

Install MPTCP

Notes:

Siapin space memori kosong minimal 27GB

1. Masuk ke directory /usr/src/ di terminal

```
cd /usr/src/
```

2. Masuk ke super user

```
sudo su
```

3. Clone github

```
git clone --depth=1 git://github.com/multipath-tcp/mptcp.git
```

4. Masuk ke folder /usr/src/mptcp

5. Buat menuconfig

```
make menuconfig
```

Kalau ada error, ikutin aja apa yang diminta. Contohnya:

a. Error ncurses

```
*
* Unable to find the ncurses package.
* Install ncurses (ncurses-devel or libncurses-dev
* depending on your distribution).
*
scripts/kconfig/Makefile:228: recipe for target 'scripts/kconfig/.mconf-cfg' failed
make[1]: *** [scripts/kconfig/.mconf-cfg] Error 1
Makefile:554: recipe for target 'menuconfig' failed
make: *** [menuconfig] Error 2
```

Berarti tinggal install libncurses-dev (sudo apt install libncurses-dev)

```
apt install libncurses-dev
```

b. Error bison

```
UPD      scripts/kconfig/.mconf-cfg
HOSTCC   scripts/kconfig/mconf.o
YACC     scripts/kconfig/zconf.tab.c
/bin/sh: 1: bison: not found
scripts/Makefile.lib:196: recipe for target 'scripts/kconfig/zconf.tab.c' failed
make[1]: *** [scripts/kconfig/zconf.tab.c] Error 127
Makefile:554: recipe for target 'menuconfig' failed
make: *** [menuconfig] Error 2
```

Bison not found --> apt install bison

```
apt install bison
```

c. Error flex

```
whauzan@whauzan:/usr/src/mptcp$ sudo make menuconfig
LEX      scripts/kconfig/zconf.lex.c
/bin/sh: 1: flex: not found
make[1]: *** [scripts/Makefile.lib:188: scripts/kconfig/zconf.lex.c] Error 127
make: *** [Makefile:554: menuconfig] Error 2
```

```
apt install flex
```

d. Display too small

```
D_BINDER_IPC
Your display is too small to run Menuconfig!
It must be at least 19 lines by 80 columns.
make[1]: *** [scripts/kconfig/Makefile:29: menuconfig] Error 1
make: *** [Makefile:554: menuconfig] Error 2
root@mayang-VirtualBox:/usr/src/mptcp#
```

Solusi : terminalnya di full screen dulu

e. Error openssl

```
HOSTCC   scripts/asn1_compiler
HOSTCC   scripts/sign-file
scripts/sign-file.c:25:10: fatal error: openssl/opensslv.h: No such file or directory
 25 | #include <openssl/opensslv.h>
    | 
compilation terminated.
make[1]: *** [scripts/Makefile.host:90: scripts/sign-file] Error 1
make: *** [Makefile:1086: scripts] Error 2
```

```
apt install libssl-dev
```

Kalau udah kaya di bawah ini, berarti berhasil sampe step ini yeay ~(^^~)

```

*** Compiler: gcc (Ubuntu 9.3.0-17ubuntu1~20.04) 9.3.0 ***
General setup --->
[*] 64-bit kernel
  Processor type and features --->
  Power management and ACPI options --->
  Bus options (PCI etc.) --->
  Binary Emulations --->
  Firmware Drivers --->
[*] Virtualization --->
  General architecture-dependent options --->
[*] Enable loadable module support --->
[*] Enable the block layer --->
  Executable file formats --->
  Memory Management options --->
[*] Networking support --->
  Device Drivers --->
  File systems --->
  Security options --->
-- Cryptographic API --->
  Library routines --->
  Kernel hacking --->

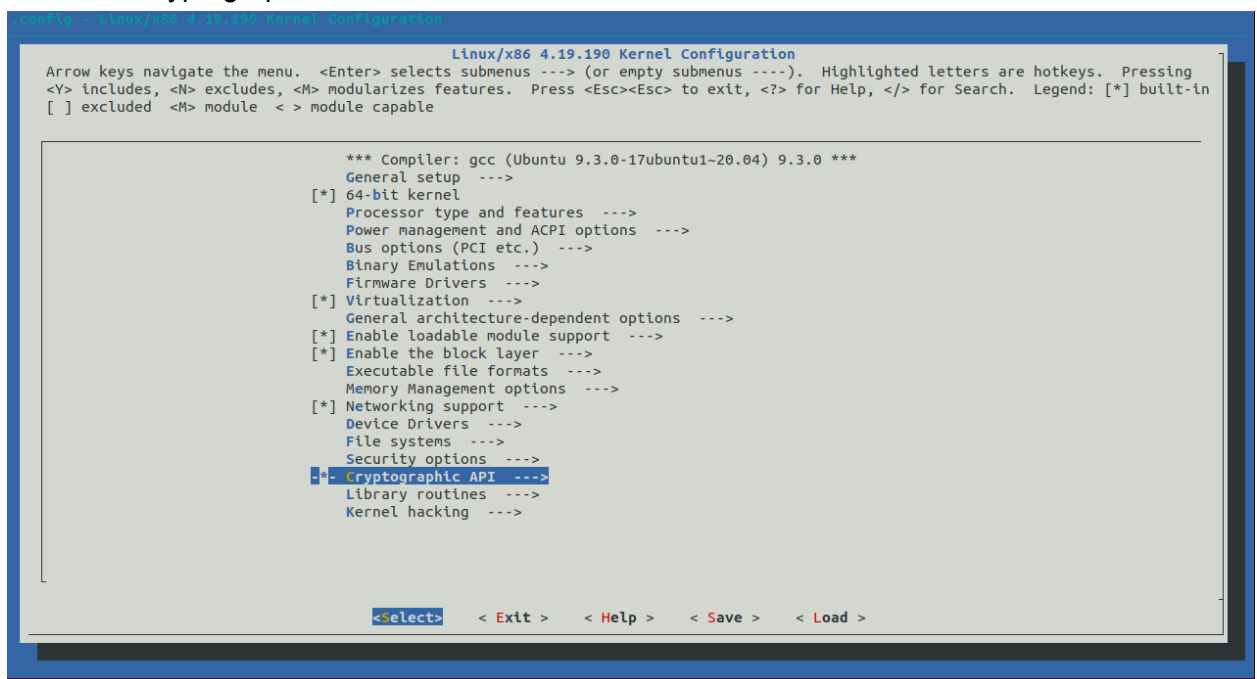
```

6. Config Certificates :

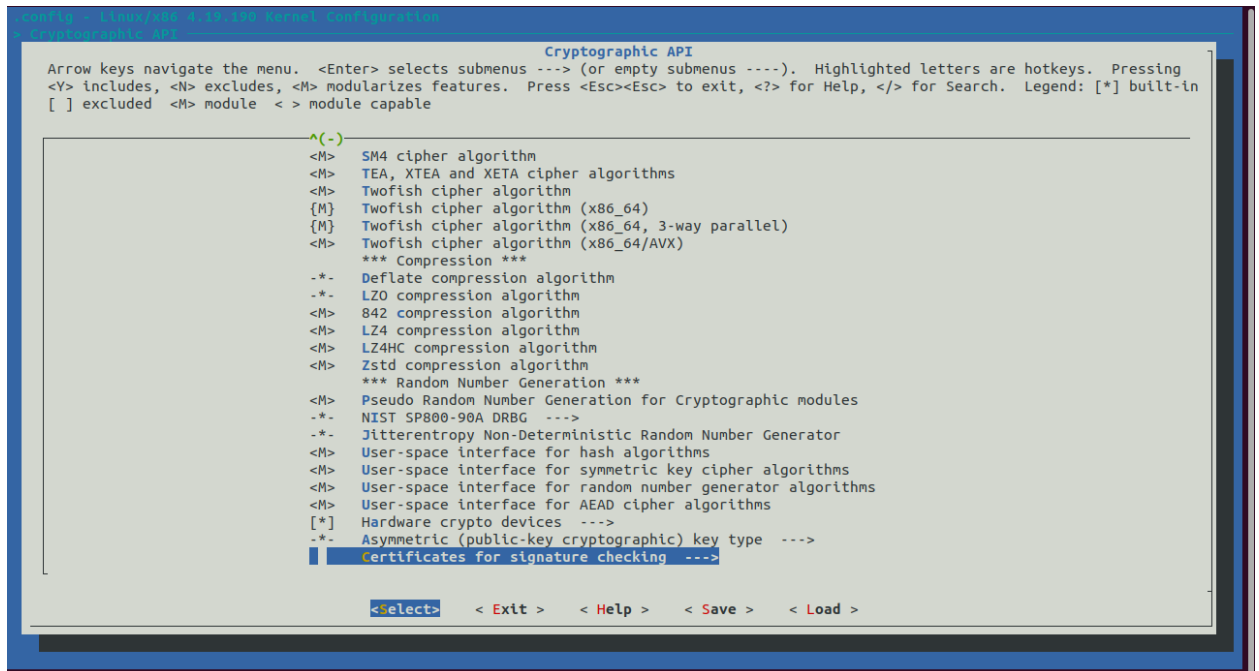
- Setelah berhasil make menuconfig di tahap 5

make menuconfig

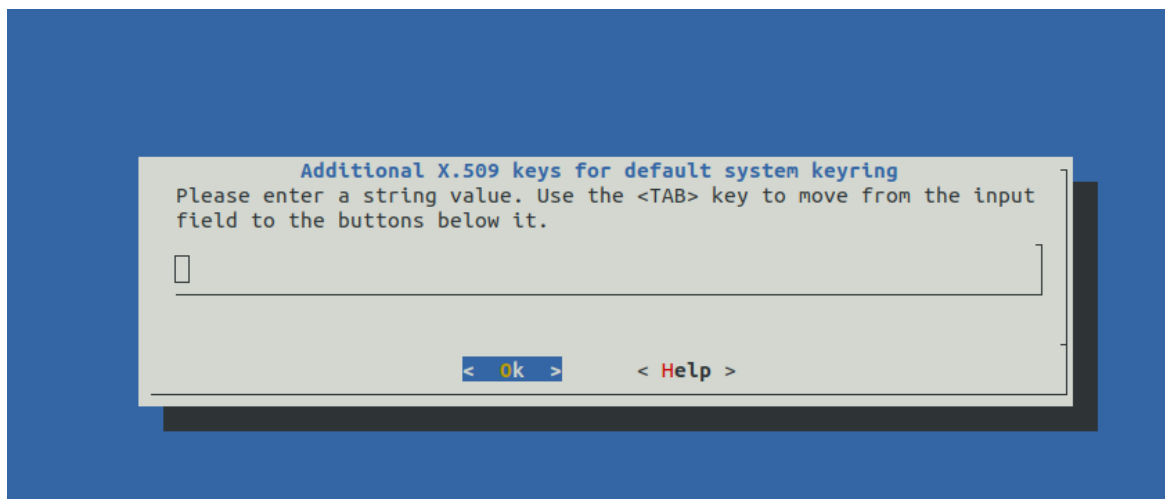
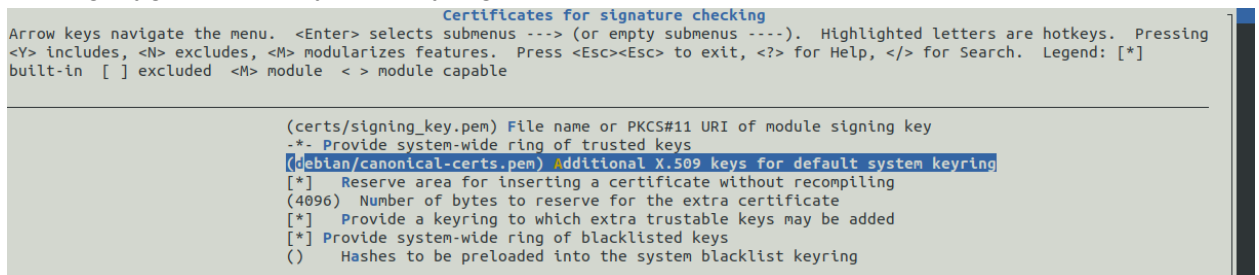
- Masuk ke Cryptographic API



- Masuk ke Certificates for signature checking



- Kosongin yg additional system keyring > OK



Save + exit aja, cek di folder mptcpnya pastiin ada file .config (cek hidden files)

7. Compile MPTCP Kernel

Tahap ini bisa ngambil 20 GB dan running time emang lama jadi tungguin aja

```
sudo make
```

Kalau ada error **cert**

```
make[1]: *** No rule to make target 'debian/canonical-certs.pem', needed by 'certs/x509_certificate_list'. Stop.  
make: *** [Makefile:1071: certs] Error 2  
whauzan@whauzan:/usr/src/mptcp$
```

Ikutin langkah config cert di poin 5

8. Compile and install module

Tahap ini bisa ngambil sekitar 6 GB

```
sudo make modules_install
```

9. Installation

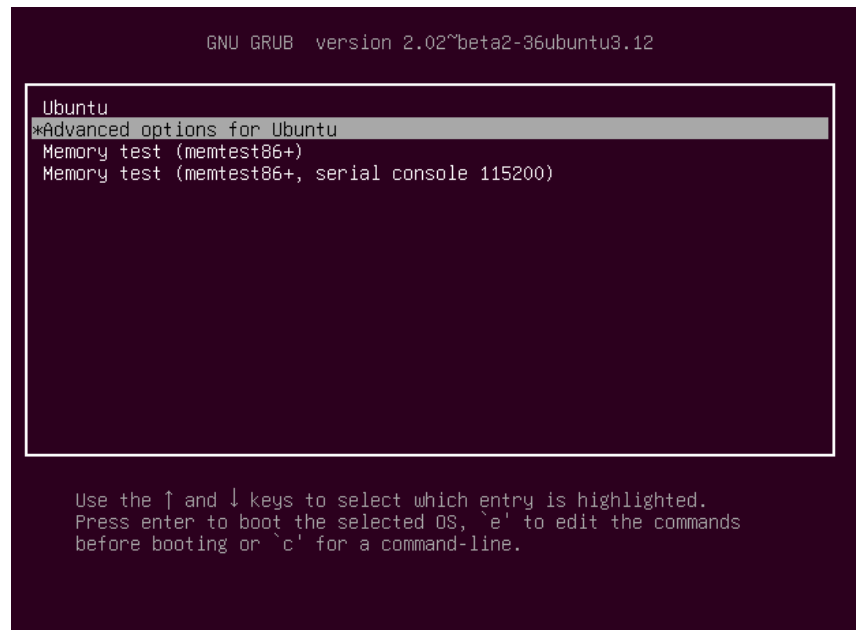
```
sudo make install
```

10. Reboot ubuntu ke linux mptcp

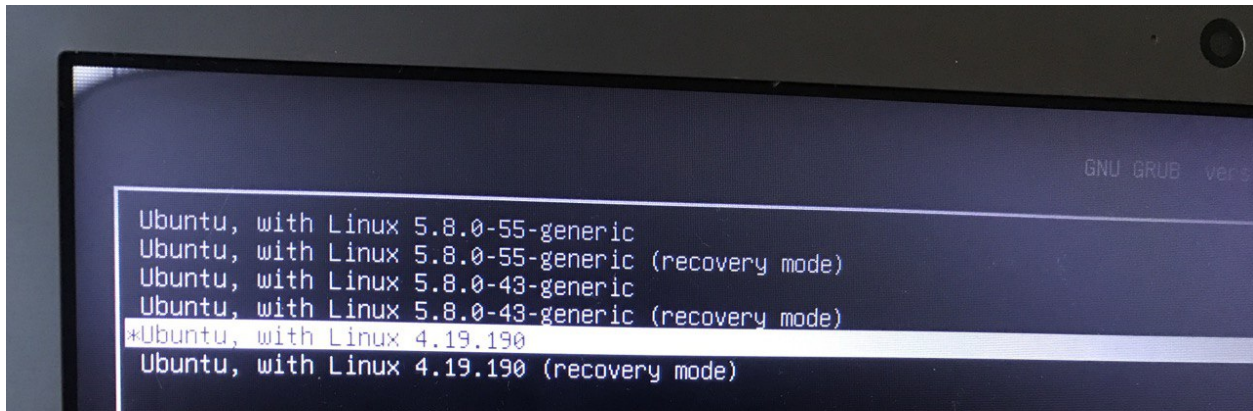
Reboot ubuntunya > masuk ke advanced options > pilih yang paling baru diinstall

Cara masuk ke advance options :

Reboot ubuntu, tahan tombol shift pas mulai bootnya



Pilih advanced options > pilih ubuntu yang paling baru (bisa jadi beda versi)



11. Verify

Cek udah berhasil install atau ngga:

```
sysctl net.mptcp
```

```
amseels@amseels:/$ sysctl net.mptcp
net.mptcp.mptcp_checksum = 1
net.mptcp.mptcp_debug = 0
net.mptcp.mptcp_enabled = 1
net.mptcp.mptcp_path_manager = default
net.mptcp.mptcp_scheduler = default
net.mptcp.mptcp_syn_retries = 3
net.mptcp.mptcp_version = 0
```