1. Programming C GPIO
   1. **cd Desktop/**
   2. **mkdir Programming**
   3. **cd Programming**
   4. **wget** [**http://www.airspayce.com/mikem/bcm2835/bcm2835-1.37.tar.gz**](http://www.airspayce.com/mikem/bcm2835/bcm2835-1.37.tar.gz) ( download thư viện “bcm2835-1.37.tar.gz”)
   5. **tar –zxvf bcm2835-1.37.tar.gz** (giải nén file “bcm2835-1.37.tar.gz”)
   6. **cd bcm2835-1.37/**
   7. **./configure**
   8. **make**
   9. **sudo make check**
   10. **sudo make install**
   11. **cd ..** (trở về thư mục cha)
   12. **mkdir blink** (tạo thư mục blink)
   13. **cd blink/**
   14. **sudo nano blink.c** (tạo một file blink.c bằng editor nano)
   15. **gcc -o blink blink.c - l bcm2835** (biên dịch bằng thư viện gcc)
   16. **sudo ./blink** (chạy file blink được biên dịch từ file ” blink.c”)
2. Setting up a web server using raspbian wheezy on the raspberry Pi
   1. Boot the image
      1. sudo raspbi-config(cấu hình hệ thống)
   2. set a root password
      1. sudo passwd (đặt password )
      2. sudo su (quyền truy cập vào người sử dụng root)
   3. install the proftpd fpt server
      1. apt-get install proftpd (cài đặt proftpd fpt server)
   4. install the apache2 web server
      1. sudo apt-get update && sudo apt-get upgrade (update tất cả trước khi cài đặt apache2)
      2. apt-get install apache2 (cài đặt apache2)
      3. service apache2 start (chạy apache 2)
      4. service apache2 stop (dừng chạy apache 2)
      5. ifconfig (xem cấu hình mạng chú ý xem phần “inet addr:”)
      6. config

Record the numbers immediately following inet addr: in the first paragraph of the output.

Then, edit two existing files, and create an new file as detailed in **A5.1a below**.

A5.1a Edit /etc/hostname as follows:

cd /etc

nano hostname

nano is a Linux editor. Change the line raspberrypi to your chosen name for your server.

Mine is raspbianwheezy97. This is essential anyway if you have more than one Raspberry Pi.

Then save the file with [Ctrl]+O and exit nano with [Ctrl]+X.

**A5.1b Then edit /etc/hosts as follows:**

nano hosts

Add the lines (the first line may already present but commented out with a # symbol):

127.0.0.1 localhost

10.0.0.97 localhost

and, if you wish, also add the following line to the hosts file:

10.0.0.97 raspbianwheezy97

In the /etc/hosts file, 127.0.0.1 is the standard IP address and localhost the standard TC/IP

hostname for local reference to the current physical machine.

Replace 10.0.0.97 by your actual IP address noted earlier, and raspbianwheezy97 by your

chosen name for your Raspberry Pi machine.

Then save the file with [Ctrl]+O and exit nano with [Ctrl]+X.

A5.1c Next, create an extra file in the /etc/apache2/conf.d directory as follows:

cd /etc/apache2/conf.d

nano servername.conf

which will open the nano editor with a new empty file called servername.conf.

Type your ServerName into the file under the ServerName directive:

ServerName raspbianwheezy97

Change the name to that chosen for your own machine.

Then save the file [Ctrl]+O and exit nano with [Ctrl]+X.

As Apache2 loads data from the files in conf.d into its configuration, these changes will remove the

error concerning Apache2 not finding your server name. It is preferable to use this method of adding to

the Apache2 configuration as editing the main configuration file may introduce unintentional errors.

Stop and start Apache2 as described in A5. above.

A5.2 After restarting Apache2 you can test Apache2 from your remote workstation by typing

http://10.0.0.97 into the address bar of a web browser (e.g. Internet Explorer). Replace 10.0.0.97 with

your own Raspberry Pi's IP address.

You should see a message stating "It works!"

If you wish to be able to type http://raspbianwheezy97 into the address bar, then you must add

10.0.0.97 raspbianwheezy97

into your Windows hosts file, which is commonly in C:\Windows\System32\drivers\etc.

By now you know that you must use your own Raspberry Pi IP address and chosen hostname.

If you have a Domain Name Server (DNS) on your network, it is preferable to record the Raspberry Pi's

details in that rather than in the hosts files of all of your workstations.

* + 1. sudo /etc/init.d/apache2 restart (restart apache 2)
  1. Install the php programming environment
     1. apt-get install php5 libapache2-mod-php5 php-initl php5-mcrypt php5-curl php5-gd php5-sqlite(cài đặt php)
     2. cd /var/www
     3. nano phpinformation.php (xem thông tin về php)

<?php

Phpinfo();

?>

* 1. install the MySQL database management system
     1. apt-get install mysql-server mysql-client php5-mysql (cài đặt MySQL)
     2. mysql -u root -p (truy nhập vào mysql)

-u parameter signifies that the next item is a username

-b parameter tells MySQL to expect a password.

* 1. Install the APC support package for PHP
     1. apt-get install php-pear php5-dev apache2-prefork-dev build-essential make && pecl install apc (cài đặt APC)
     2. nano /etc/php5/apache2/php.ini (edit the php.ini configuration file)
     3. thêm “extension = apc.so” vào sau dòng “Dynamic Extension”
  2. install some additional items
     1. apt-get install nmap
     2. apt-get install zenmap
  3. install phpMyAdmin
     1. apt-get install libapache2-mod-auth-mysql php5-mysql phpmyadmin (cài đặt phpmyadmin)
     2. thêm

# Các lệnh Shell cơ bản trong Linux

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1. Sdfsdf