

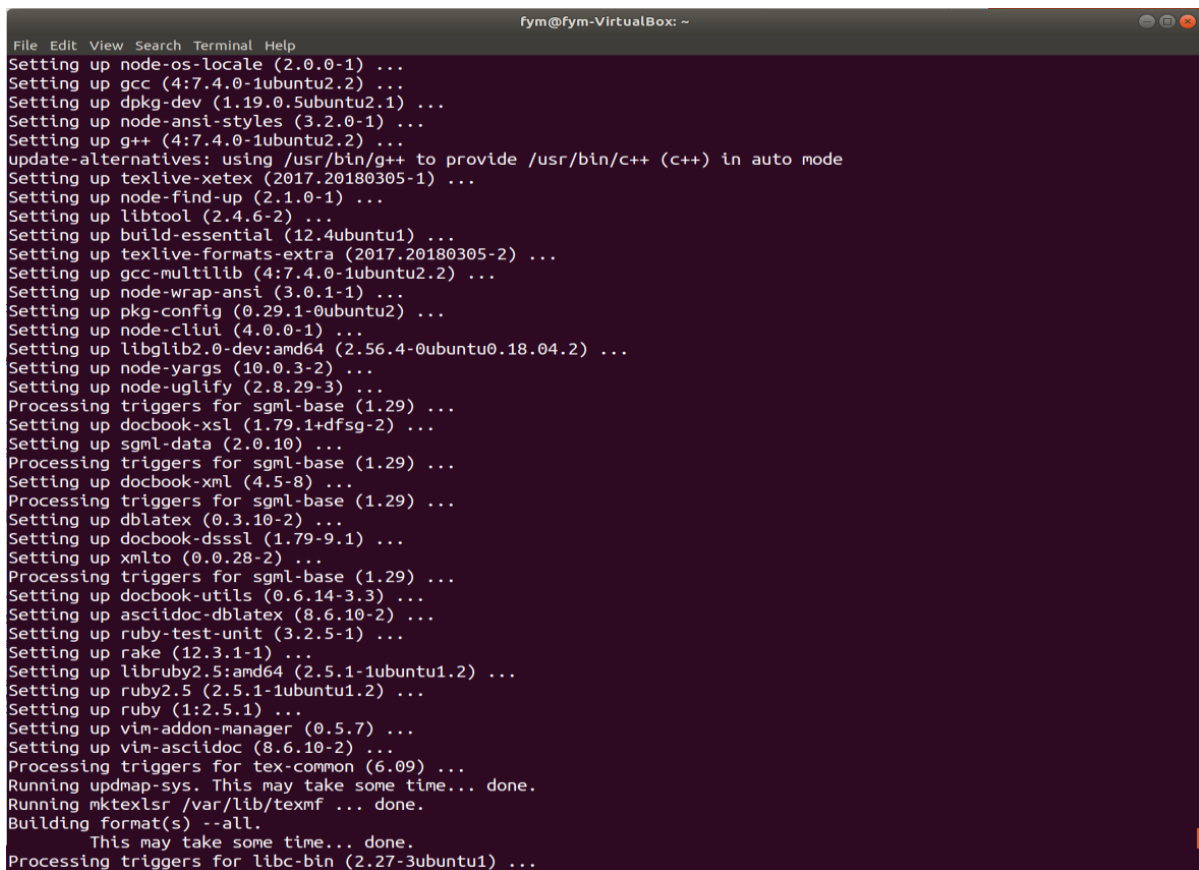
Lab4 Report

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Lede 編譯步驟

1. 安裝必要套件

```
sudo apt-get update
sudo apt-get -y install build-essential asciidoc binutils bzip2 gawk
gettext git libncurses5-dev libz-dev patch unzip zlib1g-dev lib32gcc1
libc6-dev-i386 subversion flex uglifyjs git-core gcc-multilib p7zip p7zip-
full msmtplib libssl-dev texinfo libglib2.0-dev xmlto qemu-utils upx libelf-
dev autoconf automake libtool autopoint
```

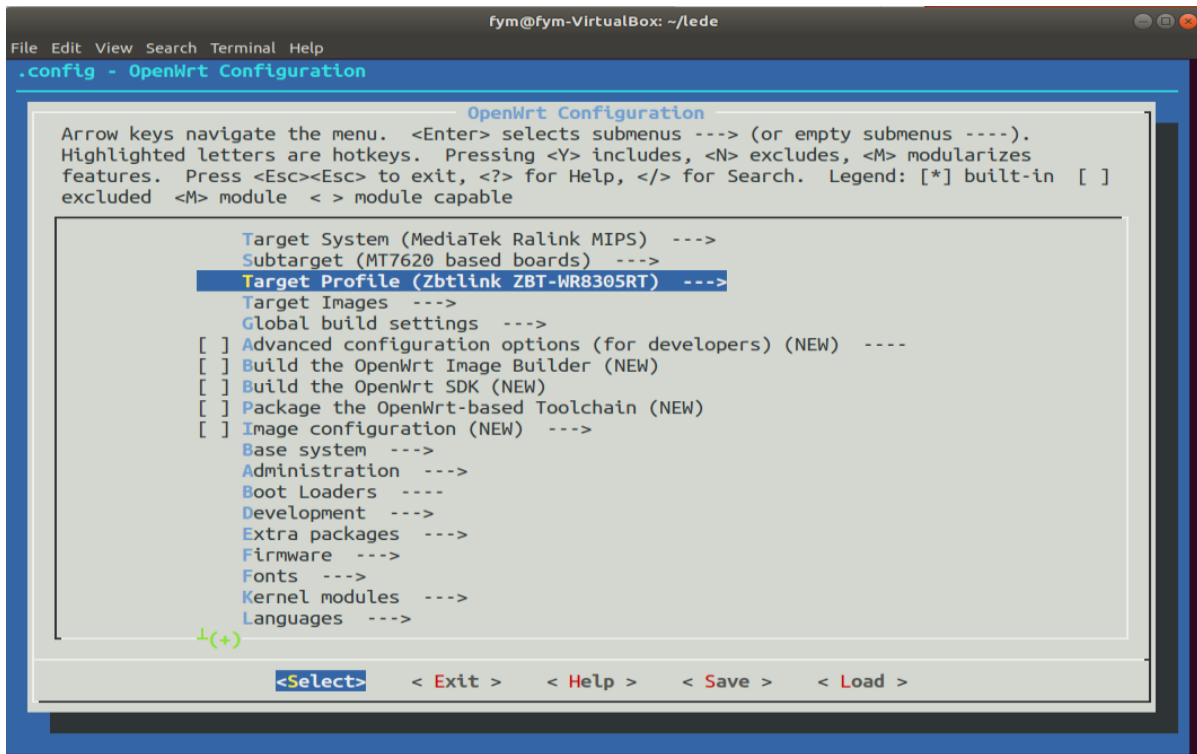


```
fym@fym-VirtualBox: ~
File Edit View Search Terminal Help
Setting up node-os-locale (2.0.0-1) ...
Setting up gcc (4:7.4.0-1ubuntu2.2) ...
Setting up dpkg-dev (1.19.0.5ubuntu2.1) ...
Setting up node-ansi-styles (3.2.0-1) ...
Setting up g++ (4:7.4.0-1ubuntu2.2) ...
update-alternatives: using /usr/bin/g++ to provide /usr/bin/c++ (c++) in auto mode
Setting up texlive-xetex (2017.20180305-1) ...
Setting up node-find-up (2.1.0-1) ...
Setting up libtool (2.4.6-2) ...
Setting up build-essential (12.4ubuntu1) ...
Setting up texlive-formats-extra (2017.20180305-2) ...
Setting up gcc-multilib (4:7.4.0-1ubuntu2.2) ...
Setting up node-wrap-ansi (3.0.1-1) ...
Setting up pkg-config (0.29.1-0ubuntu2) ...
Setting up node-cliui (4.0.0-1) ...
Setting up libglib2.0-dev:amd64 (2.56.4-0ubuntu0.18.04.2) ...
Setting up node-yargs (10.0.3-2) ...
Setting up node-uglify (2.8.29-3) ...
Processing triggers for sgml-base (1.29) ...
Setting up docbook-xsl (1.79.1+dfsg-2) ...
Setting up sgml-data (2.0.10) ...
Processing triggers for sgml-base (1.29) ...
Setting up docbook-xml (4.5-8) ...
Processing triggers for sgml-base (1.29) ...
Setting up dlatex (0.3.10-2) ...
Setting up docbook-dsssl (1.79-9.1) ...
Setting up xmlto (0.0.28-2) ...
Processing triggers for sgml-base (1.29) ...
Setting up docbook-utils (0.6.14-3.3) ...
Setting up asciidoc-dlatex (8.6.10-2) ...
Setting up ruby-test-unit (3.2.5-1) ...
Setting up rake (12.3.1-1) ...
Setting up libruby2.5:amd64 (2.5.1-1ubuntu1.2) ...
Setting up ruby2.5 (2.5.1-1ubuntu1.2) ...
Setting up ruby (1:2.5.1) ...
Setting up vim-addon-manager (0.5.7) ...
Setting up vim-asciidoc (8.6.10-2) ...
Processing triggers for tex-common (6.09) ...
Running upmap-sys. This may take some time... done.
Running mktexlsr /var/lib/texmf ... done.
Building format(s) --all.
This may take some time... done.
Processing triggers for libc-bin (2.27-3ubuntu1) ...
```

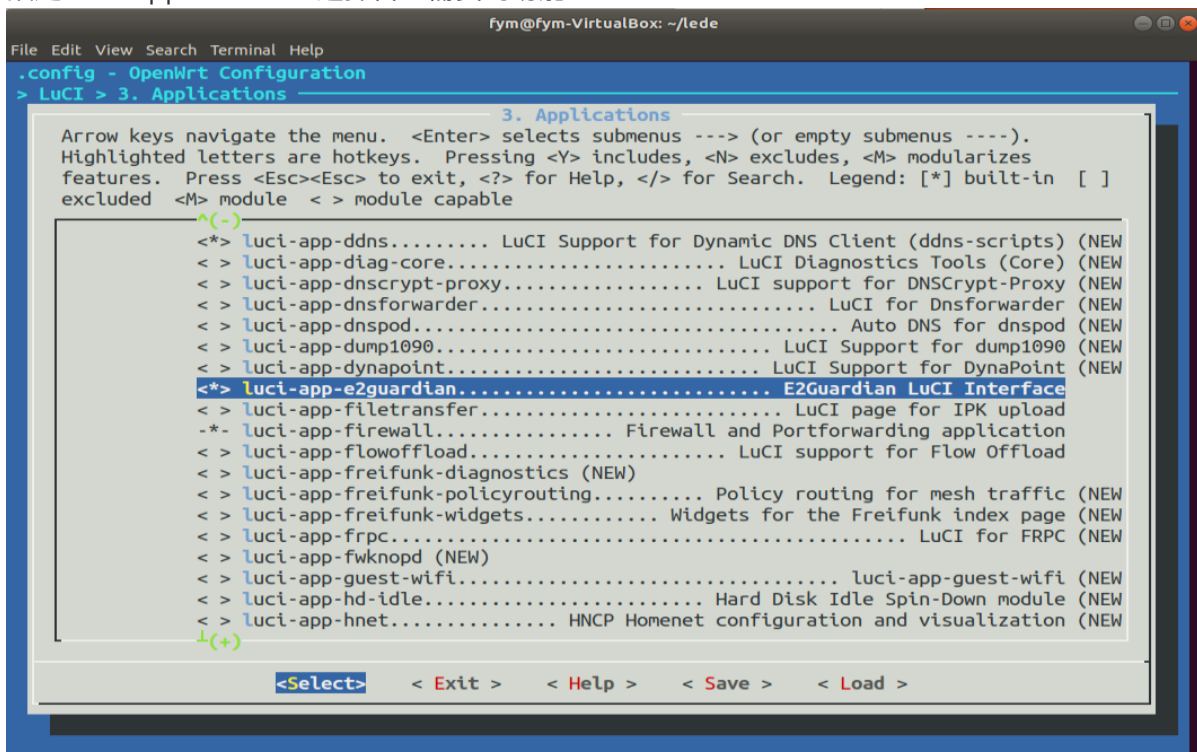
2. 下載 lede

```
git clone https://github.com/coolsnowwolf/lede.git
```

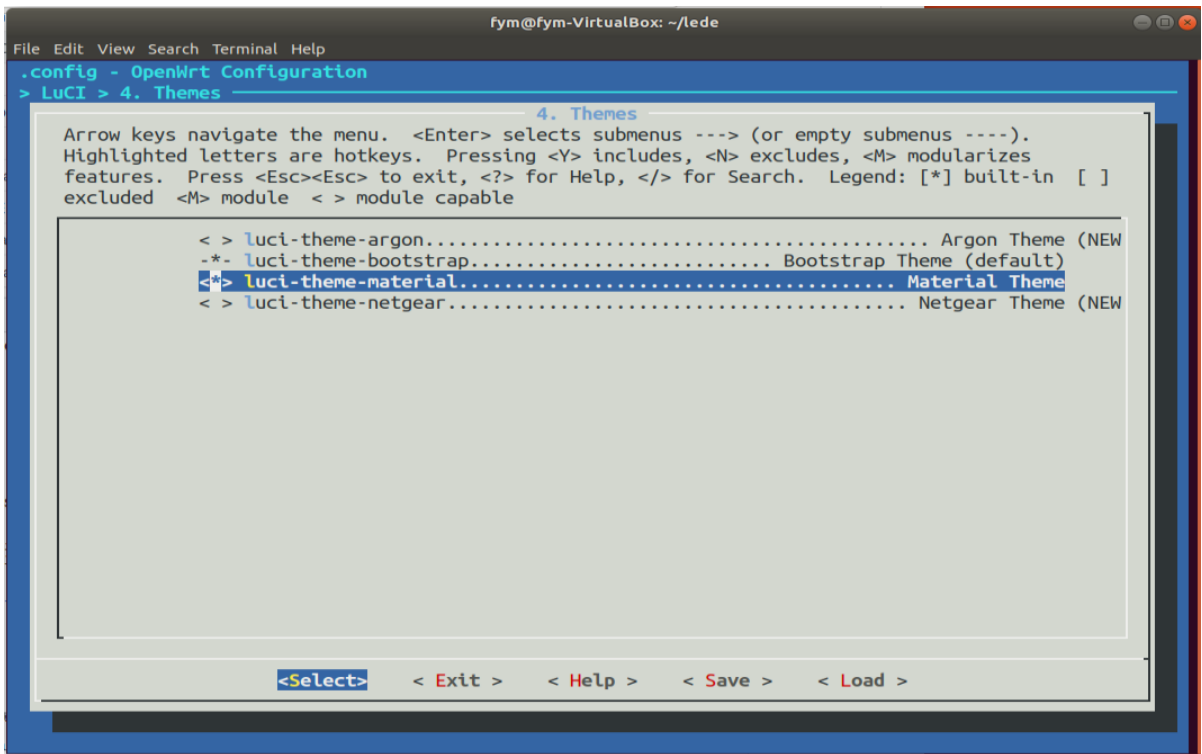
3. `./scripts/feeds update -a`



設定 Luci: Applications，選擇自己需要的功能

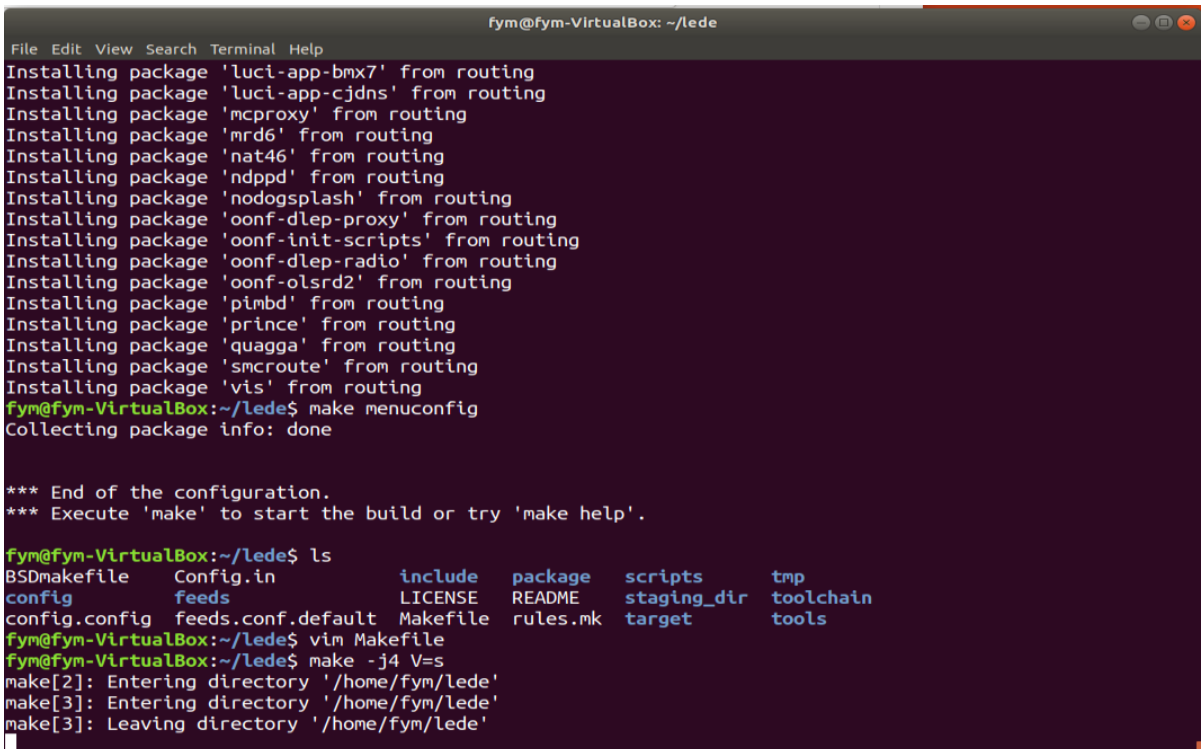


設定 Luci: Themes，選擇想要的主題



6. 開始編譯

```
make -j1 V=s
```

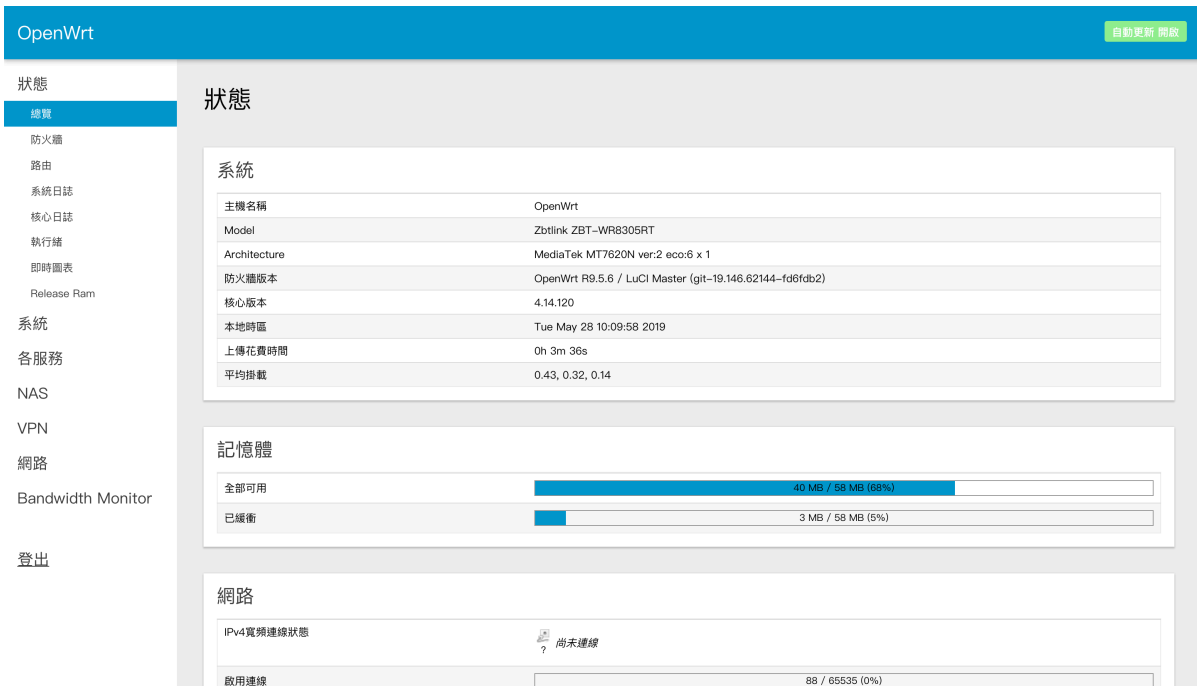


編譯完成

```
fym@fym-VirtualBox: ~/lede
File Edit View Search Terminal Help
Generating index for package ./p910nd_0.97-5_x86_64.ipk
Generating index for package ./pptpd_1.4.0-3_x86_64.ipk
Generating index for package ./shadowsocks-libev-config_3.2.1-1_x86_64.ipk
Generating index for package ./shadowsocks-libev-ss-redir_3.2.1-1_x86_64.ipk
Generating index for package ./sqm-scripts_1.3.0-1_all.ipk
Generating index for package ./strongswan-charon_5.6.3-2_x86_64.ipk
Generating index for package ./strongswan-ipsec_5.6.3-2_x86_64.ipk
Generating index for package ./strongswan-minimal_5.6.3-2_x86_64.ipk
Generating index for package ./strongswan-mod-aes_5.6.3-2_x86_64.ipk
Generating index for package ./strongswan-mod-gmp_5.6.3-2_x86_64.ipk
Generating index for package ./strongswan-mod-hmac_5.6.3-2_x86_64.ipk
Generating index for package ./strongswan-mod-kernel-netlink_5.6.3-2_x86_64.ipk
Generating index for package ./strongswan-mod-nonce_5.6.3-2_x86_64.ipk
Generating index for package ./strongswan-mod-pubkey_5.6.3-2_x86_64.ipk
Generating index for package ./strongswan-mod-random_5.6.3-2_x86_64.ipk
Generating index for package ./strongswan-mod-sha1_5.6.3-2_x86_64.ipk
Generating index for package ./strongswan-mod-socket-default_5.6.3-2_x86_64.ipk
Generating index for package ./strongswan-mod-stroke_5.6.3-2_x86_64.ipk
Generating index for package ./strongswan-mod-updown_5.6.3-2_x86_64.ipk
Generating index for package ./strongswan-mod-x509_5.6.3-2_x86_64.ipk
Generating index for package ./strongswan-mod-xauth-generic_5.6.3-2_x86_64.ipk
Generating index for package ./strongswan-mod-xcbc_5.6.3-2_x86_64.ipk
Generating index for package ./strongswan_5.6.3-2_x86_64.ipk
Generating index for package ./wget_1.19.5-1_x86_64.ipk
Generating index for package ./wifischedule_1-2_all.ipk
Generating index for package ./zerotier_1.2.12-3_x86_64.ipk
Signing package index...
make[2]: Leaving directory '/home/fym/lede'
export MAKEFLAGS= ;make -w -r checksum
make[2]: Entering directory '/home/fym/lede'
make[2]: Leaving directory '/home/fym/lede'
make[1]: Leaving directory '/home/fym/lede'
fym@fym-VirtualBox: ~/lede$
```

編譯完後就可在 `lede/bin/targets/ramips/mt7620` 看見 bin 檔。

- 7. 上傳 firmware：進入 router 後，至更新韌體的地方上傳新的 firmware。
- 8. 結果： 我將新的路由器韌體加入了繁體中文的介面以及 Material 這個主題：



Lede 的使用感想

透過這次的 lab，我發現 lede 真是個好用的路由器韌體套件，除了使用上很簡單、容易上手之外，其功能之強大也是令我感到十分驚豔，包括很高的硬體支援度，以及超過3000個的套件，幾乎可以滿足大多數人的需求，更有許多更進階的功能，其中包括廣告攔截、家長時間控制、DDNS 等功能。此外，Lede 也可以應用在 IOT 上，可以用來連接攝影機等裝置。