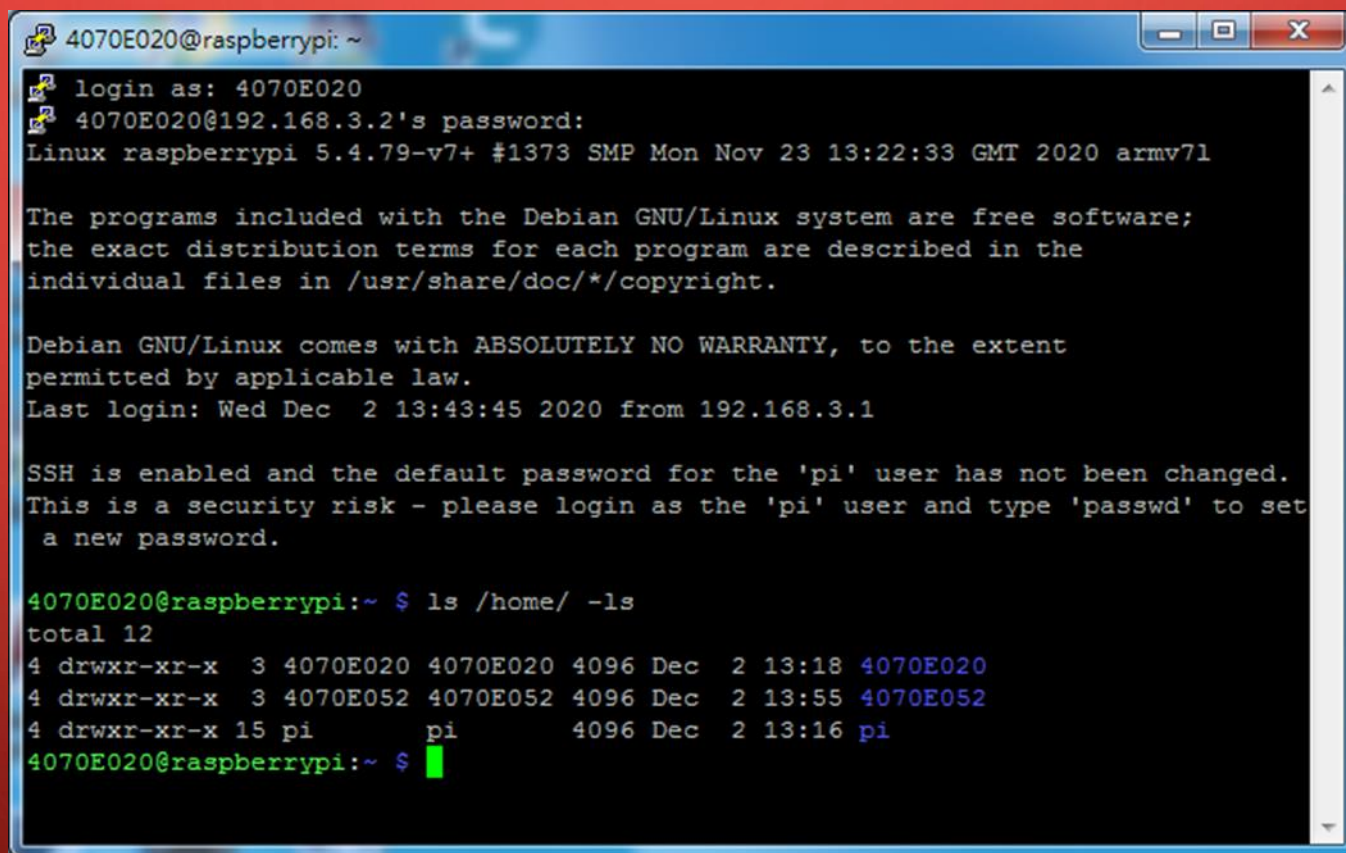




# RPI建置過程

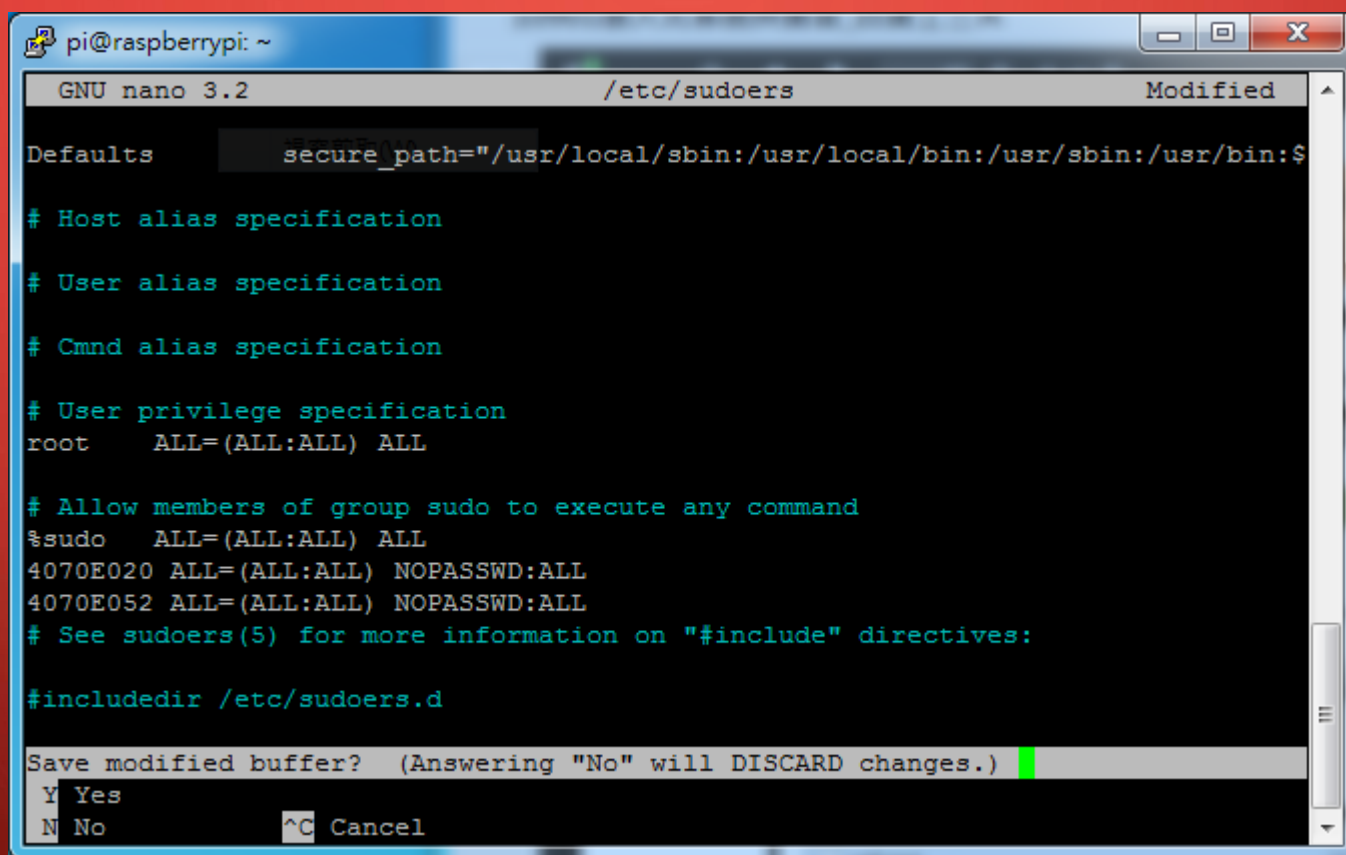
資工三A 4070E020 陳冠曉

# 列出帳號



```
4070E020@raspberrypi: ~  
login as: 4070E020  
4070E020@192.168.3.2's password:  
Linux raspberrypi 5.4.79-v7+ #1373 SMP Mon Nov 23 13:22:33 GMT 2020 armv7l  
  
The programs included with the Debian GNU/Linux system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*/copyright.  
  
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent  
permitted by applicable law.  
Last login: Wed Dec  2 13:43:45 2020 from 192.168.3.1  
  
SSH is enabled and the default password for the 'pi' user has not been changed.  
This is a security risk - please login as the 'pi' user and type 'passwd' to set  
a new password.  
  
4070E020@raspberrypi:~ $ ls /home/ -ls  
total 12  
4 drwxr-xr-x  3 4070E020 4070E020 4096 Dec  2 13:18 4070E020  
4 drwxr-xr-x  3 4070E052 4070E052 4096 Dec  2 13:55 4070E052  
4 drwxr-xr-x 15 pi      pi      4096 Dec  2 13:16 pi  
4070E020@raspberrypi:~ $
```

# 帳號加入群組



```
pi@raspberrypi: ~  
GNU nano 3.2 /etc/sudoers Modified  
Defaults      secure_path="/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:$  
  
# Host alias specification  
  
# User alias specification  
  
# Cmnd alias specification  
  
# User privilege specification  
root    ALL=(ALL:ALL) ALL  
  
# Allow members of group sudo to execute any command  
%sudo    ALL=(ALL:ALL) ALL  
4070E020 ALL=(ALL:ALL) NOPASSWD:ALL  
4070E052 ALL=(ALL:ALL) NOPASSWD:ALL  
# See sudoers(5) for more information on "#include" directives:  
  
#includedir /etc/sudoers.d  
  
Save modified buffer? (Answering "No" will DISCARD changes.)  
Y Yes  
N No      ^C Cancel
```

# 1.安裝APACHE2

```
4070E020@raspberrypi:~  
4070E020@raspberrypi:~ $ sudo raspi-config  
OK  
4070E020@raspberrypi:~ $ sudo apt-get install apache2 -y  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following additional packages will be installed:  
  apache2-bin apache2-data apache2-utils libapr1 libaprutil1  
  libaprutil1-dbd-sqlite3 libaprutil1-ldap  
Suggested packages:  
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom  
The following NEW packages will be installed:  
  apache2 apache2-bin apache2-data apache2-utils libapr1 libaprutil1  
  libaprutil1-dbd-sqlite3 libaprutil1-ldap  
0 upgraded, 8 newly installed, 0 to remove and 0 not upgraded.  
Need to get 1,969 kB of archives.  
After this operation, 6,164 kB of additional disk space will be used.  
Get:1 http://mirror.ossplanet.net/raspbian/raspbian buster/main armhf libapr1 ar  
mhf 1.6.5-1 [83.3 kB]  
Get:2 http://mirror.ossplanet.net/raspbian/raspbian buster/main armhf libaprutil  
1 armhf 1.6.1-4 [81.7 kB]  
Get:3 http://mirror.ossplanet.net/raspbian/raspbian buster/main armhf libaprutil  
1-dbd-sqlite3 armhf 1.6.1-4 [17.3 kB]  
Get:4 http://mirror.ossplanet.net/raspbian/raspbian buster/main armhf libaprutil  
1-ldap armhf 1.6.1-4 [16.3 kB]  
Get:5 http://mirror.ossplanet.net/raspbian/raspbian buster/main armhf apache2-bi  
n armhf 2.4.38-3+deb10u4 [1,119 kB]  
Get:6 http://mirror.ossplanet.net/raspbian/raspbian buster/main armhf apache2-da  
ta all 2.4.38-3+deb10u4 [165 kB]  
Get:7 http://mirror.ossplanet.net/raspbian/raspbian buster/main armhf apache2-ut  
ils armhf 2.4.38-3+deb10u4 [235 kB]  
Get:8 http://mirror.ossplanet.net/raspbian/raspbian buster/main armhf apache2 ar  
mhf 2.4.38-3+deb10u4 [251 kB]  
Fetched 1,969 kB in 5s (406 kB/s)  
Selecting previously unselected package libapr1:armhf.  
(Reading database ... 98377 files and directories currently installed.)  
Preparing to unpack .../0-libapr1_1.6.5-1_armhf.deb ...  
Unpacking libapr1:armhf (1.6.5-1) ...  
Selecting previously unselected package libaprutil1:armhf.  
Preparing to unpack .../1-libaprutil1_1.6.1-4_armhf.deb ...  
Unpacking libaprutil1:armhf (1.6.1-4) ...  
Selecting previously unselected package libaprutil1-dbd-sqlite3:armhf.  
Preparing to unpack .../2-libaprutil1-dbd-sqlite3_1.6.1-4_armhf.deb ...  
Unpacking libaprutil1-dbd-sqlite3:armhf (1.6.1-4) ...  
Selecting previously unselected package libaprutil1-ldap:armhf.  
Preparing to unpack .../3-libaprutil1-ldap_1.6.1-4_armhf.deb ...  
Unpacking libaprutil1-ldap:armhf (1.6.1-4) ...  
Selecting previously unselected package apache2-bin.  
Preparing to unpack .../4-apache2-bin_2.4.38-3+deb10u4_armhf.deb ...  
Unpacking apache2-bin (2.4.38-3+deb10u4) ...  
Selecting previously unselected package apache2-data.  
Preparing to unpack .../5-apache2-data_2.4.38-3+deb10u4_all.deb ...  
Unpacking apache2-data (2.4.38-3+deb10u4) ...  
Selecting previously unselected package apache2-utils.  
Preparing to unpack .../6-apache2-utils_2.4.38-3+deb10u4_armhf.deb ...  
Unpacking apache2-utils (2.4.38-3+deb10u4) ...  
Selecting previously unselected package apache2.  
Preparing to unpack .../7-apache2_2.4.38-3+deb10u4_armhf.deb ...  
Unpacking apache2 (2.4.38-3+deb10u4) ...  
Setting up libapr1:armhf (1.6.5-1) ...  
Setting up apache2-data (2.4.38-3+deb10u4) ...  
Setting up libaprutil1:armhf (1.6.1-4) ...
```

## 2.啟動APACHE2

```
4070E020@raspberrypi: ~  
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent  
permitted by applicable law.  
Last login: Wed Dec  2 13:30:11 2020 from 192.168.3.1  
  
SSH is enabled and the default password for the 'pi' user has not been changed.  
This is a security risk - please login as the 'pi' user and type 'passwd' to set  
a new password.  
  
4070E020@raspberrypi:~ $ sudo apt update -y  
Get:1 http://raspbian.raspberrypi.org/raspbian buster InRelease [15.0 kB]  
Get:2 http://archive.raspberrypi.org/debian buster InRelease [32.6 kB]  
Reading package lists... Done  
E: Release file for http://raspbian.raspberrypi.org/raspbian/dists/buster/InRelease  
is not valid yet (invalid for another 15d 15h 7min 25s). Updates for this repository  
will not be applied.  
E: Release file for http://archive.raspberrypi.org/debian/dists/buster/InRelease  
is not valid yet (invalid for another 12d 19h 23min 4s). Updates for this repository  
will not be applied.  
4070E020@raspberrypi:~ $ sudo systemctl enable apache2  
Synchronizing state of apache2.service with SysV service script with /lib/systemd/  
systemd-sysv-install.  
Executing: /lib/systemd/systemd-sysv-install enable apache2  
4070E020@raspberrypi:~ $ sudo systemctl start apache2  
4070E020@raspberrypi:~ $
```

# 3.測試網頁





## 4.安裝PHP與APACHE2套件

```
4070E020@raspberrypi: ~  
Setting up php7.3-readline (7.3.19-1~deb10u1) ...  
  
Creating config file /etc/php/7.3/mods-available/readline.ini with new version  
Setting up php7.3-cli (7.3.19-1~deb10u1) ...  
update-alternatives: using /usr/bin/php7.3 to provide /usr/bin/php (php) in auto  
mode  
update-alternatives: using /usr/bin/phar7.3 to provide /usr/bin/phar (phar) in a  
uto mode  
update-alternatives: using /usr/bin/phar.phar7.3 to provide /usr/bin/phar.phar (p  
har.phar) in auto mode  
  
Creating config file /etc/php/7.3/cli/php.ini with new version  
Setting up libapache2-mod-php7.3 (7.3.19-1~deb10u1) ...  
  
Creating config file /etc/php/7.3/apache2/php.ini with new version  
Module mpm_event disabled.  
Enabling module mpm_prefork.  
apache2_switch_mpm Switch to prefork  
apache2_invoke: Enable module php7.3  
Setting up libapache2-mod-php (2:7.3+69) ...  
Setting up php7.3 (7.3.19-1~deb10u1) ...  
Setting up php (2:7.3+69) ...  
Processing triggers for man-db (2.8.5-2) ...  
4070E020@raspberrypi:~ $ sudo apt-get install php libapache2-mod-php -y  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
libapache2-mod-php is already the newest version (2:7.3+69).  
php is already the newest version (2:7.3+69).  
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.  
4070E020@raspberrypi:~ $
```

## 5.進入網頁根目錄新增測試網頁

```
4070E020@raspberrypi: /var/www/html
Creating config file /etc/php/7.3/mods-available/readline.ini with new version
Setting up php7.3-cli (7.3.19-1~deb10u1) ...
update-alternatives: using /usr/bin/php7.3 to provide /usr/bin/php (php) in auto
mode
update-alternatives: using /usr/bin/phar7.3 to provide /usr/bin/phar (phar) in a
uto mode
update-alternatives: using /usr/bin/phar.phar7.3 to provide /usr/bin/phar.phar (
phar.phar) in auto mode

Creating config file /etc/php/7.3/cli/php.ini with new version
Setting up libapache2-mod-php7.3 (7.3.19-1~deb10u1) ...

Creating config file /etc/php/7.3/apache2/php.ini with new version
Module mpm_event disabled.
Enabling module mpm_prefork.
apache2_switch_mpm Switch to prefork
apache2_invoke: Enable module php7.3
Setting up libapache2-mod-php (2:7.3+69) ...
Setting up php7.3 (7.3.19-1~deb10u1) ...
Setting up php (2:7.3+69) ...
Processing triggers for man-db (2.8.5-2) ...
4070E020@raspberrypi:~ $ sudo apt-get install php libapache2-mod-php -y
Reading package lists... Done
Building dependency tree
Reading state information... Done
libapache2-mod-php is already the newest version (2:7.3+69).
php is already the newest version (2:7.3+69).
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
4070E020@raspberrypi:~ $ cd /var/www/html
4070E020@raspberrypi:/var/www/html $ sudo nano phpinfo.php
4070E020@raspberrypi:/var/www/html $
```



## 6. 撰寫PHP



```
4070E020@raspberrypi: /var/www/html
GNU nano 3.2 phpinfo.php
?php
echo phpinfo();
?>
```

^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos  
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell ^\_ Go To Line

# 8.PHP測試網頁

← → ① 不安全 | 192.168.3.1/phpinfo.php 無痕模式

PHP Version 7.3.19-1~deb10u1	
System	Linux raspberrypi 5.4.51-v7+ #1333 SMP Mon Aug 10 16:45:19 BST 2020 armv7l
Build Date	Jul 5 2020 06:46:45
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc/php/7.3/apache2
Loaded Configuration File	/etc/php/7.3/apache2/php.ini
Scan this dir for additional .ini files	/etc/php/7.3/apache2/conf.d
Additional .ini files parsed	/etc/php/7.3/apache2/conf.d/10-opcache.ini, /etc/php/7.3/apache2/conf.d/10-pdo.ini, /etc/php/7.3/apache2/conf.d/20-calendar.ini, /etc/php/7.3/apache2/conf.d/20-type.ini, /etc/php/7.3/apache2/conf.d/20-xml.ini, /etc/php/7.3/apache2/conf.d/20-xmlrpc.ini, /etc/php/7.3/apache2/conf.d/20-ftp.ini, /etc/php/7.3/apache2/conf.d/20-gd.ini, /etc/php/7.3/apache2/conf.d/20-iconv.ini, /etc/php/7.3/apache2/conf.d/20-javascript.ini, /etc/php/7.3/apache2/conf.d/20-mysql.ini, /etc/php/7.3/apache2/conf.d/20-pgsql.ini, /etc/php/7.3/apache2/conf.d/20-readline.ini, /etc/php/7.3/apache2/conf.d/20-sockets.ini, /etc/php/7.3/apache2/conf.d/20-sysmsg.ini, /etc/php/7.3/apache2/conf.d/20-sysvsem.ini, /etc/php/7.3/apache2/conf.d/20-sysvshm.ini, /etc/php/7.3/apache2/conf.d/20-tokener.ini
PHP API	20180731
PHP Extension	20180731
Zend Extension	320180731
Zend Extension Build	API320180731.NTS
PHP Extension Build	API20180731.NTS
Debug Build	no
Thread Safety	disabled
Zend Signal Handling	enabled
Zend Memory Manager	enabled
Zend Multibyte Support	disabled
IPv6 Support	enabled
DTrace Support	available, disabled
Registered PHP Streams	https, ftps, compress.zlib, php, file, glob, data, http, ftp, phar
Registered Stream Socket Transports	tcp, udp, unix, udg, ssl, tls, tlsv1.0, tlsv1.1, tlsv1.2
Registered Stream Filters	zlib *, string.rot13, string.toupper, string.tolower, string.strip_tags, convert.*, consumed, dechunk, convert.iconv.*

This program makes use of the Zend Scripting Language Engine: