Creating a Lighttpd, PHP5, and SQLite3 Web Interface on the Raspberry Pi

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Contents

1 Configuration Steps **3**
1.1 Installing Lighttpd, PHP5, and SQLite3 3
1.2 Setup SQLite3 Database 4
1.3 Give a fixed IP address to Raspberry Pi 4

2 Accessing Data Using PHP PDO Handler **5**
2.1 Using HTML and PHP PDO Handler to Print Data in a Table format 5

1 Configuration Steps

The following section describes the necessary steps to initially configure Lighttpd, PHP5, and SQLite3.

1.1 Installing Lighttpd, PHP5, and SQLite3

Install lighttpd

- apt-get install lighttpd

Install php5

- apt-get install php5, php5-common, php5-dev, php5-cli

Install php5-cgi

- apt-get install php5-cgi

Install sqlite3

- apt-get install sqlite3
- apt-get install php5-sqlite

Enable the fastcgi module and the php PDO drivers

- lighttpd-enable-mod fastcgi
- lighttpd-enable-mod fastcgi –php

Reload lighttpd

- service lighttpd force-reload

*At this point php PDO drivers will be enabled Verify that PHP5 is configured properly First navigate to the directory /var/www/ Now create a new file index.php

- nano index.php

Add the following contents to the file:

- <?php phpinfo(); ?>

Type the following into the URL on your web browser and verify that PDO drivers are enabled.

- localhost/index.php

1.2 Setup SQLite3 Database

Launch SQLite3 and create new database file SQLite3 ¡database name¿ (e.g. SQLite3 data.db) Create a table with the following command. Count is the sample number, Time is the actual time the sample was taken, Temp is the temperature value measured.

- CREATE TABLE Temperatures(Count int, Time char(20), Temp real);

Import a comma separated file tempData.csv into table named Temperatures.

- .separated ","
- .import tempData.csv Temperatures

Verify that the data was successfully imported into the database by running the to following query:

- SQLite3 data.db
- SELECT * FROM Temperatures;

The data you imported should appear below the SQL select statment

1.3 Give a fixed IP address to Raspberry Pi

Navigate to the following directory /etc/network/

- cd /etc/network/

Copy the original interfaces file so you have a backup

- cp interfaces interfaces.o

Edit the interfaces file using nano

- nano interfaces

In the interfaces file make the following changes:
Change the line
iface eth0 inet dhcp
to
iface eth0 inet static

Below this line enter the following using your router settings. (mine are different than yours) Here's an example:

address 192.168.1.118 (your new static ip address)
netmask 255.255.255.0 (netmask from your router)
network 192.168.1.1
broadcast 192.168.100.255

gateway 192.168.100.254 (gateway address from your router)

Now you need to set up your DNS servers. In your router find out what your DNS servers are and append the following onto the file /etc/resolv.conf:

- server <your DNS server number>
- server <your DNS server number>

2 Accessing Data Using PHP PDO Handler

At this point you should have completed the initial configuration steps. The system is now completely setup for data to be read from the database.

2.1 Using HTML and PHP PDO Handler to Print Data in a Table format