

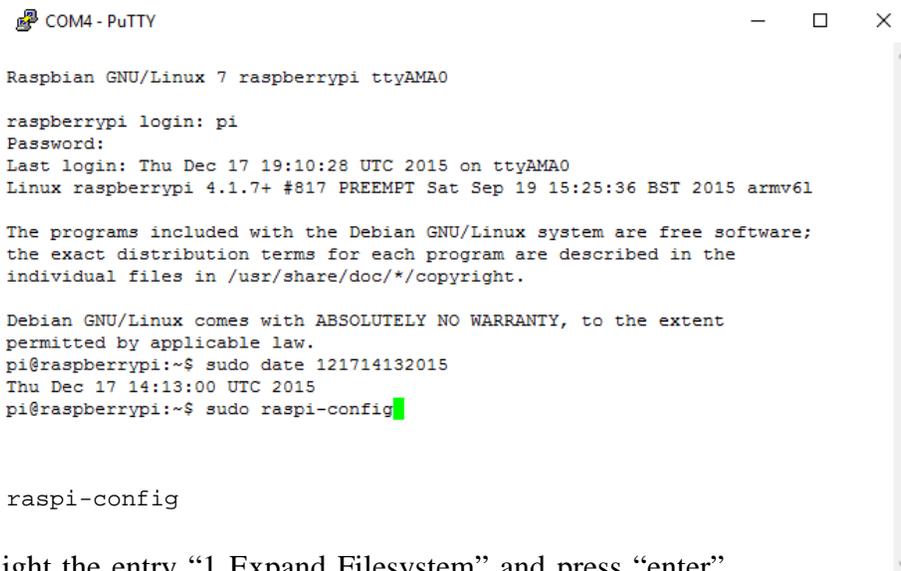
## Configuring A New Raspberry Pi File System

The first thing that should be done after booting a new file system on an SD card is to expand the file system to use the entire card. Even if the image should be using the entire space, it is still a good idea to expand the file system to be certain there is no wasted space.

**NOTE:** Do not expand the file system if you plan to multi-boot on this SD card.

- 1) Pick a unique `hostname` to identify this Pi.
  - a) Confer with your group before you choose a name for your Pi as it *must* be unique within your group.
  - b) The `hostname` is comprised of uppercase, lowercase letters, and numbers. Avoid spaces and special characters.
  - c) Choose a mnemonic name and consider labeling the physical case and/or SD. This is a matter of personal choice.
  - d) Avoid generic names that might be related to INTERNET services such as `www`, `ns`, `dns`, `ftp`, `mail`, or `email`.
- 2) Insert the SD card into the proper slot on the Pi
- 3) Connect the console cable
- 4) Open PUTTY (or connect via UNIX/Linux)
- 5) When the login prompt appears, login as `pi` with a password of `raspberrypi`. Later on you should change this password for security purposes.
- 6) Set the date and time. If you do not do this when you login, you will run into file creation date problems.

```
sudo date mmddhhmmyyyy
```
- 7) Visually verify the date
- 8) Expand the file system and set the hostname using `sudo raspi-config` at the command prompt, see Figures 1, 2, and 3.



```
COM4 - PuTTY

Raspbian GNU/Linux 7 raspberrypi ttyAMA0

raspberrypi login: pi
Password:
Last login: Thu Dec 17 19:10:28 UTC 2015 on ttyAMA0
Linux raspberrypi 4.1.7+ #817 PREEMPT Sat Sep 19 15:25:36 BST 2015 armv6l

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.
pi@raspberrypi:~$ sudo date 121714132015
Thu Dec 17 14:13:00 UTC 2015
pi@raspberrypi:~$ sudo raspi-config
```

Figure 1. Run `sudo raspi-config`

- a) Highlight the entry “1 Expand Filesystem” and press “enter”.
- b) The file system will actually be expanded when the Pi is rebooted. This will cause the next boot to take a few minutes longer.
- c) Set the `hostname`
  - i) If the `raspi-config` screen is not displayed, restart the program as `root`.
  - ii) Use the arrow keys to move the highlight to “8 Advanced Options” and press enter.
  - iii) Choose option “A2 Set the visible name for this Pi” and press enter.

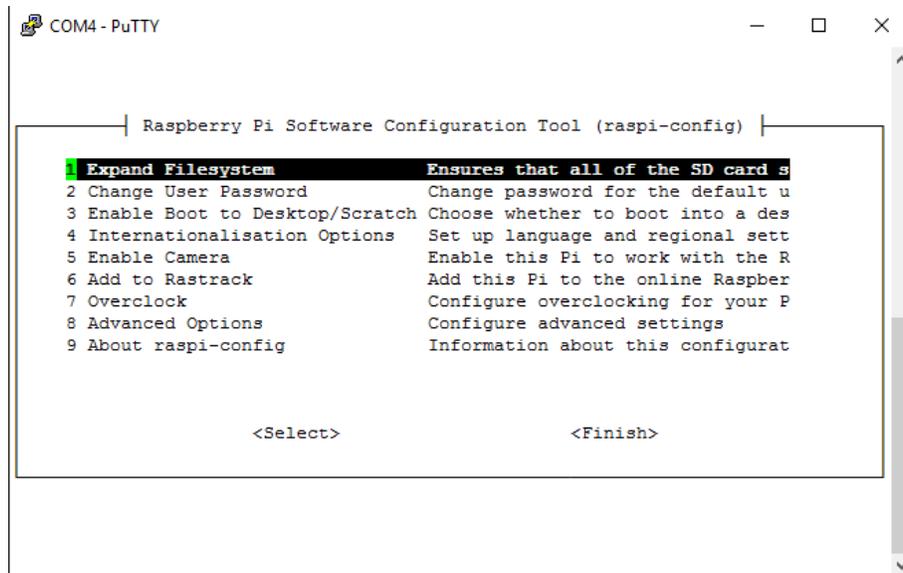


Figure 2. Expand the File System



Figure 3. Final Output From raspi-config

- iv) Read the message from RASPIAN and press enter.
- v) Enter the hostname without leading or trailing spaces. Avoid names like "www", "ns", "mail", or "router".
- d) Exit raspi-config by moving the highlight to "Finish" and pressing enter.
- e) The file system will now be expanded to fill the entire SD card with the next reboot.
- f) Reboot the Pi by entering either:
  - i) `sudo init 6`<sup>1</sup>
  - ii) `sudo reboot`<sup>2</sup>

<sup>1</sup>This command will work exactly the same way on any UNIX/Linux system.

<sup>2</sup>On some systems, this command will notify all users and then reboot after a system defined delay. On the Pi, there does not seem to be any difference between `init 6` and `reboot`

iii) Alternatively, the system may be halted by entering either `sudo init 0` or `sudo halt`.