HW1_110062619


```
frank@frank-VirtualBox:~$ cat /etc/*rele*
DISTRIB_ID=Ubuntu
DISTRIB_RELEASE=20.04
DISTRIB_CODENAME=focal
DISTRIB_DESCRIPTION="Ubuntu 20.04.5 LTS"
NAME="Ubuntu"
VERSION="20.04.5 LTS (Focal Fossa)"
ID=ubuntu
ID_LIKE=debian
PRETTY_NAME="Ubuntu 20.04.5 LTS"
VERSION_ID="20.04"
HOME_URL="https://www.ubuntu.com/"
SUPPORT_URL="https://help.ubuntu.com/"
BUG_REPORT_URL="https://bugs.launchpad.net/ubuntu/"
PRIVACY_POLICY_URL="https://www.ubuntu.com/legal/terms-and-policies/privacy-poli
cy"
VERSION_CODENAME=focal
UBUNTU_CODENAME=focal
frank@frank-VirtualBox:~$ uname -a
Linux frank-VirtualBox 5.13.0-30-generic #33~20.04.1-Ubuntu SMP Mon Feb 7 14:25:
10 UTC 2022 x86_64 x86_64 x86_64 GNU/Linux
```



```
frank@frank-VirtualBox:~$ cat /etc/*rele*
DISTRIB_ID=Ubuntu
DISTRIB_RELEASE=20.04
DISTRIB_CODENAME=focal
DISTRIB_DESCRIPTION="Ubuntu 20.04.5 LTS"
NAME="Ubuntu"
VERSION="20.04.5 LTS (Focal Fossa)"
ID=ubuntu
ID_LIKE=debian
PRETTY_NAME="Ubuntu 20.04.5 LTS"
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HOME_URL="https://www.ubuntu.com/"
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BUG_REPORT_URL="https://bugs.launchpad.net/ubuntu/"
PRIVACY_POLICY_URL="https://www.ubuntu.com/legal/terms-and-policies/privacy-poli
cy"
VERSION_CODENAME=focal
UBUNTU_CODENAME=focal
frank@frank-VirtualBox:~$ uname -a
Linux frank-VirtualBox 5.15.0-60-generic #66~20.04.1-Ubuntu SMP Wed Jan 25 09:41
:30 UTC 2023 x86_64 x86_64 x86_64 GNU/Linux
```

```
frank@frank-VirtualBox:~$ cat /etc/*rele*
DISTRIB_ID=Ubuntu
DISTRIB_RELEASE=20.04
DISTRIB_CODENAME=focal
DISTRIB_DESCRIPTION="Ubuntu 20.04.5 LTS"
NAME="Ubuntu"
VERSION="20.04.5 LTS (Focal Fossa)"
ID=ubuntu
ID_LIKE=debian
PRETTY_NAME="Ubuntu 20.04.5 LTS"
VERSION_ID="20.04"
HOME_URL="https://www.ubuntu.com/"
SUPPORT_URL="https://help.ubuntu.com/"
BUG_REPORT_URL="https://bugs.launchpad.net/ubuntu/"
PRIVACY_POLICY_URL="https://www.ubuntu.com/legal/terms-and-policies/privacy-poli
cy"
VERSION_CODENAME=focal
UBUNTU_CODENAME=focal
frank@frank-VirtualBox:~$ uname -a
Linux frank-VirtualBox 5.17.0 #1 SMP PREEMPT Thu Feb 23 23:09:55 CST 2023 x86_64
 x86_64 x86_64 GNU/Linux
frank@frank-VirtualBox:~$
```

- 一開始我是使用5.13.0-30-generic的Linux kernel，之後我換成5.15.0-60-generic，最後又換成5.17.0。

- 以下紀錄是我從5.15.0 換成 5.17.0的指令

  - cat /etc/*rele*

  - uname -a

  - cd Downloads

  - sudo apt update

  - sudo apt upgrade

  - sudo apt install gcc make libncurses-dev flex bison libssl-dev libelf-dev initramfs-tools-bin

  - wget https://cdn.kernel.org/pub/linux/kernel/v5.x/linux-5.17.tar.xz

  - tar -xvf linux-5.17.tar.xz

  - cd linux-5.17

  - cp /boot/config-5.15.0-60-generic .config

  - make menuconfig

    - 先load .config

- 進去kernel hacking裡的Compile-time checks and compiler options，把Compile kernel with debug info給uncheck(按N)
  - Exit
- vim .config
- make -j 4
  - 我的VM有4個CPU
  - p.s.:這步驟非常久
- sudo make modules_install
- sudo make install
- sudo reboot
- uname -a