

# Partner

如何設定

SNMP Host MIB 設備

V011

2021/08/03



## 版權聲明

N-Partner Technologies Co.版權所有。未經 N-Partner Technologies Co.書面許可，不得以任何形式仿製、拷貝、謄抄或轉譯本手冊的任何內容。由於產品一直在更新中， N-Partner Technologies Co. 保留不告知變動的權利。

## 商標

本手冊內所提到的任何的公司產品、名稱及註冊商標，均屬其合法註冊公司所有。

# 目錄

前言 .....	2	2.3.2 Debian 9.....	75
<b>1. Windows .....</b>	<b>3</b>	2.4 Ubuntu .....	78
1.1 Windows 2003 .....	3	2.4.1 Ubuntu 16 .....	78
1.1.1 安裝 SNMP Service.....	3	2.4.2 Ubuntu 18 .....	81
1.1.2 設定 SNMP Service.....	7	<b>3. AIX 7 .....</b>	<b>84</b>
1.1.3 設定 Firewall.....	11	<b>4. FreeBSD 11 .....</b>	<b>86</b>
1.2 Windows 2008 .....	12	<b>5. N-Reporter .....</b>	<b>89</b>
1.2.1 安裝 SNMP Service.....	12	5.1 單筆新增.....	89
1.2.2 設定 SNMP Service.....	16	5.2 批次新增.....	91
1.2.3 設定 Firewall.....	20		
1.3 Windows 2012 .....	21		
1.3.1 安裝 SNMP Service.....	21		
1.3.2 設定 SNMP Service.....	22		
1.3.3 設定 Firewall.....	26		
1.4 Windows 2016 .....	27		
1.4.1 安裝 SNMP Service.....	27		
1.4.2 設定 SNMP Service.....	28		
1.4.3 設定 Firewall.....	33		
1.5 Windows 2019 .....	34		
1.5.1 安裝 SNMP Service.....	34		
1.5.2 設定 SNMP Service.....	35		
1.5.3 設定 Firewall.....	40		
<b>2. Linux .....</b>	<b>41</b>		
2.1 RedHat.....	41		
2.1.1 RedHat 6.....	41		
2.1.1.1 線上安裝.....	41		
2.1.1.2 離線安裝.....	42		
2.1.1.3 設定 SNMP Server .....	43		
2.1.2 RedHat 7.....	47		
2.1.2.1 線上安裝.....	47		
2.1.2.2 離線安裝.....	48		
2.1.2.3 設定 SNMP Server .....	49		
2.2 CentOS .....	53		
2.2.1 CentOS 6 .....	53		
2.2.1.1 線上安裝.....	53		
2.2.1.2 離線安裝.....	54		
2.2.1.3 設定 SNMP Server .....	56		
2.2.3 CentOS 7 .....	60		
2.2.3.1 線上安裝.....	60		
2.2.3.2 離線安裝.....	61		
2.2.3.3 設定 SNMP Server .....	64		
2.2.4 CentOS 8 .....	68		
2.3 Debian.....	72		
2.3.1 Debian 8.....	72		

## 前言

本文件描述 N-Reporter 使用者如何設定 SNMP Host MIB 設備，N-Cloud / N-Reporter 支援 Host Resource MIB 監控主機 (Host) 狀態。

測試環境為 Red Hat / CentOS / Debian / Ubuntu / AIX / FreeBSD 和 Windows 安裝 SNMP 套件。

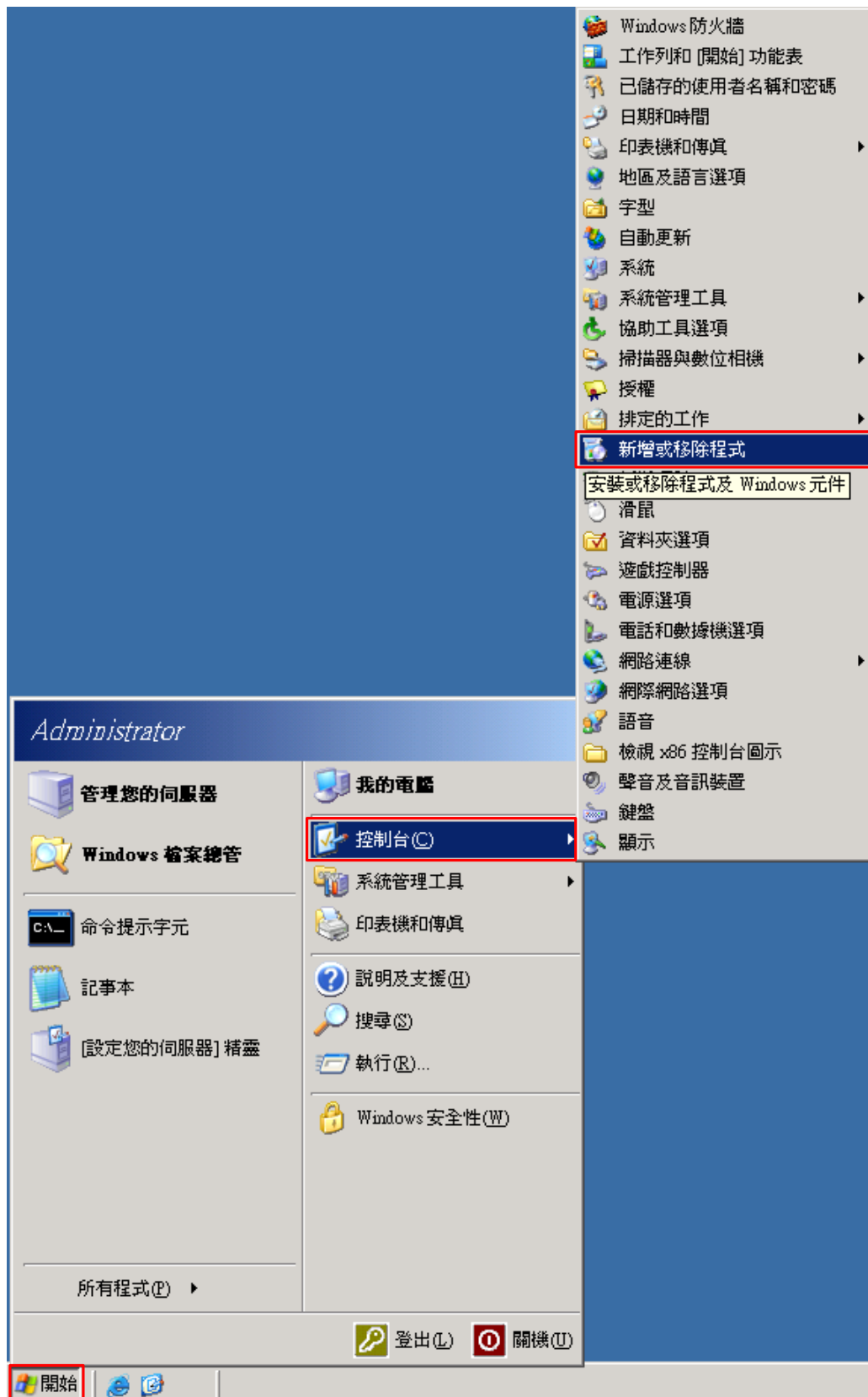
註：本文件僅做為如何將 **SNMP service** 的設定參考，建議您仍應聯繫設備或是軟體原廠尋求設定方式之協助。

# 1. Windows

## 1.1 Windows 2003

### 1.1.1 安裝 SNMP Service

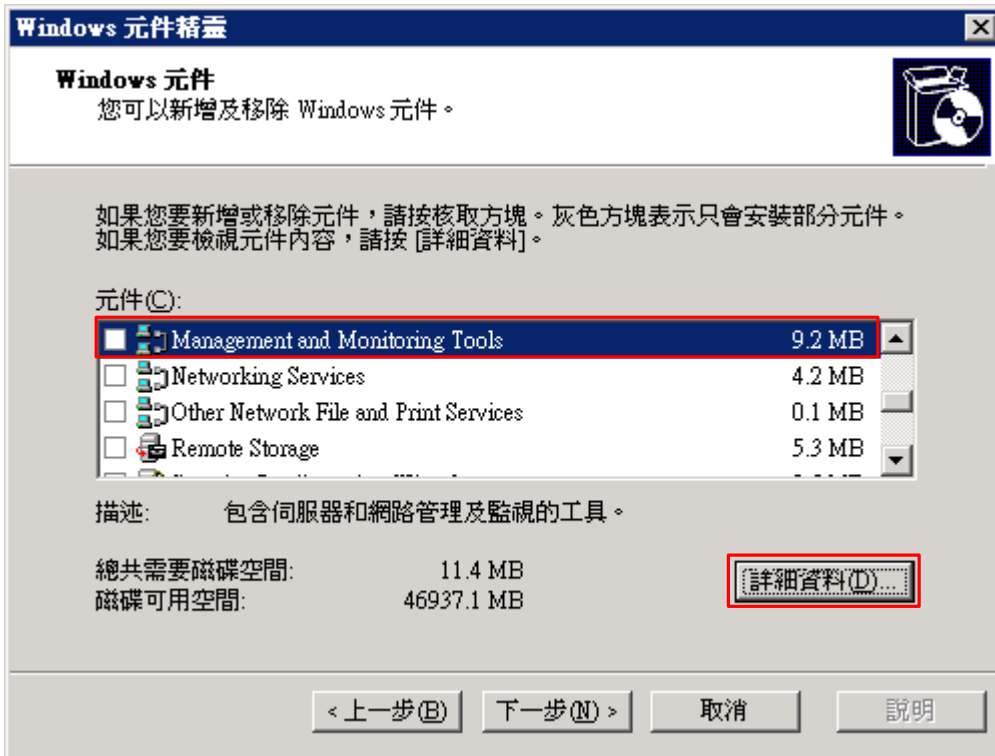
(1) 點選 [開始] -> [控制台] -> [新增或移除程式]



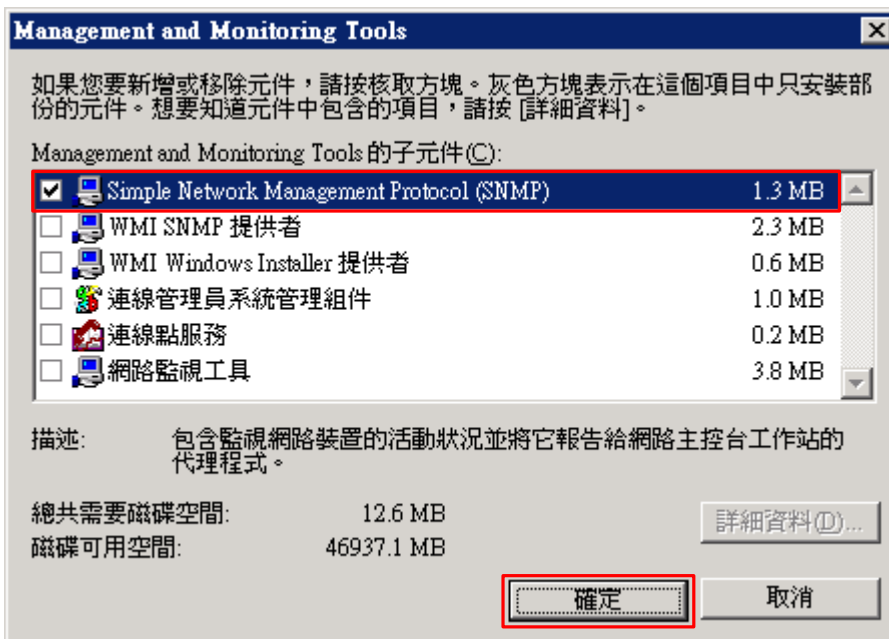
(2) 點擊 [新增/移除 Windows 元件]



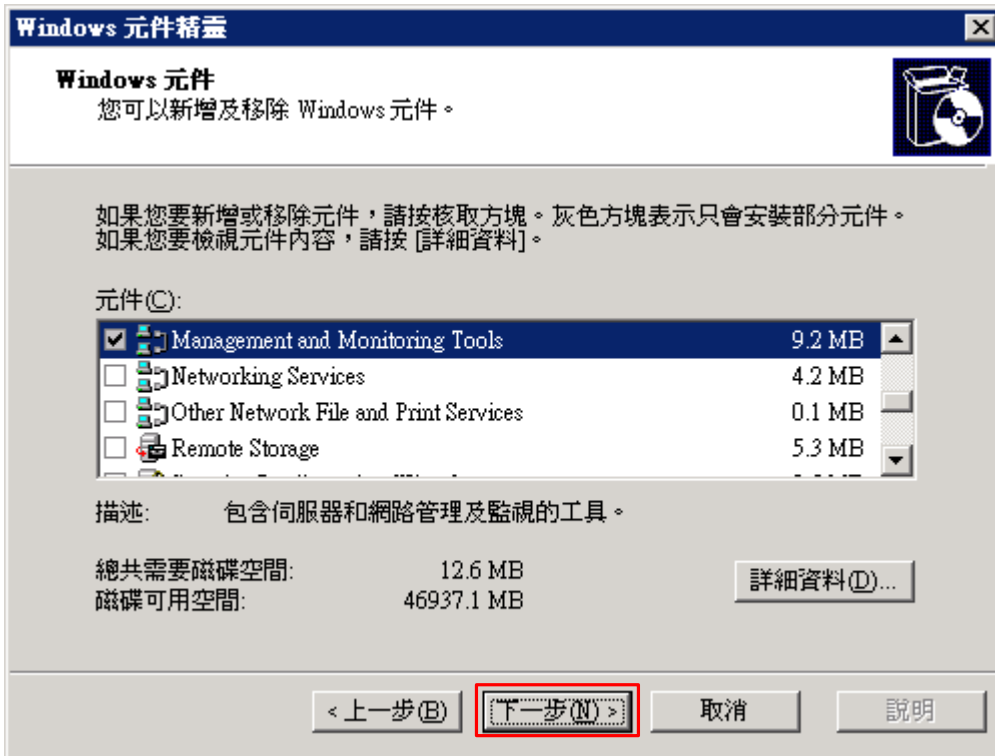
(3) 點選 [Management and Monitoring Tools] -> 按 [詳細資料]



(4) 勾選 [Simple Network Management Protocol (SNMP)] -> 按 [確定]



(5) 按 [下一步]，開始安裝元件



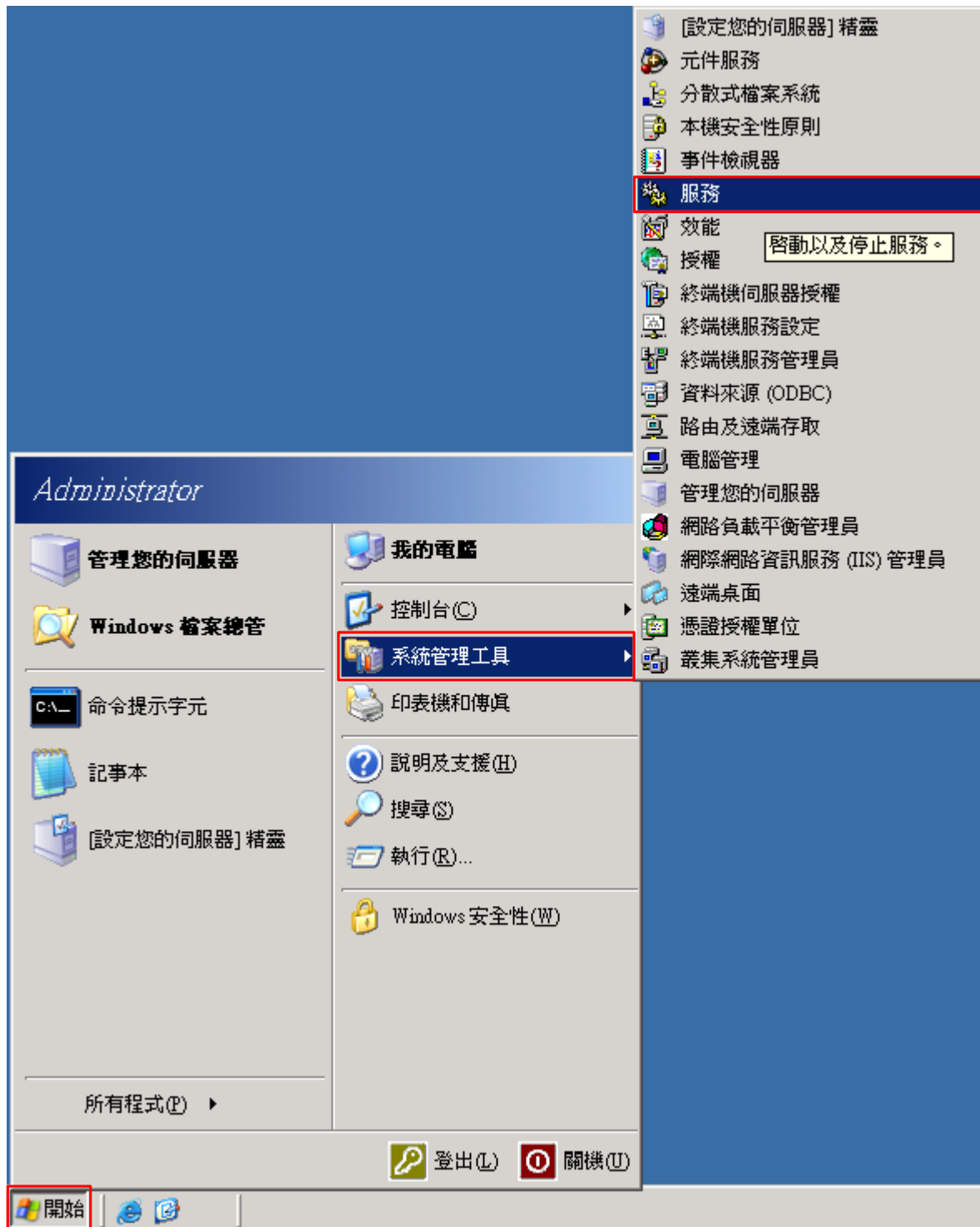
(6) 按 [完成]



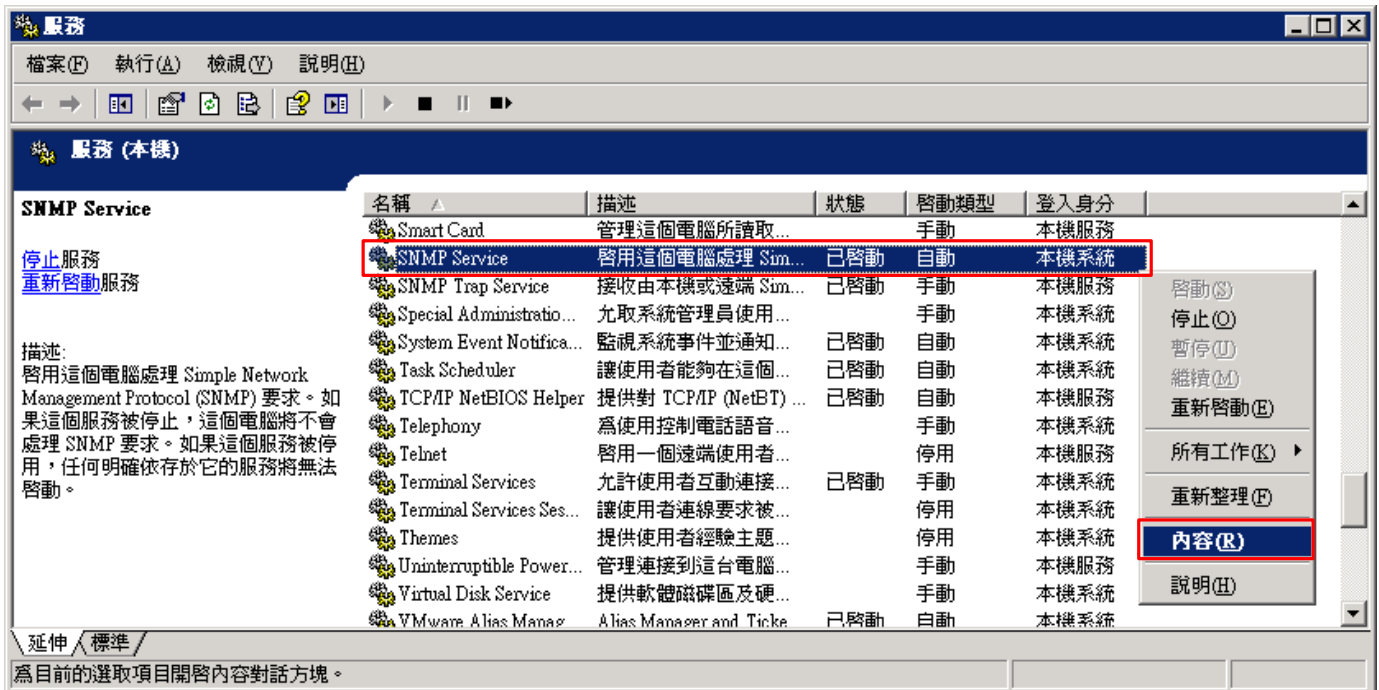


## 1.1.2 設定 SNMP Service

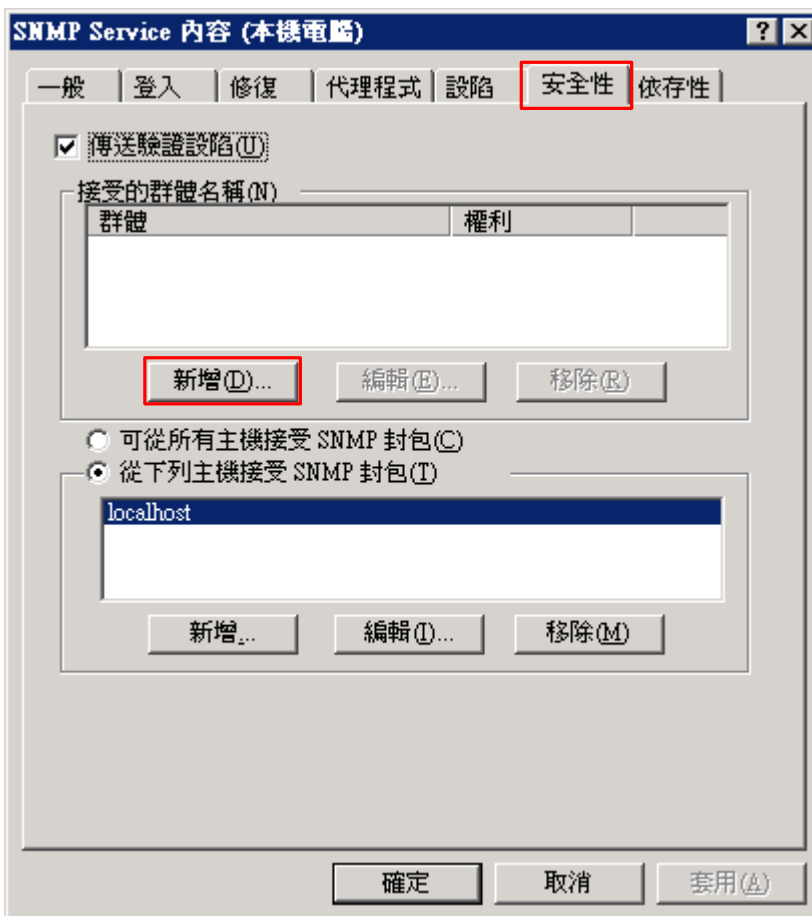
(1) 點選 [開始] -> [系統管理工具] -> [服務]



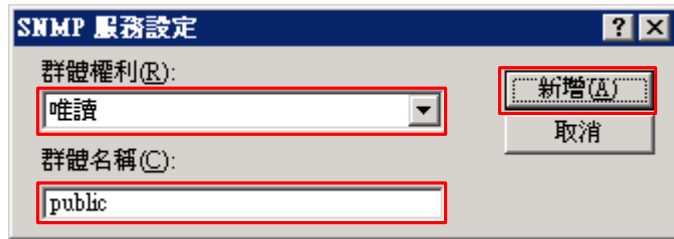
(2) 在 [SNMP Service] 上，確認啟動類型：[自動]，按滑鼠右鍵，點選 [內容]



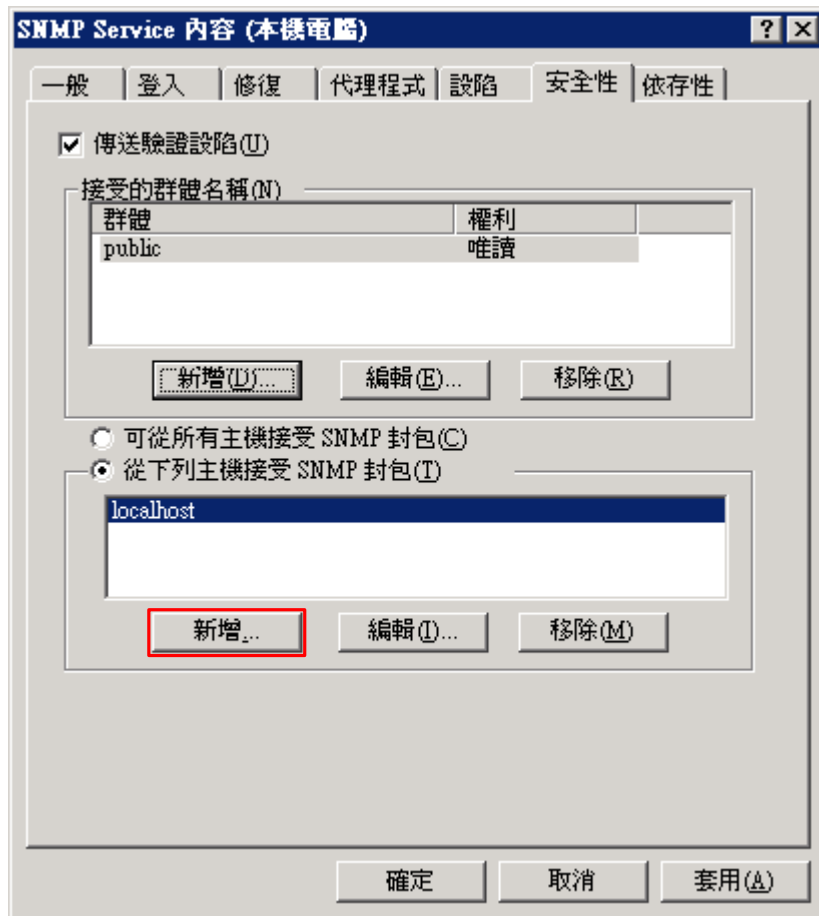
(3) 點選 [安全性] 頁面，按 [新增]



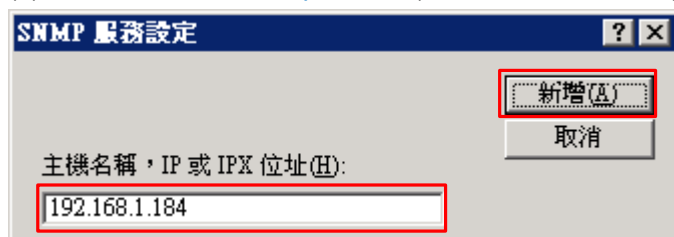
(4) 選擇群體權利：[唯讀]，輸入群體名稱：範例 public -> 按 [新增]



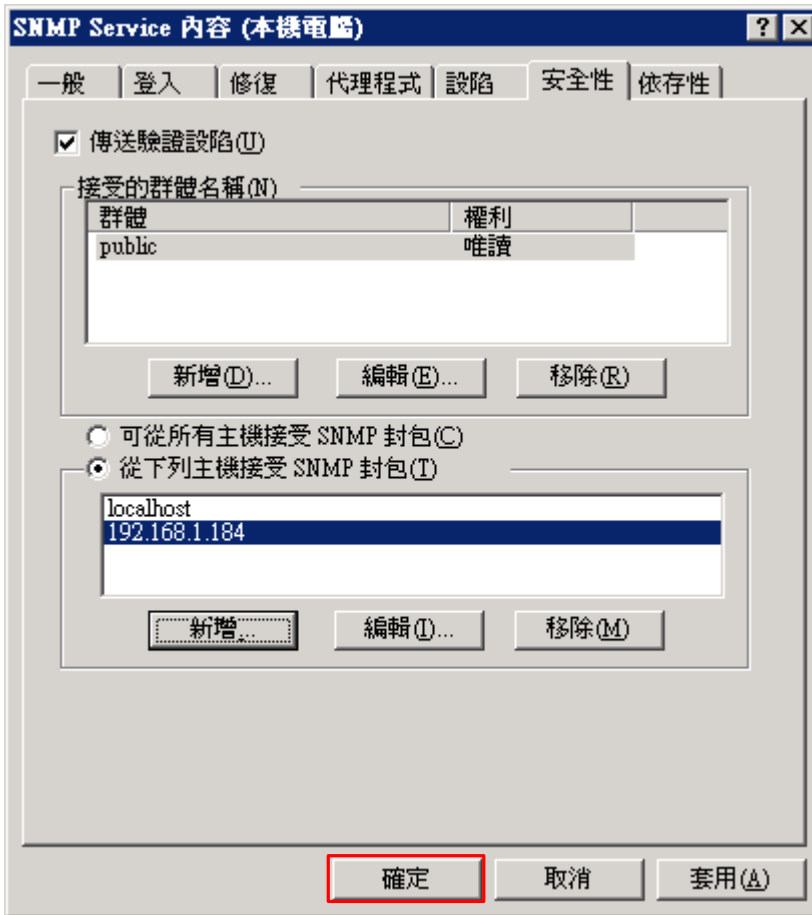
(5) 從下列主機接受 SNMP 封包：點選 [新增]



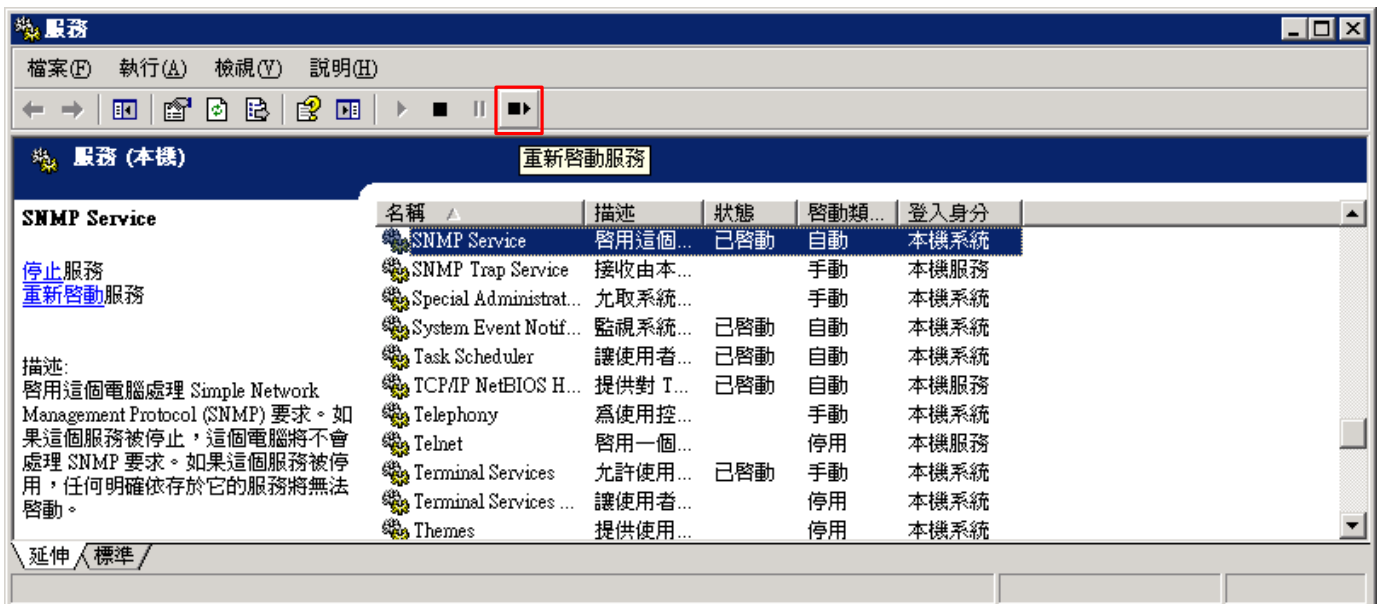
(6) 輸入主機名稱：N-Reporter IP (範例：192.168.1.184) -> 按 [新增]



(7) 按 [確定]



(8) 按 重啟 SNMP 服務



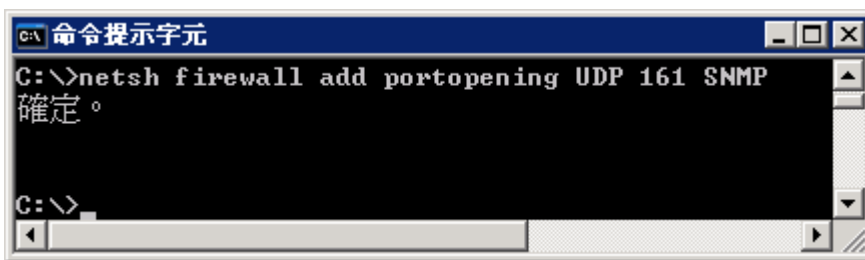
### 1.1.3 設定 Firewall

(1) 開啟 [命令提示字元]



(2) 啟用 SNMP 161 Port

```
C:\> netsh firewall add portopening UDP 161 SNMP
```



## 1.2 Windows 2008

### 1.2.1 安裝 SNMP Service

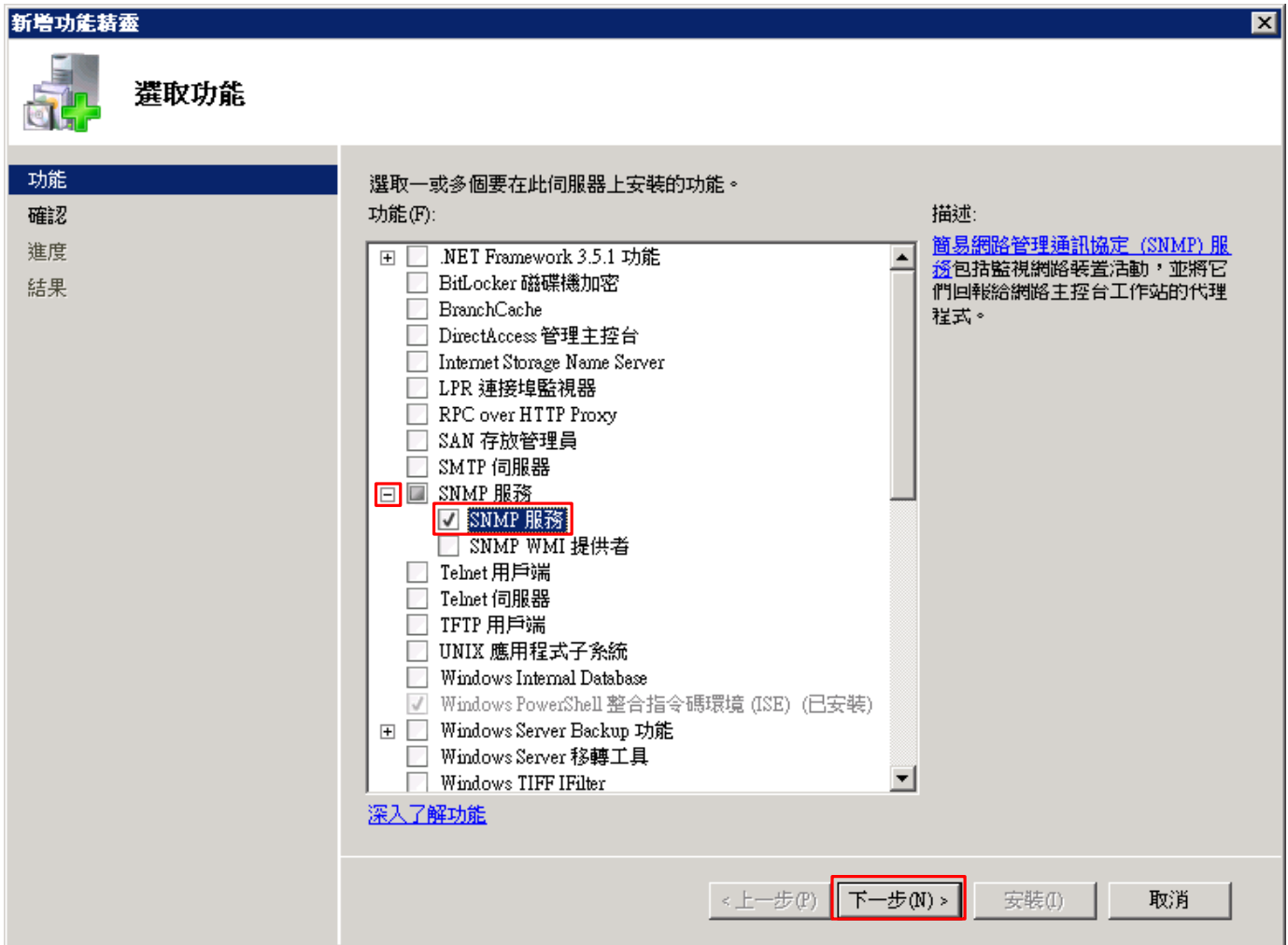
(1) 開啟 [伺服器管理員]



(2) 點選 [功能] -> [新增功能]



(3) 展開 [SNMP 服務] -> 勾選 [SNMP 服務] -> 按 [下一步]



(4) 按 [安裝]





(5) 按 [關閉]

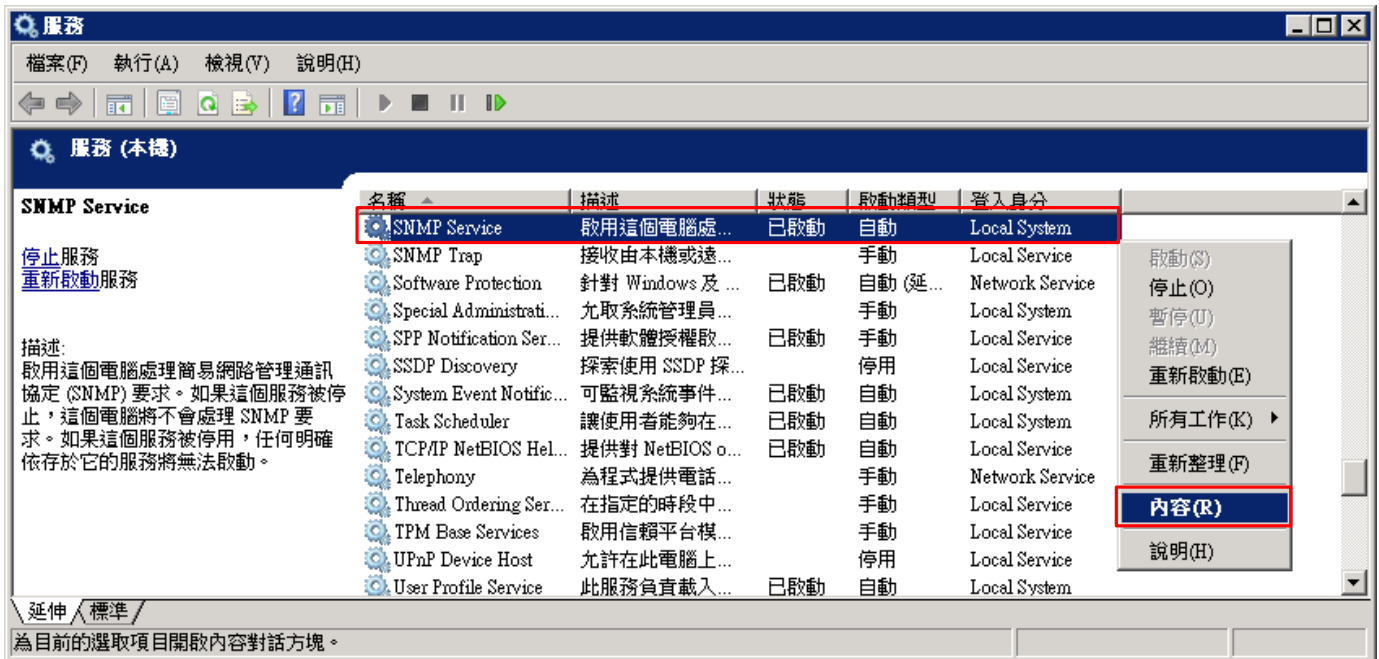


## 1.2.2 設定 SNMP Service

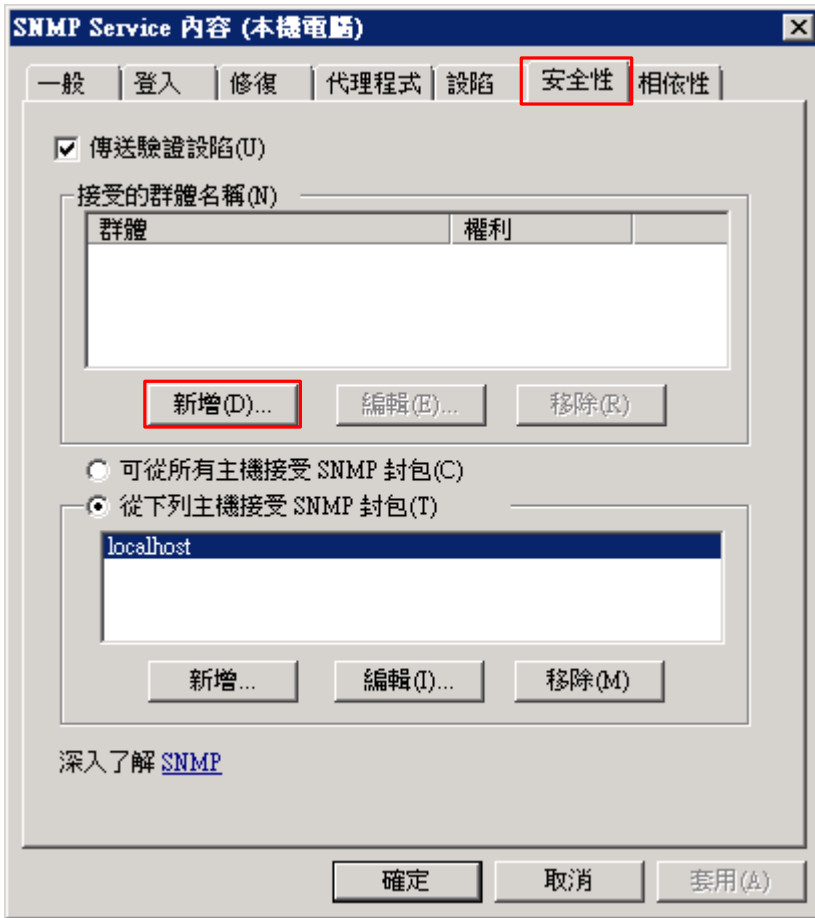
(1) 開啟 [服務]



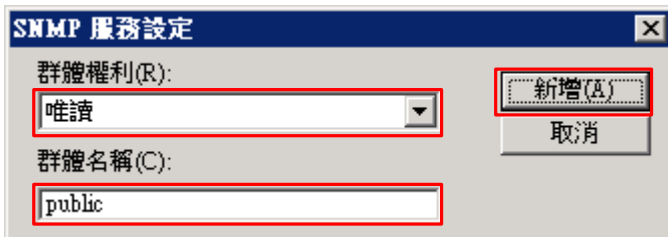
(2) 在 [SNMP Service] 上，確認啟動類型：[自動]，按滑鼠右鍵，點選 [內容]



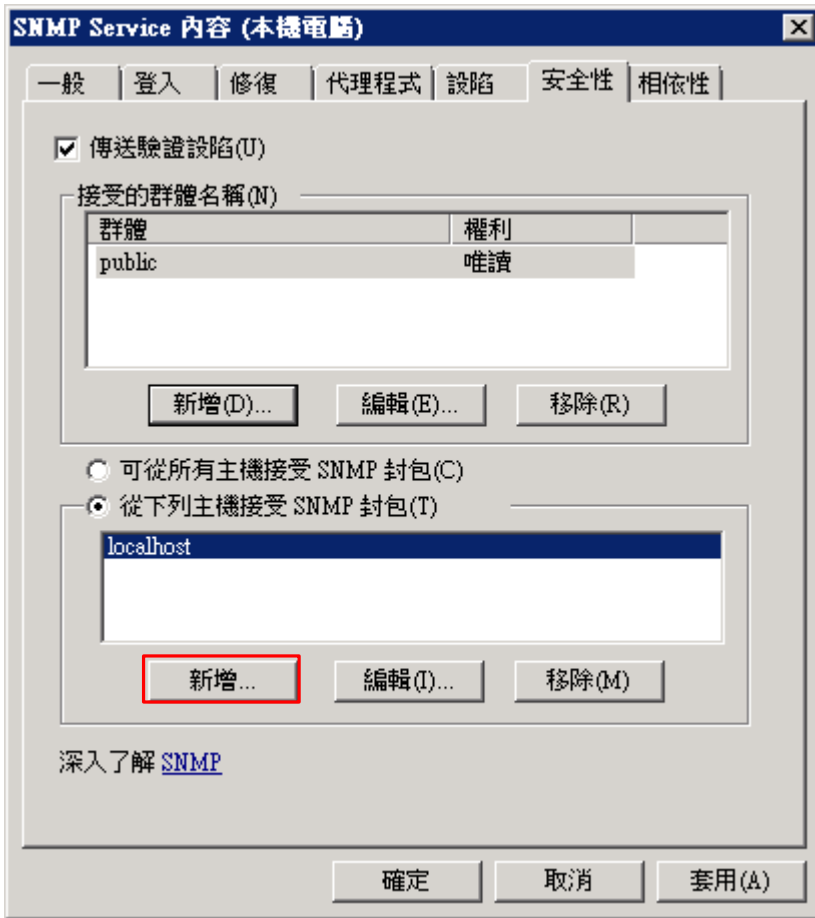
(3) 點選 [安全性] 頁面 · 按 [新增]



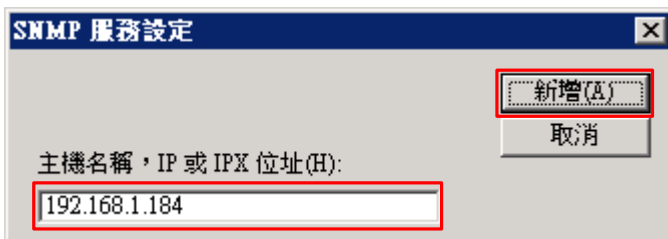
(4) 選擇群體權利：[唯讀] · 輸入群體名稱：範例 public -> 按 [新增]



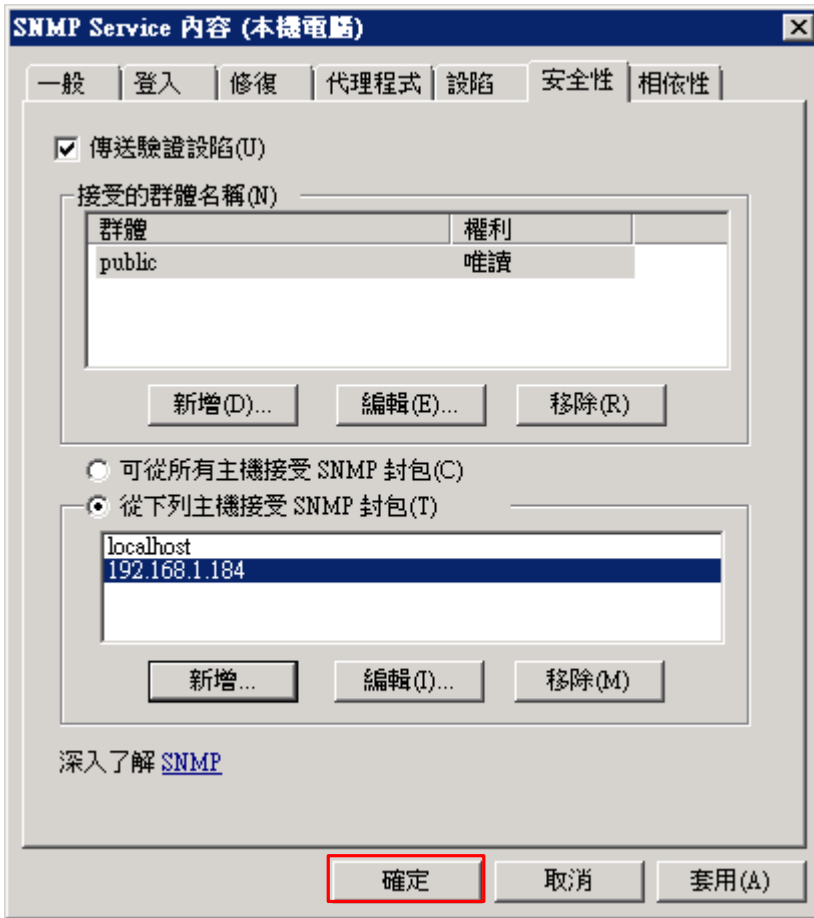
(5) 從下列主機接受 SNMP 封包：點選 [新增]




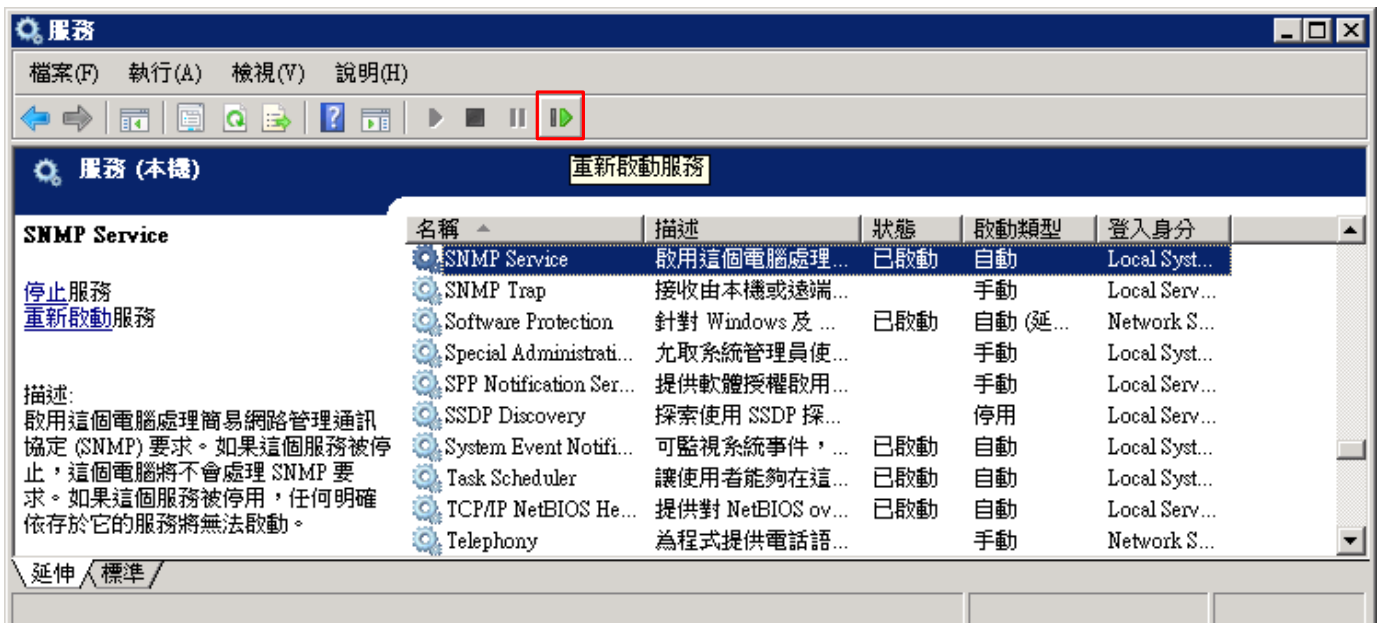
(6) 輸入主機名稱：N-Reporter IP (範例：192.168.1.184) -> 按 [新增]



(7) 按 [確定]



(8) 按  重啟 SNMP 服務



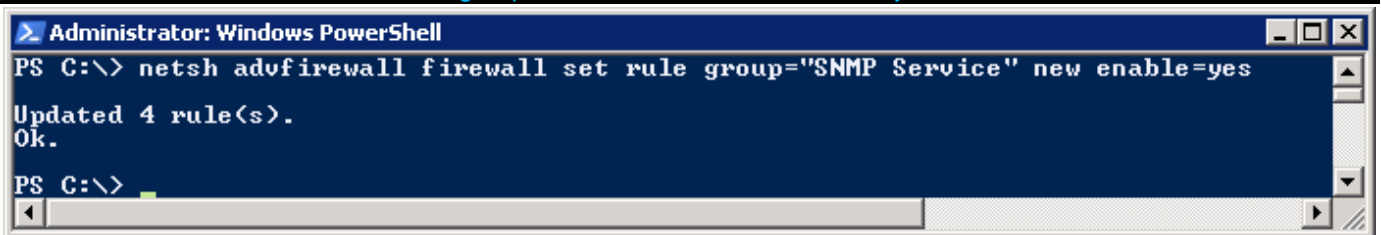
## 1.2.3 設定 Firewall

(1) 開啟 [Windows PowerShell]



(2) 允許 SNMP 通過防火牆

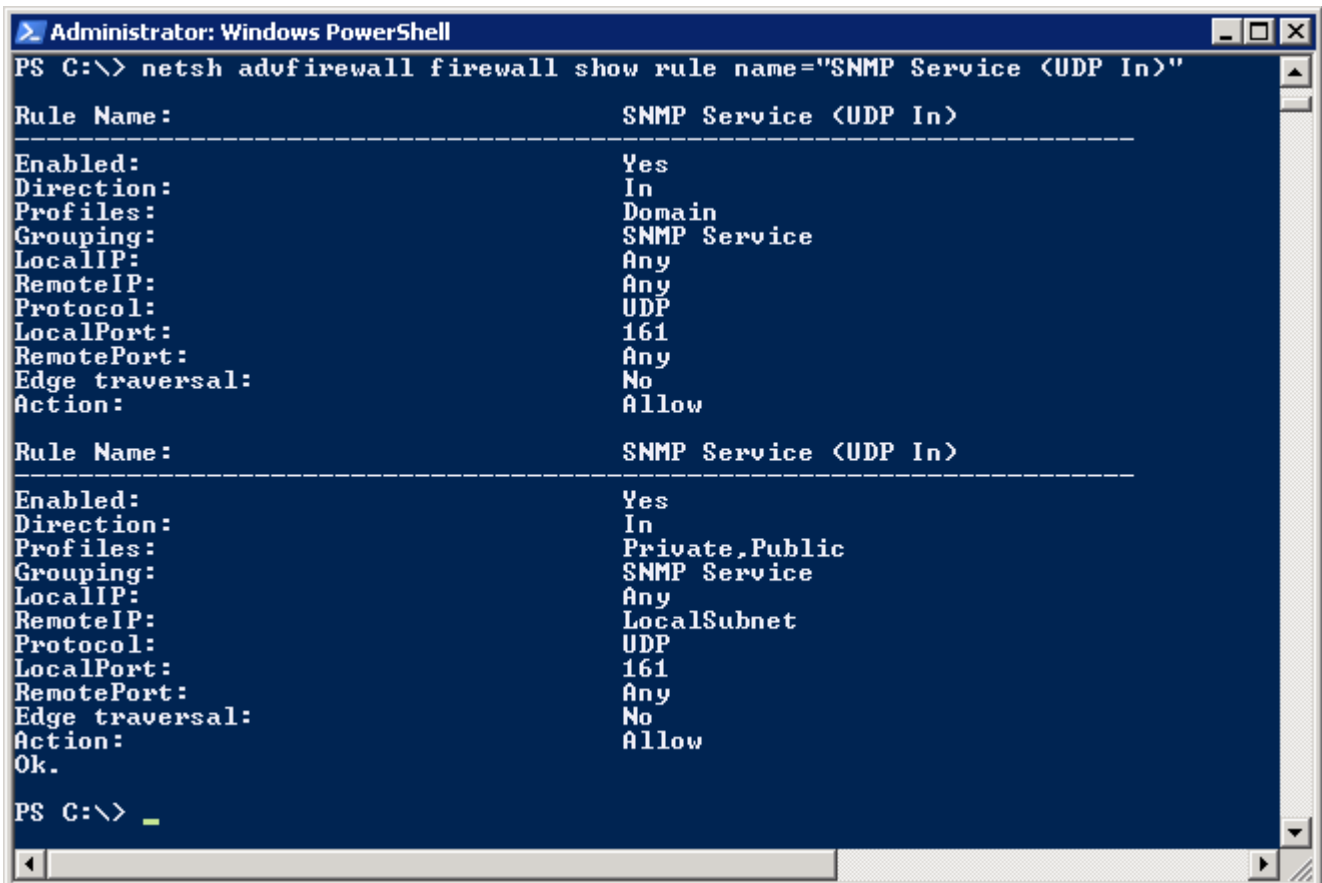
```
C:\> netsh advfirewall firewall set rule group="SNMP Service" new enable=yes
```

A screenshot of a Windows PowerShell window titled "Administrator: Windows PowerShell". The command entered is "netsh advfirewall firewall set rule group='SNMP Service' new enable=yes". The output shows "Updated 4 rule(s). Ok." followed by the prompt "PS C:\>".

```
Administrator: Windows PowerShell
PS C:\> netsh advfirewall firewall set rule group="SNMP Service" new enable=yes
Updated 4 rule(s).
Ok.
PS C:\>
```

(3) 查看 SNMP 啟用狀態

```
C:\> netsh advfirewall firewall show rule name="SNMP Service (UDP In)"
```

A screenshot of a Windows PowerShell window titled "Administrator: Windows PowerShell". The command entered is "netsh advfirewall firewall show rule name='SNMP Service (UDP In)'". The output shows two rule configurations for "SNMP Service (UDP In)". The first configuration is for the "Domain" profile, and the second is for the "Private, Public" profile. Both rules are enabled and allow traffic.

```
Administrator: Windows PowerShell
PS C:\> netsh advfirewall firewall show rule name="SNMP Service (UDP In)"
Rule Name:                               SNMP Service (UDP In)
-----
Enabled:                                   Yes
Direction:                               In
Profiles:                                 Domain
Grouping:                                  SNMP Service
LocalIP:                                   Any
RemoteIP:                                  Any
Protocol:                                  UDP
LocalPort:                                 161
RemotePort:                                Any
Edge traversal:                            No
Action:                                    Allow

Rule Name:                               SNMP Service (UDP In)
-----
Enabled:                                   Yes
Direction:                               In
Profiles:                                 Private, Public
Grouping:                                  SNMP Service
LocalIP:                                   Any
RemoteIP:                                  LocalSubnet
Protocol:                                  UDP
LocalPort:                                 161
RemotePort:                                Any
Edge traversal:                            No
Action:                                    Allow
Ok.
PS C:\>
```

## 1.3 Windows 2012

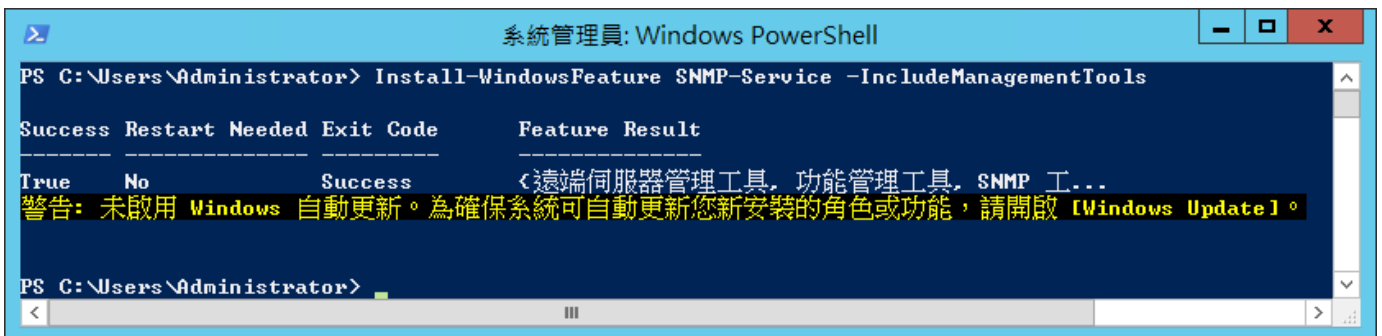
### 1.3.1 安裝 SNMP Service

(1) 開啟 [Windows PowerShell]



(2) 安裝 SNMP service 和管理工具

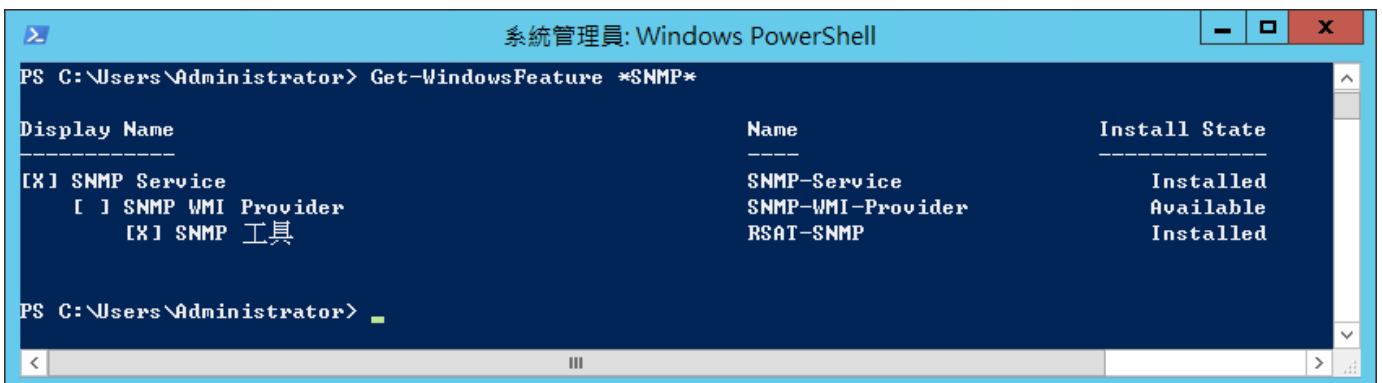
```
PS C:\> Install-WindowsFeature SNMP-Service -IncludeManagementTools
```

A screenshot of a Windows PowerShell window titled "系統管理員: Windows PowerShell". The command "Install-WindowsFeature SNMP-Service -IncludeManagementTools" has been executed. The output shows a table with columns "Success", "Restart Needed", "Exit Code", and "Feature Result". The "Success" column contains "True", "No", and "Success". The "Feature Result" column contains "遠端伺服器管理工具, 功能管理工具, SNMP 工...". A yellow warning message is displayed: "警告: 未啟用 Windows 自動更新。為確保系統可自動更新您新安裝的角色或功能, 請開啟 [Windows Update]。". The prompt "PS C:\Users\Administrator>" is visible at the bottom.

Success	Restart Needed	Exit Code	Feature Result
True	No	Success	遠端伺服器管理工具, 功能管理工具, SNMP 工...

(3) 確認 SNMP service 安裝情形

```
PS C:\> Get-WindowsFeature *SNMP*
```

A screenshot of a Windows PowerShell window titled "系統管理員: Windows PowerShell". The command "Get-WindowsFeature \*SNMP\*" has been executed. The output shows a table with columns "Display Name", "Name", and "Install State". The "Display Name" column contains "[X] SNMP Service", "[ ] SNMP WMI Provider", and "[X] SNMP 工具". The "Name" column contains "SNMP-Service", "SNMP-WMI-Provider", and "RSAT-SNMP". The "Install State" column contains "Installed", "Available", and "Installed". The prompt "PS C:\Users\Administrator>" is visible at the bottom.

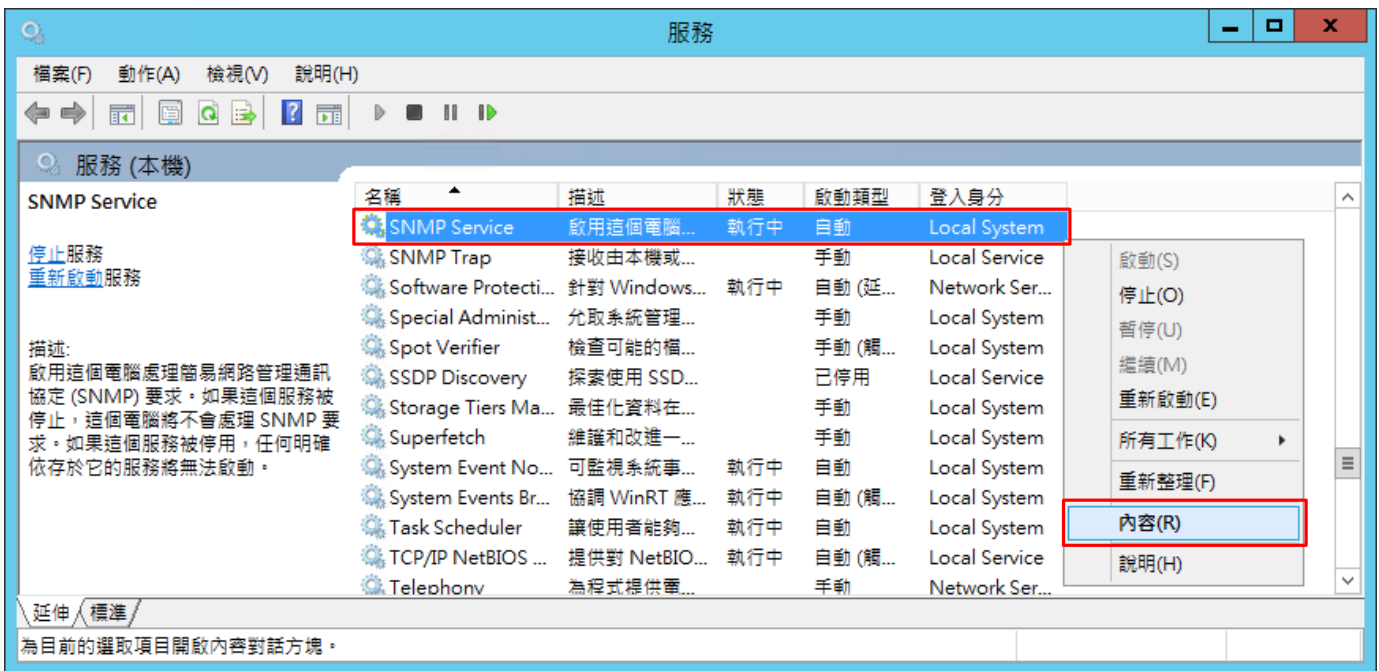
Display Name	Name	Install State
[X] SNMP Service	SNMP-Service	Installed
[ ] SNMP WMI Provider	SNMP-WMI-Provider	Available
[X] SNMP 工具	RSAT-SNMP	Installed

## 1.3.2 設定 SNMP Service

(1) 開啟 [服務]

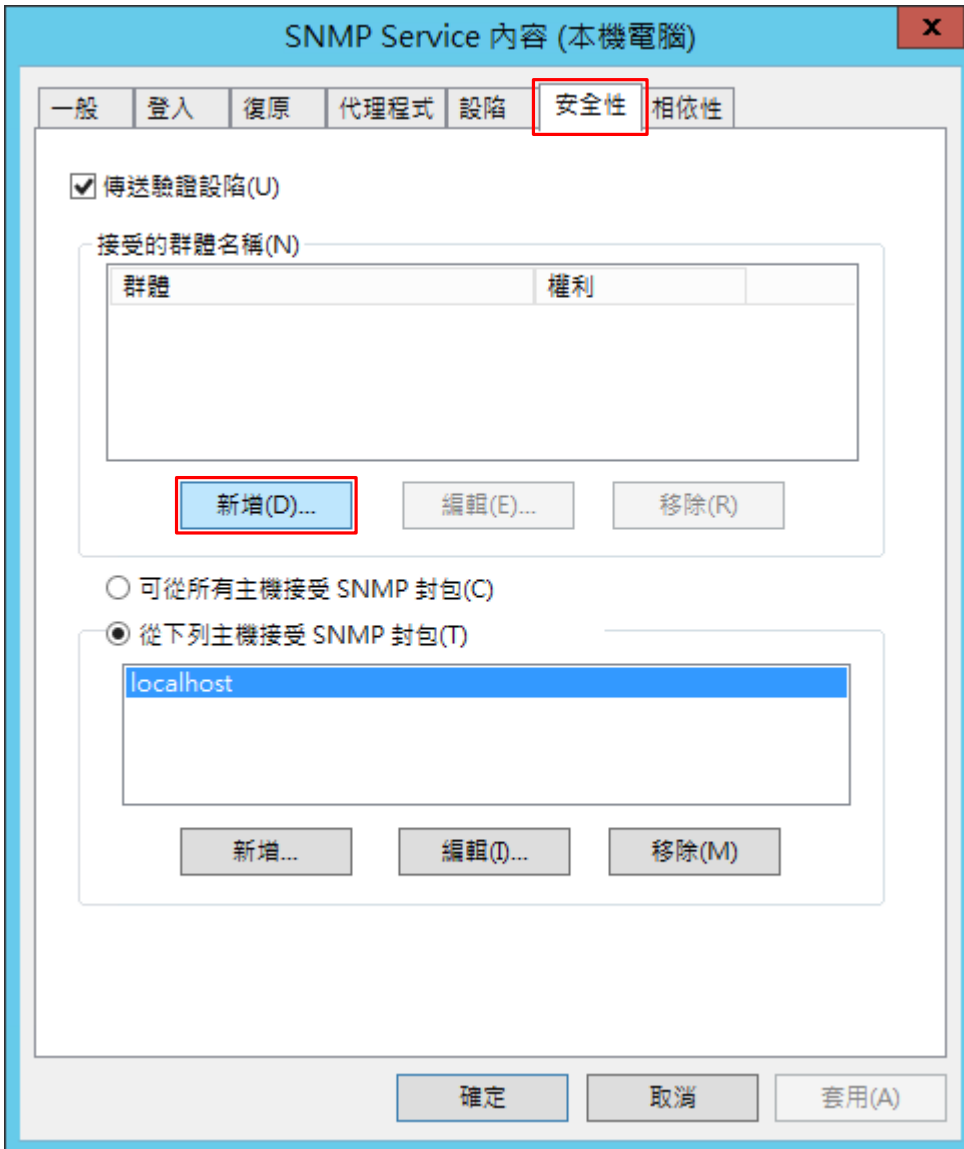


(2) 在 [SNMP Service] 上，確認啟動類型：[自動]，按滑鼠右鍵，點選 [內容]





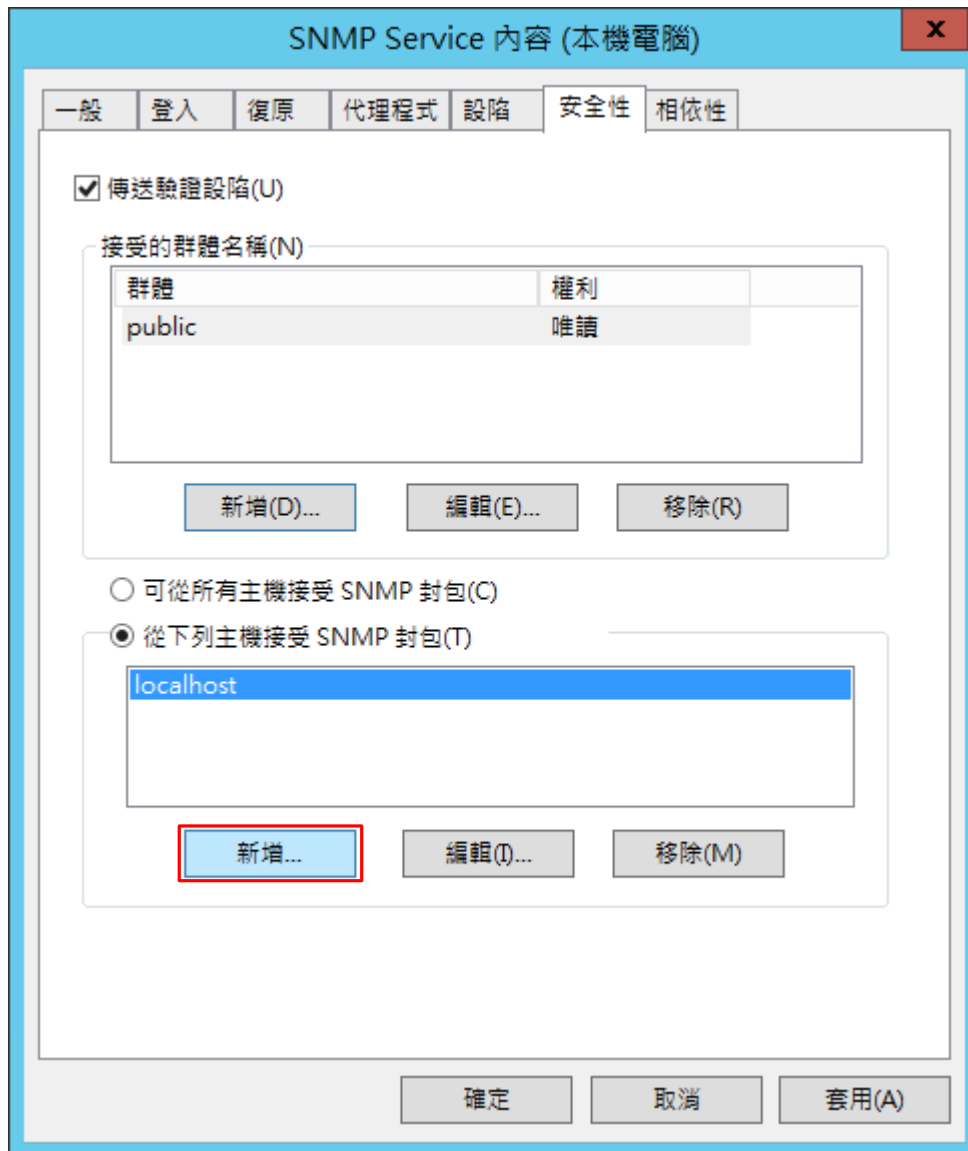
(3) 點選 [安全性] 頁面 · 按 [新增]



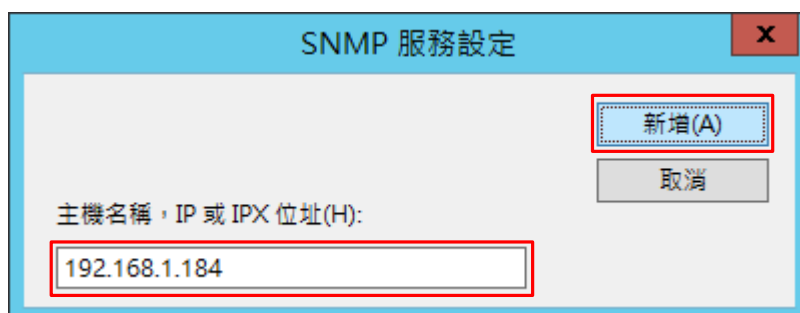
(4) 選擇群體權利：[唯讀] · 輸入群體名稱：範例 public -> 按 [新增]



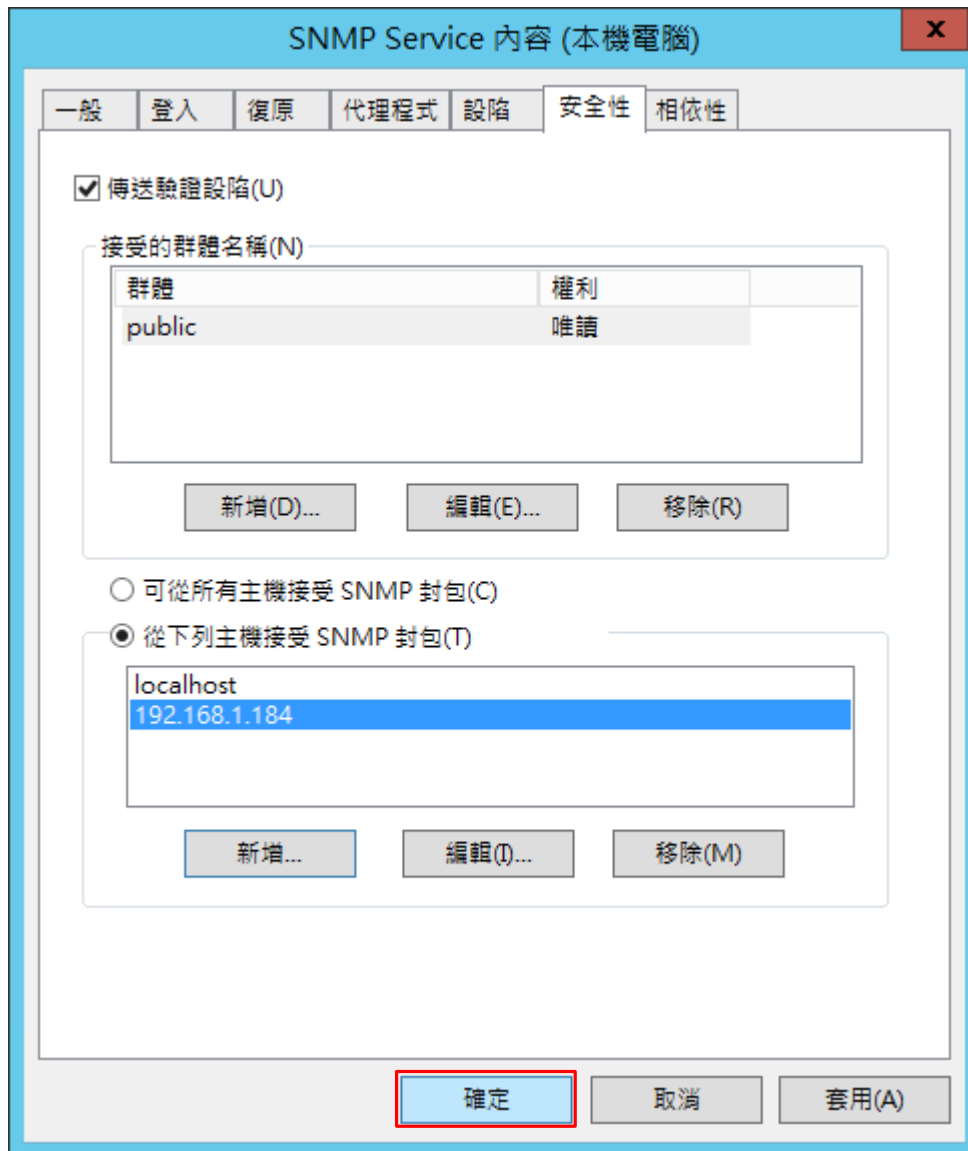
(5) 從下列主機接受 SNMP 封包：點選 [新增]




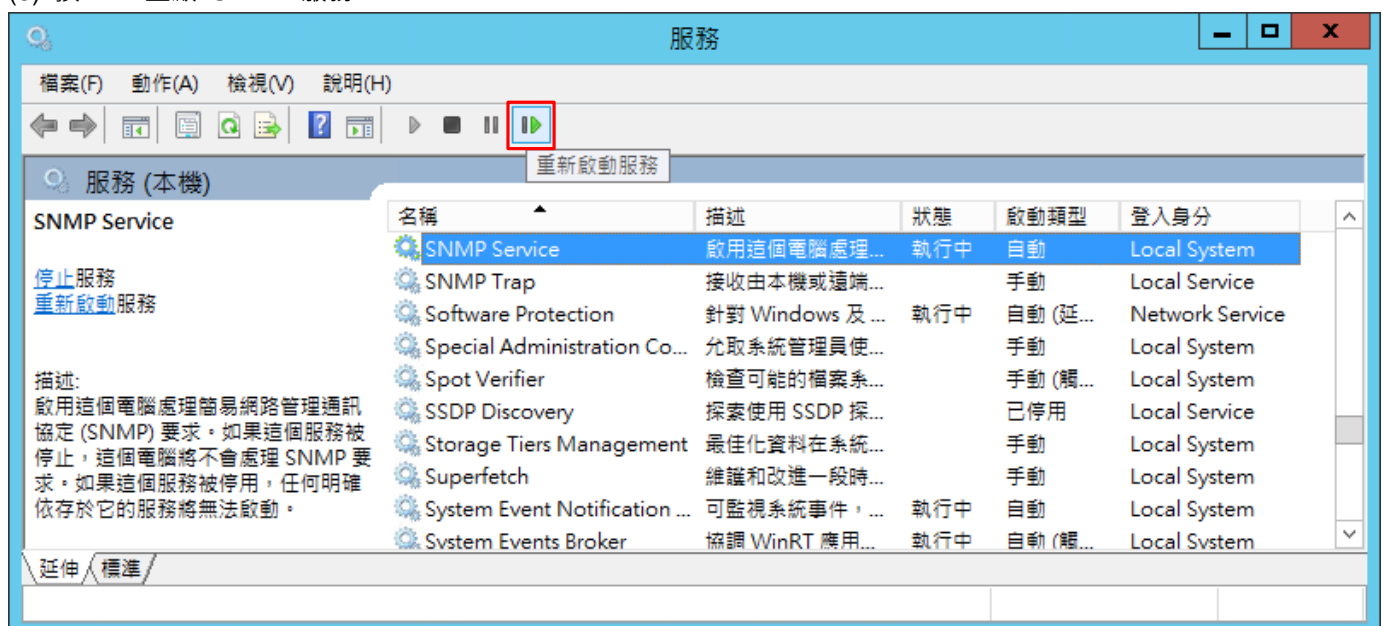
(6) 輸入主機名稱：N-Reporter IP (範例：192.168.1.184) -> 按 [新增]



(7) 按 [確定]

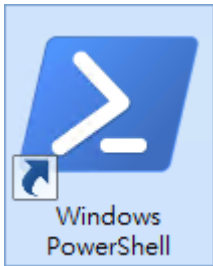


(8) 按  重啟 SNMP 服務



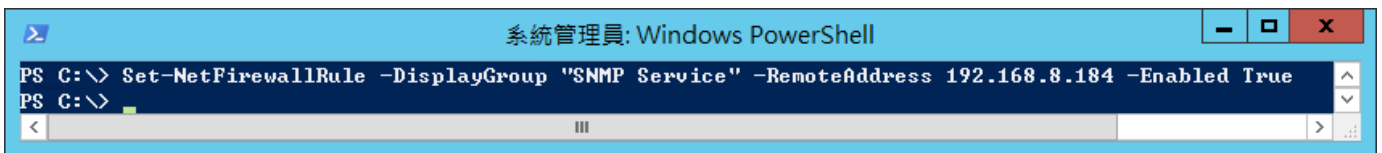
### 1.3.3 設定 Firewall

(1) 開啟 [Windows PowerShell]



(2) 允許 N-Reporter IP 通過防火牆，訪問 SNMP 服務

```
C:\> Set-NetFirewallRule -DisplayGroup "SNMP Service" -RemoteAddress 192.168.8.184 -Enabled True
```



紅色文字部位請輸入 N-Reporter 系統 IP address

(3) 查看 SNMP 啟用狀態

```
C:\> Get-NetFirewallRule -DisplayGroup "SNMP Service" -Direction Inbound |  
>> Format-Table -Property Name,DisplayName,DisplayGroup,  
>> @<Name='RemoteAddress';Expression=<{($PSItem | Get-NetFirewallAddressFilter).RemoteAddress}>},  
>> Enabled,Direction,Action
```



## 1.4 Windows 2016

### 1.4.1 安裝 SNMP Service

(1) 開啟 [Windows PowerShell]



(2) 安裝 SNMP service 和管理工具

```
PS C:\> Install-WindowsFeature SNMP-Service -IncludeManagementTools
```

A screenshot of a Windows PowerShell window titled "系統管理員: Windows PowerShell". The command `Install-WindowsFeature SNMP-Service -IncludeManagementTools` has been executed. The output is a table with columns: Success, Restart Needed, Exit Code, and Feature Result. The first row shows the command was successful.

Success	Restart Needed	Exit Code	Feature Result
True	No	Success	{遠端伺服器管理工具, 功能管理工具, SNMP 工...

(3) 確認 SNMP service 安裝情形

```
PS C:\> Get-WindowsFeature *SNMP*
```

A screenshot of a Windows PowerShell window titled "系統管理員: Windows PowerShell". The command `Get-WindowsFeature *SNMP*` has been executed. The output is a table with columns: Display Name, Name, and Install State.

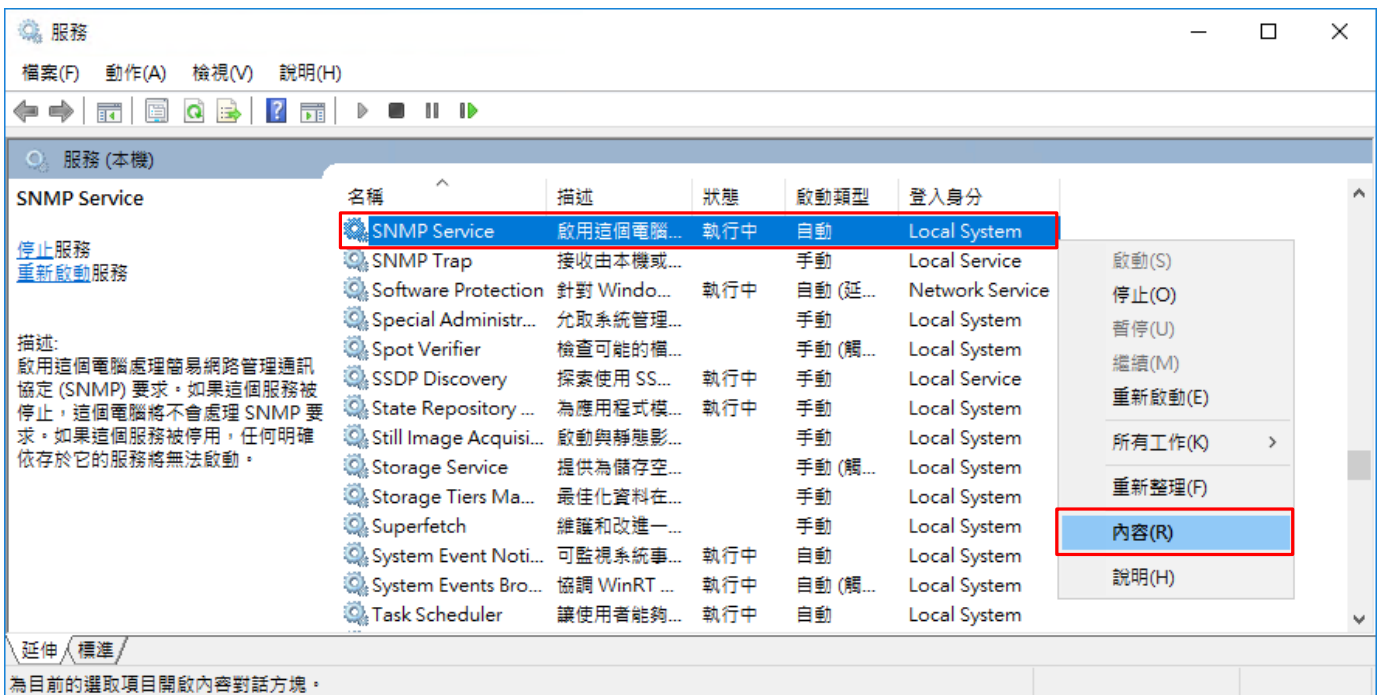
Display Name	Name	Install State
<input checked="" type="checkbox"/> SNMP Service	SNMP-Service	Installed
<input type="checkbox"/> SNMP WMI Provider	SNMP-WMI-Provider	Available
<input checked="" type="checkbox"/> SNMP 工具	RSAT-SNMP	Installed

## 1.4.2 設定 SNMP Service

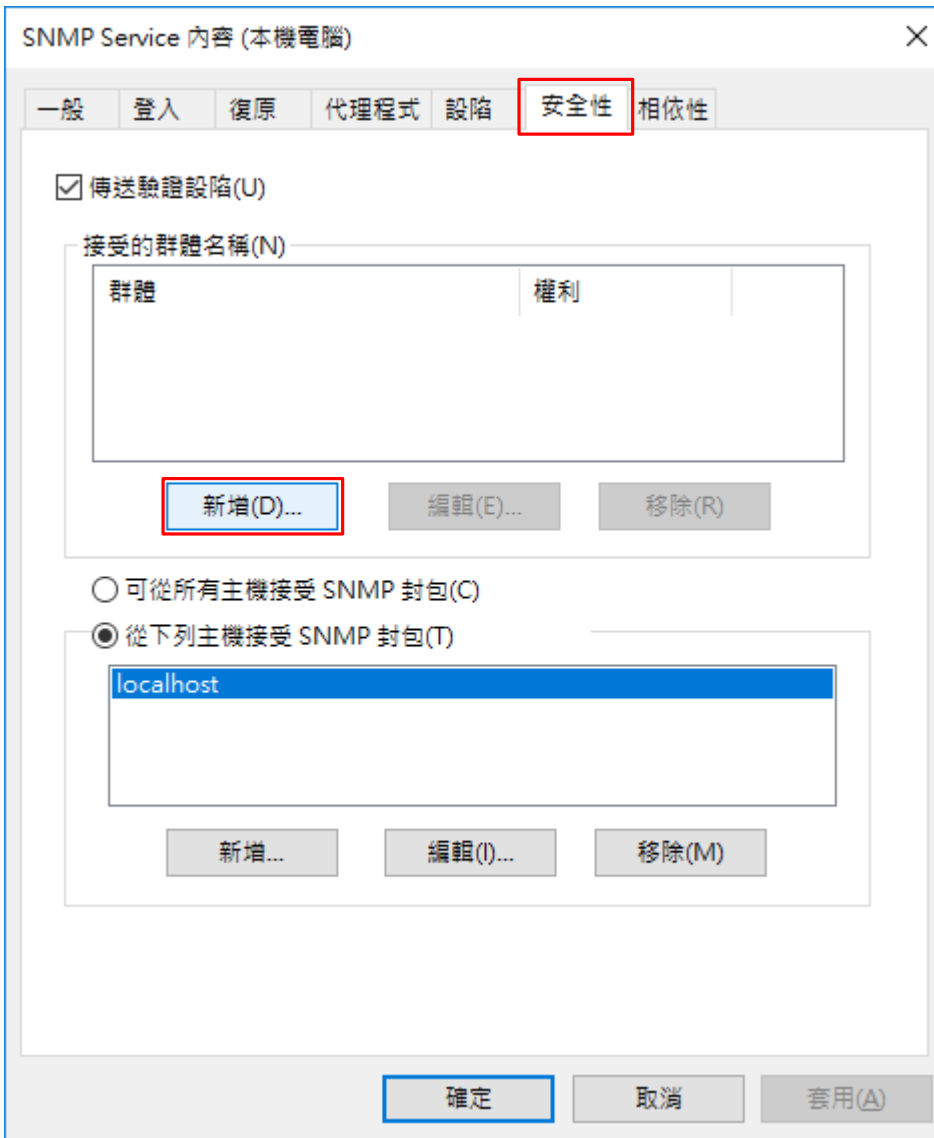
### (1) 開啟 [服務]



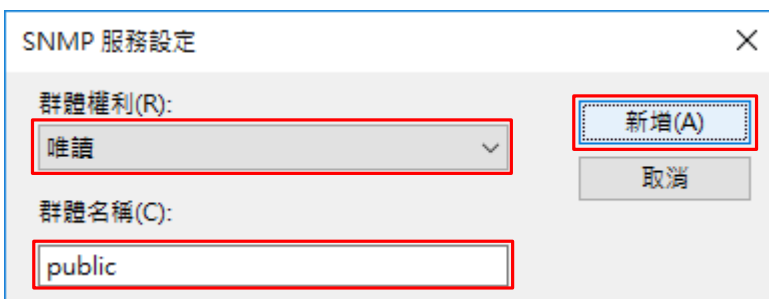
### (2) 在 [SNMP Service] 上，確認啟動類型：[自動]，按滑鼠右鍵，點選 [內容]



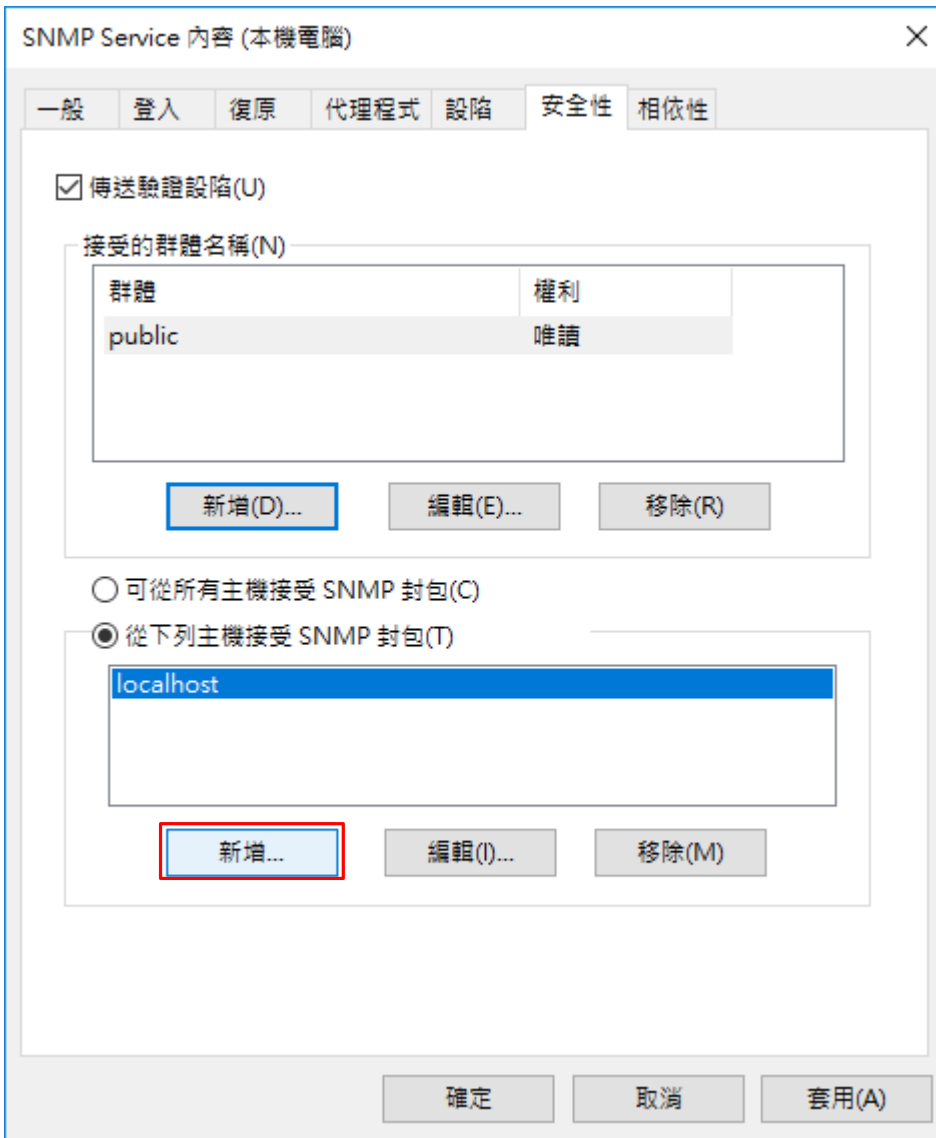
(3) 點選 [安全性] 頁面，按 [新增]



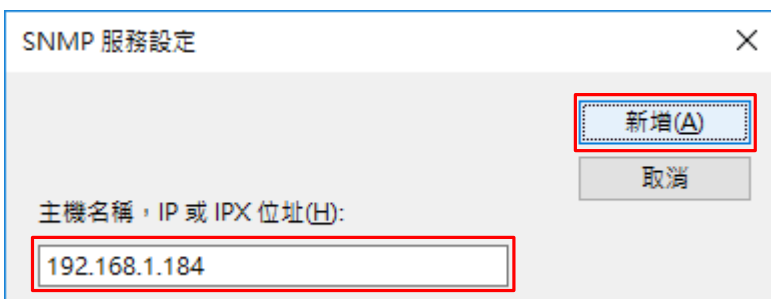
(4) 選擇群體權利：[唯讀]，輸入群體名稱：範例 public -> 按 [新增]



(5) 從下列主機接受 SNMP 封包：點選 [新增]

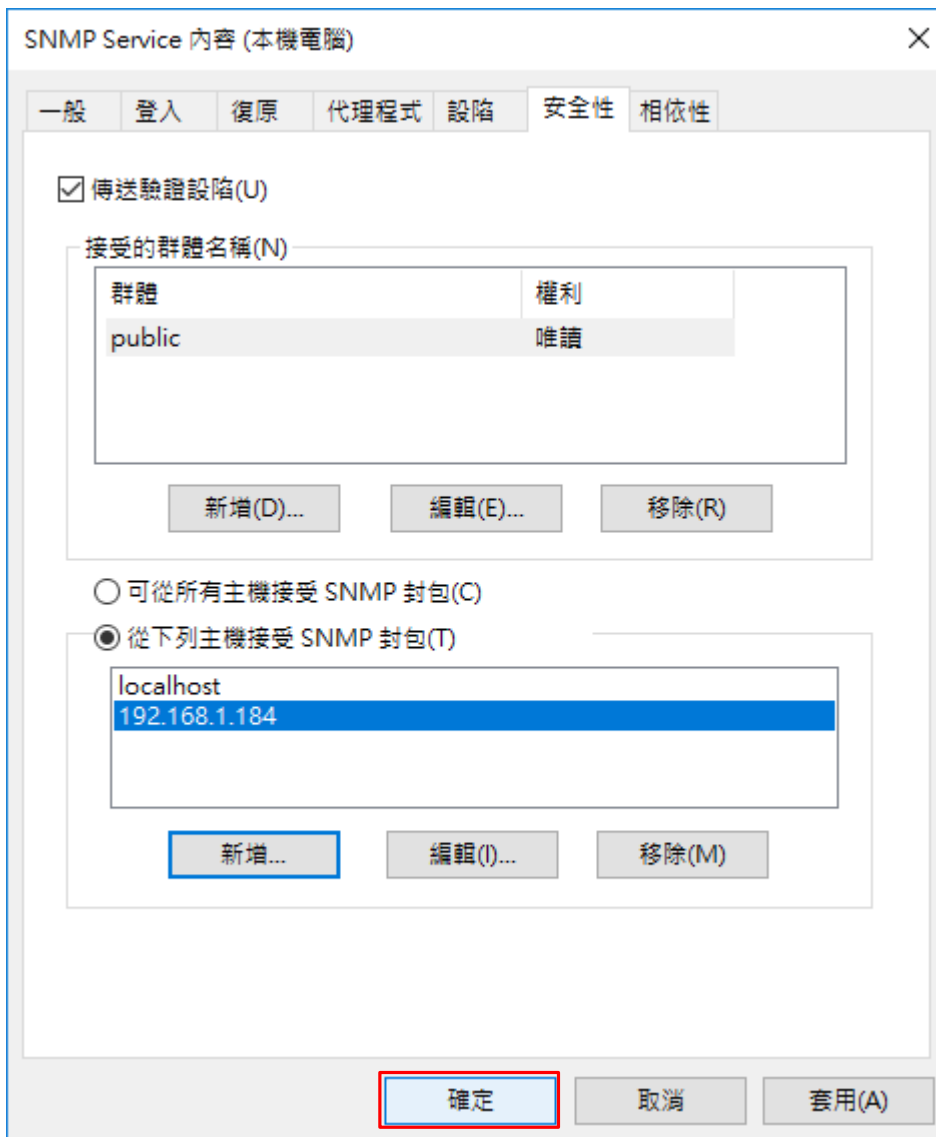



(6) 輸入主機名稱：N-Reporter IP (範例：192.168.1.184) -> 按 [新增]

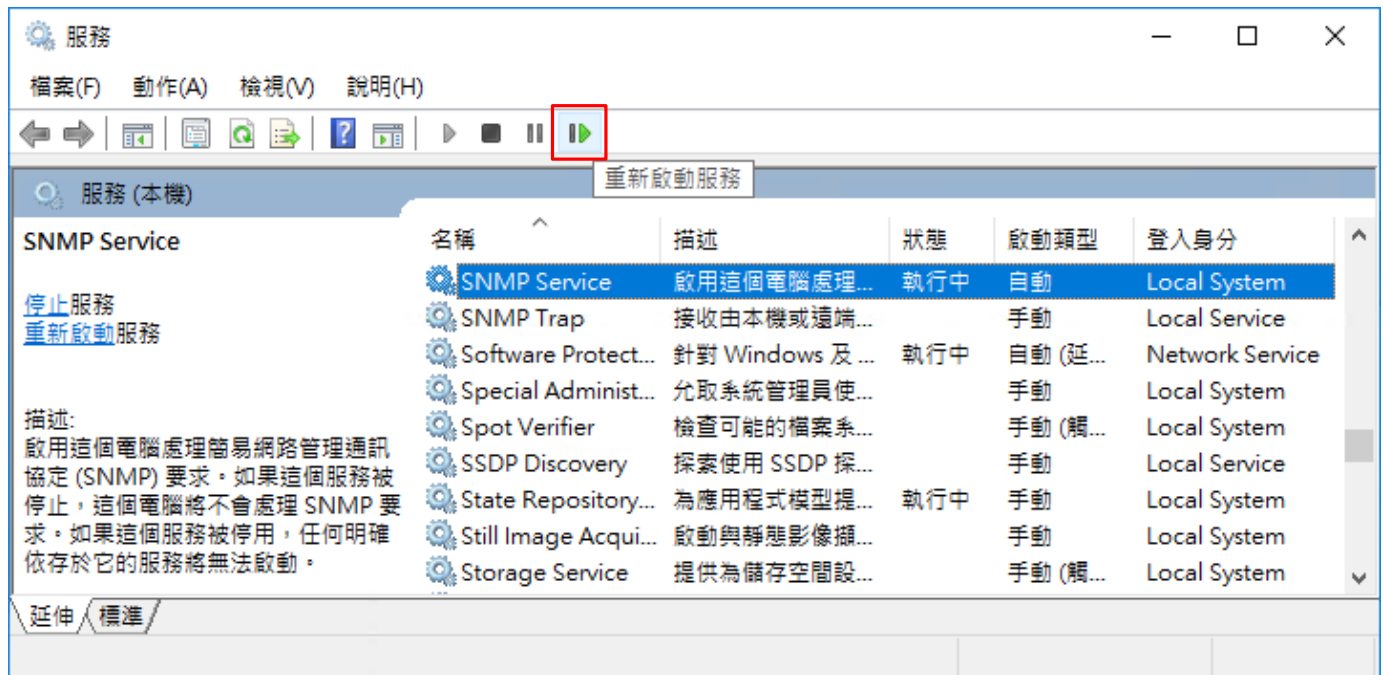




(7) 按 [確定]



(8) 按  重啟 SNMP 服務



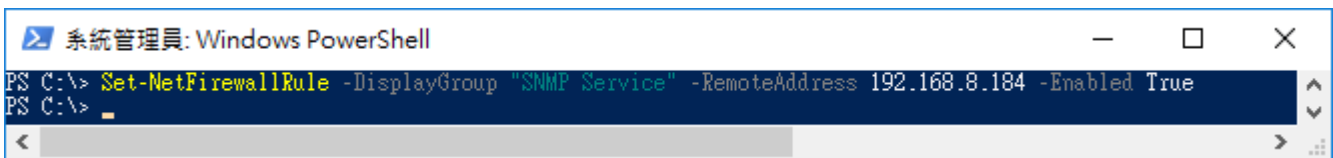
### 1.4.3 設定 Firewall

(1) 開啟 [Windows PowerShell]



(2) 允許 N-Reporter IP 通過防火牆，訪問 SNMP 服務

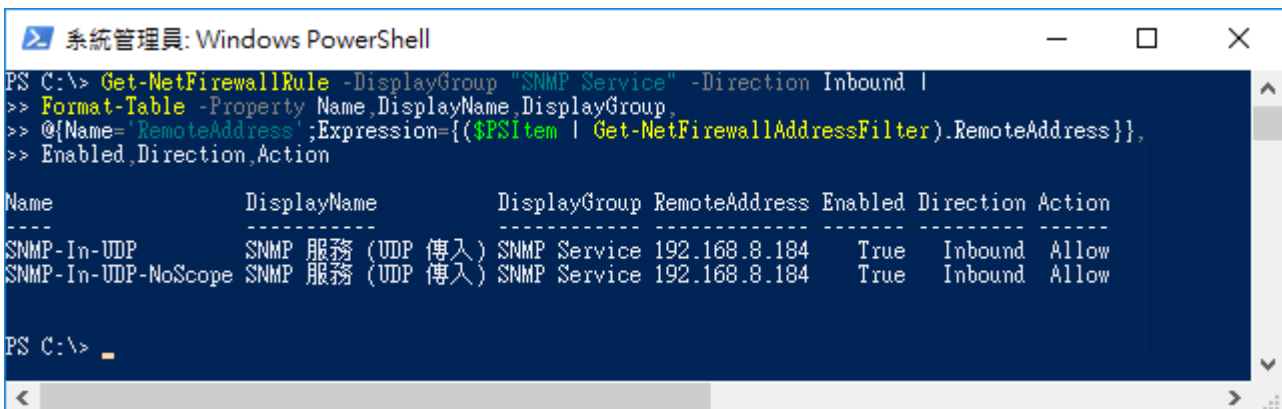
```
C:\> Set-NetFirewallRule -DisplayGroup "SNMP Service" -RemoteAddress 192.168.8.184 -Enabled True
```



紅色文字部位請輸入 N-Reporter 系統 IP address

(3) 查看 SNMP 啟用狀態

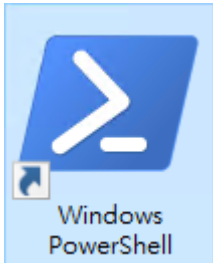
```
C:\> Get-NetFirewallRule -DisplayGroup "SNMP Service" -Direction Inbound |  
>> Format-Table -Property Name,DisplayName,DisplayGroup,  
>> @{Name='RemoteAddress';Expression={($PSItem | Get-NetFirewallAddressFilter).RemoteAddress}},  
>> Enabled,Direction,Action
```



## 1.5 Windows 2019

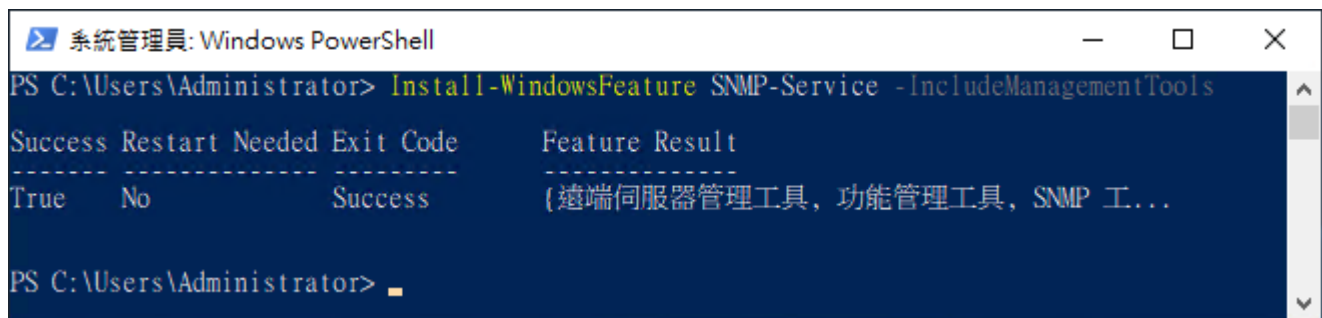
### 1.5.1 安裝 SNMP Service

(1) 開啟 [Windows PowerShell]



(2) 安裝 SNMP service 和管理工具

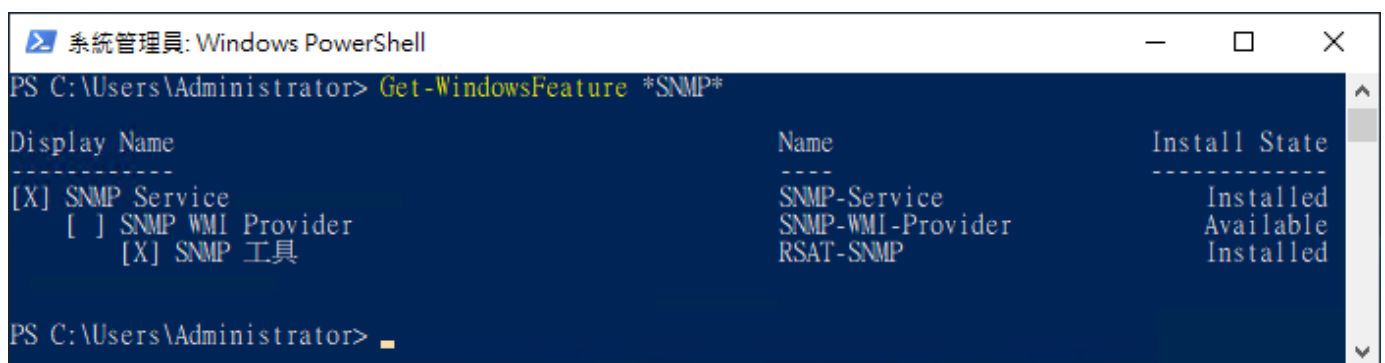
```
PS C:\> Install-WindowsFeature SNMP-Service -IncludeManagementTools
```

A screenshot of a Windows PowerShell terminal window titled "系統管理員: Windows PowerShell". The terminal shows the command `Install-WindowsFeature SNMP-Service -IncludeManagementTools` being executed. The output is a table with columns: Success, Restart Needed, Exit Code, and Feature Result. The output shows that the installation was successful, with no restart needed and an exit code of Success. The feature result is "(遠端伺服器管理工具, 功能管理工具, SNMP 工...".

Success	Restart Needed	Exit Code	Feature Result
True	No	Success	(遠端伺服器管理工具, 功能管理工具, SNMP 工...

(3) 確認 SNMP service 安裝情形

```
PS C:\> Get-WindowsFeature *SNMP*
```

A screenshot of a Windows PowerShell terminal window titled "系統管理員: Windows PowerShell". The terminal shows the command `Get-WindowsFeature *SNMP*` being executed. The output is a table with columns: Display Name, Name, and Install State. The output shows that the SNMP Service is installed, while the SNMP WMI Provider and RSAT-SNMP are available.

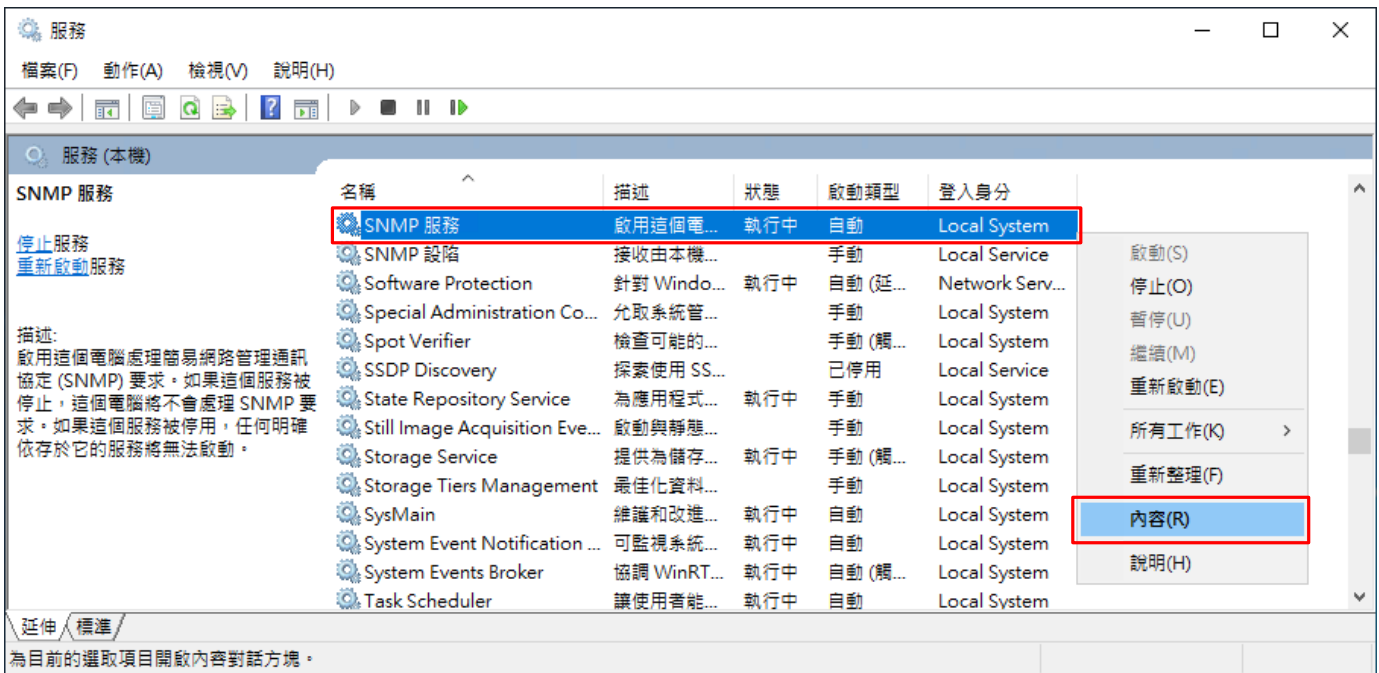
Display Name	Name	Install State
[X] SNMP Service	SNMP-Service	Installed
[ ] SNMP WMI Provider	SNMP-WMI-Provider	Available
[X] SNMP 工具	RSAT-SNMP	Installed

## 1.5.2 設定 SNMP Service

(1) 開啟 [服務]



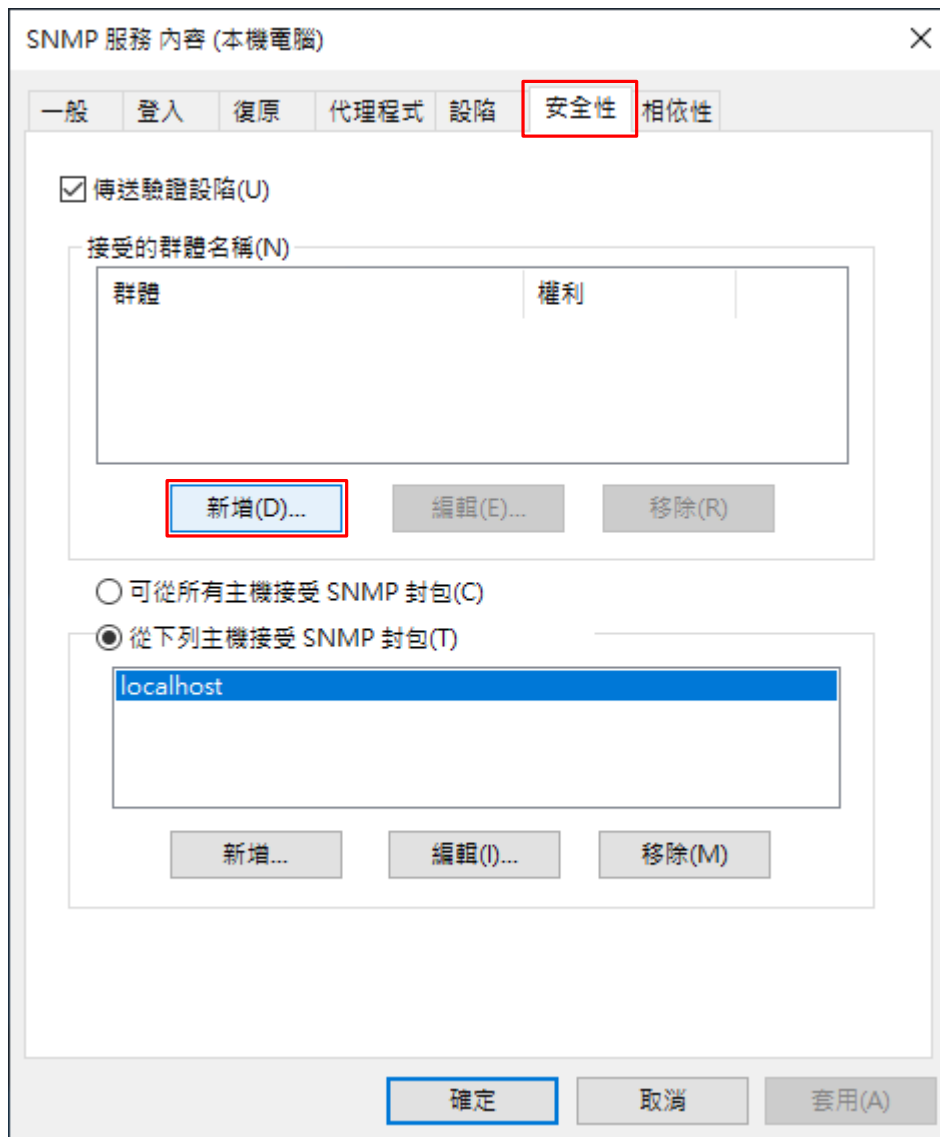
(2) 在 [SNMP Service] 上，確認啟動類型：[自動]，按滑鼠右鍵，點選 [內容]



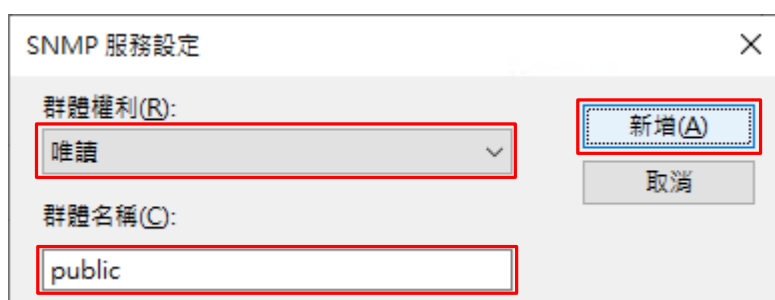
The screenshot shows the Windows Services console window titled "服務". The "SNMP 服務" (SNMP Service) is selected in the list. The context menu is open, and the "內容(R)" (Content) option is highlighted. The table below represents the data visible in the Services console.

名稱	描述	狀態	啟動類型	登入身分
SNMP 服務	啟用這個電...	執行中	自動	Local System
SNMP 設陷	接收由本機...		手動	Local Service
Software Protection	針對 Windo...	執行中	自動 (延...	Network Serv...
Special Administration Co...	允取系統管...		手動	Local System
Spot Verifier	檢查可能的...		手動 (觸...	Local System
SSDP Discovery	探索使用 SS...		已停用	Local Service
State Repository Service	為應用程式...	執行中	手動	Local System
Still Image Acquisition Eve...	啟動與靜態...		手動	Local System
Storage Service	提供為儲存...	執行中	手動 (觸...	Local System
Storage Tiers Management	最佳化資料...		手動	Local System
SysMain	維護和改進...	執行中	自動	Local System
System Event Notification ...	可監視系統...	執行中	自動	Local System
System Events Broker	協調 WinRT...	執行中	自動 (觸...	Local System
Task Scheduler	讓使用者能...	執行中	自動	Local System

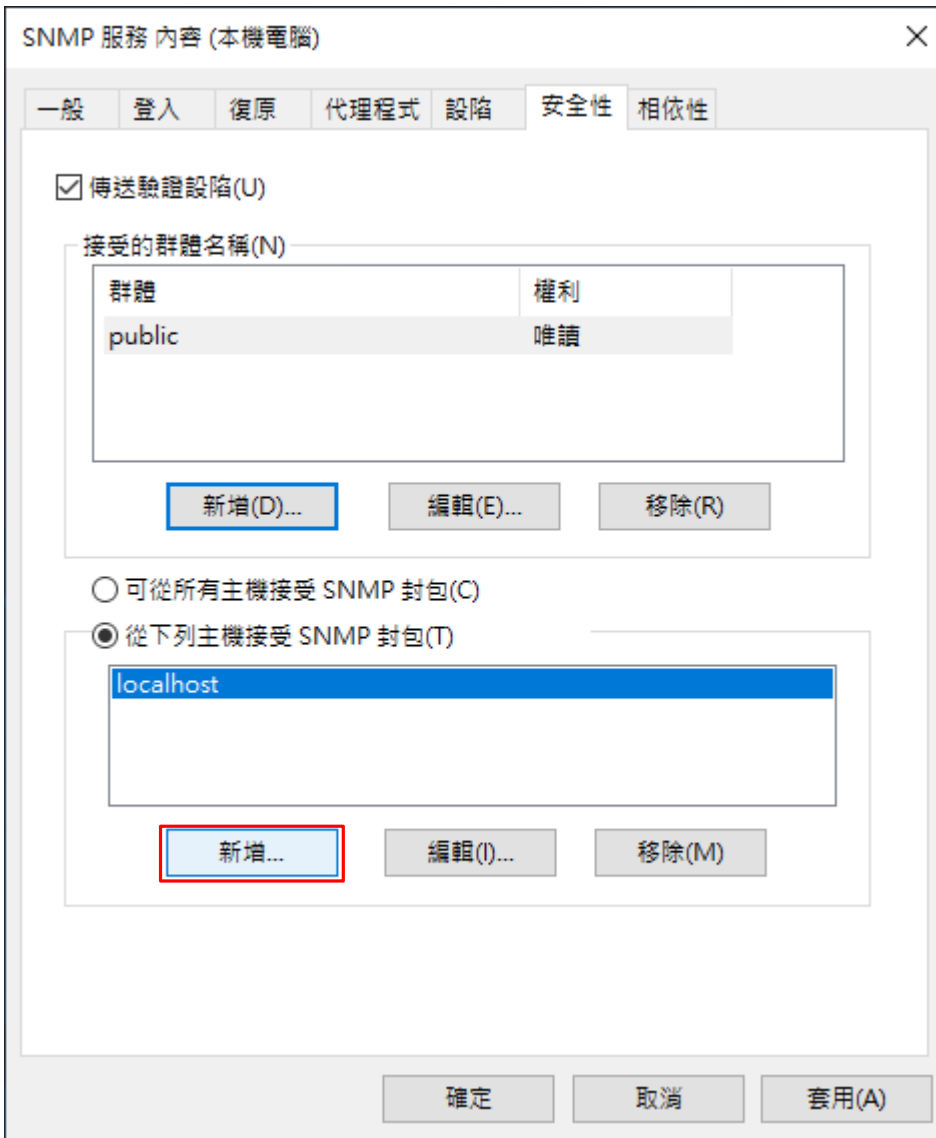
(3) 點選 [安全性] 頁面，按 [新增]



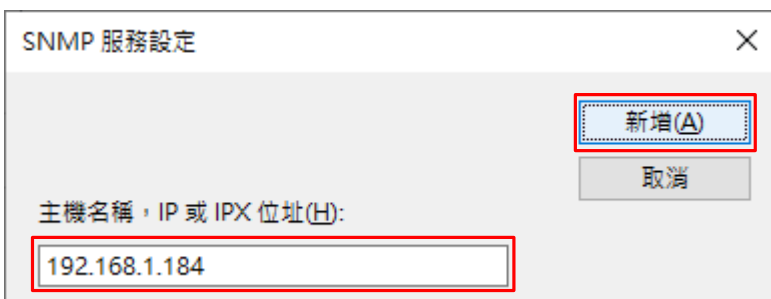
(4) 選擇群體權利：[唯讀]，輸入群體名稱：範例 public -> 按 [新增]



(5) 從下列主機接受 SNMP 封包：點選 [新增]




(6) 輸入主機名稱：N-Reporter IP (範例 192.168.1.184) -> 按 [新增]

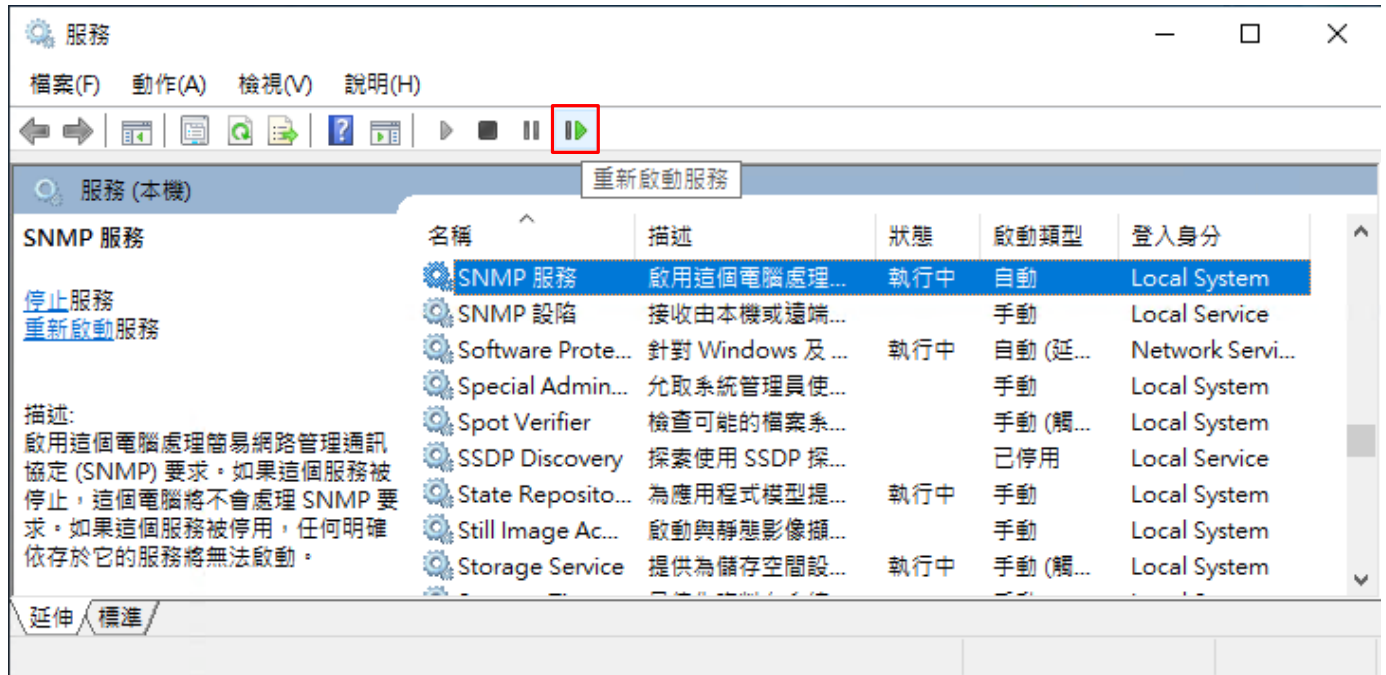


(7) 按 [確定]





(8) 按  重啟 SNMP 服務



### 1.5.3 設定 Firewall

(1) 開啟 [Windows PowerShell]



(2) 允許 N-Reporter IP 通過防火牆，訪問 SNMP 服務

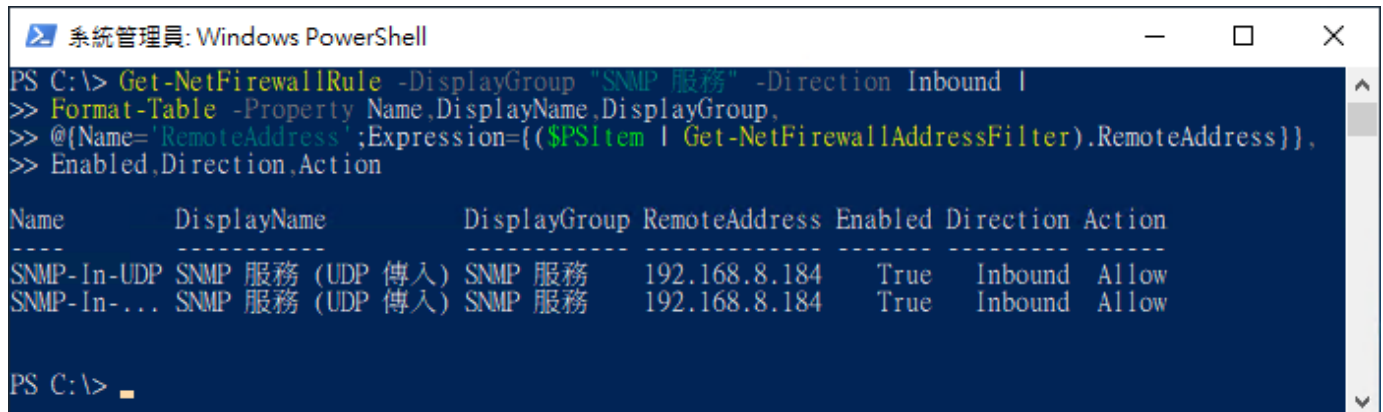
```
C:\> Set-NetFirewallRule -DisplayGroup "SNMP 服務" -RemoteAddress 192.168.8.184 -Enabled True
```



紅色文字部位請輸入 N-Reporter 系統 IP address

(3) 查看 SNMP 啟用狀態

```
C:\> Get-NetFirewallRule -DisplayGroup "SNMP 服務" -Direction Inbound |  
>> Format-Table -Property Name,DisplayName,DisplayGroup,  
>> @{Name='RemoteAddress';Expression={( $PSItem | Get-NetFirewallAddressFilter).RemoteAddress}},  
>> Enabled,Direction,Action
```



## 2. Linux

### 2.1 RedHat

#### 2.1.1 RedHat 6

分為線上安裝和離線安裝

##### 2.1.1.1 線上安裝

(1) 線上安裝 SNMP 服務

```
# yum -y install net-snmp net-snmp-utils
```

```
Installed:
  net-snmp.x86_64 1:5.5-60.el6                                net-snmp-utils.x86_64 1:5.5-60.el6

Dependency Installed:
  lm_sensors-libs.x86_64 0:3.1.1-17.el6                    net-snmp-libs.x86_64 1:5.5-60.el6          perl.x86_64 4:5.10.1-144.el6                perl-Module-Pluggable.x86_64 1:3.90-144.el6
  perl-Pod-Escapes.x86_64 1:1.04-144.el6                   perl-Pod-Simple.x86_64 1:3.13-144.el6       perl-libs.x86_64 4:5.10.1-144.el6           perl-version.x86_64 3:0.77-144.el6

Complete!
[root@RedHat6 ~]#
```

### 2.1.1.2 離線安裝

(1) 新增 rhel-cdrom repository 設定檔

```
# vi /etc/yum.repos.d/rhel-cdrom.repo
```

```
[root@RedHat6 ~]# vi /etc/yum.repos.d/rhel-cdrom.repo
```

(2) rhel-cdrom.repo 設定資料

```
[rhel6-media]
name=RedHat-$releasever - Media
baseurl=file:///media/cdrom/
gpgcheck=1
enabled=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-redhat-release
```

```
[rhel6-media]
name=RedHat-$releasever - Media
baseurl=file:///media/cdrom/
gpgcheck=1
enabled=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-redhat-release
```

(3) 建立資料夾

```
# mkdir -p /media/cdrom
```

```
[root@RedHat6 ~]# mkdir -p /media/cdrom
```

(4) 掛載 RedHat 6 iso 檔或光碟片

```
# mount /dev/cdrom /media/cdrom
```

```
[root@RedHat6 ~]# mount /dev/cdrom /media/cdrom
mount: block device /dev/sr0 is write-protected, mounting read-only
[root@RedHat6 ~]#
```

(5) 離線安裝 SNMP 服務

```
# yum -y install net-snmp net-snmp-utils
```

```
Installed:
  net-snmp.x86_64 1:5.5-60.el6                                net-snmp-utils.x86_64 1:5.5-60.el6

Dependency Installed:
  lm_sensors-libs.x86_64 0:3.1.1-17.el6                      net-snmp-libs.x86_64 1:5.5-60.el6          perl.x86_64 4:5.10.1-144.el6                perl-Module-Pluggable.x86_64 1:3.90-144.el6
  perl-Pod-Escapes.x86_64 1:1.04-144.el6                     perl-Pod-Simple.x86_64 1:3.13-144.el6       perl-libS.x86_64 4:5.10.1-144.el6          perl-version.x86_64 3:0.77-144.el6

Complete!
[root@RedHat6 ~]#
```

### 2.1.1.3 設定 SNMP Server

(1) 備份 snmp 設定檔

```
# cp /etc/snmp/snmpd.conf /etc/snmp/snmpd.conf.bak
```

```
[root@RedHat6 ~]# cp /etc/snmp/snmpd.conf /etc/snmp/snmpd.conf.bak  
[root@RedHat6 ~]#
```

## (2) 建立 snmp 設定檔

```
# cat <<'EOF' > /etc/snmp/snmpd.conf
> #####
> #          SNMP configuration          #
> #####
> # Agent address
> agentaddress      udp:161
> agentaddress      udp6:161
>
> ## Access control
> #          sec.name          source          community
> com2sec          AllowAll          192.168.8.4          public
>
> #group          <group_name>          <security_mode>          <security_name>
> group           AllGroup           v2c                   AllowAll
>
> # Define 'AllView', which includes everything under .1
> #          view.name          incl/excl          subtree.mask(Optional)
> view           AllView           included            .1
>
> #          group.name          context model      level  prefix  read      write  notify
> access        AllGroup          ""                any    noauth  exact    AllView  none   none
>
> ## System contact information
> #syslocation   <location set>
> #syscontact    <contact_info>
> syslocation    Taiwan
> syscontact     N-Partner
>
> ## <<<<<<<<< End of config >>>>>>>>>#
> EOF
```

```
[root@RedHat6 ~]# cat <<'EOF' /etc/snmp/snmpd.conf
> #####
> #          SNMP configuration          #
> #####
> # Agent address
> agentaddress      udp:161
> agentaddress      udp6:161
>
> ## Access control
> #          sec.name          source          community
> com2sec          AllowAll          192.168.8.4          public
>
> #group          <group_name>          <security_mode>          <security_name>
> group           AllGroup           v2c                   AllowAll
>
> # Define 'AllView', which includes everything under .1
> #          view.name          incl/excl          subtree.mask(Optional)
> view           AllView           included            .1
>
> #          group.name          context model      level  prefix  read      write  notify
> access        AllGroup          ""                any    noauth  exact    AllView  none   none
>
> ## System contact information
> #syslocation   <location set>
> #syscontact    <contact_info>
> syslocation    Taiwan
> syscontact     N-Partner
>
> ## <<<<<<<<< End of config >>>>>>>>>#
> EOF
[root@RedHat6 ~]#
```

紅色文字部位請輸入 N-Reporter 系統 IP address 和 community

(3) 啟動 snmp 服務和查看 snmp 服務情形

```
# service snmpd start && service snmpd status
```

```
[root@RedHat6 ~]# service snmpd start && service snmpd status
Starting snmpd: [ OK ]
snmpd (pid 2411) is running...
[root@RedHat6 ~]#
```

(4) 設定開機 snmp 服務自動啟動

```
# chkconfig snmpd on
# chkconfig snmpd --list
```

```
[root@RedHat6 ~]# chkconfig snmpd on
[root@RedHat6 ~]# chkconfig snmpd --list
snmpd          0:off  1:off  2:on   3:on   4:on   5:on   6:off
[root@RedHat6 ~]#
```

(5) 查看 iptables 規則

```
# iptables -nL
```

```
[root@RedHat6 ~]# iptables -nL
Chain INPUT (policy ACCEPT)
target     prot opt source                               destination

Chain FORWARD (policy ACCEPT)
target     prot opt source                               destination

Chain OUTPUT (policy ACCEPT)
target     prot opt source                               destination
[root@RedHat6 ~]#
```

(6) 新增第一條 iptables 規則，允許 N-Reporter IP 通過防火牆，訪問 SNMP 服務

```
# iptables --insert INPUT 1 --source 192.168.8.4 --protocol udp --match state --state NEW,ESTABLISHED --destination-port 161 --jump ACCEPT
```

```
[root@RedHat6 ~]# iptables --insert INPUT 1 --source 192.168.8.4 --protocol udp --match state --state NEW,ESTABLISHED --destination-port 161 --jump ACCEPT
[root@RedHat6 ~]#
```

紅色文字部位請輸入 N-Reporter 系統 IP address

(7) 查看 iptables 規則

```
# iptables -nL --line-numbers
```

```
[root@RedHat6 ~]# iptables -nL --line-numbers
Chain INPUT (policy ACCEPT)
num target      prot opt source                destination           state NEW,ESTABLISHED udp dpt:161
1  ACCEPT        udp  --  192.168.8.4            0.0.0.0/0

Chain FORWARD (policy ACCEPT)
num target      prot opt source                destination

Chain OUTPUT (policy ACCEPT)
num target      prot opt source                destination
[root@RedHat6 ~]#
```

(8) 儲存 iptables 規則

```
# service iptables save
```

```
[root@RedHat6 ~]# service iptables save
iptables: Saving firewall rules to /etc/sysconfig/iptables:[ OK ]
[root@RedHat6 ~]#
```

(9) 查看 iptables 儲存設定

```
# iptables-save
```

```
[root@RedHat6 ~]# iptables-save
# Generated by iptables-save v1.4.7 on Wed Aug  4 08:16:46 2021
*filter
:INPUT ACCEPT [29:2120]
:FORWARD ACCEPT [0:0]
:OUTPUT ACCEPT [22:2448]
-A INPUT -s 192.168.8.4/32 -p udp -m state --state NEW,ESTABLISHED -m udp --dport 161 -j ACCEPT
COMMIT
# Completed on Wed Aug  4 08:16:46 2021
[root@RedHat6 ~]#
```



## 2.1.2 RedHat 7

分為線上安裝和離線安裝

### 2.1.2.1 線上安裝

#### (1) 線上安裝 SNMP 服務

```
# yum -y install net-snmp net-snmp-utils
```

```
Installed:
net-snmp.x86_64 1:5.7.2-37.el7                                net-snmp-utils.x86_64 1:5.7.2-37.el7

Dependency Installed:
lm_sensors-libs.x86_64 0:3.4.0-6.20160601gitf9185e5.el7    net-snmp-agent-libs.x86_64 1:5.7.2-37.el7    net-snmp-libs.x86_64 1:5.7.2-37.el7    perl.x86_64 4:5.16.3-293.el7
perl-Carp.noarch 0:1.26-244.el7                            perl-Data-Dumper.x86_64 0:2.145-3.el7        perl-Encode.x86_64 0:2.51-7.el7        perl-Exporter.noarch 0:5.68-3.el7
perl-File-Path.noarch 0:2.09-2.el7                        perl-File-Temp.noarch 0:0.23.01-3.el7        perl-Filter.x86_64 0:1.49-3.el7        perl-Getopt-Long.noarch 0:2.40-3.el7
perl-HTTP-Tiny.noarch 0:0.033-3.el7                       perl-PathTools.x86_64 0:3.40-5.el7          perl-Pod-Escapes.noarch 1:1.04-293.el7   perl-Pod-Perldoc.noarch 0:3.20-4.el7
perl-Pod-Simple.noarch 1:3.28-4.el7                      perl-Pod-Usage.noarch 0:1.63-3.el7          perl-Scalar-List-Utils.x86_64 0:1.27-248.el7  perl-Pod-Perldoc.noarch 0:3.20-4.el7
perl-Storable.x86_64 0:2.45-3.el7                        perl-Text-ParseWords.noarch 0:3.29-4.el7       perl-Time-HiRes.x86_64 4:1.9725-3.el7    perl-Socket.x86_64 0:2.010-4.el7
perl-constant.noarch 0:1.27-2.el7                       perl-libs.x86_64 4:5.16.3-293.el7          perl-macros.x86_64 4:5.16.3-293.el7    perl-Time-Local.noarch 0:1.2300-2.el7
perl-podlators.noarch 0:2.5.1-3.el7                     perl-threads.x86_64 0:1.87-4.el7            perl-threads-shared.x86_64 0:1.43-6.el7  perl-parent.noarch 1:0.225-244.el7

Complete!
[root@RedHat7 ~]#
```

## 2.1.2.2 離線安裝

### (1) 新增 rhel-cdrom repository 設定檔

```
# vi /etc/yum.repos.d/rhel-cdrom.repo
```

```
[root@RedHat7 ~]# vi /etc/yum.repos.d/rhel-cdrom.repo
```

### (2) rhel-cdrom.repo 設定資料

```
[rhel7-media]
name=RedHat-$releasever - Media
baseurl=file:///media/cdrom/
gpgcheck=1
enabled=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-redhat-release
```

```
[rhel7-media]
name=RedHat-$releasever - Media
baseurl=file:///media/cdrom/
gpgcheck=1
enabled=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-redhat-release
```

### (3) 建立資料夾

```
# mkdir -p /media/cdrom
```

```
[root@RedHat7 ~]# mkdir -p /media/cdrom
[root@RedHat7 ~]#
```

### (4) 掛載 RedHat 7 iso 檔或光碟片

```
# mount /dev/cdrom /media/cdrom
```

```
[root@RedHat7 ~]# mount /dev/cdrom /media/cdrom
mount: /dev/sr0 is write-protected, mounting read-only
[root@RedHat7 ~]#
```

### (5) 離線安裝 SNMP 服務

```
# yum -y install net-snmp net-snmp-utils
```

```
Installed:
  net-snmp.x86_64 1:5.7.2-37.el7                net-snmp-utils.x86_64 1:5.7.2-37.el7

Dependency Installed:
  lm_sensors-libs.x86_64 0:3.4.0-6.20160601gitf9185e5.el7  net-snmp-agent-libs.x86_64 1:5.7.2-37.el7  net-snmp-libs.x86_64 1:5.7.2-37.el7  perl.x86_64 4:5.16.3-293.el7
  perl-Carp.noarch 0:1.26-244.el7  perl-Data-Dumper.x86_64 0:2.145-3.el7  perl-Encode.x86_64 0:2.51-7.el7  perl-Exporter.noarch 0:5.68-3.el7
  perl-File-Path.noarch 0:2.09-2.el7  perl-File-Temp.noarch 0:0.23.01-3.el7  perl-Filter.x86_64 0:1.49-3.el7  perl-Exporter-Long.noarch 0:2.40-3.el7
  perl-HTTP-Tiny.noarch 0:0.033-3.el7  perl-PathTools.x86_64 0:3.40-5.el7  perl-Pod-Escapes.noarch 1:1.04-293.el7  perl-Getopt-Long.noarch 0:3.20-4.el7
  perl-Pod-Simple.noarch 1:3.28-4.el7  perl-Pod-Usage.noarch 0:1.63-3.el7  perl-Scalar-List-Utils.x86_64 0:1.27-248.el7  perl-Pod-Perldoc.noarch 0:3.20-4.el7
  perl-Storable.x86_64 0:2.45-3.el7  perl-Text-ParseWords.noarch 0:3.29-4.el7  perl-Time-HiRes.x86_64 4:1.9725-3.el7  perl-Socket.x86_64 0:2.010-4.el7
  perl-constant.noarch 0:1.27-2.el7  perl-libs.x86_64 4:5.16.3-293.el7  perl-macros.x86_64 4:5.16.3-293.el7  perl-Time-Local.noarch 0:1.2300-2.el7
  perl-podlators.noarch 0:2.5.1-3.el7  perl-threads.x86_64 0:1.87-4.el7  perl-threads-shared.x86_64 0:1.43-6.el7  perl-parent.noarch 1:0.225-244.el7

Complete!
[root@RedHat7 ~]#
```

### 2.1.2.3 設定 SNMP Server

(1) 變更 snmp 設定檔

```
# mv /etc/snmp/snmpd.conf /etc/snmp/snmpd.conf.bak
```

```
[root@RedHat7 ~]# mv /etc/snmp/snmpd.conf /etc/snmp/snmpd.conf.bak  
[root@RedHat7 ~]#
```

(2) 產生 snmpd.conf 檔案

```
# touch /etc/snmp/snmpd.conf
```

```
[root@RedHat7 ~]# touch /etc/snmp/snmpd.conf  
[root@RedHat7 ~]#
```

### (3) 建立 snmp 設定檔

```
# cat <<'EOF' > /etc/snmp/snmpd.conf
> #####
> #          SNMP configuration          #
> #####
> # Agent address
> agentaddress      udp:161
> agentaddress      udp6:161
>
> ## Access control
> #          sec.name          source          community
> com2sec         AllowAll         192.168.8.4         public
>
> #group         <group_name>         <security_mode>         <security_name>
> group          AllGroup          v2c                    AllowAll
>
> # Define 'AllView', which includes everything under .1
> #          view.name          incl/excl          subtree.mask(Optional)
> view          AllView          included             .1
>
> #          group.name          context model      level  prefix  read      write  notify
> access       AllGroup          ""                any    noauth  exact    AllView none   none
>
> ## System contact information
> #syslocation  <location set>
> #syscontact   <contact_info>
> syslocation   Taiwan
> syscontact    N-Partner
>
> ## <<<<<<<<< End of config >>>>>>>>#
> EOF
```

```
[root@RedHat7 ~]# cat <<'EOF' /etc/snmp/snmpd.conf
> #####
> #          SNMP configuration          #
> #####
> # Agent address
> agentaddress      udp:161
> agentaddress      udp6:161
>
> ## Access control
> #          sec.name          source          community
> com2sec         AllowAll         192.168.8.4         public
>
> #group         <group_name>         <security_mode>         <security_name>
> group          AllGroup          v2c                    AllowAll
>
> # Define 'AllView', which includes everything under .1
> #          view.name          incl/excl          subtree.mask(Optional)
> view          AllView          included             .1
>
> #          group.name          context model      level  prefix  read      write  notify
> access       AllGroup          ""                any    noauth  exact    AllView none   none
>
> ## System contact information
> #syslocation  <location set>
> #syscontact   <contact_info>
> syslocation   Taiwan
> syscontact    N-Partner
>
> ## <<<<<<<<< End of config >>>>>>>>#
> EOF
[root@RedHat7 ~]#
```

紅色文字部位請輸入 N-Reporter 系統 IP address 和 community

#### (4) 啟動 snmp 服務和查看 snmp 服務情形

```
# systemctl start snmpd.service && systemctl status snmpd.service
```

```
[root@RedHat7 snmp]# systemctl start snmpd.service && systemctl status snmpd.service
● snmpd.service - Simple Network Management Protocol (SNMP) Daemon.
   Loaded: loaded (/usr/lib/systemd/system/snmpd.service; enabled; vendor preset: disabled)
   Active: active (running) since Wed 2021-08-04 16:52:54 CST; 6ms ago
     Main PID: 16096 (snmpd)
    CGroup: /system.slice/snmpd.service
            └─16096 /usr/sbin/snmpd -LS0-6d -f

Aug 04 16:52:54 RedHat7.localdomain systemd[1]: Starting Simple Network Management Protocol (SNMP) Daemon...
Aug 04 16:52:54 RedHat7.localdomain snmpd[16096]: NET-SNMP version 5.7.2
Aug 04 16:52:54 RedHat7.localdomain systemd[1]: Started Simple Network Management Protocol (SNMP) Daemon..
[root@RedHat7 snmp]#
```

#### (5) 設定開機 snmp 服務自動啟動

```
# systemctl enable snmpd.service
```

```
[root@RedHat7 ~]# systemctl enable snmpd.service
Created symlink from /etc/systemd/system/multi-user.target.wants/snmpd.service to /usr/lib/systemd/system/snmpd.service.
[root@RedHat7 ~]#
```

#### (6) 查看 firewall 規則

```
# firewall-cmd --list-all
```

```
[root@RedHat7 ~]# firewall-cmd --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: ens192
  sources:
  services: ssh dhcpv6-client
  ports:
  protocols:
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:

[root@RedHat7 ~]#
```

#### (7) 新增 firewall 規則

```
# firewall-cmd --permanent --add-rich-rule='rule family="ipv4" source address="192.168.8.4" service name="snmp" accept'
```

```
[root@RedHat7 ~]# firewall-cmd --permanent --add-rich-rule='rule family="ipv4" source address="192.168.8.4" service name="snmp" accept'
success
[root@RedHat7 ~]#
```

紅色文字部位請輸入 N-Reporter 系統 IP address

(8) 重讀 firewall 設定檔

```
# firewall-cmd --reload
```

```
[root@RedHat7 ~]# firewall-cmd --reload  
success  
[root@RedHat7 ~]#
```

(9) 查看 firewall 規則

```
# firewall-cmd --list-all
```

```
[root@RedHat7 ~]# firewall-cmd --list-all  
public (active)  
  target: default  
  icmp-block-inversion: no  
  interfaces: ens192  
  sources:  
  services: ssh dhcpv6-client  
  ports:  
  protocols:  
  masquerade: no  
  forward-ports:  
  source-ports:  
  icmp-blocks:  
  rich rules:  
    rule family="ipv4" source address="192.168.8.4" service name="snmp" accept  
[root@RedHat7 ~]#
```

## 2.2 CentOS

### 2.2.1 CentOS 6

分為線上安裝和離線安裝

#### 2.2.1.1 線上安裝

(1) 線上安裝 SNMP 服務

```
# yum -y install net-snmp net-snmp-utils
```

```
Installed:
  net-snmp.x86_64 1:5.5-60.el6_10.2                net-snmp-utils.x86_64 1:5.5-60.el6_10.2

Dependency Installed:
  lm_sensors-libs.x86_64 0:3.1.1-17.el6            net-snmp-libs.x86_64 1:5.5-60.el6_10.2        perl.x86_64 4:5.10.1-144.el6                perl-Module-Pluggable.x86_64 1:3.90-144.el6
  perl-Pod-Escapes.x86_64 1:1.04-144.el6           perl-Pod-Simple.x86_64 1:3.13-144.el6            perl-libs.x86_64 4:5.10.1-144.el6           perl-version.x86_64 3:0.77-144.el6

Complete!
[root@CentOS6 ~]#
```



## 2.2.1.2 離線安裝

(1) 下載 net-snmp 和 net-snmp-utils 相依套件

```
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/6.10/os/x86_64/Packages/net-snmp-5.5-60.el6.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/6.10/os/x86_64/Packages/net-snmp-utils-5.5-60.el6.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/6.10/os/x86_64/Packages/net-snmp-libs-5.5-60.el6.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/6.10/os/x86_64/Packages/lm_sensors-libs-3.1.1-17.el6.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/6.10/os/x86_64/Packages/perl-5.10.1-144.el6.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/6.10/os/x86_64/Packages/perl-Module-Pluggable-3.90-144.el6.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/6.10/os/x86_64/Packages/perl-Pod-Escapes-1.04-144.el6.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/6.10/os/x86_64/Packages/perl-Pod-Simple-3.13-144.el6.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/6.10/os/x86_64/Packages/perl-libs-5.10.1-144.el6.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/6.10/os/x86_64/Packages/perl-version-0.77-144.el6.x86_64.rpm
```

```
[root@CentOS6 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/6.10/os/x86_64/Packages/net-snmp-5.5-60.el6.x86_64.rpm
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left   Speed
100 308k  100 308k    0     0  1722k      0 --:--:-- --:--:-- --:--:-- 2756k
[root@CentOS6 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/6.10/os/x86_64/Packages/net-snmp-utils-5.5-60.el6.x86_64.rpm
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left   Speed
100 177k  100 177k    0     0  1490k      0 --:--:-- --:--:-- --:--:-- 1624k
[root@CentOS6 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/6.10/os/x86_64/Packages/net-snmp-libs-5.5-60.el6.x86_64.rpm
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left   Speed
100 1586k  100 1586k    0     0  920k      0 0:00:01 0:00:01 --:--:-- 925k
[root@CentOS6 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/6.10/os/x86_64/Packages/lm_sensors-libs-3.1.1-17.el6.x86_64.rpm
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left   Speed
100 38768  100 38768    0     0  627k      0 --:--:-- --:--:-- --:--:-- 728k
[root@CentOS6 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/6.10/os/x86_64/Packages/perl-5.10.1-144.el6.x86_64.rpm
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left   Speed
100 10.1M  100 10.1M    0     0  707k      0 0:00:14 0:00:14 --:--:-- 750k
[root@CentOS6 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/6.10/os/x86_64/Packages/perl-Module-Pluggable-3.90-144.el6.x86_64.rpm
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left   Speed
100 41680  100 41680    0     0  1172k      0 --:--:-- --:--:-- --:--:-- 1403k
[root@CentOS6 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/6.10/os/x86_64/Packages/perl-Pod-Escapes-1.04-144.el6.x86_64.rpm
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left   Speed
100 34028  100 34028    0     0  479k      0 --:--:~ --:~:~ --:~:~ 1186k
[root@CentOS6 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/6.10/os/x86_64/Packages/perl-Pod-Simple-3.13-144.el6.x86_64.rpm
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left   Speed
100 212k  100 212k    0     0  1541k      0 --:~:~ --:~:~ --:~:~ 1612k
[root@CentOS6 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/6.10/os/x86_64/Packages/perl-libs-5.10.1-144.el6.x86_64.rpm
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left   Speed
100 578k  100 578k    0     0  2878k      0 --:~:~ --:~:~ --:~:~ 2999k
[root@CentOS6 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/6.10/os/x86_64/Packages/perl-version-0.77-144.el6.x86_64.rpm
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left   Speed
100 53400  100 53400    0     0  1361k      0 --:~:~ --:~:~ --:~:~ 1629k
[root@CentOS6 ~]#
```



(2) 本地安装 net-snmp 和 net-snmp-utils 相依套件

```
# rpm -ivh *.rpm
[root@CentOS6 ~]# rpm -ivh *.rpm
warning: lm_sensors-libs-3.1.1-17.el6.x86_64.rpm: Header V3 RSA/SHA1 Signature, key ID c105b9de: NOKEY
Preparing... ##### [100%]
 1:perl-Pod-Escapes ##### [ 10%]
 2:perl-libs ##### [ 20%]
 3:perl-Module-Pluggable ##### [ 30%]
 4:perl-Pod-Simple ##### [ 40%]
 5:perl-version ##### [ 50%]
 6:perl ##### [ 60%]
 7:lm_sensors-libs ##### [ 70%]
 8:net-snmp-libs ##### [ 80%]
 9:net-snmp ##### [ 90%]
10:net-snmp-utils ##### [100%]
[root@CentOS6 ~]#
```

### 2.2.1.3 設定 SNMP Server

(1) 備份 snmp 設定檔

```
# cp /etc/snmp/snmpd.conf /etc/snmp/snmpd.conf.bak
```

```
[root@CentOS6 ~]# cp /etc/snmp/snmpd.conf /etc/snmp/snmpd.conf.bak
```

## (2) 建立 snmp 設定檔

```
# cat <<'EOF' > /etc/snmp/snmpd.conf
> #####
> #          SNMP configuration          #
> #####
> # Agent address
> agentaddress      udp:161
> agentaddress      udp6:161
>
> ## Access control
> #          sec.name          source          community
> com2sec          AllowAll          192.168.8.184          public
>
> #group          <group_name>          <security_mode>          <security_name>
> group           AllGroup           v2c                     AllowAll
>
> # Define 'AllView', which includes everything under .1
> #          view.name          incl/excl          subtree.mask(Optional)
> view           AllView           included              .1
>
> #          group.name          context model          level prefix read write notify
> access         AllGroup          "" any noauth exact AllView none none
>
> ## System contact information
> #syslocation    <location set>
> #syscontact     <contact_info>
> syslocation     Taiwan
> syscontact      N-Partner
>
> ## <<<<<<<<< End of config >>>>>>>>#
> EOF
```

```
[root@CentOS6 ~]# cat <<'EOF' /etc/snmp/snmpd.conf
> #####
> #          SNMP configuration          #
> #####
> # Agent address
> agentaddress      udp:161
> agentaddress      udp6:161
>
> ## Access control
> #          sec.name          source          community
> com2sec          AllowAll          192.168.8.184          public
>
> #group          <group_name>          <security_mode>          <security_name>
> group           AllGroup           v2c                     AllowAll
>
> # Define 'AllView', which includes everything under .1
> #          view.name          incl/excl          subtree.mask(Optional)
> view           AllView           included              .1
>
> #          group.name          context model          level prefix read write notify
> access         AllGroup          "" any noauth exact AllView none none
>
> ## System contact information
> #syslocation    <location set>
> #syscontact     <contact_info>
> syslocation     Taiwan
> syscontact      N-Partner
>
> ## <<<<<<<<< End of config >>>>>>>>#
> EOF
[root@CentOS6 ~]#
```

紅色文字部位請輸入 N-Reporter 系統 IP address 和 community

(3) 啟動 snmp 服務和查看 snmp 服務情形

```
# service snmpd restart && service snmpd status
```

```
[root@CentOS6 ~]# service snmpd restart && service snmpd status
Stopping snmpd: [ OK ]
Starting snmpd: [ OK ]
snmpd (pid 1557) is running...
[root@CentOS6 ~]#
```

(4) 設定開機 snmp 服務自動啟動

```
# chkconfig snmpd on
```

```
# chkconfig snmpd --list
```

```
[root@CentOS6 ~]# chkconfig snmpd on
[root@CentOS6 ~]# chkconfig snmpd --list
snmpd          0:off   1:off   2:on    3:on    4:on    5:on    6:off
[root@CentOS6 ~]#
```

(5) 查看 iptables 規則

```
# iptables -nL
```

```
[root@CentOS6 ~]# iptables -nL
Chain INPUT (policy DROP)
target     prot opt source                destination           tcp dpt:22
ACCEPT     tcp  --  0.0.0.0/0             0.0.0.0/0

Chain FORWARD (policy DROP)
target     prot opt source                destination

Chain OUTPUT (policy ACCEPT)
target     prot opt source                destination
ACCEPT     all  --  0.0.0.0/0             0.0.0.0/0
```

(6) 新增第一條 iptables 規則，允許 N-Reporter IP 通過防火牆，訪問 SNMP 服務

```
# iptables --insert INPUT 1 --source 192.168.8.184 --protocol udp --match state --state NEW,ESTABLISHED --destination-port 161 --jump ACCEPT
```

```
[root@CentOS6 ~]# iptables --insert INPUT 1 --source 192.168.8.184 --protocol udp --match state --state NEW,ESTABLISHED --destination-port 161 --jump ACCEPT
```

紅色文字部位請輸入 N-Reporter 系統 IP address

(7) 查看 iptables 規則

```
# iptables -nL --line-numbers
```

```
[root@CentOS6 ~]# iptables -nL --line-numbers
Chain INPUT (policy DROP)
num target     prot opt source                destination           state NEW,ESTABLISHED udp dpt:161
1  ACCEPT     udp  --  192.168.8.184         0.0.0.0/0
2  ACCEPT     tcp  --  0.0.0.0/0             0.0.0.0/0           tcp dpt:22

Chain FORWARD (policy DROP)
num target     prot opt source                destination

Chain OUTPUT (policy ACCEPT)
num target     prot opt source                destination
1  ACCEPT     all  --  0.0.0.0/0             0.0.0.0/0
```

(8) 儲存 iptables 規則

```
# service iptables save
```

```
[root@CentOS6 ~]# service iptables save
iptables: Saving firewall rules to /etc/sysconfig/iptables:[ OK ]
```

(9) 查看 iptables 儲存設定

```
# iptables-save
```

```
[root@CentOS6 ~]# iptables-save
# Generated by iptables-save v1.4.7 on Thu Dec 24 03:17:09 2020
*filter
:INPUT DROP [2:144]
:FORWARD ACCEPT [0:0]
:OUTPUT ACCEPT [23:3668]
-A INPUT -s 192.168.8.184/32 -p udp -m state --state NEW,ESTABLISHED -m udp --dport 161 -j ACCEPT
-A INPUT -p tcp -m tcp --dport 22 -j ACCEPT
-A OUTPUT -o lo -j ACCEPT
COMMIT
# Completed on Thu Dec 24 03:17:09 2020
```

## 2.2.3 CentOS 7

分為線上安裝和離線安裝

### 2.2.3.1 線上安裝

#### (1) 線上安裝 SNMP 服務

```
# yum -y install net-snmp net-snmp-utils
```

```
Installed:
net-snmp.x86_64 1:5.7.2-49.el7_9.1                net-snmp-utils.x86_64 1:5.7.2-49.el7_9.1

Dependency Installed:
lm_sensors-libs.x86_64 0:3.4.0-8.20160601gitf9185e5.el7  net-snmp-agent-libs.x86_64 1:5.7.2-49.el7_9.1  net-snmp-libs.x86_64 1:5.7.2-49.el7_9.1  perl.x86_64 4:5.16.3-299.el7_9
perl-Carp.noarch 0:1.26-244.el7  perl-Data-Dumper.x86_64 0:2.145-3.el7  perl-Encode.x86_64 0:2.51-7.el7  perl-Exporter.noarch 0:5.68-3.el7
perl-File-Path.noarch 0:2.09-2.el7  perl-File-Temp.noarch 0:0.23.01-3.el7  perl-Filter.x86_64 0:1.49-3.el7  perl-Getopt-Long.noarch 0:2.40-3.el7
perl-HTTP-Tiny.noarch 0:0.093-3.el7  perl-PathTools.x86_64 0:3.40-5.el7  perl-Pod-Escapes.noarch 1:1.04-299.el7_9  perl-Pod-Perldoc.noarch 0:3.20-4.el7
perl-Pod-Simple.noarch 1:3.28-4.el7  perl-Pod-Usage.noarch 0:1.63-3.el7  perl-Scalar-List-Utils.x86_64 0:1.27-248.el7  perl-Socket.x86_64 0:2.010-5.el7
perl-Storable.x86_64 0:2.45-3.el7  perl-Text-ParseWords.noarch 0:3.29-4.el7  perl-Time-HiRes.x86_64 4:1.9725-3.el7  perl-Time-Local.noarch 0:1.2300-2.el7
perl-constant.noarch 0:1.27-2.el7  perl-libs.x86_64 4:5.16.3-299.el7_9  perl-macros.x86_64 4:5.16.3-299.el7_9  perl-parent.noarch 1:0.225-244.el7
perl-podlators.noarch 0:2.5.1-3.el7  perl-threads.x86_64 0:1.87-4.el7  perl-threads-shared.x86_64 0:1.43-6.el7

Complete!
[root@CentOS7 ~]#
```

## 2.2.3.2 離線安裝

### (1) 下載 net-snmp 和 net-snmp-utils 相依套件

```
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/net-snmp-5.7.2-43.el7.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/net-snmp-utils-5.7.2-43.el7.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/net-snmp-libs-5.7.2-43.el7.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/net-snmp-agent-libs-5.7.2-43.el7.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/lm_sensors-libs-3.4.0-8.20160601.gittf9185e5.el7.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-5.16.3-294.el7_6.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Carp-1.26-244.el7.noarch.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Data-Dumper-2.145-3.el7.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Encode-2.51-7.el7.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Exporter-5.68-3.el7.noarch.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-File-Path-2.09-2.el7.noarch.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-File-Temp-0.23.01-3.el7.noarch.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Filter-1.49-3.el7.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Getopt-Long-2.40-3.el7.noarch.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-HTTP-Tiny-0.033-3.el7.noarch.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-PathTools-3.40-5.el7.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Pod-Escapes-1.04-294.el7_6.noarch.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Pod-Perldoc-3.20-4.el7.noarch.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Pod-Simple-3.28-4.el7.noarch.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Pod-Usage-1.63-3.el7.noarch.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Scalar-List-Utils-1.27-248.el7.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Socket-2.010-4.el7.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Storable-2.45-3.el7.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Text-ParseWords-3.29-4.el7.noarch.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Time-HiRes-1.9725-3.el7.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Time-Local-1.2300-2.el7.noarch.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-constant-1.27-2.el7.noarch.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-libs-5.16.3-294.el7_6.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-macros-5.16.3-294.el7_6.x86_64.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-parent-0.225-244.el7.noarch.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-podlators-2.5.1-3.el7.noarch.rpm
# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-threads-1.87-4.el7.x86_64.rpm
curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-threads-shared-1.43-6.el7.x86_64.rpm
```



```
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/net-snmp-5.7.2-43.el7.x86_64.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 331k 100 331k 0 0 2156k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/net-snmp-utils-5.7.2-43.el7.x86_64.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 199k 100 199k 0 0 2592k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/net-snmp-libs-5.7.2-43.el7.x86_64.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 749k 100 749k 0 0 914k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/net-snmp-agent-libs-5.7.2-43.el7.x86_64.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 706k 100 706k 0 0 875k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/lm_sensors-libs-3.4.0-8.0-20160601gitf9185e5.el7.x86_64.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 4278k 100 4278k 0 0 1313k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-5.16.3-294.el7_6.x86_64.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 8162k 100 8162k 0 0 729k 0 0:00:11 0:00:11 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Carp-1.26-244.el7.noarch.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 19672 100 19672 0 0 181k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Data-Dumper-2.145-3.el7.x86_64.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 48296 100 48296 0 0 789k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Encode-2.51-7.el7.x86_64.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 1509k 100 1509k 0 0 1036k 0 0:00:01 0:00:01 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Exporter-5.68-3.el7.noarch.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 29092 100 29092 0 0 354k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-File-Path-2.09-2.el7.noarch.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 27088 100 27088 0 0 190k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-File-Temp-0.23-01-3.el7.noarch.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 57680 100 57680 0 0 1187k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Filter-1.49-3.el7.x86_64.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 78236 100 78236 0 0 1083k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Getopt-Long-2.40-3.el7.noarch.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 57176 100 57176 0 0 1329k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-HTTP-Tiny-0.833-3.el7.noarch.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 39292 100 39292 0 0 297k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-PathTools-3.40-5.el7.x86_64.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 84468 100 84468 0 0 1717k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Pod-Escapes-1.04-294.el7_6.noarch.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 52516 100 52516 0 0 735k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Pod-Perldoc-3.20-4.el7.noarch.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 89756 100 89756 0 0 1143k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Pod-Simple-3.28-4.el7.noarch.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 216k 100 216k 0 0 1926k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Pod-Usage-1.63-3.el7.noarch.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 27436 100 27436 0 0 379k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Scalar-List-Utils-1.27-248.el7.x86_64.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 36888 100 36888 0 0 737k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Socket-2.010-4.el7.x86_64.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 49812 100 49812 0 0 440k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Storable-2.45-3.el7.x86_64.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 78888 100 78888 0 0 869k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Text-ParseWords-3.29-4.el7.noarch.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 14056 100 14056 0 0 226k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Time-HiRes-1.9725-3.el7.x86_64.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 46304 100 46304 0 0 720k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-Time-Local-1.2300-2.el7.noarch.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 24792 100 24792 0 0 593k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-constant-1.27-2.el7.noarch.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 19244 100 19244 0 0 299k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-libs-5.16.3-294.el7_6.x86_64.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 608k 100 608k 0 0 852k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-macros-5.16.3-294.el7_6.x86_64.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 44780 100 44780 0 0 1139k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-parent-0.225-244.el7.noarch.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 12592 100 12592 0 0 392k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-podlators-2.5.1-3.el7.noarch.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 111k 100 111k 0 0 1022k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-threads-1.87-4.el7.x86_64.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 50392 100 50392 0 0 616k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]# curl -O http://ftp.tku.edu.tw/Linux/CentOS/7.7.1908/os/x86_64/Packages/perl-threads-shared-1.43-6.el7.x86_64.rpm
% Total % Received % Xferd Average Speed Time Time Current
Dload Upload Total Spent Left Speed
100 39868 100 39868 0 0 751k 0 0 0 0 0 0 0 0 0 0 0
root@Cent057 ~]#
```



## (2) 本地安装 net-snmp 和 net-snmp-utils 相依套件

```
# yum -y localinstall *.rpm
```

```
Installed:
lm_sensors-libs.x86_64 0:3.4.0-8.20160601gitf9185e5.el7  net-snmp.x86_64 1:5.7.2-43.el7  net-snmp-agent-libs.x86_64 1:5.7.2-43.el7  net-snmp-libs.x86_64 1:5.7.2-43.el7
net-snmp-utils.x86_64 1:5.7.2-43.el7  perl.x86_64 4:5.16.3-294.el7_6  perl-Carp.noarch 0:1.26-244.el7  perl-Data-Dumper.x86_64 0:2.145-3.el7
perl-Encode.x86_64 0:2.51-7.el7  perl-Exporter.noarch 0:5.68-3.el7  perl-File-Path.noarch 0:2.09-2.el7  perl-File-Temp.noarch 0:0.23.01-3.el7
perl-Filter.x86_64 0:1.49-3.el7  perl-Getopt-Long.noarch 0:2.49-3.el7  perl-HTTP-Tiny.noarch 0:0.033-3.el7  perl-PathTools.x86_64 0:3.40-5.el7
perl-Pod-Escapes.noarch 1:1.04-294.el7_6  perl-Getopt-Long.noarch 0:2.49-3.el7  perl-Pod-Simple.noarch 1:3.28-4.el7  perl-PathTools.x86_64 0:3.40-5.el7
perl-Pod-Escapes.noarch 1:1.04-294.el7_6  perl-Pod-Perldoc.noarch 0:3.20-4.el7  perl-Storable.x86_64 0:2.45-3.el7  perl-Text-ParseWords.noarch 0:3.29-4.el7
perl-Scalar-List-Utils.x86_64 0:1.27-248.el7  perl-Pod-Perldoc.noarch 0:3.20-4.el7  perl-constant.noarch 0:1.27-2.el7  perl-Time-Local.noarch 0:1.2300-2.el7
perl-Time-HiRes.x86_64 4:1.9725-3.el7  perl-Socket.x86_64 0:2.010-4.el7  perl-parent.noarch 1:0.225-244.el7  perl-podlators.noarch 0:2.5.1-3.el7
perl-Time-HiRes.x86_64 4:1.9725-3.el7  perl-threads-shared.x86_64 0:1.43-6.el7  perl-threads.x86_64 0:1.07-4.el7

Complete!
[root@CentOS7 ~]#
```

### 2.2.3.3 設定 SNMP Server

(1) 備份 snmp 設定檔

```
# cp /etc/snmp/snmpd.conf /etc/snmp/snmpd.conf.bak
```

```
[root@CentOS7 ~]# cp /etc/snmp/snmpd.conf /etc/snmp/snmpd.conf.bak
```

## (2) 建立 snmp 設定檔

```
# cat <<'EOF' > /etc/snmp/snmpd.conf
> #####
> #          SNMP configuration          #
> #####
> # Agent address
> agentaddress      udp:161
> agentaddress      udp6:161
>
> ## Access control
> #          sec.name          source          community
> com2sec         AllowAll         192.168.8.184         public
>
> #group         <group_name>         <security_mode>         <security_name>
> group          AllGroup          v2c          AllowAll
>
> # Define 'AllView', which includes everything under .1
> #          view.name          incl/excl          subtree.mask(Optional)
> view          AllView          included          .1
>
> #          group.name          context model          level          prefix          read          write          notify
> access        AllGroup          ""          any          noauth          exact          AllView          none          none
>
> ## System contact information
> #syslocation   <location set>
> #syscontact    <contact_info>
> syslocation    Taiwan
> syscontact     N-Partner
>
> ## <<<<<<<<< End of config >>>>>>>>#
> EOF
[root@centos7 ~]# cat <<'EOF' /etc/snmp/snmpd.conf
> #####
> #          SNMP configuration          #
> #####
> # Agent address
> agentaddress      udp:161
> agentaddress      udp6:161
>
> ## Access control
> #          sec.name          source          community
> com2sec         AllowAll         192.168.8.184         public
>
> #group         <group_name>         <security_mode>         <security_name>
> group          AllGroup          v2c          AllowAll
>
> # Define 'AllView', which includes everything under .1
> #          view.name          incl/excl          subtree.mask(Optional)
> view          AllView          included          .1
>
> #          group.name          context model          level          prefix          read          write          notify
> access        AllGroup          ""          any          noauth          exact          AllView          none          none
>
> ## System contact information
> #syslocation   <location set>
> #syscontact    <contact_info>
> syslocation    Taiwan
> syscontact     N-Partner
>
> ## <<<<<<<<< End of config >>>>>>>>#
> EOF
[root@centos7 ~]#
```

紅色文字部位請輸入 N-Reporter 系統 IP address 和 community

### (3) 啟動 snmp 服務和查看 snmp 服務情形

```
# systemctl restart snmpd.service && systemctl status snmpd.service
```

```
[root@CentOS7 ~]# systemctl restart snmpd.service && systemctl status snmpd.service
● snmpd.service - Simple Network Management Protocol (SNMP) Daemon.
   Loaded: loaded (/usr/lib/systemd/system/snmpd.service; disabled; vendor preset: disabled)
   Active: active (running) since Wed 2019-12-18 15:27:16 CST; 6ms ago
     Main PID: 9411 (snmpd)
    CGroup: /system.slice/snmpd.service
            └─9411 /usr/sbin/snmpd -LS0-6d -f

Dec 18 15:27:16 CentOS7.npartner.local systemd[1]: Starting Simple Network Management Protocol (SNMP) Daemon...
Dec 18 15:27:16 CentOS7.npartner.local snmpd[9411]: NET-SNMP version 5.7.2
Dec 18 15:27:16 CentOS7.npartner.local systemd[1]: Started Simple Network Management Protocol (SNMP) Daemon..
[root@CentOS7 ~]#
```

### (4) 設定開機 snmp 服務自動啟動

```
# systemctl enable snmpd.service
```

```
[root@CentOS7 ~]# systemctl enable snmpd.service
Created symlink from /etc/systemd/system/multi-user.target.wants/snmpd.service to /usr/lib/systemd/system/snmpd.service.
[root@CentOS7 ~]#
```

### (5) 查看 firewall 規則

```
# firewall-cmd --list-all
```

```
[root@centos7 ~]# firewall-cmd --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: ens192
  sources:
  services: dhcpv6-client ssh
  ports:
  protocols:
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
```

### (6) 新增 firewall 規則

```
# firewall-cmd --permanent --add-rich-rule='rule family="ipv4" source address="192.168.8.184" service name="snmp" accept'
```

```
[root@centos7 ~]# firewall-cmd --permanent --add-rich-rule='rule family="ipv4" source address="192.168.8.184" service name="snmp" accept'
success
```

紅色文字部位請輸入 N-Reporter 系統 IP address

### (7) 重讀 firewall 設定檔

```
# firewall-cmd --reload
```

```
[root@centos7 ~]# firewall-cmd --reload
success
```

(8) 查看 firewall 規則

```
# firewall-cmd --list-all
```

```
[root@centos7 ~]# firewall-cmd --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: ens192
  sources:
  services: dhcpv6-client ftp ssh
  ports:
  protocols:
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
    rule family="ipv4" source address="192.168.8.184" service name="snmp" accept
```

## 2.2.4 CentOS 8

(1) 安裝 SNMP 服務

```
# dnf -y install net-snmp net-snmp-utils
```

```
[root@centos8 ~]# dnf -y install net-snmp net-snmp-utils
```

(2) 備份 snmp 設定檔

```
# cp /etc/snmp/snmpd.conf /etc/snmp/snmpd.conf.bak
```

```
[root@centos8 ~]# cp /etc/snmp/snmpd.conf /etc/snmp/snmpd.conf.bak
```

### (3) 建立 snmp 設定檔

```
# cat <<'EOF' > /etc/snmp/snmpd.conf
> #####
> #          SNMP configuration          #
> #####
> # Agent address
> agentaddress      udp:161
> agentaddress      udp6:161
>
> ## Access control
> #          sec.name          source          community
> com2sec          AllowAll          192.168.8.184          public
>
> #group          <group_name>          <security_mode>          <security_name>
> group           AllGroup           v2c           AllowAll
>
> # Define 'AllView', which includes everything under .1
> #          view.name          incl/excl          subtree.mask(Optional)
> view           AllView           included          .1
>
> #          group.name          context model          level          prefix          read          write          notify
> access          AllGroup          ""          any          noauth          exact          AllView          none          none
>
> ## System contact information
> #syslocation    <location set>
> #syscontact     <contact_info>
> syslocation     Taiwan
> syscontact      N-Partner
>
> ## <<<<<<<<<< End of config >>>>>>>>>#
> EOF
```

```
[root@centos8 ~]# cat <<'EOF' /etc/snmp/snmpd.conf
> #####
> #          SNMP configuration          #
> #####
> # Agent address
> agentaddress      udp:161
> agentaddress      udp6:161
>
> ## Access control
> #          sec.name          source          community
> com2sec          AllowAll          192.168.8.184          public
>
> #group          <group_name>          <security_mode>          <security_name>
> group           AllGroup           v2c           AllowAll
>
> # Define 'AllView', which includes everything under .1
> #          view.name          incl/excl          subtree.mask(Optional)
> view           AllView           included          .1
>
> #          group.name          context model          level          prefix          read          write          notify
> access          AllGroup          ""          any          noauth          exact          AllView          none          none
>
> ## System contact information
> #syslocation    <location set>
> #syscontact     <contact_info>
> syslocation     Taiwan
> syscontact      N-Partner
>
> ## <<<<<<<<<< End of config >>>>>>>>>#
> EOF
[root@centos8 ~]#
```

紅色文字部位請輸入 N-Reporter 系統 IP address 和 community

(4) 啟動 snmp 服務和查看 snmp 服務情形

```
# systemctl restart snmpd.service && systemctl status snmpd.service
```

```
[root@centos8 ~]# systemctl restart snmpd.service && systemctl status snmpd.service
● snmpd.service - Simple Network Management Protocol (SNMP) Daemon.
   Loaded: loaded (/usr/lib/systemd/system/snmpd.service; disabled; vendor preset: disabled)
   Active: active (running) since Sat 2020-02-15 10:37:46 CST; 8ms ago
     Main PID: 3016 (snmpd)
        Tasks: 1 (limit: 26213)
       Memory: 7.1M
      CGroup: /system.slice/snmpd.service
             └─3016 /usr/sbin/snmpd -LS0-6d -f

Feb 15 10:37:46 centos8 systemd[1]: Starting Simple Network Management Protocol (SNMP) Daemon...
Feb 15 10:37:46 centos8 snmpd[3016]: NET-SNMP version 5.8
Feb 15 10:37:46 centos8 systemd[1]: Started Simple Network Management Protocol (SNMP) Daemon..
[root@centos8 ~]#
```

(5) 設定開機 snmp 服務自動啟動

```
# systemctl enable snmpd.service
```

```
[root@centos8 ~]# systemctl enable snmpd.service
Created symlink /etc/systemd/system/multi-user.target.wants/snmpd.service → /usr/lib/systemd/system/snmpd.service.
[root@centos8 ~]#
```

(6) 查看 firewall 規則

```
# firewall-cmd --list-all
```

```
[root@centos8 ~]# firewall-cmd --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: ens192
  sources:
  services: cockpit dhcpv6-client ssh
  ports:
  protocols:
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
```

(7) 新增 firewall 規則 · 允許 N-Reporter IP 通過防火牆 · 訪問 SNMP 服務

```
# firewall-cmd --permanent --add-rich-rule='rule family="ipv4" source address="192.168.8.184" service name="snmp" accept'
```

```
[root@centos8 ~]# firewall-cmd --permanent --add-rich-rule='rule family="ipv4" source address="192.168.8.184" service name="snmp" accept'
success
```

紅色文字部位請輸入 N-Reporter 系統 IP address

(8) 重讀 firewall 設定檔

```
# firewall-cmd --reload
```

```
[root@centos8 ~]# firewall-cmd --reload
success
```



(9) 查看 firewall 規則

```
# firewall-cmd --list-all
```

```
[root@centos8 ~]# firewall-cmd --list-all
public (active)
  target: default
  icmp-block-inversion: no
  interfaces: ens192
  sources:
  services: cockpit dhcpv6-client ssh
  ports:
  protocols:
  masquerade: no
  forward-ports:
  source-ports:
  icmp-blocks:
  rich rules:
    rule family="ipv4" source address="192.168.8.184" service name="snmp" accept
```

## 2.3 Debian

### 2.3.1 Debian 8

(1) 安裝 SNMP 服務

```
# apt-get -y install snmpd snmp
```

```
root@debian8:~# apt-get -y install snmpd snmp
```

(2) 備份 snmp 設定檔

```
# cp /etc/snmp/snmpd.conf /etc/snmp/snmpd.conf.bak
```

```
root@debian8:~# cp /etc/snmp/snmpd.conf /etc/snmp/snmpd.conf.bak
```

### (3) 建立 snmp 設定檔

```
# cat <<'EOF' > /etc/snmp/snmpd.conf
> #####
> #          SNMP configuration          #
> #####
> # Agent address
> agentaddress      udp:161
> agentaddress      udp6:161
>
> ## Access control
> #          sec.name          source          community
> com2sec         AllowAll         192.168.1.184         public
>
> #group         <group_name>         <security_mode>         <security_name>
> group          AllGroup             v2c                     AllowAll
>
> # Define 'AllView', which includes everything under .1
> #          view.name          incl/excl          subtree.mask(Optional)
> view          AllView             included             .1
>
> #          group.name          context model      level  prefix  read      write  notify
> access        AllGroup            ""                any    noauth  exact    AllView  none    none
>
> ## System contact information
> #syslocation   <location set>
> #syscontact    <contact_info>
> syslocation    Taiwan
> syscontact     N-Partner
>
> ## <<<<<<<<<< End of config >>>>>>>>>#
> EOF
```

```
root@debian8:~# cat <<'EOF' > /etc/snmp/snmpd.conf
> #####
> #          SNMP configuration          #
> #####
> # Agent address
> agentaddress      udp:161
> agentaddress      udp6:161
>
> ## Access control
> #          sec.name          source          community
> com2sec         AllowAll         192.168.1.184         public
>
> #group         <group_name>         <security_mode>         <security_name>
> group          AllGroup             v2c                     AllowAll
>
> # Define 'AllView', which includes everything under .1
> #          view.name          incl/excl          subtree.mask(Optional)
> view          AllView             included             .1
>
> #          group.name          context model      level  prefix  read      write  notify
> access        AllGroup            ""                any    noauth  exact    AllView  none    none
>
> ## System contact information
> #syslocation   <location set>
> #syscontact    <contact_info>
> syslocation    Taiwan
> syscontact     N-Partner
>
> ## <<<<<<<<<< End of config >>>>>>>>>#
> EOF
root@debian8:~#
```

紅色文字部位請輸入 N-Reporter 系統 IP address 和 community

(4) 啟動 snmp 服務和查看 snmp 服務情形

```
# systemctl restart snmpd.service && systemctl status snmpd.service
```

```
root@debian8:~# systemctl restart snmpd.service && systemctl status snmpd.service
● snmpd.service - LSB: SNMP agents
   Loaded: loaded (/etc/init.d/snmpd)
   Active: active (running) since Wed 2019-12-18 20:31:26 EST; 4ms ago
     Process: 1638 ExecStop=/etc/init.d/snmpd stop (code=exited, status=0/SUCCESS)
     Process: 1643 ExecStart=/etc/init.d/snmpd start (code=exited, status=0/SUCCESS)
    CGroup: /system.slice/snmpd.service
           └─1648 /usr/sbin/snmpd -Lsd -Lf /dev/null -u snmp -g snmp -I -smux mteTrigger mteTriggerConf -p /run/snmpd.pid

Dec 18 20:31:26 debian8 systemd[1]: Started LSB: SNMP agents.
root@debian8:~#
```

(5) 設定開機 snmp 服務自動啟動

```
# systemctl enable snmpd.service
```

```
root@debian8:~# systemctl enable snmpd.service
Synchronizing state for snmpd.service with SysVinit using update-rc.d...
Executing /usr/sbin/update-rc.d snmpd defaults
Executing /usr/sbin/update-rc.d snmpd enable
root@debian8:~#
```

## 2.3.2 Debian 9

(1) 安裝 SNMP 服務

```
# apt-get -y install snmpd snmp
```

```
root@debian9:~# apt-get -y install snmpd snmp
```

(2) 備份 snmp 設定檔

```
# cp /etc/snmp/snmpd.conf /etc/snmp/snmpd.conf.bak
```

```
root@debian9:~# cp /etc/snmp/snmpd.conf /etc/snmp/snmpd.conf.bak
```

### (3) 建立 snmp 設定檔

```
# cat <<'EOF' > /etc/snmp/snmpd.conf
> #####
> #          SNMP configuration          #
> #####
> # Agent address
> agentaddress      udp:161
> agentaddress      udp6:161
>
> ## Access control
> #          sec.name          source          community
> com2sec          AllowAll          192.168.1.184          public
>
> #group          <group_name>          <security_mode>          <security_name>
> group           AllGroup              v2c                      AllowAll
>
> # Define 'AllView', which includes everything under .1
> #          view.name          incl/excl          subtree.mask(Optional)
> view           AllView              included              .1
>
> #          group.name          context model          level          prefix          read          write          notify
> access        AllGroup          ""                    any            noauth         exact         AllView       none           none
>
> ## System contact information
> #syslocation   <location set>
> #syscontact    <contact_info>
> syslocation    Taiwan
> syscontact     N-Partner
>
> ## <<<<<<<<< End of config >>>>>>>>>#
> EOF
```

```
root@debian9:~# cat <<'EOF' > /etc/snmp/snmpd.conf
> #####
> #          SNMP configuration          #
> #####
> # Agent address
> agentaddress      udp:161
> agentaddress      udp6:161
>
> ## Access control
> #          sec.name          source          community
> com2sec          AllowAll          192.168.1.184          public
>
> #group          <group_name>          <security_mode>          <security_name>
> group           AllGroup              v2c                      AllowAll
>
> # Define 'Allview', which includes everything under .1
> #          view.name          incl/excl          subtree.mask(Optional)
> view           AllView              included              .1
>
> #          group.name          context model          level          prefix          read          write          notify
> access        AllGroup          ""                    any            noauth         exact         AllView       none           none
>
> ## System contact information
> #syslocation   <location set>
> #syscontact    <contact_info>
> syslocation    Taiwan
> syscontact     N-Partner
>
> ## <<<<<<<<< End of config >>>>>>>>>#
> EOF
root@debian9:~#
```

紅色文字部位請輸入 N-Reporter 系統 IP address 和 community

#### (4) 啟動 snmp 服務和查看 snmp 服務情形

```
# systemctl restart snmpd.service && systemctl status snmpd.service
root@debian9:~# systemctl restart snmpd.service && systemctl status snmpd.service
● snmpd.service - Simple Network Management Protocol (SNMP) Daemon.
   Loaded: loaded (/lib/systemd/system/snmpd.service; enabled; vendor preset: enabled)
   Active: active (running) since Wed 2019-12-18 22:22:53 EST; 9ms ago
     Process: 1826 ExecStartPre=/bin/mkdir -p /var/run/agentx (code=exited, status=0/SUCCESS)
    Main PID: 1828 (snmpd)
       Tasks: 1 (limit: 4915)
   CGroup: /system.slice/snmpd.service
           └─1828 /usr/sbin/snmpd -Lsd -Lf /dev/null -u Debian-snmp -g Debian-snmp -I -smux mteTrigger mteTriggerConf -f

Dec 18 22:22:53 debian9 systemd[1]: Stopped Simple Network Management Protocol (SNMP) Daemon..
Dec 18 22:22:53 debian9 systemd[1]: Starting Simple Network Management Protocol (SNMP) Daemon...
root@debian9:~#
```

#### (5) 設定開機 snmp 服務自動啟動

```
# systemctl enable snmpd.service
root@debian9:~# systemctl enable snmpd.service
Synchronizing state of snmpd.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable snmpd
root@debian9:~#
```

## 2.4 Ubuntu

### 2.4.1 Ubuntu 16

(1) 安裝 SNMP 服務

```
# apt-get -y install snmpd snmp
```

```
root@ubuntu16:~# apt-get -y install snmpd snmp
```

(2) 備份 snmp 設定檔

```
# cp /etc/snmp/snmpd.conf /etc/snmp/snmpd.conf.bak
```

```
root@ubuntu16:~# cp /etc/snmp/snmpd.conf /etc/snmp/snmpd.conf.bak
```



### (3) 建立 snmp 設定檔

```
# cat <<'EOF' > /etc/snmp/snmpd.conf
> #####
> #          SNMP configuration          #
> #####
> # Agent address
> agentaddress      udp:161
> agentaddress      udp6:161
>
> ## Access control
> #          sec.name          source          community
> com2sec          AllowAll          192.168.1.184          public
>
> #group          <group_name>          <security_mode>          <security_name>
> group           AllGroup           v2c                     AllowAll
>
> # Define 'AllView', which includes everything under .1
> #          view.name          incl/excl          subtree.mask(Optional)
> view           AllView           included              .1
>
> #          group.name          context model          level          prefix          read          write          notify
> access        AllGroup          ""                    any           noauth        exact         AllView       none           none
>
> ## System contact information
> #syslocation   <location set>
> #syscontact    <contact_info>
> syslocation    Taiwan
> syscontact     N-Partner
>
> ## <<<<<<<<<< End of config >>>>>>>>>#
> EOF
```

```
root@ubuntu16:~# cat <<'EOF' > /etc/snmp/snmpd.conf
> #####
> #          SNMP configuration          #
> #####
> # Agent address
> agentaddress      udp:161
> agentaddress      udp6:161
>
> ## Access control
> #          sec.name          source          community
> com2sec          AllowAll          192.168.1.184          public
>
> #group          <group_name>          <security_mode>          <security_name>
> group           AllGroup           v2c                     AllowAll
>
> # Define 'AllView', which includes everything under .1
> #          view.name          incl/excl          subtree.mask(Optional)
> view           AllView           included              .1
>
> #          group.name          context model          level          prefix          read          write          notify
> access        AllGroup          ""                    any           noauth        exact         AllView       none           none
>
> ## System contact information
> #syslocation   <location set>
> #syscontact    <contact_info>
> syslocation    Taiwan
> syscontact     N-Partner
>
> ## <<<<<<<<<< End of config >>>>>>>>>#
> EOF
root@ubuntu16:~#
```

紅色文字部位請輸入 N-Reporter 系統 IP address 和 community

(4) 啟動 snmp 服務和查看 snmp 服務情形

```
# systemctl restart snmpd.service && systemctl status snmpd.service
```

```
root@ubuntu16:~# systemctl restart snmpd.service && systemctl status snmpd.service
● snmpd.service - LSB: SNMP agents
   Loaded: loaded (/etc/init.d/snmpd; bad; vendor preset: enabled)
   Active: active (running) since Thu 2019-12-19 11:55:49 CST; 4ms ago
     Docs: man:systemd-sysv-generator(8)
  Process: 2251 ExecStop=/etc/init.d/snmpd stop (code=exited, status=0/SUCCESS)
  Process: 2261 ExecStart=/etc/init.d/snmpd start (code=exited, status=0/SUCCESS)
    Tasks: 3
   Memory: 4.2M
      CPU: 16ms
   CGroup: /system.slice/snmpd.service
           └─2268 /usr/sbin/snmpd -Lsd -Lf /dev/null -u snmp -g snmp -I -smux mteTrigger mteTriggerConf -p /run/snmpd.pid

Dec 19 11:55:49 ubuntu16 systemd[1]: Stopped LSB: SNMP agents.
Dec 19 11:55:49 ubuntu16 systemd[1]: Starting LSB: SNMP agents...
Dec 19 11:55:49 ubuntu16 snmpd[2261]: * Starting SNMP services:
root@ubuntu16:~#
```

(5) 設定開機 snmp 服務自動啟動

```
# systemctl enable snmpd.service
```

```
root@ubuntu16:~# systemctl enable snmpd.service
snmpd.service is not a native service, redirecting to systemd-sysv-install
Executing /lib/systemd/systemd-sysv-install enable snmpd
root@ubuntu16:~#
```

## 2.4.2 Ubuntu 18

(1) 安裝 SNMP 服務

```
# apt-get -y install snmpd snmp
```

```
root@ubuntu18:~# apt-get -y install snmpd snmp
```

(2) 備份 snmp 設定檔

```
# cp /etc/snmp/snmpd.conf /etc/snmp/snmpd.conf.bak
```

```
root@ubuntu18:~# cp /etc/snmp/snmpd.conf /etc/snmp/snmpd.conf.bak
```

### (3) 建立 snmp 設定檔

```
# cat <<'EOF' > /etc/snmp/snmpd.conf
> #####
> #          SNMP configuration          #
> #####
> # Agent address
> agentaddress      udp:161
> agentaddress      udp6:161
>
> ## Access control
> #          sec.name          source          community
> com2sec          AllowAll          192.168.1.184          public
>
> #group          <group_name>          <security_mode>          <security_name>
> group          AllGroup          v2c          AllowAll
>
> # Define 'AllView', which includes everything under .1
> #          view.name          incl/excl          subtree.mask(Optional)
> view          AllView          included          .1
>
> #          group.name          context model          level          prefix          read          write          notify
> access          AllGroup          ""          any          noauth          exact          AllView          none          none
>
> ## System contact information
> #syslocation          <location_set>
> #syscontact          <contact_info>
> syslocation          Taiwan
> syscontact          N-Partner
>
> ## <<<<<<<<<< End of config >>>>>>>>>#
> EOF
```

```
root@ubuntu18:~# cat <<'EOF' > /etc/snmp/snmpd.conf
> #####
> #          SNMP configuration          #
> #####
> # Agent address
> agentaddress      udp:161
> agentaddress      udp6:161
>
> ## Access control
> #          sec.name          source          community
> com2sec          AllowAll          192.168.1.184          public
>
> #group          <group_name>          <security_mode>          <security_name>
> group          AllGroup          v2c          AllowAll
>
> # Define 'AllView', which includes everything under .1
> #          view.name          incl/excl          subtree.mask(Optional)
> view          AllView          included          .1
>
> #          group.name          context model          level          prefix          read          write          notify
> access          AllGroup          ""          any          noauth          exact          AllView          none          none
>
> ## System contact information
> #syslocation          <location_set>
> #syscontact          <contact_info>
> syslocation          Taiwan
> syscontact          N-Partner
>
> ## <<<<<<<<<< End of config >>>>>>>>>#
> EOF
root@ubuntu18:~#
```

紅色文字部位請輸入 N-Reporter 系統 IP address 和 community

#### (4) 啟動 snmp 服務和查看 snmp 服務情形

```
# systemctl restart snmpd.service && systemctl status snmpd.service
```

```
root@ubuntu18:~# systemctl restart snmpd.service && systemctl status snmpd.service
● snmpd.service - Simple Network Management Protocol (SNMP) Daemon.
   Loaded: loaded (/lib/systemd/system/snmpd.service; enabled; vendor preset: enabled)
   Active: active (running) since Thu 2019-12-19 07:02:21 UTC; 8ms ago
     Process: 2634 ExecStartPre=/bin/mkdir -p /var/run/agentx (code=exited, status=0/SUCCESS)
    Main PID: 2635 (snmpd)
       Tasks: 1 (limit: 2319)
      CGroup: /system.slice/snmpd.service
             └─2635 /usr/sbin/snmpd -Lsd -Lf /dev/null -u Debian-snmp -g Debian-snmp -I -smux,mteTrigger,mteTriggerConf -f

Dec 19 07:02:21 ubuntu18.npartner.local systemd[1]: Stopped Simple Network Management Protocol (SNMP) Daemon..
Dec 19 07:02:21 ubuntu18.npartner.local systemd[1]: Starting Simple Network Management Protocol (SNMP) Daemon...
Dec 19 07:02:21 ubuntu18.npartner.local systemd[1]: Started Simple Network Management Protocol (SNMP) Daemon..
root@ubuntu18:~#
```

#### (5) 設定開機 snmp 服務自動啟動

```
# systemctl enable snmpd.service
```

```
root@ubuntu18:~# systemctl enable snmpd.service
Synchronizing state of snmpd.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable snmpd
root@ubuntu18:~#
```

### 3. AIX 7

IBM AIX: How To Configure Community based SNMP And SNMP Traps

<https://www.ibm.com/support/pages/ibm-aix-how-configure-community-based-snmp-and-snmp-traps>

(1) 查看作業系統版本

```
# oslevel
```

(2) 查看 SNMP daemon 檔

```
# ls -l /usr/sbin/snmp*
```

```
lrwxrwxrwx    1 root    system          19 Jul 13 2017 /usr/sbin/snmpd -> /usr/sbin/snmpdv3ne
```

(3) 編輯 snmpdv3 設定檔

```
# vi /etc/snmpdv3.conf
```

/etc/snmpdv3.conf 文件是 SNMP version 3 agent 配置文件。

/etc/snmpd.conf 文件是 SNMP version 1 agent 配置文件。

SNMP version 3 agent 可以處理 SNMP v1 和 SNMP v2 請求。

(4) 設定 snmpdv3 檔案內容

```
VACM_GROUP group1 SNMPv1 public -  
VACM_GROUP group1 SNMPv2c public -  
VACM_VIEW defaultView internet - included -  
COMMUNITY public public noAuthNoPriv 192.168.1.184 255.255.255.255 -
```

紅色文字部位請輸入 N-Reporter 系統 IP address 和 community

(5) 使用 chssys 指令將 community name 添加到 ODM. 啟動 DPI2 subagent 自動分配 community name

```
# chssys -s aixmibd -a "-c public"  
# chssys -s hostmibd -a "-c public"  
# chssys -s snmpmibd -a "-c public"
```

(6) 停止 DPI2 subagents 和 snmpd 服務

```
# stopsrc -s aixmibd; stopsrc -s hostmibd; stopsrc -s snmpmibd  
# stopsrc -s snmpd
```

(7) 啟動 snmpd 和 DPI2 subagents 服務

```
# startsrc -s snmpd  
# startsrc -s aixmibd; startsrc -s hostmibd; startsrc -s snmpmibd
```

(8) 查看 DPI2 subagents 服務程序

```
# ps -ef | grep mibd
```

(9) 使用 odmget 指令檢查 community name 分配 cmdargs 值。

```
# odmget -q subsysname=aixmibd SRCsubsys
```

(10) 使用 lssrc 指令查詢 subagent ODM

```
# lssrc -Ss aixmibd
```

(11) 使用 snmpinfo 或 clsnmp 指令，檢查 SNMP 狀態

```
# snmpinfo -md -v -c public system
```

```
sysDescr.0 = "IBM PowerPC CHRP Computer
```

```
Machine Type: 0x0800004c Processor id: 00F8A0A14C00
```

```
Base Operating System Runtime AIX version: 06.01.0009.0100
```

```
# snmpinfo -md -v -c public aixpagingspace
```

```
aixPageThreshold.0 = 95
```

```
aixPageName.1 = "hd6"
```

```
aixPageNameVG.1 = "rootvg"
```

```
# snmpinfo -md -c public aixpagingspace
```

```
1.3.6.1.4.1.2.6.191.2.4.1.0 = 95
```

```
1.3.6.1.4.1.2.6.191.2.4.2.1.1.1 = "hd6"
```

```
1.3.6.1.4.1.2.6.191.2.4.2.1.2.1 = "rootvg"
```

```
# clsnmp -v -c public walk aixpagingspace
```

```
aixPageThreshold.0 = 95
```

```
aixPageName.1 = hd6
```

```
aixPageNameVG.1 = rootvg
```

```
# clsnmp -c public walk aixpagingspace
```

```
1.3.6.1.4.1.2.6.191.2.4.1.0 = 95
```

```
1.3.6.1.4.1.2.6.191.2.4.2.1.1.1 = hd6
```

```
1.3.6.1.4.1.2.6.191.2.4.2.1.2.1 = rootvg
```

## 4. FreeBSD 11

(1) 查看作業系統版本

```
# freebsd-version
```

```
root@freebsd11:~ # freebsd-version  
11.4-RELEASE
```

(2) 安裝 SNMP 服務

```
# pkg install -y net-snmp
```

```
root@freebsd11:~ # pkg install -y net-snmp
```

(3) 設定開機 snmp 服務自動啟動

```
# sysrc bsnmpd_enable=YES
```

```
root@freebsd11:~ # sysrc bsnmpd_enable=YES  
bsnmpd_enable: NO -> YES
```



### (3) 建立 snmp 設定檔

```
# cat >> /usr/local/share/snmp/snmpd.conf << EOF
? #####
? #          SNMP configuration          #
? #####
? # Agent address
? agentaddress      udp:161
? agentaddress      udp6:161
?
? ## Access control
? #          sec.name          source          community
? com2sec          AllowAll          192.168.1.184          public
?
? #group          <group_name>          <security_mode>          <security_name>
? group          AllGroup          v2c          AllowAll
?
? # Define 'AllView', which includes everything under .1
? #          view.name          incl/excl          subtree.mask(Optional)
? view          AllView          included          .1
?
? #          group.name          context model          level          prefix          read          write          notify
? access          AllGroup          ""          any          noauth          exact          AllView          none          none
?
? ## System contact information
? #syslocation          <location_set>
? #syscontact          <contact_info>
? syslocation          Taiwan
? syscontact          N-Partner
?
? ## <<<<<<<<<< End of config >>>>>>>>>#
? EOF
```

```
root@freebsd11:~ # cat >> /usr/local/share/snmp/snmpd.conf << EOF
? #####
? #          SNMP configuration          #
? #####
? # Agent address
? agentaddress      udp:161
? agentaddress      udp6:161
?
? ## Access control
? #          sec.name          source          community
? com2sec          AllowAll          192.168.1.184          public
?
? #group          <group_name>          <security_mode>          <security_name>
? group          AllGroup          v2c          AllowAll
?
? # Define 'AllView', which includes everything under .1
? #          view.name          incl/excl          subtree.mask(Optional)
? view          AllView          included          .1
?
? #          group.name          context model          level          prefix          read          write          notify
? access          AllGroup          ""          any          noauth          exact          AllView          none          none
?
? ## System contact information
? #syslocation          <location_set>
? #syscontact          <contact_info>
? syslocation          Taiwan
? syscontact          N-Partner
?
? ## <<<<<<<<<< End of config >>>>>>>>>#
? EOF
root@freebsd11:~ #
```

紅色文字部位請輸入 N-Reporter 系統 IP address 和 community

(4) 啟動 snmp 服務和查看 snmp 服務情形

```
# service bsnmpd restart && service bsnmpd status
```

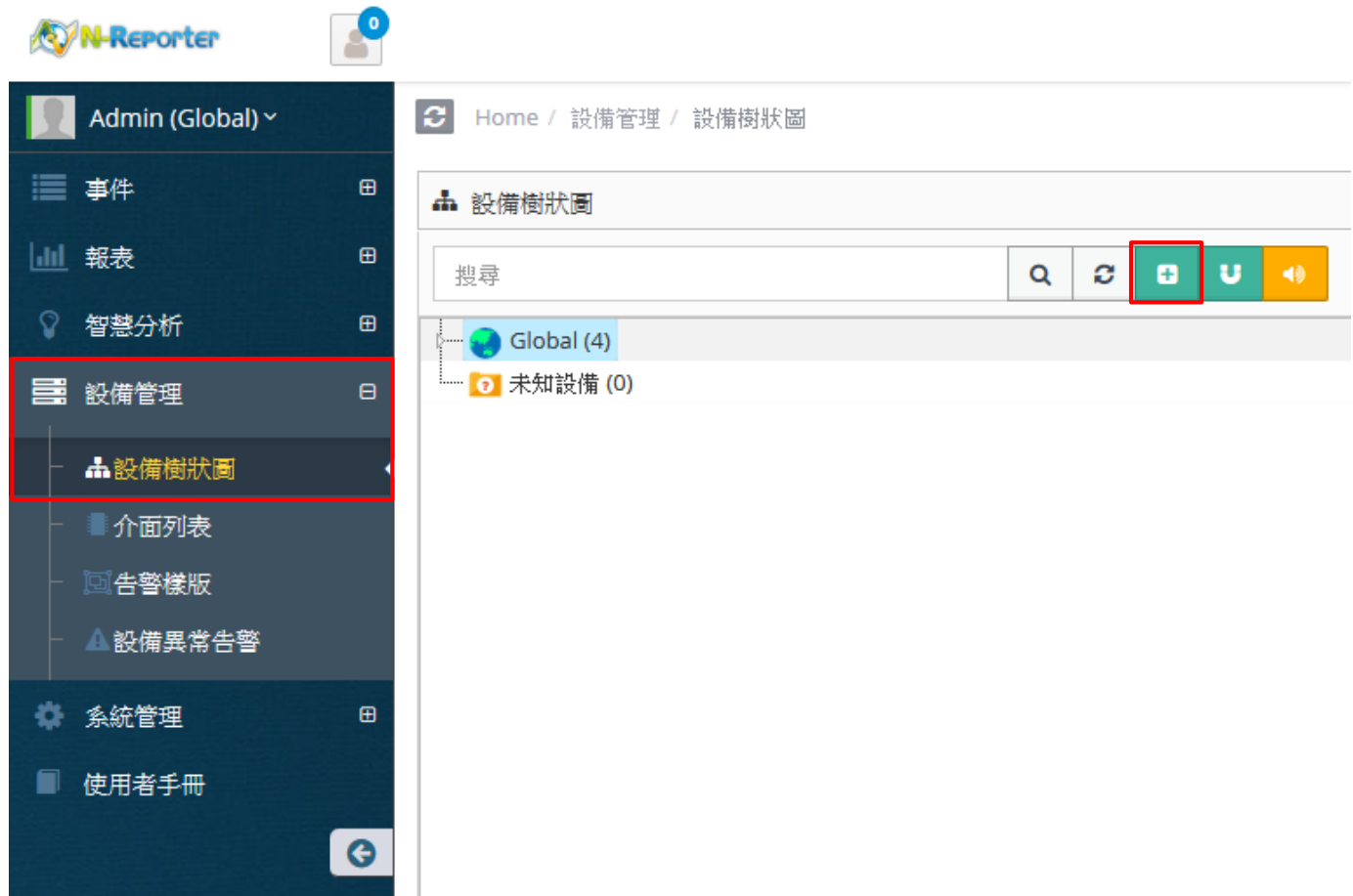
```
root@freebsd11:~ # service bsnmpd restart && service bsnmpd status
Stopping bsnmpd.
Waiting for PIDS: 807.
Starting bsnmpd.
bsnmpd is running as pid 842.
```

## 5. N-Reporter

### 5.1 單筆新增

(1) 新增 Host MIB 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 sidebar menu with the following items: 'Admin (Global)' (with a dropdown arrow), '事件' (Events), '報表' (Reports), '智慧分析' (Smart Analysis), '設備管理' (Device Management) - highlighted with a red box, and a sub-menu under '設備管理' containing '設備樹狀圖' (Device Tree) - also highlighted with a red box, '介面列表' (Interface List), '告警樣版' (Alert Template), and '設備異常告警' (Device Abnormal Alert). Below these are '系統管理' (System Management) and '使用者手冊' (User Manual). The main content area shows a breadcrumb path: 'Home / 設備管理 / 設備樹狀圖'. Below the breadcrumb is a search bar with the text '搜尋' and buttons for search, refresh, add (highlighted with a red box), update, and volume. The main content area displays a tree structure with 'Global (4)' and '未知設備 (0)' (Unknown Devices (0)).

## (2) 設定 Host Mib 設備

輸入名稱和 IP -> 勾選設備種類: [SNMP] -> 輸入 Read Community: 範例 public -> 選擇 Version: [V2C] 和

Model: [Host Mib] -> 按 [SNMP 測試] 顯示 **SNMP 測試成功** 訊息 -> 選擇設備 Icon: [icon-host] -> 按 [確定]

新增設備

設備基本設定

名稱  
Host\_SNMP

IP  
192.168.1.186

設備種類  
 Syslog  Flow  SNMP

Flow/SNMP 相關設定

設備敘述

SNMP IP  
192.168.1.186

Read Community  
public

Write Community

Version  
V2C

Model  
Host Mib

監看設備 (樣版)  
Default

SNMP 測試

自訂 OID 樣版  
請選擇自訂 oid 樣版

設備進階設定

ICMP 告警樣板  
N/A

設備 Icon  
icon-host

Login Account

Login Password

確定 取消

## 5.2 批次新增

(1) 批次新增 Host MIB 設備

[設備管理] -> [設備樹狀圖] -> 點選 [批次新增]

The screenshot displays the N-Reporter web interface. On the left is a dark blue sidebar menu with the following items: Admin (Global) (with a dropdown arrow), 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. At the top of the sidebar is the N-Reporter logo and a user profile icon with a notification badge showing '0'. The main content area has a breadcrumb trail: Home / 設備管理 / 設備樹狀圖. Below the breadcrumb is a search bar with the text '搜尋' and several action buttons: a search icon, a refresh icon, a green '+' button, a green 'U' button (highlighted with a red box), and a speaker icon. The main content area shows a tree view with a root node 'Global (4)' and a child node '未知設備 (0)'.

(2) 輸入搜尋網段

輸入 "單一 IP 或網段" 或 "IP 範圍" · 本例: 192.168.6.1/24 -> 輸入 Read Community : public · -> 選擇 Version: [V2C] -> 按 [開始搜尋]

**批次新增設備**

**單一 IP 或網段**

192.168.6.1/24

**IP 範圍**

**Read Community**

public

**Version**

V2C

**設備批次加入網路拓樸圖**

不加入

加入既有的網路拓樸圖

新增網路拓樸圖

**開始搜尋** **取消**

### (3) 批次新增設備

勾選標題  -> 按 [新增設備]

#### 批次新增設備

<input checked="" type="checkbox"/>	設備名稱 ▲	IP ▲	設備敘述 ▲	管理狀態 ▲
<input checked="" type="checkbox"/>	192.168.6.1	192.168.6.1	DESC=Hardware: Intel64 Family 6 Model 60 Stepping 3 AT/AT COMPATIBLE - Software: Windows Version 6.3 (Build 9600 Multiprocessor Free), NAME=Win2012	
<input checked="" type="checkbox"/>	192.168.6.2	192.168.6.2	DESC=Hardware: Intel64 Family 6 Model 60 Stepping 3 AT/AT COMPATIBLE - Software: Windows Version 6.3 (Build 14393 Multiprocessor Free), NAME=Win2016	
<input checked="" type="checkbox"/>	192.168.6.3	192.168.6.3	DESC=Hardware: Intel64 Family 6 Model 60 Stepping 3 AT/AT COMPATIBLE - Software: Windows Version 6.3 (Build 17763 Multiprocessor Free), NAME=Win2019	
<input checked="" type="checkbox"/>	192.168.6.4	192.168.6.4	DESC=Linux CentOS7.npartner.local 3.10.0-1062.9.1.el7.x86_64 #1 SMP Fri Dec 6 15:49:49 UTC 2019 x86_64, NAME=CentOS7.npartner.local	
<input checked="" type="checkbox"/>	192.168.6.5	192.168.6.5	DESC=Linux debian9 4.9.0-11-amd64 #1 SMP Debian 4.9.189-3+deb9u2	

100 | 第 1 共 1 頁 | 顯示 1 到 6, 共 6 記錄

**新增設備**

#### (4) 編輯設備資訊

點選 Model: [Host Mib] 和 設備 Icon: [icon-host] -> 按 [確定]

### 設備資訊編輯

#### 設備基本設定

**名稱**  
192.168.6.1,192.168.6.2,192.168.6.3,192.168.6.4,192.168.6.5,192.168.6.6

**IP**  
192.168.6.1,192.168.6.2,192.168.6.3,192.168.6.4,192.168.6.5,192.168.6.6

**設備種類**  
 Syslog  Flow  SNMP

#### Flow/SNMP 相關設定

**設備敘述**  
DESC=Hardware: Intel64 Family 6 Model 60 Stepping 3 AT/AT COMPATI

**SNMP IP**  
192.168.6.1,192.168.6.2,192.168.6.3,192.168.6.4,192.168.6.5,192.168.6.

**Read Community**  
public

**Write Community**

**Version**  
V2C

**Model**  
Host Mib

**監看設備 (樣版)**  
Default

SNMP 測試

**自訂 OID 樣版**  
請選擇自訂 oid 樣版

#### 設備進階設定

**ICMP 告警樣板**  
----- N/A -----

**設備 Icon**  
icon-host

**Login Account**

**Login Password**

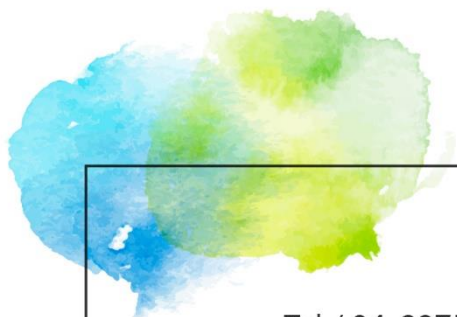
確定 取消



(5) 顯示設備 SNMP 狀態

The screenshot shows the N-Reporter web interface. The left sidebar contains navigation options: Admin (Global), 事件, 報表, 智慧分析, 設備管理 (selected), 設備樹狀圖 (selected), 介面列表, 告警樣板, 設備異常告警, 系統管理, and 使用者手冊. The main content area is titled '設備樹狀圖' and shows a search bar and a table of devices. The table has columns for '操作', '所屬領域', 'IP', '設備名稱', '設備種類', '資料格式', 'Model', '狀態', '介面', '硬碟', '建立時間', and '瀏覽'. There are 6 devices listed, all with IP addresses in the 192.168.6.x range and 'Snmp' as the device type. The status column shows green circles, indicating they are online.

操作	所屬領域	IP	設備名稱	設備種類	資料格式	Model	狀態	介面	硬碟	建立時間	瀏覽
	Global	192.168.6.1	192.168.6.1	Snmp		Host Mib	●	●	●	2019/12/20 14:43	
	Global	192.168.6.2	192.168.6.2	Snmp		Host Mib	●	●	●	2019/12/20 14:43	
	Global	192.168.6.3	192.168.6.3	Snmp		Host Mib	●	●	●	2019/12/20 14:43	
	Global	192.168.6.4	192.168.6.4	Snmp		Host Mib	●	●	●	2019/12/20 14:43	
	Global	192.168.6.5	192.168.6.5	Snmp		Host Mib	●	●	●	2019/12/20 14:43	
	Global	192.168.6.6	192.168.6.6	Snmp		Host Mib	●	●	●	2019/12/20 14:43	



Tel / 04-23752865    Fax / 04-23757458  
業務詢問 / [sales@npartnertech.com](mailto:sales@npartnertech.com)  
技術詢問 / [support@npartnertech.com](mailto:support@npartnertech.com)