

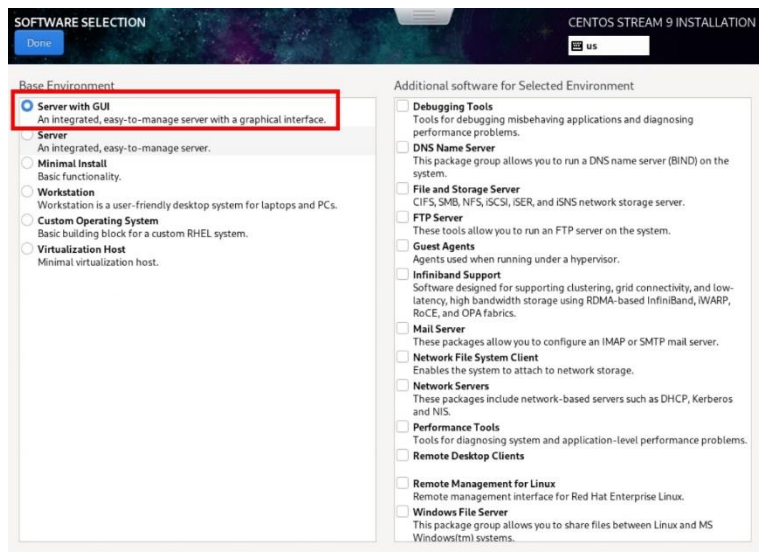
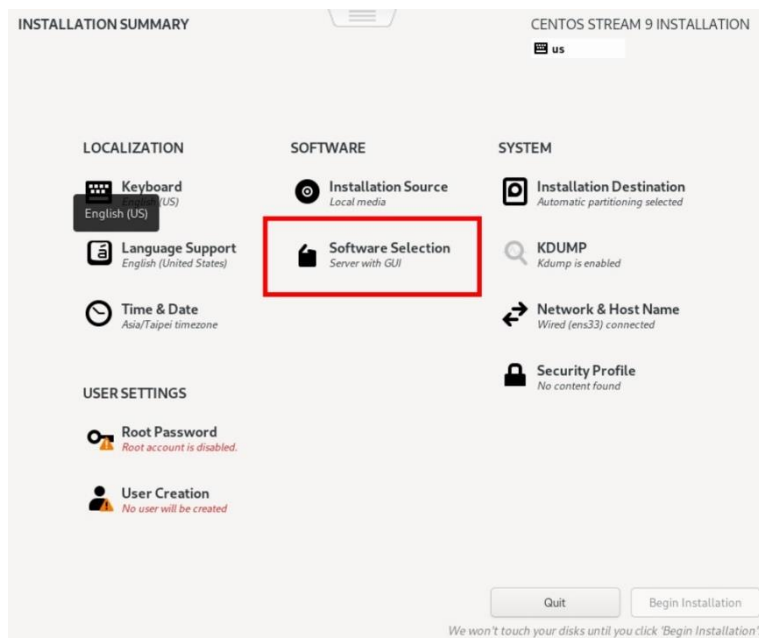


ESXi 6.7/7/8 Client Software 安裝 SOP

1. 首先請確認使用的ESXi為**付費版本**，免費版不支援使用
2. 下載CentOS Stream 9並安裝到ESXi server作為關機軟體的跳板
如果已安裝可以略過此步驟

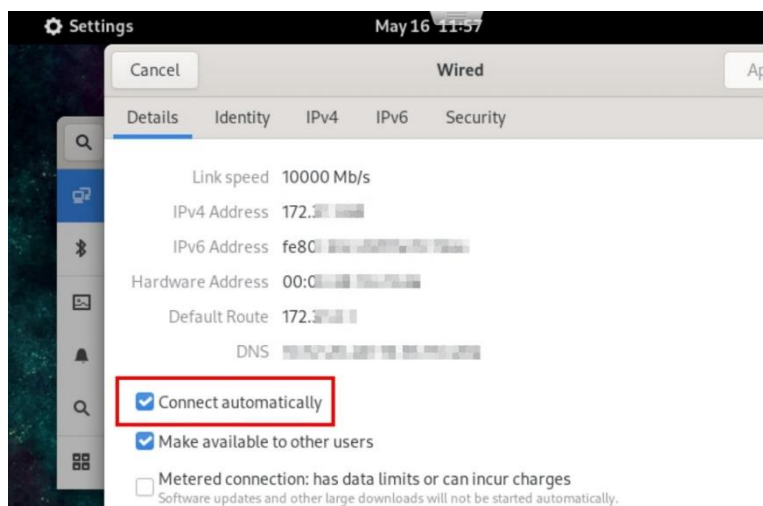
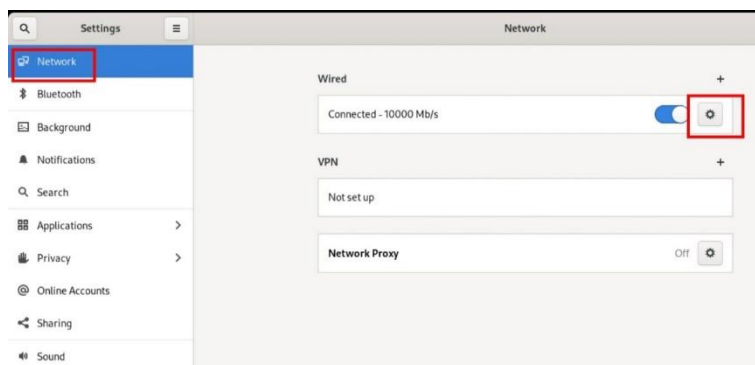
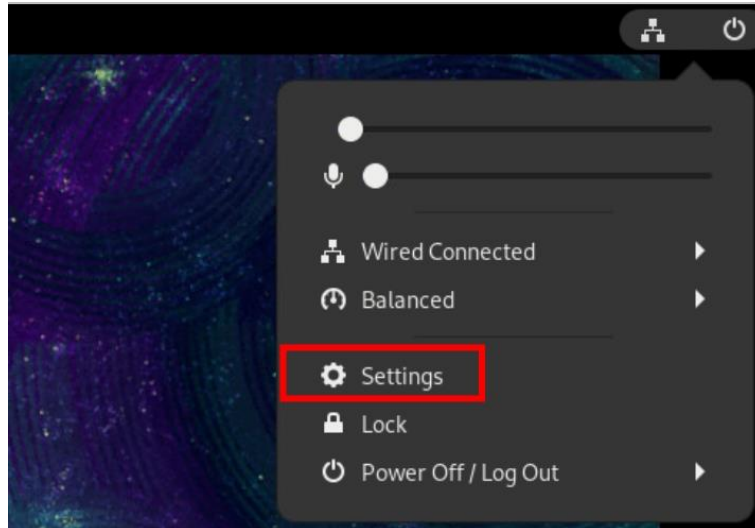
<https://www.centos.org/download/>

3. 請注意安裝 CentOS 時需選擇 **Server with GUI** 的選項



4. 以 root 權限登入 CentOS

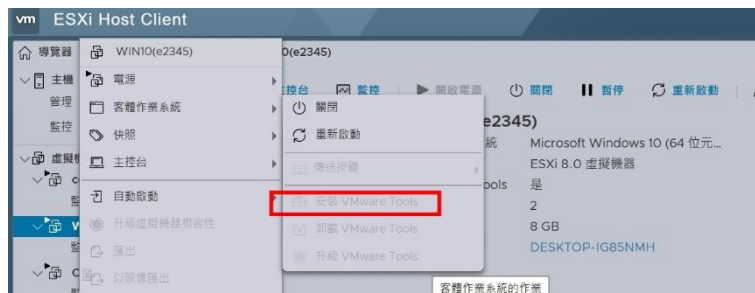
5. 在 CentOS 的網路設定中勾選「自動連線」



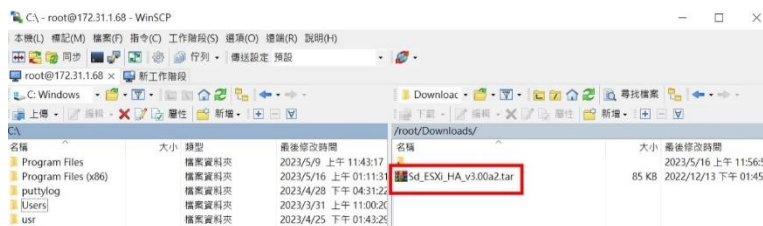
6. 確認 ESXi server 底下所有需要被關閉的作業系統已安裝 VMware tools



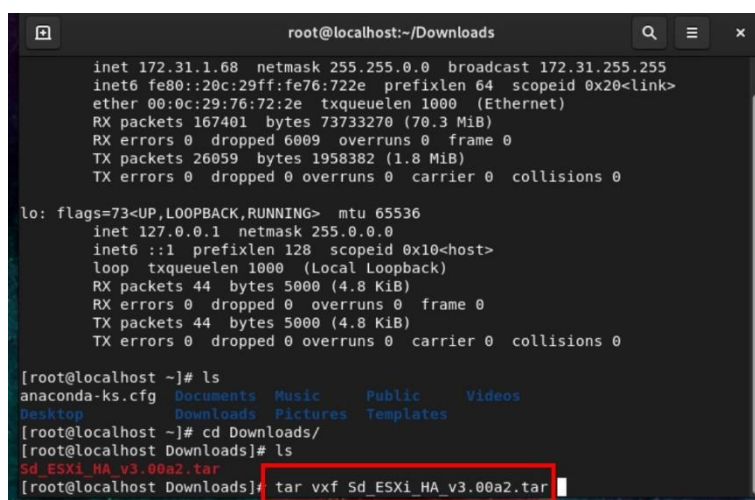
7. 如果未安裝，點選「動作」→「客體作業系統」→「安裝 VMware Tools」來安裝



8. 利用傳輸工具將關機軟體放入 CentOS 中，這邊以 WinSCP 做範例



9. 開啟終端機來安裝關機軟體，首先將安裝軟體解壓縮
解壓縮檔案的指令為「tar vxf 檔案名稱」



10. 進入解壓縮後的資料夾，使用指令「./install.sh」進行安裝

日後若要移除關機軟體，則進入同一個資料夾再使用指令「./unins.sh」

```
[root@localhost ~]# ls
anaconda-ks.cfg  Documents  Music      Public     Videos
Desktop          Downloads  Pictures   Templates
[root@localhost ~]# cd Downloads/
[root@localhost Downloads]# ls
Sd_ESXi_HA_v3.00a2.tar
[root@localhost Downloads]# tar vxvf Sd_ESXi_HA_v3.00a2.tar
Sd_ESXi_HA/
Sd_ESXi_HA/install.sh
Sd_ESXi_HA/oslist
Sd_ESXi_HA/uGuard.tar.gz
Sd_ESXi_HA/unins.sh
[root@localhost Downloads]# ls
Sd_ESXi_HA  Sd_ESXi_HA_v3.00a2.tar
[root@localhost Downloads]# cd Sd_ESXi_HA/
[root@localhost Sd_ESXi_HA]# ls
install.sh  oslist  uGuard.tar.gz  unins.sh
[root@localhost Sd_ESXi_HA]# ./install.sh
```

11. 安裝時會自動檢查系統內是否有 python module 套件

若沒有將會詢問是否安裝

a. 若您現場環境具有外部網路請輸入 y 進行線上安裝

```
install.sh  oslist  uGuard.tar.gz  unins.sh
[root@localhost Sd_ESXi_HA]# ./install.sh
./install.sh: line 61: pip: command not found
It will install python-pip and python module.(y/n)y
```

b. 若您現場環境僅有內部網路請輸入 n 進行離線安裝

```
Sd_ESXi_HA/unins.sh
[root@localhost SD]# ls
Sd_ESXi_HA  Sd_ESXi_HA_3.00a2_20240620.tar
[root@localhost SD]# cd Sd_ESXi_HA/
[root@localhost Sd_ESXi_HA]# ls
install python and libs  install.sh  oslist  uGuard.tar.gz  unins.sh
[root@localhost Sd_ESXi_HA]# ./install.sh
Can install file by internet?(Y/n)n
It will install python-pip and python module.(y/n)y
```

12. 等待安裝 python module 套件

```
flifting behaviour with the system package manager. It is recommended to use a v
irtual environment instead: https://pip.pypa.io/warnings/venv
Collecting paramiko
  Downloading paramiko-3.1.0-py3-none-any.whl (211 kB)
    211.2/211.2 kB 1.2 MB/s eta 0:00:00
Collecting bcrypt>=3.2 (from paramiko)
  Downloading bcrypt-4.0.1-cp36-abi3-manylinux_2_28_x86_64.whl (593 kB)
    593.7/593.7 kB 0.1 MB/s eta 0:00:00
Collecting cryptography>=3.3 (from paramiko)
  Downloading cryptography-40.0.2-cp36-abi3-manylinux_2_28_x86_64.whl (3.7 MB)
    3.7/3.7 MB 10.7 MB/s eta 0:00:00
Collecting pynacl>=1.5 (from paramiko)
  Downloading PyNaCl-1.5.0-cp36-abi3-manylinux_2_17_x86_64.manylinux2014_x86_64.
manylinux_2_24_x86_64.whl (856 kB)
    856.7/856.7 kB 11.0 MB/s eta 0:00:00
Collecting cffi>=1.12 (from cryptography>=3.3->paramiko)
  Downloading cffi-1.15.1-cp39-cp39-manylinux_2_17_x86_64.manylinux2014_x86_64.w
hl (441 kB)
    441.2/441.2 kB 12.4 MB/s eta 0:00:00
Collecting pycparser (from cffi>=1.12->cryptography>=3.3->paramiko)
  Downloading pycparser-2.21-py2.py3-none-any.whl (118 kB)
    118.7/118.7 kB 13.6 MB/s eta 0:00:00
Installing collected packages: pycparser, bcrypt, cffi, pynacl, cryptography, pa
ramiko
Successfully installed bcrypt-4.0.1 cffi-1.15.1 cryptography-40.0.2 paramiko-3.1
.0 pycparser-2.21 pynacl-1.5.0
```

13. 選擇是否啟用 Redundant 功能

啟用：清單上所有網路卡都發送關機訊號才有效

關閉：清單上任意網路卡發送關機訊號都有效

```
Successfully installed bcrypt-4.0.1 cffi-1.15.1 cryptography-40.0.2 paramiko-3.1
.0 pycparser-2.21 pynacl-1.5.0
WARNING: Running pip as the 'root' user can result in broken permissions and con
flicting behaviour with the system package manager. It is recommended to use a v
irtual-environment instead: https://pip.pypa.io/warnings/venv
Redundant Enable?(Y/n)
```

14. 依序輸入網路卡 IP 位置、Client 名稱、關機延遲時間、ESXi IP 位置等等設定

```
Input USHA IP Address 1:172.31.1.61
Input Client Name (Max 28 bytes & Only allow English, Number, - and _)(Default R
oot):
Shutdown delay time is 120 seconds?(Y/n)y
Estimate script file running time is 120 seconds?(Y/n)y
USHA Event Polling Rate is 10 seconds?(Y/n)y
Input shutdown script path:
Shutdown Enable?(Y/n)y
Enter ESXi 1 Information?(Y/n)y
Input ESXi 1 IP Address:172.31.1.50
Input ESXi 1 Account:root
Input ESXi 1 Password:
Enter ESXi 2 Information?(Y/n)n
Enter ESXi 3 Information?(Y/n)n
Enter ESXi 4 Information?(Y/n)n
Enter ESXi 5 Information?(Y/n)n
Input SW IP Address:172.31.1.68
```

USHA IP：請輸入網路卡 IP

Client Name：可自訂這個關機方案在監控網頁裡連接設備清單所顯示的名稱

Shutdown delay time：請輸入關機延遲時間

Estimate script file running time：請輸入強制關機延遲時間

USHA Event Polling Rate：請輸入事件告警間隔時間

Shutdown script path：請輸入關機前執行 script 檔的路徑(若不需執行直接留空白按 enter)

Shutdown Enable：是否開啟關機軟體功能，請輸入 y

Enter ESXi 1 Information：請輸入想關閉的 ESXi 主機資訊，可輸入最多 5 台 ESXi 主機

SW IP Address：請輸入安裝關機軟體的 CentOS 的 IP

15. 最後輸入 y 執行關機軟體選單介面

```
uGuard/script/sys/ug_run4.sh
uGuard/script/sys/ug_run5.sh
uGuard/script/sys/ug_run5.sh.bak
uGuard/script/sys/ug_status.db
uGuard/script/sys/ug_Unload
uGuard/script/sys/VERSION
uGuard/script/uGuard.sh
uGuard/script/usr/
Execute shutdown client software now and next boot?(y/n)
y
```

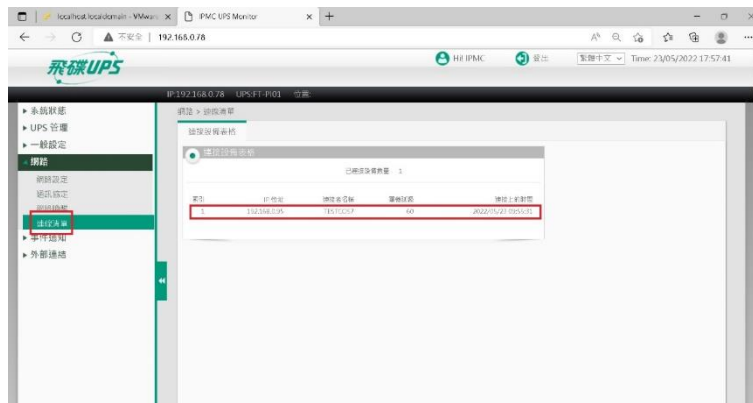
16. 關機軟體選單介面如下圖所示，uGuard Status 顯示 Running 代表設定成功運作中

```
root@localhost:~/Downloads/Sd_ESXi_HA — /bin/sh ./install.sh

[ uGuard Main menu ]
Copyright © 2022 FOXCONN INTERCONNECT TECHNOLOGY LTD.

uGuard Version      : uGuardUsha-3.0.0.a2
uGuard Status       : Running
1. uGuard Configuration
2. uGuard Control
3. uGuard Status
4. uGuard Log
5. ESXi server List Configuration
0. Exit
Please Enter Your Choice =>
```

17. 從網路卡監控介面點選「網路」→「連線清單」可以看到安裝關機軟體的 CentOS 的 IP 代表與網路卡連接成功



18. 日後若要修改 uGuard 設定
可到/etc/uGuard/script/路徑底下使用指令「./uGuard.sh」進入選單

```
=====
[ uGuard Main menu ]
Copyright © 2022 FOXCONN INTERCONNECT TECHNOLOGY LTD.
=====
uGuard Version      : uGuardUsha-3.0.0.a2
uGuard Status       : Running
1. uGuard Configuration
2. uGuard Control
3. uGuard Status
4. uGuard Log
5. ESXi server List Configuration
0. Exit
Please Enter Your Choice --> 0
[root@localhost script]# cd /etc/uGuard/script/
[root@localhost script]# ./uGuard.sh
```


19. 日後若要查看可用的參數

可到/etc/uGuard/script/路徑底下使用指令「./uGuard.sh h」查看

```
[root@localhost script]#  
[root@localhost script]# ./uGuard.sh h  
Usage : ./uGuard.sh [h][v][sS][uU][d][r][p][l][e][g][o0][t]  
h : This manual page .  
v : Show revision information.  
s : Start the program now.  
S : Start the program now, and restart at next boot up time.  
u : Unload program now.  
U : Unload program now, and don't restart at next boot time.  
d : Suspend program.  
r : Resume program.  
p : Probe the status.  
l : List configurations.  
e : Modify configurations.  
g : See log.  
o : Modify shutdown order configure file and enable function.  
0 : Disable shutdown order function.  
t : Display shutdown order status
```

20. 日後若要設定關機順序

可到/etc/uGuard/script/路徑底下使用指令「./uGuard.sh o」來進行設定

此設定介面需使用 vi 文字編輯器來修改，方法如下

- 按下鍵盤 i 為編輯模式，編輯模式下才可修改 IP
- 修改完畢後按下 esc 鍵退出編輯模式
- 退出編輯模式後輸入指令「:wq」存檔
- 輸入指令「:!q」可直接放棄修改並退出
- 注意在編輯時「=」前後皆須留有空白

```
test@localhost:/etc/uGuard/script — /bin/sh ./uGuard.sh o  
;Please enter shutdown order, format follow "VMNIP=ip address"  
;Please enter total shutdown order number for check.  
TotalOrderNumber = 1  
VM1IP = 172.31.1.5  
VM2IP = 0.0.0.0  
VM3IP = 0.0.0.0  
VM4IP = 0.0.0.0  
VM5IP = 0.0.0.0
```

21. 日後若要確認關機順序是否開啟

可到/etc/uGuard/script/路徑底下使用指令「./uGuard.sh t」來進行查看

```
Please Enter Your Choice =>0  
[root@localhost script]# ./uGuard.sh o  
Enable shutdown order successful.  
[root@localhost script]# ./uGuard.sh t  
Shutdown order status : Enable  
[root@localhost script]#
```

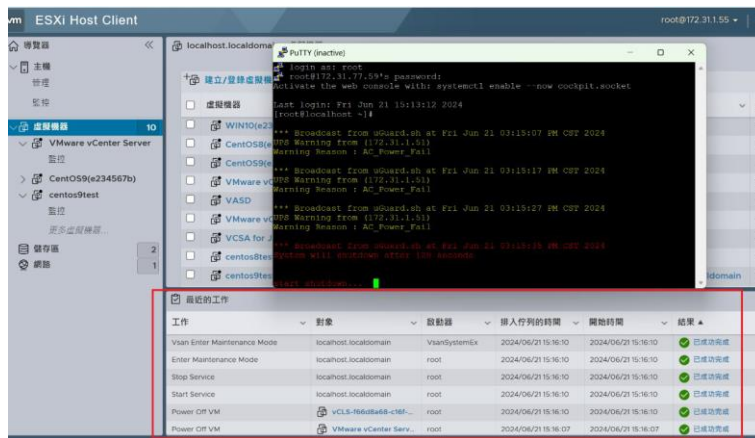
22. 若環境中有 vCenter server，請將 vCenter server 設為優先關閉

23. 為避免運作異常，請勿將用來當跳板的 CentOS 9 設定關機順序

24. 進行關機測試

關機軟體會依照以下順序來觸發關閉Guest OS

- 先將有指定關機順序的Guest OS關閉
(此順序為觸發關閉的順序，並非等待前一個Guest OS關完才開始關下一個)
- 再將其餘未設定順序的Guest OS關閉
- 接著關閉用來當跳板的CentOS 9
- 最後將ESXi server進入維護模式後關閉



25. ESXi 主機關閉後

重新開機需先將主機解除維護模式後才可正常運作

