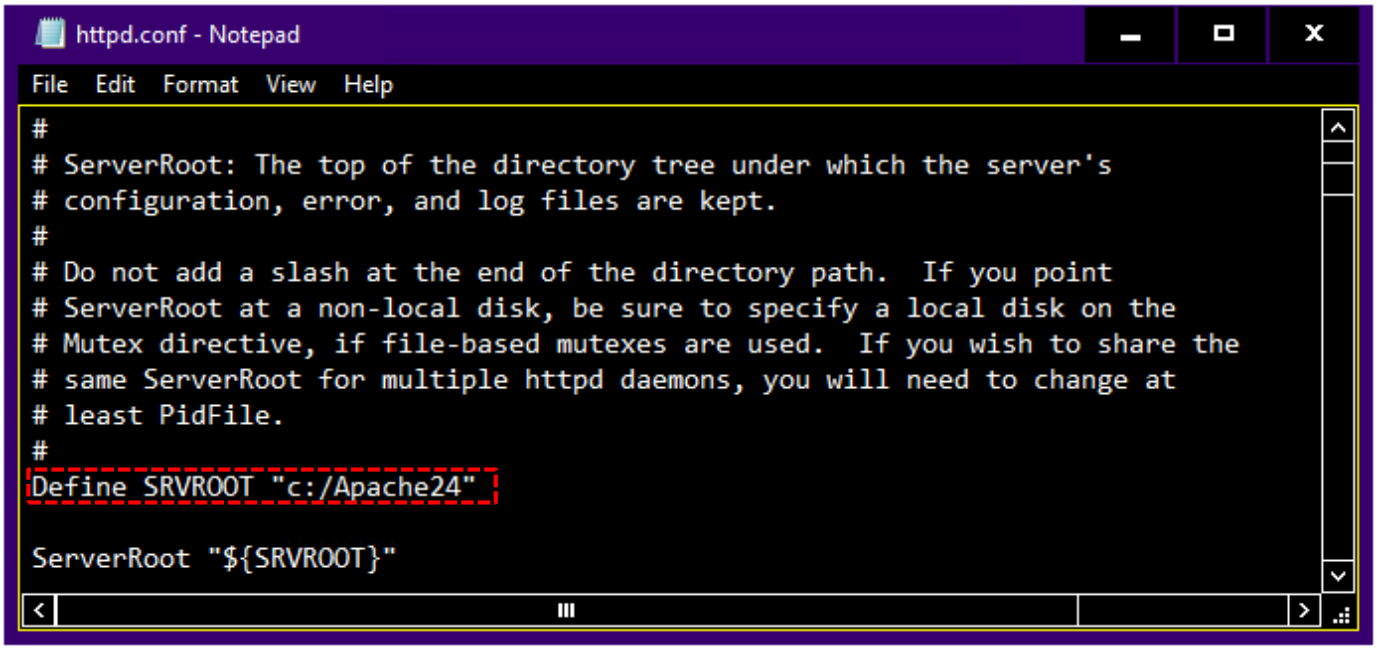


7.2 Apache

7.2.1 編輯 Apache 設定檔

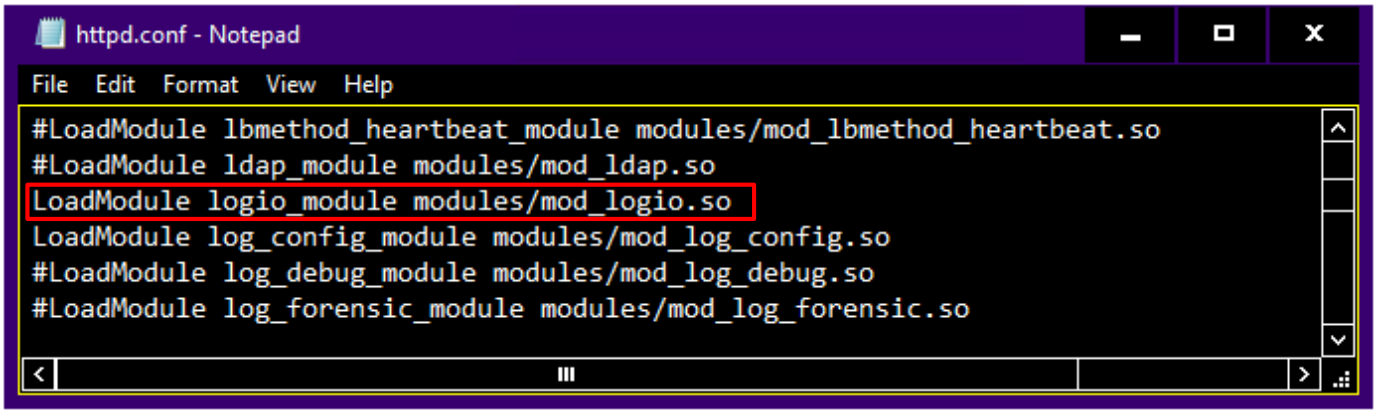
(1) 編輯 httpd 設定檔

編輯 C:\Apache24\conf\httpd.conf 和確認 Apache 資料夾



(2) 啟用 logio_module 設定

Logio_module logio_module modules/mod_logio.so



(3) 新增 log 設定

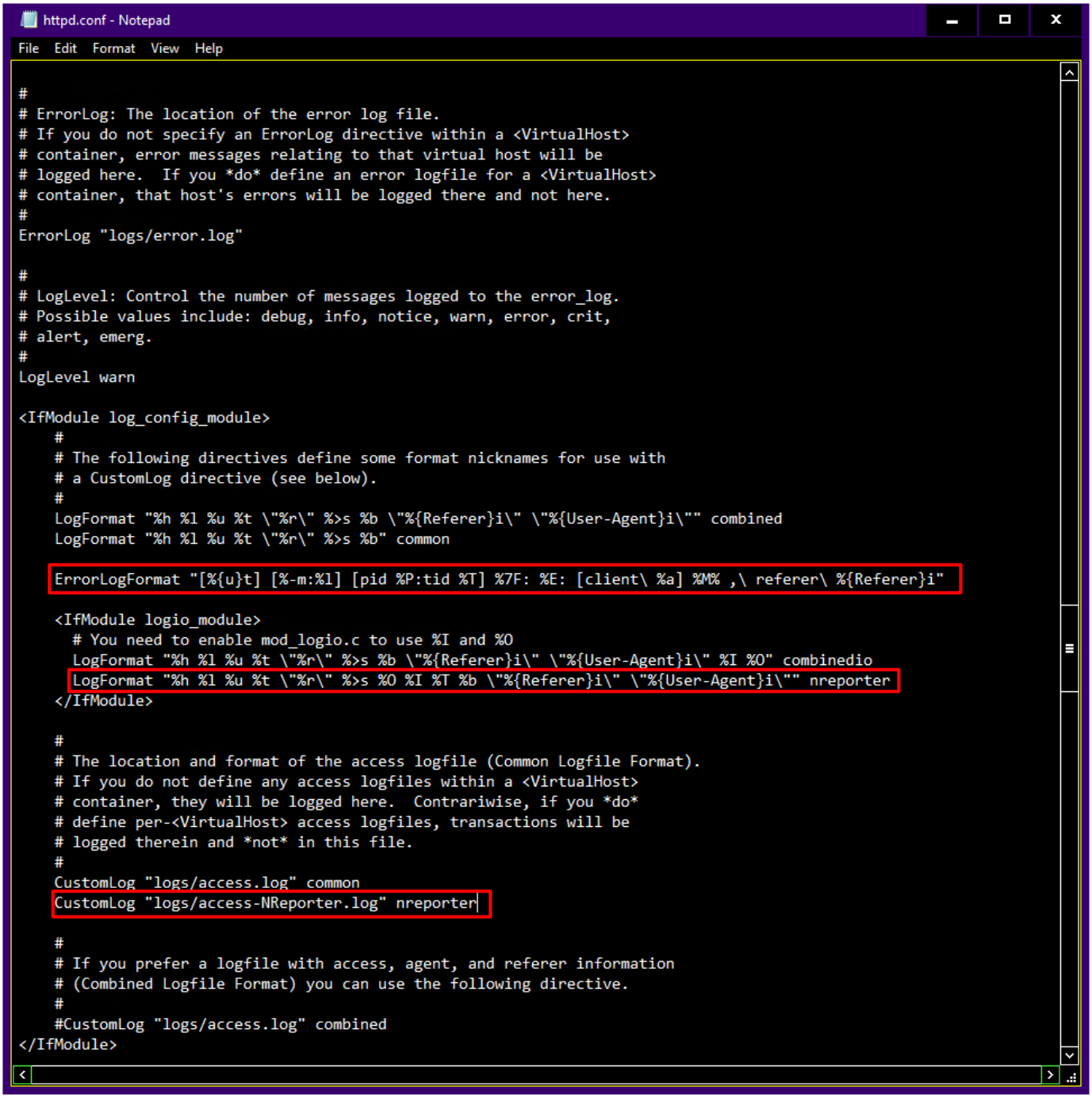
ErrorLogFormat "[%{u}t] [%-m:%l] [pid %P:tid %T] %7F: %E: [client\ %a] %M% ,\ referer\ %{Referer}i"

<IfModule logio_module>

LogFormat "%h %l %u %t \"%r\" %>s %O %I %T %b \"%{Referer}i\" \"%{User-Agent}i\"" nreporter

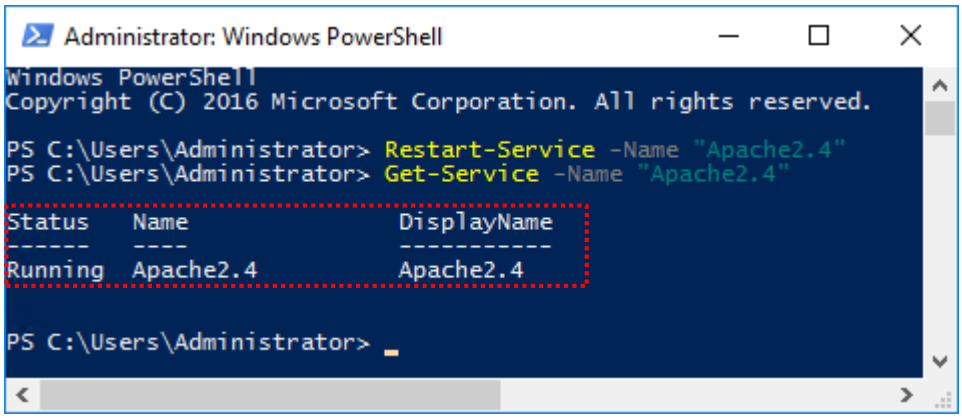
</IfModule>

CustomLog "logs/access-NReporter.log" nreporter



7.2.2 重啟 Apache 服務

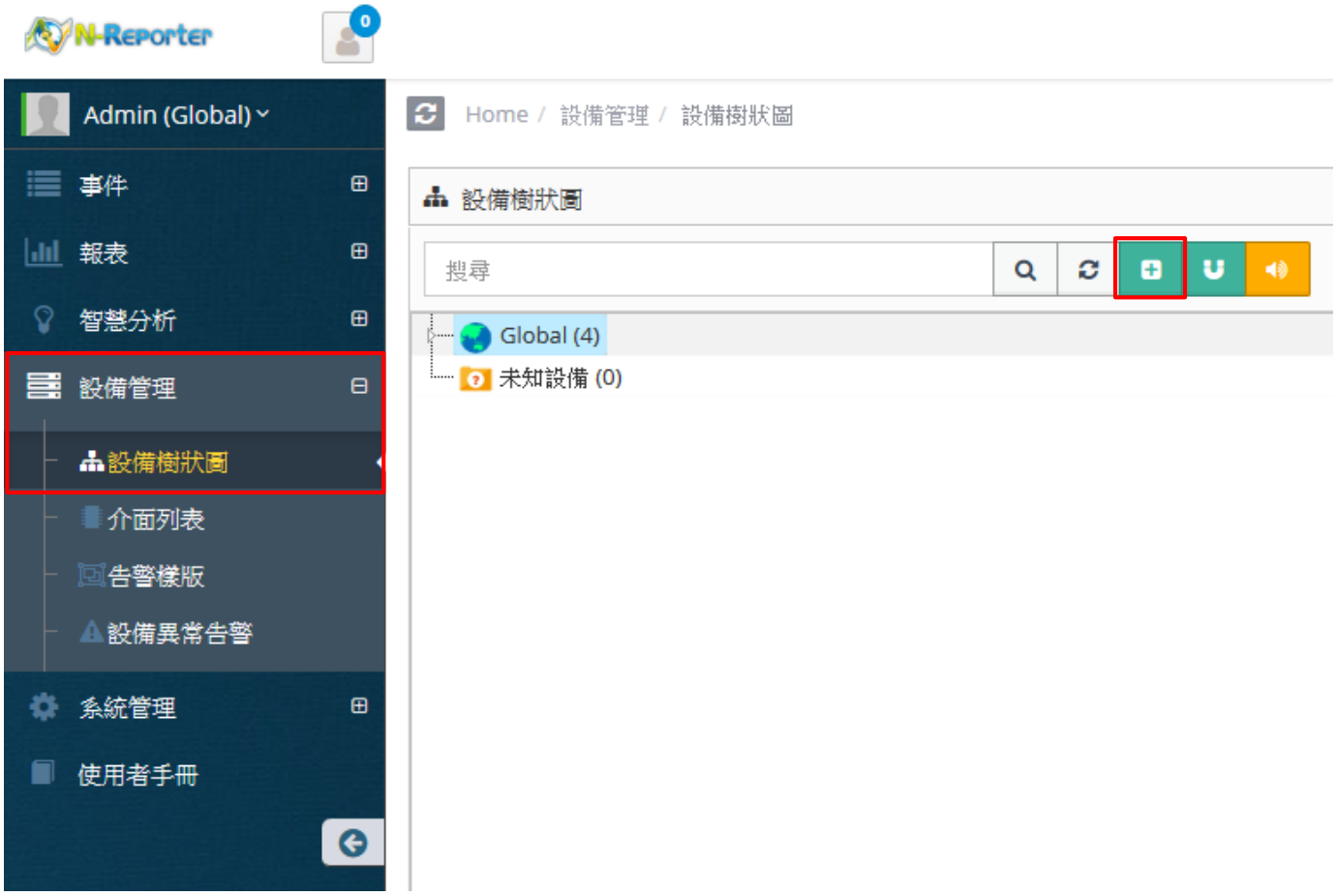
開啟 [Windows PowerShell] -> 輸入 Restart-Service -Name "Apache2.4" 重啟 nxlog 服務和 Get-Service -Name "Apache2.4" 查看 nxlog 服務狀態



8. N-Reporter

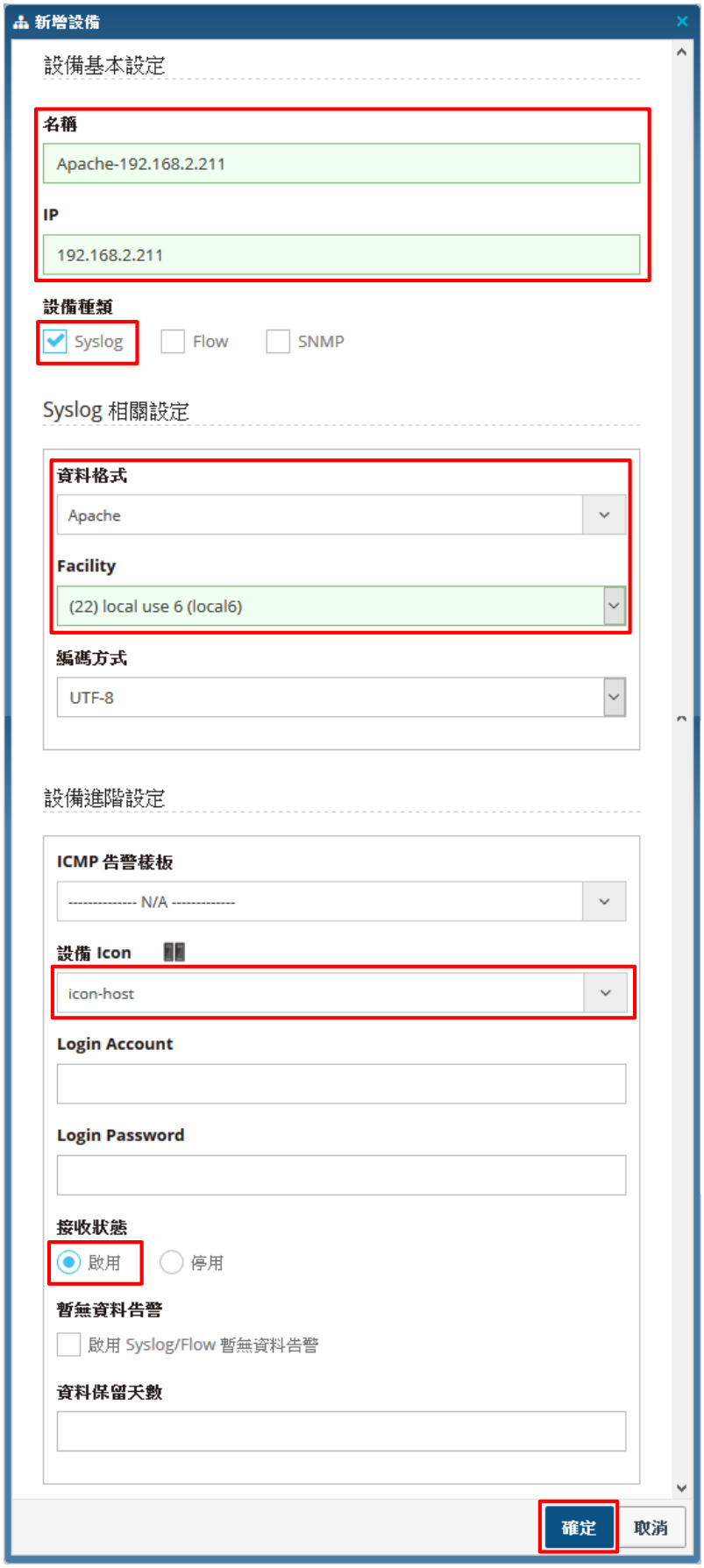
(1) 新增 Apache 設備

[設備管理] -> [設備樹狀圖] -> 點選 [新增]



(2) 設定 Apache 設備的資料格式和 Facility

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



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