Setting up WEB Server from Raspberry Pi

อัพเดทแพคเกจ

sudo apt-get update sudo apt-get upgrade ทำการติดตั้ง Apache, MySQL, PHP, phpMyAdmin sudo apt-get install apache2 sudo apt-get install php5 sudo apt-get install mysql-server sudo apt-get install phpmyadmin

sudo apt-get <u>install</u> phpmyadmin sudo apt-get <u>purge</u> phpmyadmin sudo apt-get <u>autoremove</u> phpmyadmin

ติดตั้ง Apache sudo apt-get install apache2 -y



sudo apt-get install php5 sudo apt-get install php5 libapache2-mod-php5 –y

pi@raspberrypi ~ \$ sudo apt-get install php5 libapache2-mod-php5 -y
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following extra packages will be installed:
 apache2-mpm-prefork libonig2 libqdbm14 lsof php5-cli php5-common

pi@raspberrypi ~ \$ cd /var/www

pi@raspberrypi /var/www \$ ls index.html

pi@raspberrypi /var/www \$ sudo mv index.html index.php

ใช้ nano เพื่อเปิดไฟล์ index.php โดยใช้คำสั่ง sudo nano index.php

pi@raspberrypi /var/www \$ sudo nano index.php

<html><body><h1>It works!</h1> This is the default web page for this server. The web server software is running but no content has been added, yet. </body></html>



<?php phpinfo(); ?>



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phpinfo()	×		
← ⇒ C fi	192.168.1.37	S 🛉	

PHP Version 5.4.35-0+deb7u2



System	Linux raspberrypi 3.12.22+ #691 PREEMPT Wed Jun 18 18:29:58 BST 2014 armv6l
Build Date	Nov 19 2014 10:00:47
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled

sudo apt-get install mysql-server sudo apt-get install mysql-server php5-mysql -y

pi@raspberrypi /var/www \$ sudo apt-get install mysql-server php5-mysql -y
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following extra packages will be installed:
 heirloom-mailx libaio1 libdbd-mysql-perl libdbi-perl libhtml-template-perl
 libmysqlclient16 libmysqlclient18 mysql-client-5.5 mysql-common
 mysql-server-5.5 mysql-server-core-5.5
Suggested packages:
 exim4 mail-transport-agent libipc-sharedcache-perl libterm-readkey-perl
 tinyca







ทดสอบ mysql

mysql --user=root --password=1234

```
pi@JohnnyWorkerRedPixel:~ $ mysql --user=root --password=1234
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 40
Server version: 5.5.54-0+deb8u1 (Raspbian)
```

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> exit Bye pi@JohnnyWorkerRedPixel:~ \$

sudo apt-get install phpmyadmin -y

pi@raspberrypi /var/www \$ sudo apt-get install phpmyadmin -y
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following extra packages will be installed:
 dbconfig-common libmcrypt4 php5-gd php5-mcrypt
Suggested packages:
 libmered.packages:
 libmered.p

libmcrynt-dev mcrynt

Web Server Apache2





Please provi this package Password of	Configurin de the password for the should create its Mys the database's adminis	ng phpmyadmin he administrative account with which SQL database and user. strative user:
Accessed in the second s		

- Configuring phpmyadmin -

Please provide a password for phpmyadmin to register with the database server. If left blank, a random password will be generated.

MySQL application password for phpmyadmin:

(Ok)

<Cancel>

Password confi	rmation:
<0k>	<cancel></cancel>
KUK3	(Cancel)



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← → C 192.168.10.1	14/phpmyadmin/index.php?token=f0d2625f745ff408d518b9fc000a9ba9	P 😒 🚍
php <mark>MyAdmin</mark>	ț∄ localhost	
<u>A 5</u> 🗟 🛛 🖓	☐ Databases ☐ SQL Status Processes More	
information_schema	General Settings	MySQL
 mysql performance_schema 	 Change password MySQL connection collation .: utf8_general_ci Appearance Settings Language .: English Theme / Style: pmahomme 	 Server: Localhost via UNIX socket Server version: 5.5.50-0+deb7u2 Protocol version: 10 User: root@localhost MySQL charset: UTF-8 Unicode (utf8) Web server Apache/2.2.22 (Debian)
	 Font size: 82% More settings 	 MySQL client version: 5.5.50 PHP extension: mysqli
		 phpMyAdmin Version information: 3.4.11.1deb2+deb7u5 Documentation

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						~A44	

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🗲 🔿 C 🗋 192.168.1.153/phpmyadmin/index.php?token=2af17fb83099b62981da561c824c59a1#PMAURL-5:db_structure.php?db=mysql&table=8

php MyAdmin	-	🗊 Server: Io	ocalhost » 🍵 🛙	Databa	ase: n	nysql									
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php MyAdmin	← 🖪 Server: localhost »	🕤 Database: mysql			
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sudo chmod -R 777 /var/www

sudo chmod -R777 /var/www

```
test.pv 🗶 index_lab10_pass.php 🗶
1
 2
     <?php
 3
     $str server = "localhost";
 4
     $str username = "root";
 5
     $str password = "1234";
 6
    $str dbname = "mysgl";
 7
    $obj con = mysql connect($str server,$str username,$str password);
    mysql select db($str dbname, $obj con);
 8
     mysql query("SET NAMES UTF8");
 9
     $str sgl = "Select * From rp2cam ";
10
11
     $rs rp2cam = mysql query($str sql,$obj con);
12
     22
13
   E<html xmlns="192.168.43.77/PRi">
14
    ḋ<head>
15
    <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
16
    <title>microcontroller59 Raspberrvpi</title>
17
    </head>
   E<body bgcolor= #eeffff>
18
19
   ⊡<center>
20
   ⊡
21
   白>
    22
    <center><font color= white > 15 15 15 15 16 5 / (font></center>
23
    <center><font color= white > is is is is is a dot / center>
24
25
    - 
26
   b<?php while($row rp2cam = mysql fetch array($rs rp2cam)) { ?>
27
    白>
    <?php echo $row rp2cam['date']?>
28
29
    ?php echo $row rp2cam['time']?>
    black="black" black" black" black" black"
30
31
    <?php echo $row rp2cam['name']?>
32
    -</a>/td>
33
    - 
34
    <?php } ?>
35
    36
    </center>
37
    </body>
38
```

```
<?php
$str server = "localhost";
$str username = "root";
$str password = "1234";
$str dbname = "mysql";
$obj con = mysql connect($str server,$str username,$str password);
mysql select db($str dbname,$obj con);
mysal query("SET NAMES UTF8");
$str sql = "Select * From rp2cam ";
$rs_rp2cam = mysql_query($str_sql,$obj_con);
?>
<html xmlns="192.168.43.77/PRi">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<title>microcontroller59 Raspberrypi</title>
</head>
<body bgcolor= #eeffff>
<center>
<center><font color= white >วันที่</font></center>
<center><font color= white >unan</font></center>
<center><font color= white >ชี่ขภาพ</font></center>
<?php while($row_rp2cam = mysql_fetch_array($rs_rp2cam)) { ?>
<?php echo $row rp2cam['date']?>
<?php echo $row rp2cam['time']?>
<a href="pic<?php echo $row rp2cam['name']?>.jpg" target=" blank">
<?php echo $row rp2cam['name']?>
</a>
<?php } ?>
</center>
</body>
```

Import error :No module named pymysql

sudo apt-get install python-pip sudo pip3 install pymysql sudo pip install pymysql

pi@JohnnyWorkerRedPixel:~ \$
pi@JohnnyWorkerRedPixel:~ \$
pi@JohnnyWorkerRedPixel:~ \$ sudo pip3 install pymysql
Downloading/unpacking pymysql
Downloading PyMySQL-0.7.9-py3-none-any.whl (78kB): 78kB downloaded
Installing collected packages: pymysql
Successfully installed pymysql
Cleaning up...
pi@JohnnyWorkerRedPixel:~ \$

👜 lab_10_6_CameraWeb_3.py - /home/pi/python_codes - Geany					
File Edit Search View Document Pro	ject	Build Tools Help			
🕑 🗸 💼 🖌 🎂 🗃 🛛 🕹 🗙 🐇 👘	<u>_</u>	💊 🗸 🏩 🗌		<u>/</u> % 📭	
Symbols Inch 05 020 16v2 ld	@)	Set Build Commands			- • ×
Symbols Iab_05_020_Tox2_0	#	Label	Command	Working directory	Reset
a connection [2 #Test pass	Ру	thon commands		1	
a datedb [27]	1.	Compile	python3.4 -m py_compile "%f"		2
ø datedb [38] 6 import RPi.	2			1	
Import time mysql [32]	2.				
picname [15 9 import pical import sys	3.				
µ picname [26 11 import pymy µ	E	rror regular expression:			4
picname [37 13 connection	Inc	lependent commands			
↓ timedb [28] 14 #connection 15 picname=0	1.	Make	make		
timedb [39] 16 GPIO.setwar a timepic [25] 17 GPIO.setmod	2.	Make Custom Target	make		
↓ timepic [20] 18 GPIO.setup(↓ timepic [40] 19 □with picame	3	Make Object	make %e o		
□ { } Imports 20 □ while (21 cam	0.				
	4.				
23:51:00: This is Geany 1.24.1.	E	rror regular expression:			4
Status 23:51:00: File /home/pi/python_co	No	te: Item 2 opens a dialogu	e and appends the response to the co	mmand.	
Compiler 23:51:00: File /home/pi/python_co	Ex	ecute commands			
Messages	1.	Execute	python3.4 "%f"		4
~	2.				4
This is Geany 1.24.1.	%0	%e %f %p are substitute	d in command and directory fields, se	e manual for details	
	100	, we, wi, wp are substitute	a in communa and and aneotory fields, set		
				Cancel	ОК

test.py 💥 index_lab10_pass.php 💥 lab_10_6_CameraWeb_3.py 💥

```
#Teeratus R. 2016 Jul'20
 1
      #Test pass 2016 Aug'25
 2
 3
      #File : lab 10 6 CameraWeb 3.py
 4
 5
 6
      import RPi.GPIO as GPIO
 7
      import time
 8
      import datetime
 9
      import picamera
10
      import sys
11
      import pymysgl
12
      connection = pymysgl.connect('127.0.0.1','root','1234','mysgl') #
13
      #connection = pymysql.connect(host,user,password,msql db)
14
15
      picname=0
16
      GPIO.setwarnings(False)
17
      GPIO.setmode(GPIO.BCM)
18
      GPIO.setup(18,GPIO.IN,pull up down=GPIO.PUD UP)
19
    Ewith picamera.PiCamera()as camera:
20
    白
          while (1):
21
              camera.resolution=(1024,768)
22
              camera.resolution=(1024,768)
23
              camera.start preview()
24
              GPIO.wait for edge(18,GPIO.FALLING)
25
              timepic= datetime.datetime.today()
              picname=str(timepic.year)+str(timepic.month)+ str(timepic.day)+str(timepic.hour)+str(timepic.minute)+str(timepic.second)
26
27
              datedb= str(timepic.day)+'-'+str(timepic.month)+'-'+ str(timepic.year)
28
              timedb= str(timepic.hour)+':'+str(timepic.minute)+':'+ str(timepic.second)
29
              camera.capture('/var/www/html/pic'+str(picname)+'.jpg')
30
    白
              trv:
31
     白
                  with connection.cursor() as cursor:
32
                      mysql="insert into rp2cam (date,time,name)VALUES (%s ,%s,%s)"
                      cursor.execute(mvsgl, (str(datedb), str(timedb), str(picname)))
33
34
                      time.sleep=1
35
                      connection.commit()
36
    白
              finally:
                  picname=''
37
38
                  datedb=''
39
                  timedb=''
                  timepic=''
40
                  #connection.close()
41
```

To close a terminal window

To close a terminal window you can use the exit command . Alternatively you can use the shortcut

ctrl+shift+w

to close a terminal tab

and ctrl+shift+q to close the entire terminal including all tabs.

#Teeratus R. 2016 Jul'20 #Test pass 2016 Aug'25 #File : lab_10_6_CameraWeb_3.py

import RPi.GPIO as GPIO import time import datetime import picamera import sys import pymysql connection = pymysql.connect('127.0.0.1','root','1234','mysql') # #connection = pymysql.connect(host,user,password,msql_db) picname=0 GPIO.setwarnings(False) GPIO.setmode(GPIO.BCM) GPIO.setup(18,GPIO.IN,pull up down=GPIO.PUD UP) with picamera.PiCamera()as camera: while (1): camera.resolution=(1024,768) camera.resolution=(1024,768) camera.start preview() GPIO.wait_for_edge(18,GPIO.FALLING) timepic= datetime.datetime.today() picname=str(timepic.year)+str(timepic.month)+ str(timepic.day)+str(timepic.hour)+str(timepic.minute)+str(timepic.second) datedb= str(timepic.day)+'-'+str(timepic.month)+'-'+ str(timepic.year) timedb= str(timepic.hour)+':'+str(timepic.minute)+':'+ str(timepic.second) camera.capture('/var/www/html/pic'+str(picname)+'.jpg') try: with connection.cursor() as cursor: mysql="insert into rp2cam (date,time,name)VALUES (%s,%s,%s)" cursor.execute(mysql,(str(datedb),str(timedb),str(picname))) time.sleep=1 connection.commit()

finally:

picname=''
datedb=''
timedb=''
timepic=''
#connection.close()

\$	Set	ting >	C Untitle X I microe X S th.eler X New Tab X	
←	\rightarrow	G	() 192.168.137.243/index_lab10_pass.php	

วันที่	เวลา	ชื่อภาพ
29-8-2016	23:40:5	201682923405
10-9-2016	14:59:10	<u>2016910145910</u>
10-9-2016	14:59:32	<u>2016910145932</u>
10-9-2016	15:19:14	<u>2016910151914</u>
10-9-2016	15:19:24	<u>2016910151924</u>
10-9-2016	15:19:35	<u>2016910151935</u>
10-9-2016	15:19:48	<u>2016910151948</u>
17-9-2016	15:4:33	<u>201691715433</u>
17-9-2016	15:4:45	<u>201691715445</u>
17-9-2016	15:5:9	20169171559
17-9-2016	16:36:32	2016917163632

```
index_lab10_20170119.php 🕷 | lab-10-6_CameraWeb_20170119.py 🕷
   1
  2
               <?php
   3
              $str server = "localhost";
   4
              $str username = "root":
   5
              $str password = "1234";
   6
              $str dbname = "mysql";
   7
              $obj con = mysql connect($str server,$str username,$str password);
   8
              mysql select db($str dbname,$obj con);
              mysql query("SET NAMES UTF8");
  9
 10
              $str sql = "Select * From rpi2cam ";
              $rs rpi2cam = mysql query($str sql,$obj con);
 11
12
               2>
 13

Find the second s
 14
           ḋ<head>
 15
              <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
              <title>microcontroller20170119 Raspberrypi</title>
 16
            </head>
 17
           body bgcolor= #eeffff>
 18
           白<center>
 19
           E
 20
           白>
 21
              <center><font color= white >ภันที่</font></center><//or>
 22
              <center><font color= white >unan</font></center>
 23
              <center><font color= white >font></center><//or>
 24
            25
           26
 27
           白>
              <?php echo $row rpi2cam['date']?>
 28
              <?php echo $row rpi2cam['time']?>
 29
           白<a href="pic<?php echo $row_rpi2cam['name']?>.jpg" target="_blank">
 30
              <?php echo $row rpi2cam['name']?>
 31
             </a>
 32
             33
            -<?php } ?>
 34
             35
            </center>
 36
             </body>
 37
38
```

```
index_lab10_20170119.php × lab-10-6_CameraWeb_20170119.py ×
 5
      #File2: lab-10-6_CameraWeb_20170119.py
 6
 7
      import pymysql
 8
      import RPi.GPI0 as GPI0
 9
      import time
10
      import datetime
      import picamera
11
12
      import sys
      #connection = pymysql.connect('127.0.0.1','root','pathum2rp','mysql') #ที่ปัดเล้นใต้ต้องแก้ไป
13
14
      #connection = mysgl.connect(host,user,password,db)
      connection = pymysql.connect('127.0.0.1','root','1234','mysql')
15
      picname=0
16
17
      GPI0.setwarnings(False)
      GPI0.setmode(GPI0.BCM)
18
19
      GPI0.setup(18,GPI0.IN,pull up down=GPI0.PUD UP)
    Ewith picamera.PiCamera()as camera:
20
          while (1):
21
22
              camera.resolution=(1024,768)
              camera.resolution=(1024,768)
23
24
              camera.start_preview()
              GPI0.wait_for_edge(18,GPI0.FALLING)
25
              timepic= datetime.datetime.today()
26
27
              picname=str(timepic.year)+str(timepic.month)+ str(timepic.day)+str(timepic.hour)+str(timepic.minute)+str(timepic.second)
              datedb= str(timepic.day)+'-'+str(timepic.month)+'-'+ str(timepic.year)
28
29
              timedb= str(timepic.hour)+':'+str(timepic.minute)+':'+ str(timepic.second)
              camera.capture('/var/www/html/pic'+str(picname)+'.jpg')
30
31
     自占
              try:
                  with connection.cursor() as cursor:
32
                      #mysql="insert into pathum2 (date,time,name)VALUES (%s ,%s,%s)"
33
34
                      mysql = "insert into rpi2cam (date,time,name)VALUES (%s ,%s,%s)"
35
                      #cursor.execute(mysql,(str(datedb),str(timedb),str(picname)))
                      cursor.execute(mysql,(str(datedb),str(timedb),str(picname)))
36
37
                      time.sleep=1
                      connection.commit()
38
39
     Ė1
              finally:
                  picname=''
40
                  datedb=''
41
                  timedb=''
42
                  timepic=''
43
                  #connection.close()
44
45
```

	Alternate Function				Alternate Function
		3.3V PWR	1	2 5V PWR	
	I2C1 SDA	GPIO 2	3	4 5V PWR	
	12C1 SCL	GPIO 3	5	6 GND	
		GPIO 4	7	 8 UARTO TX	
		GND	9	10 UARTO RX	
		GPIO 17	11	12 GPIO 18	
		GPIO 27	13	14 GND	
		GPIO 22	15	16 GPIO 23	
		3.3V PWR	17	18 GPIO 24	
	SPI0 MOSI	GPIO 10	19	20 GND	
The cost of the co	SPI0 MISO	GPIO 9	21	22 GPIO 25	
	SPI0 SCLK	GPIO 11	23	24 GPIO 8	SPI0 CS0
		GND	25	26 GPIO 7	SPI0 CS1
		Reserved	27	28 Reserved	
		GPIO 5	29	30 GND	
		GPIO 6	31	32 GPIO 12	
14393 14393		GPIO 13	33	34 GND	
	SPI1 MISO	GPIO 19	35	 36 GPIO 16	SPI1 CS0
		GPIO 26	37	 38 GPIO 20	SPI1 MOSI
		GND	39	40 GPIO 21	SPI1 SCLK



```
import pymysql
import RPi.GPIO as GPIO
import time
import datetime
import picamera
import sys
#connection = pymysql.connect('127.0.0.1','root','pathum2rp','mysql')
  #ที่ขีดเส้นใต้ต้องแก้ไข
#connection = mysql.connect(host,user,password,db)
connection = pymysql.connect('127.0.0.1', 'root', '1234', 'rpi3 db')
picname=0
GPIO.setwarnings(False)
GPIO.setmode(GPIO.BCM)
GPIO.setup(18,GPIO.IN,pull up down=GPIO.PUD UP)
with picamera.PiCamera()as camera:
    while (1):
        camera.resolution=(1024,768)
        camera.resolution=(1024,768)
        camera.start preview()
        GPIO.wait for edge(18,GPIO.FALLING)
```

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```
GPIO.wait_for_edge(18,GPIO.FALLING)
timepic= datetime.datetime.today()
picname=str(timepic.year)+str(timepic.month)+ str(timepic.day)+str
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(timepic.hour)+str(timepic.minute)+str(timepic.second)
datedb= str(timepic.day)+'-'+str(timepic.month)+'-'+ str(timepic.year)
timedb= str(timepic.hour)+':'+str(timepic.minute)+':'+ str(timepic.second)
camera.capture('/var/www/html/pic'+str(picname)+'.jpg')
try:
```

finally:

```
picname=''
datedb=''
timedb=''
timepic=''
#connection.close()
```

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