

PartnER

如何設定 MySQL syslog

v009

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前言

本文件描述 N-Reporter 使用者，在 Linux 使用 Rsyslog 和在 Windows 使用 Open Source 工具 NXLog 方式設定 MySQL syslog。

NXLog 工具將 Windows MySQL 記錄轉成 syslog，再轉發到 N-Reporter 做正規化、稽核與分析。

此文件適用於 CentOS / Ubuntu 和 Windows 安裝 MySQL 套件

MySQL Server Logs: <https://dev.mysql.com/doc/refman/8.0/en/server-logs.html>

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 8

1.1 編輯 MySQL 設定檔

(1) 查看 MySQL 版本

```
# mysql -V
```

```
[root@CentOS8 ~]# mysql -V
mysql Ver 8.0.21 for Linux on x86_64 (Source distribution)
[root@CentOS8 ~]#
```

(2) 編輯 MySQL Server 設定檔

```
# vi /etc/my.cnf.d/mysql-server.cnf
```

```
[root@CentOS8 ~]# vi /etc/my.cnf.d/mysql-server.cnf
```

(3) 設定 MySQL 記錄

記錄在檔案

```
# General and Slow logging
log-output=FILE
```

開啟查詢記錄

```
general-log=1
```

查詢記錄檔案

```
general_log_file=/var/log/mysql/mysql-gen.log
```

開啟慢查詢記錄

```
slow-query-log=1
```

慢查詢記錄檔案

```
slow_query_log_file=/var/log/mysql/mysql-slow.log
```

執行超過 10 秒記錄

```
long_query_time=10
```

錯誤記錄檔案

```
# Error Logging.
log-error=/var/log/mysql/mysqld.log
```

```
# General and Slow logging
log_output=FILE
general_log=1
general_log_file=/var/log/mysql/mysql_gen.log
slow_query_log=1
slow_query_log_file=/var/log/mysql/mysql_slow.log
long_query_time=10
# Error Logging.
log_error=/var/log/mysql/mysqld.log
```

(4) 重啟 MySQL 服務和確認 MySQL 服務正常

```
# systemctl restart mysqld && systemctl status mysqld
```

```
[root@CentOS8 ~]# systemctl restart mysqld && systemctl status mysqld
● mysqld.service - MySQL 8.0 database server
  Loaded: loaded (/usr/lib/systemd/system/mysqld.service; disabled; vendor preset: disabled)
  Active: active (running) since Fri 2021-09-03 13:56:36 CST; 10ms ago
    Process: 5678 ExecStartPost=/usr/libexec/mysql-check-upgrade (code=exited, status=0/SUCCESS)
    Process: 5551 ExecStartPre=/usr/libexec/mysql-prepare-db-dir mysqld.service (code=exited, status=0/SUCCESS)
    Process: 5527 ExecStartPre=/usr/libexec/mysql-check-socket (code=exited, status=0/SUCCESS)
   Main PID: 5633 (mysqld)
     Status: "Server is operational"
       Tasks: 39 (limit: 11411)
      Memory: 491.7M
        CGroup: /system.slice/mysqld.service
                  └─5633 /usr/libexec/mysqld --basedir=/usr

Sep 03 13:56:28 CentOS8.localdomain systemd[1]: Starting MySQL 8.0 database server...
Sep 03 13:56:28 CentOS8.localdomain mysql-prepare-db-dir[5551]: Initializing MySQL database
Sep 03 13:56:36 CentOS8.localdomain systemd[1]: Started MySQL 8.0 database server.
[root@CentOS8 ~]#
```

1.2 設定 Rsyslog 轉發 MySQL log

(1) 檢查 rsyslog 版本

```
# rsyslogd -v
[root@CentOS8 ~]# rsyslogd -v
rsyslogd 8.1911.0-7.el8_4.2 (aka 2019.11) compiled with:
  PLATFORM:          x86_64-redhat-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
  systemd support:    Yes
  Config file:        /etc/rsyslog.conf
  PID file:           /var/run/rsyslogd.pid
  Number of Bits in RainerScript integers: 64

See https://www.rsyslog.com for more information.
[root@CentOS8 ~]#
```

(2) 編輯 Rsyslog 設定檔

```
# vi /etc/rsyslog.conf
[root@CentOS8 ~]# vi /etc/rsyslog.conf
```

(3) 加載 imfile 輸入模組

```
module(load="imfile") # provides support for file logging
#####
## MODULES #####
## module(imuxsock) # provides support for local system logging (e.g. via logger command)
## SysSock.Use="off" # Turn off message reception via local log socket;
##                   # local messages are retrieved through imjournal now.
## module(imjournal) # provides access to the systemd journal
## StateFile="imjournal.state" # File to store the position in the journal
## module(imklog) # reads kernel messages (the same are read from journald)
## module(immark) # provides --MARK-- message capability
## module(imfile) # provides support for file logging
```

(4) 新增 rsyslog 的 130-mysql.conf 設定檔

```
# vi /etc/rsyslog.d/130-mysql.conf
[root@CentOS8 ~]# vi /etc/rsyslog.d/130-mysql.conf
```

(5) 設定 MySQL log 轉發到 N-Reporter

```
# Send MySQL log to N-Reporter
input(type="imfile" File="/var/log/mysql/mysql-gen.log" Tag="mysql" Severity="info" Facility="local3"
Ruleset="nreporter")
input(type="imfile" File="/var/log/mysql/mysql-slow.log" Tag="mysql" Severity="warning" Facility="local3"
Ruleset="nreporter")
input(type="imfile" File="/var/log/mysql/mysqld.log" Tag="mysql" Severity="error" Facility="local3"
Ruleset="nreporter")
ruleset(name="nreporter"){action(type="omfwd" Target="192.168.8.4" Port="514" Protocol="udp")}

# Send MySQL log to N-Reporter
input(type="imfile" File="/var/log/mysql/mysql_gen.log" Tag="mysql" Severity="info" Facility="local3" Ruleset="nreporter")
input(type="imfile" File="/var/log/mysql/mysql_slow.log" Tag="mysql" Severity="warning" Facility="local3" Ruleset="nreporter")
input(type="imfile" File="/var/log/mysql/mysqld.log" Tag="mysql" Severity="error" Facility="local3" Ruleset="nreporter")
ruleset(name="nreporter"){action(type="omfwd" Target="192.168.8.4" Port="514" Protocol="udp")}
```

紅色文字部位請輸入 MySQL 日誌路徑檔案和 N-Reporter 系統 IP address

(6) 重啟 Rsyslog 服務和確認 Rsyslog 服務正常

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

```
[root@CentOS8 ~]# 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 Fri 2021-09-03 14:04:43 CST; 9ms ago
    Docs: man:rsyslogd(8)
          https://www.rsyslog.com/doc/
 Main PID: 5734 (rsyslogd)
   Tasks: 5 (limit: 11411)
  Memory: 1.1M
   CGroup: /system.slice/rsyslog.service
           └─5734 /usr/sbin/rsyslogd -n

Sep 03 14:04:43 CentOS8.localdomain systemd[1]: rsyslog.service: Succeeded.
Sep 03 14:04:43 CentOS8.localdomain systemd[1]: Stopped System Logging Service.
Sep 03 14:04:43 CentOS8.localdomain systemd[1]: Starting System Logging Service...
Sep 03 14:04:43 CentOS8.localdomain rsyslogd[5734]: [origin software="rsyslogd" swVersion="8.19.11.0-7.el8_4.2" x-pid="5734" x-info="https://www.rsyslog.com"] start
Sep 03 14:04:43 CentOS8.localdomain systemd[1]: Started System Logging Service.
[root@CentOS8 ~]#
```

2. Ubuntu 21

2.1 編輯 MySQL 設定檔

(1) 查看 MySQL 版本

```
# mysql -V
```

```
root@Ubuntu21:~# mysql -V
mysql Ver 8.0.26-0ubuntu0.21.04.3 for Linux on x86_64 ((Ubuntu))
root@Ubuntu21:~#
```

(2) 編輯 MySQL Server 設定檔

```
# vi /etc/mysql/mysql.conf.d/mysqld.cnf
```

```
root@Ubuntu21:~# vi /etc/mysql/mysql.conf.d/mysqld.cnf
```

(3) 設定 MySQL 記錄

記錄在檔案

```
# General and Slow logging
log-output=FILE
```

開啟查詢記錄

```
general-log=1
```

查詢記錄檔案

```
general_log_file=/var/log/mysql/mysql-gen.log
```

開啟慢查詢記錄

```
slow-query-log=1
```

慢查詢記錄檔案

```
slow_query_log_file=/var/log/mysql/mysql-slow.log
```

執行超過 10 秒記錄

```
long_query_time=10
```

錯誤記錄檔案

```
# Error Logging
log-error=/var/log/mysql/mysqld.log
```

```
# General and Slow logging
log_output=FILE
general_log=1
general_log_file=/var/log/mysql/mysql_gen.log
slow_query_log=1
slow_query_log_file=/var/log/mysql/mysql_slow.log
long_query_time=10
# Error Logging
log_error=/var/log/mysql/error.log
```

(4) 重啟 MySQL 服務和確認 MySQL 服務正常

```
# systemctl restart mysql && systemctl status mysql
```

```
root@Ubuntu21:~# systemctl restart mysql && systemctl status mysql
● mysql.service - MySQL Community Server
   Loaded: loaded (/lib/systemd/system/mysql.service; enabled; vendor preset: enabled)
   Active: active (running) since Fri 2021-09-03 02:16:38 UTC; 5ms ago
     Process: 9545 ExecStartPre=/usr/share/mysql/mysql-systemd-start pre (code=exited, status=0/SUCCESS)
    Main PID: 9553 (mysqld)
      Status: "Server is operational"
        Tasks: 38 (limit: 4584)
       Memory: 352.5M
          CGroup: /system.slice/mysql.service
                     └─9553 /usr/sbin/mysqld

Sep 03 02:16:38 Ubuntu21 systemd[1]: Starting MySQL Community Server...
Sep 03 02:16:38 Ubuntu21 systemd[1]: Started MySQL Community Server.
root@Ubuntu21:~#
```

2.2 設定 Rsyslog 轉發 MySQL log

(1) 檢查 rsyslog 版本

```
# rsyslogd -v
```

```
root@Ubuntu21:~# rsyslogd -v
rsyslogd 8.2102.0 (aka 2021.02) 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
  Config file: /etc/rsyslog.conf
  PID file: /run/rsyslogd.pid
  Number of Bits in RainerScript integers: 64
```

See <https://www.rsyslog.com> for more information.

```
root@Ubuntu21:~#
```

(2) 編輯 rsyslog 設定檔

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

```
root@Ubuntu21:~# vi /etc/rsyslog.conf
```

(3) 加載 imfile 輸入模組

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

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

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

(4) 新增 rsyslog 的 130-mysql.conf 設定檔

```
# vi /etc/rsyslog.d/130-mysql.conf
```

```
root@Ubuntu21:~# vi /etc/rsyslog.d/130-mysql.conf
```

(5) 設定 MySQL log 轉發到 N-Reporter

```
# Send MySQL log to N-Reporter
input(type="imfile" File="/var/log/mysql/mysql_gen.log" Tag="mysql" Severity="info" Facility="local3"
      Ruleset="nreporter")
input(type="imfile" File="/var/log/mysql/mysql_slow.log" Tag="mysql" Severity="warning" Facility="local3"
      Ruleset="nreporter")
input(type="imfile" File="/var/log/mysql/error.log" Tag="mysql" Severity="error" Facility="local3" Ruleset="nreporter")
ruleset(name="nreporter"){action(type="omfwd" Target="192.168.8.4" Port="514" Protocol="udp")}

# Send MySQL log to N-Reporter
input(type="imfile" File="/var/log/mysql/mysql_gen.log" Tag="mysql" Severity="info" Facility="local3" Ruleset="nreporter")
input(type="imfile" File="/var/log/mysql/mysql_slow.log" Tag="mysql" Severity="warning" Facility="local3" Ruleset="nreporter")
input(type="imfile" File="/var/log/mysql/error.log" Tag="mysql" Severity="error" Facility="local3" Ruleset="nreporter")
ruleset(name="nreporter"){action(type="omfwd" Target="192.168.8.4" Port="514" Protocol="udp")}
```

紅色文字部位請輸入 MySQL 日誌路徑檔案和 N-Reporter 系統 IP address

(6) 重啟 Rsyslog 服務和確認 Rsyslog 服務正常

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

```
root@Ubuntu21:~# 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 2021-09-03 02:51:55 UTC; 5ms ago
TriggeredBy: ● syslog.socket
  Docs: man:rsyslogd(8)
        man:rsyslog.conf(5)
        https://www.rsyslog.com/doc/
 Main PID: 10502 (rsyslogd)
   Tasks: 5 (limit: 4584)
  Memory: 1.4M
    CGroup: /system.slice/rsyslog.service
           └─10502 /usr/sbin/rsyslogd -n -iNONE

Sep 03 02:51:55 Ubuntu21 systemd[1]: Starting System Logging Service...
Sep 03 02:51:55 Ubuntu21 rsyslogd[10502]: imuxsock: Acquired UNIX socket '/run/systemd/journal/syslog' (fd 3) from systemd. [v8.2102.0]
Sep 03 02:51:55 Ubuntu21 rsyslogd[10502]: rsyslogd's groupid changed to 110
Sep 03 02:51:55 Ubuntu21 systemd[1]: Started System Logging Service.
Sep 03 02:51:55 Ubuntu21 rsyslogd[10502]: rsyslogd's userid changed to 104
Sep 03 02:51:55 Ubuntu21 rsyslogd[10502]: imfile: on startup file '/var/log/mysql/mysql_gen.log' does not exist but is configured in static file monitor - this may indicate a misco>
Sep 03 02:51:55 Ubuntu21 rsyslogd[10502]: imfile: on startup file '/var/log/mysql/mysql_slow.log' does not exist but is configured in static file monitor - this may indicate a misco>
Sep 03 02:51:55 Ubuntu21 rsyslogd[10502]: [origin software="rsyslogd" swVersion="8.2102.0" x-pid="10502" x-info="https://www.rsyslog.com"] start
Sep 03 02:51:55 Ubuntu21 rsyslogd[10502]: imfile: error accessing file '/var/log/mysql/mysql_slow.log': Permission denied [v8.2102.0]
Sep 03 02:51:55 Ubuntu21 rsyslogd[10502]: imfile: error accessing file '/var/log/mysql/mysql_gen.log': Permission denied [v8.2102.0]
root@Ubuntu21:~#
```

顯示讀取 MySQL log 權限不足

(7) 查看 MySQL log 權限

```
# ll /var/log/mysql/
```

```
root@Ubuntu21:~# ll /var/log/mysql/
total 24
drwxr-x---  2 mysql adm    4096 Sep  3 02:16 .
drwxrwxr-x 10 root syslog 4096 Sep  3 01:53 ..
-rw-r-----  1 mysql adm    7194 Sep  3 02:16 error.log
-rw-r-----  1 mysql mysql   178 Sep  3 02:16 mysql_gen.log
-rw-r-----  1 mysql mysql   178 Sep  3 02:16 mysql_slow.log
root@Ubuntu21:~#
```

(8) 修改 MySQL log 其它帳號能夠讀取

```
# chmod o+x /var/log/mysql/*.log
```

```
root@Ubuntu21:~# chmod o+r /var/log/mysql/*.log
```

(9) 檢查 MySQL log 權限

```
# ll /var/log/mysql/
```

```
root@Ubuntu21:~# ll /var/log/mysql/
total 24
drwxr-x---  2 mysql  adm    4096 Sep  3 02:16 .
drwxrwxr-x 10 root   syslog 4096 Sep  3 01:53 ..
-rw-r--r--  1 mysql  adm    7194 Sep  3 02:16 error.log
-rw-r--r--  1 mysql  mysql   178  Sep  3 02:16 mysql_gen.log
-rw-r--r--  1 mysql  mysql   178  Sep  3 02:16 mysql_slow.log
root@Ubuntu21:~#
```

(10) 重啟 rsyslog 服務和確認 rsyslog 服務正常

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

```
root@Ubuntu21:~# 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 2021-09-03 03:07:57 UTC; 5ms ago
TriggeredBy: ● syslog.socket
    Docs: man:rsyslogd(8)
           man:rsyslog.conf(5)
           https://www.rsyslog.com/doc/
  Main PID: 11031 (rsyslogd)
    Tasks: 5 (limit: 4584)
   Memory: 1.2M
      CGroup: /system.slice/rsyslog.service
              └─11031 /usr/sbin/rsyslogd -n -iNONE

Sep  3 03:07:57 Ubuntu21 systemd[1]: Starting System Logging Service...
Sep  3 03:07:57 Ubuntu21 rsyslogd[11031]: imuxsock: Acquired UNIX socket '/run/systemd/journal/syslog' (fd 3) from systemd. [v8.2102.0]
Sep  3 03:07:57 Ubuntu21 systemd[1]: Started System Logging Service.
Sep  3 03:07:57 Ubuntu21 rsyslogd[11031]: rsyslogd's groupid changed to 110
Sep  3 03:07:57 Ubuntu21 rsyslogd[11031]: rsyslogd's userid changed to 104
Sep  3 03:07:57 Ubuntu21 rsyslogd[11031]: [origin software="rsyslogd" swVersion="8.2102.0" x-pid="11031" x-info="https://www.rsyslog.com"] start
root@Ubuntu21:~#
```

3. Windows 2019

3.1 NXLog

3.1.1 NXLog 安裝

(1) 下載 NXLog

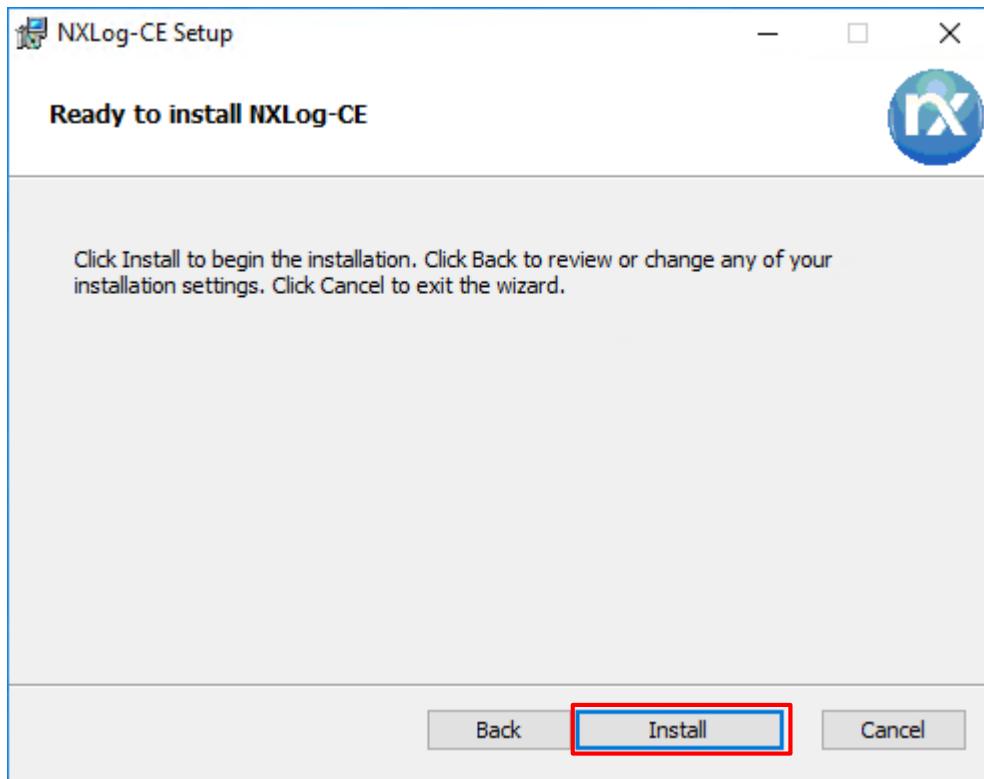
前往網址 <https://nxlog.co/products/nxlog-community-edition/download>

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



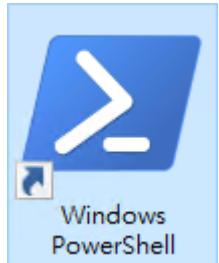
(2) 安裝 NXLog

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



3.1.2 NXLog 設定檔下載

(1) 開啟 [Windows PowerShell]



(2) 下載 nxlog_MySQL.conf 並覆蓋 NXLog 設定檔。

下載連結：http://www.npartnertech.com/download/tech/nxlog_MySQL.conf

```
PS C:\> Invoke-WebRequest -Uri 'http://www.npartnertech.com/download/tech/nxlog_MySQL.conf' -OutFile  
'C:\Program Files (x86)\nxlog\conf\nxlog.conf'
```

A screenshot of a Windows PowerShell window titled "系統管理員: Windows PowerShell". The window shows the command `Invoke-WebRequest` being run to download the configuration file from the specified URL and save it to the specified local path.

```
PS C:\> Invoke-WebRequest -Uri 'http://www.npartnertech.com/download/tech/nxlog_MySQL.conf'  
-OutFile 'C:\Program Files (x86)\nxlog\conf\nxlog.conf'  
PS C:\> -
```

3.1.3 NXLog 設定檔

```
## Please set the ROOT to the folder your nxlog was installed into, otherwise it will not start.
define NCloud  192.168.1.184
define BASEDIR C:\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

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

## For MySQL general log file use the following:
<Input in_generallog>
  Module im_file
  File  '%BASEDIR%\mysql-gen.log'
  Exec  $SyslogSeverityValue = 6;
  SavePos True
  ReadFromLast True
</Input>

## For MySQL Slow log file use the following:
<Input in_slowlog>
  Module im_file
  File  '%BASEDIR%\mysql-slow.log'
  Exec  $SyslogSeverityValue = 4;
  SavePos True
  ReadFromLast True
</Input>

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

<Output out_mysqllog>
  Module om_udp
  Host  %NCloud%
  Port  514
  Exec  $SyslogFacilityValue = 19;
  Exec  to_syslog_bsd();
</Output>

<Route mysqllog>
  Path  in_generallog, in_slowlog, in_errorlog => out_mysqllog
</Route>
```

藍色文字部位請輸入 N-Reporter 系統 IP address 和 MySQL 日誌路徑檔案

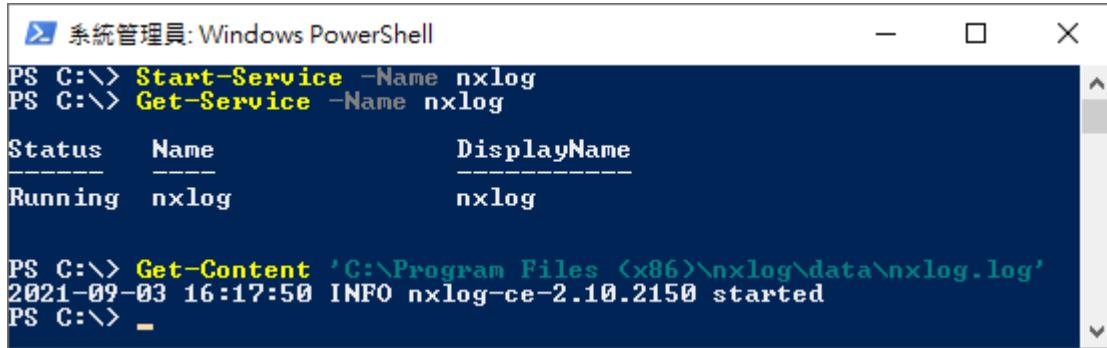
3.1.4 NXLog 啟動服務

(1) 開啟 [Windows PowerShell]



(2) 啟動 NXLog 服務，檢查 NXLog 服務和確認 NXLog 沒有錯誤訊息

```
PS C:\> Start-Service -Name nxlog  
PS C:\> Get-Service -Name nxlog  
PS C:\> Get-Content 'C:\Program Files (x86)\nxlog\data\nxlog.log'
```



A screenshot of a Windows PowerShell window titled "系統管理員: Windows PowerShell". The window contains the following command history and output:

```
PS C:\> Start-Service -Name nxlog  
PS C:\> Get-Service -Name nxlog  
Status     Name           DisplayName  
----     --          -----  
Running   nxlog         nxlog  
  
PS C:\> Get-Content 'C:\Program Files (x86)\nxlog\data\nxlog.log'  
2021-09-03 16:17:50 INFO nxlog-ce-2.10.2150 started  
PS C:\>
```

3.2 MySQL

3.2.1 編輯 MySQL 設定檔

(1) 開啟 [Windows PowerShell]，編輯 my.ini 設定檔

```
PS C:\> notepad C:\ProgramData\MySQL\MySQL Server 8.0\my.ini
```



紅色文字部位請輸入 MySQL 服務版本

(2) 設定 MySQL 記錄

記錄在檔案

```
# General and Slow logging  
log-output=FILE
```

開啟查詢記錄

```
general-log=1
```

查詢記錄檔案

```
general_log_file="mysql-gen.log"
```

開啟慢查詢記錄

```
slow-query-log=1
```

慢查詢記錄檔案

```
slow_query_log_file="mysql-slow.log"
```

執行超過 10 秒記錄

```
long_query_time=10
```

錯誤記錄檔案

```
# Error Logging  
log-error="mysql.err"
```

```
# General and Slow logging.  
log-output=FILE  
general-log=1  
general_log_file="mysql-gen.log"  
slow-query-log=1  
slow_query_log_file="mysql-slow.log"  
long_query_time=10  
# Error Logging.  
log-error="mysql.err"
```

紅色文字部位請輸入 MySQL 日誌檔名

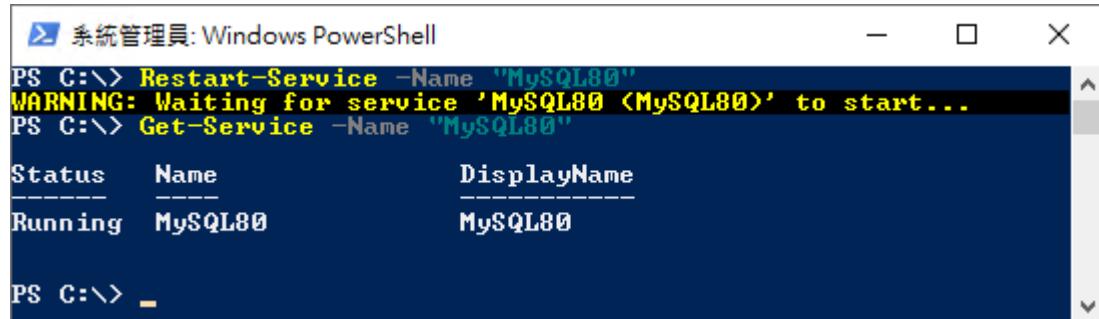
3.2.2 重啟 MySQL 服務

(1) 開啟 [Windows PowerShell]



(2) 重啟 MySQL 服務和確認 MySQL 服務狀態

```
PS C:\> Restart-Service -Name "MySQL80"  
PS C:\> Get-Service -Name "MySQL80"
```



A screenshot of a Windows PowerShell window titled "系統管理員: Windows PowerShell". The window contains the following command history:

```
PS C:\> Restart-Service -Name "MySQL80"  
WARNING: Waiting for service 'MySQL80 <MySQL80>' to start...  
PS C:\> Get-Service -Name "MySQL80"  


| Status  | Name    | DisplayName |
|---------|---------|-------------|
| Running | MySQL80 | MySQL80     |

  
PS C:\> -
```

紅色文字部位請輸入 MySQL 服務版本

4. N-Reporter

(1) 新增 MySQL 設備

[設備管理] -> [設備樹狀圖] -> 點選 [新增]

The screenshot shows the N-Reporter web interface. On the left is a sidebar menu with the following items:

- 事件
- 報表
- 智慧分析
- 設備管理** (highlighted with a red box)
- 設備樹狀圖
- 介面列表
- 回告警樣版
- 設備異常告警
- 系統管理
- 使用者手冊

The main content area is titled "設備樹狀圖" (Device Tree). It displays a tree structure with "Global (4)" expanded, showing "未知設備 (0)". At the top right of this area is a toolbar with several icons, one of which is highlighted with a red box.

(2) 設定 MySQL 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: [MySQL] 和 Facility: [(19) local use 3 (local3)]和設備Icon: [icon-host] -> 點選接收狀態: [啟用] -> 按下 **[確定]**

The screenshot shows the '新增設備' (Add Device) dialog box. It is divided into three main sections: '設備基本設定' (Basic Device Settings), 'Syslog 相關設定' (Syslog Related Settings), and '設備進階設定' (Advanced Device Settings).

設備基本設定

- 名稱:** MySQL-192.168.10.4 (highlighted with a red box)
- IP:** 192.168.10.4 (highlighted with a red box)
- 設備種類:** Syslog Flow SNMP

Syslog 相關設定

- 資料格式:** MySQL (highlighted with a red box)
- Facility:** (19) local use 3 (local3) (highlighted with a red box)
- 編碼方式:** UTF-8
- 本設備於分時監控報表啟動Syslog轉發時，採用 Raw Data

設備進階設定

- ICMP 告警樣版:** N/A
- 設備 Icon:** icon-host (highlighted with a red box)
- Login Account:** (empty field)
- Login Password:** (empty field)
- Enable Password:** (empty field)
- 接收狀態:** 啟用 停用 (highlighted with a red box)
- 暫無資料告警:** 啟用 Syslog 暫無資料告警

Buttons at the bottom:

- 確定** (Confirm) (highlighted with a red box)
- 取消 (Cancel)



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