Download image from

<http://www.raspberrypi.org/downloads/>

Select

Raspbian Debian Wheezy

and download it

Write the .img-file with Win32 Disk Imager, found at

<http://sourceforge.net/projects/win32diskimager/>

Insert the SD card into the RaspberryPi and boot up

Select

1 Expand Filesystem

Select

Finish

and then

Reboot

Login with

pi / raspberry

$ sudo raspi-config

Select

4 Internationalisation Options

11 Change Locale

Select at least

en\_GB.UTF-8.UTF-8

sv\_SE.UTF-8.UTF-8

Set

en\_GB.UTF-8

as default

Select

4 Internationalisation Options

12 Change Timezone

Select

Europe -> Stockholm

Select

4 Internationalisation Options

13 Change Keyboard Layout

Select

Generic 105-key (intl) PC

Other

Swedish

Swedish

The default for keyboard layout

For Compose key, set

Right Control

Then set

No

for use of Control+Alt+Backspace

Select

8 Advanced Options

A2 Hostname

Set to

raspberry02

Select

8 Advanced Options

A3 Memory Split

Set

16

to the video memory

Select

8 Advanced Options

A4 SSH

Select

Enable

to enable ssh-server

Select

8 Advanced Options

A5 SPI

Select

Yes

to load SPI kernel modules at start

Select

2 Change User Password

Enter

raspberryrry

twice to set new password for user pi

Select

Finish

Yes

to reboot

Login with

pi / raspberryrry

$ sudo raspi-config

Select

8 Advanced Options

A9 Update

to update to latest version

Select

Finish

$ sudo reboot

$ sudo apt-get update

$ sudo apt-get install screen

$ screen -R apt-get

$ sudo su

# apt-get apache2 mysql-server php5 php5-mysql

Add password for mysql root user

raspberryrry

twice

# apt-get install rsync emacs php-elisp phpmyadmin

Choose

apache2

for configuration of phpmyadmin

Answer

Yes

to configure database for use with dbconfig-common

Enter

raspberryrry

for root password and

raspberryrry

twice for phpmyadmins password

# passwd

Enter

raspberryrry

twice to set root password

Load modules for 1-wire

# modprobe w1-gpio

# modprobe w1-therm

Add modules for loading at boot

# emacs /etc/modules

add w1-gpio

w1-therm

Transfer directory

jsPowerTempLog

to

/var/www/

Change owner and group of files

# chown www-data:www-data -R /var/www

Install database

# cd /var/www/jsPowerTempLog/install

# mysql -u root -praspberryrry < database-setup.sql

# mysql -u root -praspberryrry powerTempLog < tables-setup.sql

Check the entries in

add-1wire-devices.sql

edit them accordingly, as per the dallas temp devices present in /sys/bus/w1/devices/

then

# mysql -u root -praspberryrry powerTempLog < add-1wire-devices.sql

Check the

config.php

that all URLs point to the places you want

Also check your

/etc/hosts

file

Set up serial communication

# stty -F /dev/ttyUSB0 cs8 9600 ignbrk -brkint -icrnl -imaxbel -opost -onlcr -isig -icanon -iexten -echo -echoe -echok -echoctl -echoke noflsh -ixon -crtscts

Add apache’s user to dialout

# usermod -a -G dialout www-data

Add cron jobs

# crontab -e

add

\*/2 \* \* \* \* /usr/bin/php /var/www/jsPowerTempLog/powerPoller.php 0 1 cron > /dev/null 2>&1

\*/2 \* \* \* \* /usr/bin/php /var/www/jsPowerTempLog/tempPoller.php 0 1 cron > /dev/null 2>&1

\*/2 \* \* \* \* /usr/bin/php /var/www/jsPowerTempLog/weatherPoller.php 0 1 cron > /dev/null 2>&1

Add some nifty things to .bashrc

# emacs ~/.bashrc

add

alias list='ls -alFh'

Connect to arduino over USB-serial

# screen /dev/ttyUSB0 9600 -S <session name>

To get screen command promp, enter

[C-a] :

Then type

quit

and [Return]

or from outside of screen

# screen -X -S <session name> quit

To display temps from bash

# cat /sys/bus/w1/devices/<device code>/w1\_slave

eg

# cat /sys/bus/w1/devices/28-000003c359ac/w1\_slave

# cat /sys/bus/w1/devices/28-000003c37731/w1\_slave

To do a backup of a SD card

# dd if=/dev/sdX conv=sync,noerror bs=64K | gzip -c > filename.img.gz

To restore a backup to a SD card

# gunzip -c filename.img.gz | dd of=/dev/sdX